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TARIFF REFORMS, FOOD PRICES, AND CONSUMER WELFARE IN GHANA DURING THE 1990S

CHARLES ACKAH¹

ABSTRACT

In this paper, we analyse the effect of food price changes on household consumption in Ghana during the 1990s and assess the extent to which changes can be explained by trade and agricultural policy reforms. The measurement of the total household welfare effect, one that jointly considers first order effects as well as consumption responses, is the object of this study. Food consumption behaviour in Ghana is analyzed by estimating a complete food demand system using the linear approximate version of the AIDS model with household survey data for 1991/92 and 1998/99. The estimated price elasticities are then utilized to evaluate the distributional impacts of the relative food price changes in terms of compensating variation. The results indicate that the distributional burden of higher food prices fell mainly on the urban poor.

Keywords: Food prices, demand analysis, consumer welfare, Ghana

INTRODUCTION

Typically, there are a number of factors that determine the extent to which households are impacted by food price shocks including the magnitude of the relative price changes, the relative importance of different food commodities in the consumption basket of different households as well as the degree to which households are compensated for the price shocks by changes in income. This paper aims to fill some of the gaps in the literature by analyzing the food consumption behaviour of Ghanaian households using the Almost Ideal Demand System (AIDS) model developed by Deaton and Muellbauer (1980b) to obtain price and income elasticity estimates for six major food categories, which together comprise the basic subsistence staples for most poor households. The estimated price elasticities are then utilized to evaluate the welfare implications of the relative food price changes in terms of compensating variation.

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We then assess the extent to which welfare changes can be explained by agricultural trade policy reforms using counterfactual simulation analysis.

The paper concentrates on the partial equilibrium welfare effects of food price changes, given the food consumption choices of households in Ghana. In essence, we focus on changes in consumer welfare resulting from the variations in food price changes, assuming income effects away. Whilst it would be appropriate to estimate the overall welfare changes (i.e. including producer welfare or allowing for income responses), we do not pursue this line of enquiry in this paper due to data limitations including adequate producer price data. Our analysis therefore does not account for supply responses through production and labour adjustments and the results must be interpreted with these caveats in mind. However, the data constraints notwithstanding, our simple partial equilibrium analysis provides useful insights into household food consumption behaviour and the distributional implications of the variation in food price changes for household welfare in Ghana during the 1990s – a decade of remarkable food price inflation reminiscent of the economic crisis that precipitated the Structural Adjustment Programmes (SAPs) in the early 1980s.

The remainder of this paper is organized as follows: Section 2 provides a review of the literature on demand system analysis and household welfare. Section 3 presents the econometric model and describes the methodology used to measure welfare changes facing Ghanaian households during the 1990s. Section 4 discusses the dataset and sources and Section 5 reports the elasticity estimates and the welfare analysis due to the price changes in the 1990s. This section also assesses the impact of simulated trade policy reform. Section 6 concludes the paper with some policy implications of the findings.

LITERATURE REVIEW

Methodologically, most empirical papers estimating demand functions have used time series data, which were, until recently, only readily available in developed countries. As consumption data sets are not usually available in African countries, the estimation of demand elasticities is rare (Kedir, 2005). In the absence of appropriate time-series data, most studies adopt a methodology developed by Deaton (1987, 1988 and 1990) and Deaton and Grimard (1992), which introduces a technique based on the variation of prices across space to identify behavioural responses. However, despite being important, price data are relatively scarce for many developing countries (Gibson and Rozelle, 2002). In the absence of reliable market price data, many researchers have had to rely on imperfect proxy measures such as unit values (defined as the ratio of household expenditure on a particular good to the quantity consumed).

The simplest unit rank demand system that could be considered is the linear demand system proposed by Stone (1954). One model that has proven flexible and adaptable to cross-sectional data without counterintuitive assumptions is the

Almost Ideal Demand System (AIDS) introduced by Deaton and Muellbauer (1980b). This model proposed by Deaton and Muellbauer is of a flexible functional form which derives the budget share equation starting from the specification of a cost function belonging to the PIGLOG family.² In a number of studies, Deaton (1988, 1990 and 1997) proposes a unique methodology to estimate demand elasticities using only a single cross-section of household budget survey data. His approach is based on the notion that prices for comparable goods can vary greatly across space in developing countries due to the fact that survey data is often collected in clusters of households in the same village. Deaton's two-stage estimation procedure first purges the unit value data of quality effects and then uses the cross-spatial variation in the 'corrected' unit values to identify own-price or cross-price elasticities. The main advantage of using unit values in demand analysis derives from the substantial cross-sectional variability, but it may give biased results (Deaton, 1990, 1997). Many commentators have argued that unit values, unlike market prices, are error-ridden and subject to sample selection problems as they are unavailable for non-purchasing households. The problem with unit value is that it is a function of expenditure and quantity, both of which are potentially measured with error in most household surveys (see Gibson and Rozelle, 2002); Kedir (2001, 2005); and Niimi (2005)).

The most standard application of Deaton's approach follows the estimation of budget share and unit value equations such that for each household h in cluster c , the M -i good system of equations is given as:

$$w_{hc} = \frac{1}{1} + \frac{1}{1} \ln x_{hc} + \frac{1}{1} z_{hc} \sum_{j=1}^M \ln p_{jc} + f_c + u_{1hc} \quad (1)$$

$$\ln v_{hc} = \frac{2}{2} + \frac{2}{2} \ln x_{hc} + \frac{2}{2} z_{hc} \sum_{j=1}^M \ln p_{jc} + u_{2hc} \quad (2)$$

where w_{hc} is the budget share devoted to the good in question (good i), x_{hc} is total household expenditure, v_{hc} is unit value, z_{hc} is a vector of household characteristics, p_{jc} is the (unobserved cluster) price, f_c is the cluster fixed-effect, and the error terms of the two equations are u_{1hc} and u_{2hc} respectively. The estimation procedure follows two stages. Based on the assumption of no price variation in the same cluster, the main task in the first stage is to estimate total expenditure (or income) elasticities and the elasticity of unit values with respect to total expenditure (i.e., the quality effects) using the within-cluster variation in purchases and unit values. The second stage then involves estimating the price responses using the between-cluster information in the data.

² Other models include the *Quadratic Almost Ideal Demand System* (QUAIDS) proposed by Banks, Blundell and Lewbel (1996), which in fact adds a quadratic income term to the Deaton and Muellbauer AIDS model.

While the first stage estimation is typically based on an OLS regression applied to the demeaned (at the cluster level) equations, an errors-in-variables regression is by necessity applied to the (corrected) budget shares and unit values.

Deaton (1997) provides an excellent empirical application of his estimation technique to examine the implications of tax reform in India and Pakistan. In Pakistan, a reduction in the effective domestic subsidies to rice and wheat (due, in the case of rice, to export taxes) would be efficiency enhancing, but in both countries the burden falls relatively heavily on the poor, who have a high and relatively inflexible expenditure share on these items.

Another example of this approach is Ravallion and van de Walle's (1991) study of Indonesian rice reform. They use detailed household survey data from the Indonesian National Socioeconomic Survey (SUSENAS) to estimate household demand equations that conform to the nonlinear version of the AIDS model (see Deaton and Muellbauer, 1980b), from which they derive the equivalent income function (as proposed by King, 1983). Assuming a hypothetical policy reform, Ravallion and van de Walle evaluate the partial equilibrium effects on poverty of changes in the price of Indonesia's main food staple (rice) by means of dominance tests. They show, *inter alia*, that the results depend partly on how the government passes the budget shock implied by rice price changes onto consumers and on what poverty line is used. The very poor are net consumers of rice and so suffer from the price rises, whereas farmers just below the standard poverty line are net producers and hence benefit and show positive chances of escaping from poverty.

Alderman and Higgins (1992) have also applied the AIDS framework to an empirical analysis of food demand in Ghana using the first Living Standards Survey (GLSS 1987/88). This paper follows the Alderman and Higgins work using relatively recent budget surveys, 1991/92 and 1998/99. The point of departure for this paper is that we use the estimated price elasticities to evaluate the welfare effects of relative food price changes during the 1990s.

EMPIRICAL METHODOLOGY

The Demand Model

In this section, we discuss the estimation strategy used and some of the econometric issues encountered. We adopt the estimation of a linear *approximate* Almost Ideal Demand System (AIDS) for food demand using cross-sectional data. The AIDS model has been widely applied in many empirical studies of consumer behaviour using both cross-sectional and time series data. The model is adopted in this study because of its many attractive properties relative to other models for analyzing demand for food in developing countries (see Deaton and Muellbauer, 1980b). An advantage of the AIDS model is that it is able to treat zero and non-zero consumption in the same way. Another desirable property of the AIDS model is that it is simple to estimate and free from the restrictive assumption of homotheticity, therefore allowing the model to capture any differences

in the consumption bundles among different income groups. Other advantages include its tractability and flexibility in allowing us to overcome the problem of aggregation (see Deaton and Muellbauer 1980b).

The AIDS model with the addition of household demographic factors can be specified for the M -good system as

$$w_{ihc} = \alpha_i \ln \frac{x_{hc}}{a p} + \sum_{j=1}^M \beta_{ij} \ln p_{jc} + \gamma_1 Z_{hc} + u_{ihc} \quad (3)$$

where w_{ihc} is the share of the budget devoted to the i th commodity of household h in cluster c , x is the household's food expenditure, p_{jc} is the j th commodity price in cluster c and Z is a vector of household characteristics. α_i , β_{ij} and γ_1 are parameters to be estimated, and u_{ihc} is the random error term with the standard properties. The aggregate price index, $a p$, used to normalize food expenditure x , is defined as

$$\ln a p = 0 + \sum_{i=1}^M \alpha_i \ln p_i + \frac{1}{2} \sum_{i=1}^M \sum_{j=1}^M \beta_{ij} \ln p_i \ln p_j \quad (4)$$

The Stone (1954) price index, which permits us to linearise the AIDS model as presented in equation (5), is used to approximate the price aggregator in equation (5) (Deaton and Muellbauer, 1980b). Thus,

$$\ln P_c = \sum_{i=1}^M \bar{w}_{ic} \ln p_{ic} \quad (5)$$

The Stone price index is computed using the cluster mean expenditure shares $\bar{w}_{ic}$, and thus, like all other price variables, is invariant within the same cluster.

The demand system is estimated for each of the seven food categories as listed in Table 2. Whilst it would clearly be preferable to estimate the entire demand system, we do not have suitable price data for the important non-food items, e.g. housing, education and ownership of durable assets. In the absence of such data (and in some cases, for simplicity) the usual practice, which is followed in this paper, is to adopt weak separability as a working (and perhaps reasonable) assumption. By excluding non-food goods from the model, we are implicitly assuming that the utility of food is weakly separable from the quantities consumed of non-food. In other words, we assume that the demand for food does not depend on prices of non-food items given total food spending (or real income). However, we need to recognise that total food spending is necessarily

endogenous. Hence, we allow for the endogeneity of all the food expenditures. Instruments include the logarithm of income (which should be correlated with food spending).

For the demand system to be theory-consistent, we impose the restrictions implied by consumer demand theory, namely adding-up, homogeneity and symmetry. Adding-up is satisfied if $\sum_i w_i = 1$ for all x and P which require $\sum_i \alpha_i = 1$, $\sum_i \beta_i = 0$ and $\sum_{ij} \gamma_{ij} = 0$. We fulfil the condition of adding -up by dropping one of the M demand equations from the system and recovering the parameters of the omitted food equation from the estimates of the $M - 1$ equations. The homogeneity property is satisfied by treating the price of the 'other foods' as a numeraire and setting its price to unity. In our empirical estimation, we omit the price term for the other food category and express the other price variables relative to the omitted price. Note that the demand functions are homogenous of degree zero in prices and income. This means that an equal proportional change in prices and income will leave commodity demands unchanged. (Slutsky) symmetry requires that $\gamma_{ij} = \gamma_{ji}$ which could be met by employing the Seemingly Unrelated Regressions (SUR) procedure to estimate the demand equations simultaneously.³

Beginning with a Stone approximation to a_p , we estimate the remaining parameters by linear regression, imposing symmetry. We then update the linearly homogeneous price index a_p and repeat estimation until convergence. The income or expenditure, Marshallian (uncompensated) own - price and cross-price and the Hicksian (compensated) elasticities for equation (5) are computed at the sample means respectively as follows

$$e_i = \frac{\ln q_i}{\ln x} = 1 - \frac{1}{w_i} \frac{w_i}{\ln x} = 1 - \frac{1}{w_i} \quad (6)$$

$$\epsilon_{ii} = \frac{\ln q_i}{\ln p_i} = 1 - \frac{1}{w_i} \frac{w_i}{\ln p_i} = 1 - \frac{1}{w_i} \quad (7)$$

$$\epsilon_{ij} = \frac{\ln q_i}{\ln p_j} = \frac{1}{w_i} \frac{w_i}{\ln p_j} = \frac{1}{w_i} \frac{w_j}{w_i} \quad (8)$$

$$\epsilon_{ij} = \frac{1}{w_i} \frac{w_j}{w_i} \quad (9)$$

³ Consistent estimation of all parameters requires an iterative (maximum likelihood) method. Hence we employ Zellner's Iterative Seemingly Unrelated Regression (ITSUR) procedure. Formal tests based on the likelihood ratio test for the system as a whole fails to reject homogeneity and symmetry, implying that it is not unreasonable to impose these restrictions on the food demand system.

Where q_i denotes quantity demanded of the i th commodity and all other variables are as previously defined.

Consumer Welfare Evaluation

This section describes the methodology used to determine welfare changes facing Ghanaian households during the 1990s. Since structural reforms are, in principle, designed to change prices, our interest is in linking observed food price changes to changes in household welfare, especially the partial equilibrium effects on welfare of changes in the prices of the main staple foods. Abstracting away from transmission mechanisms, we treat the policy-induced effect as captured by proportional changes in food prices. The welfare impact of food price changes on households can be measured in monetary terms by using the money metric indirect utility function. Using a set of reference prices, we can compute how well- or worse off households were, moving from their initial utility level to the new or post-reform utility level in response to the changes in food prices. Following the usual practice in this literature (Deaton, 1989 and 1997; Friedman and Levinsohn, 2002; and Niimi, 2005), we characterize the welfare effects of food price changes as the compensating variation (CV).

Suppose $c(u, p)$ denotes the expenditure function which defines the minimum expenditure required to achieve a specific utility level, u , at a given price vector p facing the household (see Deaton and Muellbauer, 1980a). Assume that prices change from p_0 to p_1 as a result of the removal of export tariffs or input subsidies. The money measure of the resultant welfare effect is the difference between the minimum expenditure required to achieve the original utility level, at the new prices, and the initial total expenditure. In other words, CV is the amount of money the household would need to be given at the new set of (higher) prices in order to attain the pre-reform initial level of utility. Subscripts refer to before (0) and after (1) prices, in this study 1991/92 and 1998/99 respectively. Hence, in terms of the expenditure (cost) function:

$$CV = c(p_1, u_0) - c(p_0, u_0) \quad (10)$$

The CV can be approximated using a second order Taylor series expansion of the minimum expenditure function as:

$$\ln c = \sum_{i=1} w_i \ln p_i + \frac{1}{2} \sum_{i=1} \sum_{j=1} w_i \epsilon_{ij}^* \ln p_i \ln p_j \quad (11)$$

where, w_i is the budget share of commodity i in the initial period (1991/92), $\ln p_i$ approximates the proportionate change in the price of commodity i , and ϵ_{ij}^* is the compensated price elasticity of commodity i with respect to the price change of good j . Clearly, equation (11) indicates that the impact of a price change upon a household is a function of both the magnitude of the price change and the relative importance of different food items in the consumption basket. The first order effect is proportional to quantity consumed. The second order effect depends on the compensated price elasticity.

To account for consumption responses, we estimate first and second order impacts using the budget shares and the compensated demand elasticities.

DATA DESCRIPTION AND SOURCES

The GLSS datasets for 1991/92 and 1998/99 are used to match household level data on food consumption with cluster level information on food prices. A total of 4523 households were surveyed in 1991/92 while 5998 households were surveyed in 1998/99. The 1991/92 survey was conducted in about 400 clusters with 15 households per urban cluster and 10 households per rural cluster. In the case of the 1998/99 survey, 300 clusters were covered; each cluster containing about 20 households. These surveys contain detailed consumption data on about 100 food items. For estimation purposes, expenditures (including both cash purchases and imputed own-consumption) on various food commodities were aggregated into 5 composite categories: cereals, roots and tubers, fish, meat and alcohol. All remaining food items were aggregated into a miscellaneous category referred to as 'other food' giving a total of 6 food categories. The 5 main aggregates which are the focus of this study represent about 61% and 68% of the food consumption basket of households in 1991/92 and 1998/99 respectively. Unlike most household surveys in developing countries, the GLSS also include a community price questionnaire which collects data on prevailing prices of a variety of mainly food commodities and some non-food items in the local markets. In principle, these prices should reflect prices faced by households. In practice, there are some concerns about the reliability of such data as the prices may not refer to exactly the same type or quality of goods or do not involve actual purchases (Deaton and Grosh, 2000). Nonetheless, this is a preferred source of price data when information regarding quantities is not collected from households as is the case of the GLSS (see Deaton and Zaidi, 2002).

Descriptive Statistics

Dependent and Explanatory Variables

The dependent variables in the demand analysis are the budget shares of the 6 food aggregates which are the shares of consumption expenditure of each food commodity in total food consumption expenditure. In addition to the price variables, the explanatory variables include total food expenditure and a set of demographic and household characteristics: (log) household size, age and squared age of the household head, regional and urban dummies.

Table 1 presents the mean budget shares for the overall sample while Tables 2 and 3 present the same information for households categorized into per capita household expenditure deciles.

TABLE 1: Summary Statistics - Dependent Variables (Expenditure Shares)

<i>Commodity Group</i>	<i>1991-92</i>		<i>1998-99</i>	
	<i>Mean</i>	<i>Std. Dev.</i>	<i>Mean</i>	<i>Std. Dev.</i>
Cereal	0.136	0.126	0.171	0.115
Rice	0.036	0.047	0.056	0.057
Maize	0.044	0.077	0.053	0.080
Sorghum	0.011	0.050	0.007	0.036
Other cereal products				
Tubers & Starchy Roots	0.238	0.171	0.235	0.164
Cassava	0.084	0.099	0.090	0.104
Yam	0.048	0.091	0.047	0.076
Plantain	0.050	0.074	0.046	0.070
Other starchy roots				
Fish	0.177	0.118	0.199	0.118
Meat (Poultry)	0.020	0.045	0.027	0.047
Alcohol	0.041	0.078	0.044	0.071
Other Food	0.389	0.160	0.324	0.159
Oils & fats	0.032	0.032	0.001	0.007
Pulses	0.025	0.047	0.029	0.044
Prepared meals	0.098	0.133	n/a	n/a
Other miscellaneous foods				

Source: Author's calculations from GLSS 3 & 4.

Notes: n/a means data was not available.

The major components of food consumption in 1991/92 were: tubers (23.8%), fish (17.7%) and cereals (13.6%). A similar pattern was registered for 1998/99: tubers (23.5%), fish (19.9%) and cereals (17.1%). In general, consumption baskets in Ghana were remarkably uniform across income groups. However, there were considerable differences in the composition of the consumption basket between the richest 10% and the poorest 10%. As we would expect from Engel's law, poorer households spend a greater share of their budget on food than rich households in both survey years (71 percent for those in the bottom decile compared with 56 percent in the top decile in 1991/92, for example).

TABLE 2: Expenditure Shares in Ghana, by Decile of Per Capita Consumption in 1991/92

	<i>Poorest</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>Richest</i>
Commodity										
Cereal	0.187	0.142	0.139	0.138	0.121	0.130	0.131	0.134	0.129	0.131
Rice	0.025	0.029	0.029	0.030	0.031	0.038	0.036	0.039	0.039	0.043
Maize	0.076	0.053	0.058	0.048	0.043	0.042	0.043	0.040	0.037	0.028
Sorghum	0.037	0.023	0.016	0.018	0.008	0.011	0.010	0.007	0.005	0.003
Tubers	0.230	0.280	0.277	0.289	0.264	0.252	0.248	0.230	0.225	0.175
Cassava	0.075	0.108	0.099	0.106	0.091	0.090	0.090	0.078	0.080	0.056
Yam	0.048	0.057	0.052	0.054	0.051	0.051	0.042	0.046	0.045	0.041
Plan	0.038	0.049	0.052	0.057	0.057	0.055	0.054	0.053	0.049	0.041
Fish	0.156	0.203	0.193	0.190	0.187	0.185	0.185	0.183	0.165	0.152
Meat	0.016	0.014	0.014	0.013	0.017	0.017	0.019	0.020	0.023	0.030
Alcohol	0.053	0.036	0.043	0.035	0.038	0.042	0.036	0.033	0.040	0.048
All Food	0.71	0.69	0.69	0.70	0.66	0.66	0.65	0.65	0.65	0.56

Source: Author's calculations from GLSS 3.

Note: Deciles are by per-adult equivalent household expenditure.

Table 4 provides evidence on food price movements between 1991/92 and 1998/99. There is evidence that food prices fell relative to those of non-food commodities during the 1990s. There are perceptible variations (across goods and location) in the degree of price changes observed. It is clear that there has been a significant increase in food price inflation, in both rural and urban areas and across the country, with alcohol (178.4%), meat (173.4%) and fish (123.5%) registering the largest average increases. The prices of cereal and tubers, the two major staples in Ghana, increased by the lowest proportion of 3.1% and 7.9% respectively. This may be due partly to increased production and also imports, at least for rice. The real prices of all food commodities, except meat, increased the most in rural Ghana relative to urban locations. In fact, the real price of cereal fell by 18% in the urban areas compared with an increase of about 14% in the rural areas. It is the variation in these price changes that we seek to exploit in examining the distributional impacts on household welfare of the food price changes.

TABLE 3: Expenditure Shares in Ghana, by Decile of Per Capita Consumption in 1998/99

<i>Commodity</i>	<i>Poorest</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>Richest</i>
Cereal	0.273	0.207	0.176	0.168	0.169	0.159	0.156	0.154	0.154	0.153
Rice	0.050	0.047	0.048	0.054	0.057	0.056	0.056	0.060	0.060	0.060
Maize	0.113	0.082	0.075	0.059	0.059	0.055	0.045	0.039	0.035	0.026
Sorghum	0.041	0.020	0.006	0.007	0.004	0.003	0.003	0.002	0.001	0.001
Tubers	0.138	0.216	0.266	0.268	0.261	0.275	0.262	0.249	0.235	0.195
Cassava	0.048	0.090	0.114	0.118	0.112	0.113	0.105	0.088	0.081	0.058
Yam	0.029	0.044	0.048	0.047	0.051	0.049	0.048	0.053	0.052	0.046
Plantain	0.008	0.023	0.037	0.046	0.044	0.058	0.052	0.054	0.057	0.051
Fish	0.177	0.196	0.215	0.213	0.219	0.223	0.212	0.207	0.193	0.168
Meat	0.018	0.018	0.018	0.018	0.019	0.020	0.024	0.029	0.037	0.046
Alcohol	0.057	0.046	0.035	0.041	0.033	0.029	0.036	0.039	0.045	0.061
All Food	0.63	0.64	0.63	0.63	0.61	0.61	0.61	0.59	0.58	0.57

Source: Author's calculations from GLSS 4.

Note: Deciles are by per-adult equivalent household expenditure.

TABLE 4: Median Real Market Food Price Changes (%), 1991/92-1998/99

<i>Region</i>	<i>Cereals</i>	<i>Tubers</i>	<i>Fish</i>	<i>Meat</i>	<i>Alcohol</i>
Western	-17.5	22.9	129.2	177.7	161.4
Central	17.1	-1.7	134.0	208.4	197.7
Greater Accra	27.6	-2.7	124.1	196.3	113.9
Eastern	4.3	-6.7	132.5	166.5	165.1
Volta	10.7	4.7	101.8	180.4	167.6
Ashanti	-46.8	8.3	137.5	172.7	171.1
Brong Ahafo	50.5	29.5	115.2	115.5	207.8
Northern	0.5	26.8	69.2	135.1	201.4
Upper West	28.6	-9.8	119.2	160.1	211.1
Upper East	-5.1	-11.3	91.8	133.7	211.3
Locality					
Rural	13.9	6.9	126.9	168.8	192.1
Urban	-18.0	5.8	122.2	170.8	134.2
All Ghana	3.1	7.9	123.5	173.4	178.4

Source: Author's calculations from GLSS 3 & 4

EMPIRICAL RESULTS

Demand Elasticities

We discuss the estimated demand elasticities, which are needed to properly evaluate the welfare consequences of the reforms discussed earlier. The Marshallian (ordinary) elasticity matrices for 1991/92 and 1998/99 evaluated at the sample means are reported in Tables 5 and 6 respectively, which include the cross-price elasticity estimates. As shown in Table 5, all the estimated Marshallian (uncompensated) own-price elasticities are negative. Consistent with consumer demand theory, there exists an inverse relationship between changes in own-price indexes and quantities demanded. In most cases the absolute value of the own-price elasticity is greater than unity, meaning that they are price elastic. The results indicate that demand for most food commodities in Ghana is price sensitive. The estimated price and expenditure elasticities are plausible and consistent with economic theory: all own-price elasticities were negative and statistically significant. Similarly, estimated expenditure elasticities were positive and statistically significant for all food groups as is expected.

TABLE 5: Marshallian (Ordinary) Demand Elasticity Matrix, 1991/1992

Commodity	With Respect to the Price of					
	Cereal	Tubers	Fish	Meat	Alcohol	Other Food
Cereal	-1.027	-0.304	-0.170	-0.034	-0.092	-0.349
Tubers	-0.066	-1.409	0.002	-0.031	-0.091	-0.198
Fish	-0.151	-0.257	-0.874	-0.062	-0.070	-0.437
Meat	-0.421	-0.156	-1.618	-2.014	0.452	0.691
Alcohol	-0.227	-0.085	-0.288	0.055	-0.969	-0.702
Other Food	-0.113	-0.204	-0.324	0.040	-0.083	-1.308

Source: Author's calculations from GLSS 3.

TABLE 6: Marshallian (Ordinary) Demand Elasticity Matrix, 1998/1999

Commodity	With Respect to the Price of					
	Cereal	Tubers	Fish	Meat	Alcohol	Other Food
Cereal	-1.102	-0.328	-0.127	0.010	-0.088	-0.295
Tubers	-0.372	-1.037	-0.520	0.034	0.016	-0.370
Fish	-0.067	-0.433	-0.988	-0.114	-0.026	-0.203
Meat	-0.107	0.088	-0.935	-0.758	0.015	-0.718
Alcohol	-0.422	0.136	-0.217	0.040	-1.004	-0.615
Other Food	-0.175	-0.166	-0.190	-0.041	-0.071	-1.356

Source: Author's calculations from GLSS 4

Price Changes and Consumer Welfare

The estimated elasticities can be used to assess the welfare consequences of the food price changes that occurred during the 1990s. The measurement of the 'dynamic' household welfare effect, one that jointly considers (static) first order effects in consumption as well as consumption responses, is the object of this subsection. While the first term in equation (11) – the first order approximation – may capture a large part of the impact of price changes on welfare, ignoring household behavioural responses in welfare analysis – the second order approximation – may lead to significant biases and inappropriate inferences (see Banks *et al.*, 1996; McCulloch, 2003; Niimi, 2005; Nicita, 2004).

Friedman and Levinsohn, 2002). The first order approximation of impact of price changes implicitly assumes that households are unable to change their consumption patterns when prices change (equivalent to assuming that all elasticities are zero). Given the substantial observed price changes, substitution effects can be non-trivial, and therefore, first order approximations can be seriously biased (Banks *et al.*, 1996). However, for purposes of comparison, we report results from both first order and second order approximations.

We follow standard practice by utilizing the estimated elasticities for 1991/92 to measure the welfare impact of the food price changes observed between 1991/92 and 1998/99. Following some recent literature (see Niimi, 2005; Nicita, 2004; Friedman and Levinsohn, 2002; Minot and Goletti, 2000), we estimate the change in consumer welfare, measured as compensating variation (CV). The CV measures the total transfer required to compensate all households for the price changes they experienced between 1991/92 and 1998/99, as a percentage of their initial total expenditure. In doing this, we also recognise the importance of determining how different population groups are affected in different ways by these reforms. Thus, to illustrate which groups of households were relatively disadvantaged by the price changes, we disaggregate the CV measure by income group, locality and region. Table 7 presents the welfare measure as a share of total household expenditure in 1991/92. For comparison purposes, we also present estimates from a first-order approximation to the price changes, which disregards substitution effects in consumption. The first column presents the first-order effects computed using equation (11) for the various categories of households while the second column displays the full-effects.

The results suggest that all household groups suffered welfare losses arising from the food price increases during the 1990s. Consistent with our *a priori* expectations, it is clear that the first order effect overstates, albeit marginally, the welfare losses for all groups of households. On average, Ghanaian households need to be reimbursed to the tune of about 20.2% of their 1991/92 total household expenditures for the food price changes they faced during the 1990s. The results, however, reveal some heterogeneity in the impact of price variations on households. The results indicate that the burden of higher consumer prices fell largely on the poor and on rural households.⁴ The distributional impacts of the price changes were quite similar for the rural poor and non-poor. However, within urban localities it is the poor who suffered disproportionately, requiring a compensation of about 22% of their 1991/92 household expenditures. It is probable that a combination of the relatively lower compensated own-price elasticities, which means that households are unable to substitute away from high-priced goods, and the higher budget shares, contributed to relatively

⁴ Poor households are defined as those whose per adult equivalent expenditure is below the lower poverty line of 700,000 old Cedis or 70 Ghana Cedis per year (in the constant prices of Accra in January 1999).

higher welfare losses for poor households. For rural households, it appears that the relatively higher price increases, coupled with lower compensating price elasticities and higher budget shares, accentuated the welfare losses.

TABLE 7: Compensating Variation Implied by the Price Changes

<i>Household Category</i>	<i>First-order Effects (%)</i>	<i>Full Effects (CV) (%)</i>
<i>Locality</i>		
Rural	37.9	21.5
Urban	29.0	17.7
<i>Income group</i>		
1 st quartile	35.4	22.1
2 nd quartile	35.2	20.4
3 rd quartile	34.3	19.6
4 th quartile	34.3	18.7
<i>Poverty status</i>		
Non-poor	34.6	19.4
Poor	35.2	21.5
<i>Poverty status Rural</i>		
Non-poor	39.3	21.7
Poor	36.6	21.4
<i>Poverty status Urban</i>		
Non-poor	29.2	16.7
Poor	28.1	22.1
Ghana	34.8	20.2

Source: Author's calculations from GLSS 3 & 4.

Note: Compensating variation is measured as a proportion of 1991/92 total household expenditures.

What can we infer from the results? As has already been noted, the linkage between policy reform and price changes is complex, especially when it involves the removal of quantitative restrictions. There are a number of reasons that may account for welfare losses following the sharp food price changes such as exchange rate devaluation (depreciation), the abolition of fertilizer (and other input) subsidies or adverse weather conditions, which result in domestic production shortfalls. For example, while tariff liberalisation is expected to reduce the domestic price of imports, exchange rate devaluation (depreciation) would generally achieve the opposite. In essence, whilst it is difficult to attribute the price changes, and by implication the welfare losses, to any particular policy *per se*, the results provide new insights into household consumption patterns and how household welfare was impacted by exogenous food price changes in the 1990s. However, since our interest is in the effect of trade policy, the next sub-section adopts counterfactual experiments in an attempt to isolate the potential trade policy effects from those arising from other factors.

Trade Liberalisation and Consumer Welfare

In this sub-section, we use simulation techniques to analyse how trade liberalisation, defined here as tariff reductions, could have altered the effect of the actual food price changes that took place in the 1990s. Our motivation derives from the hypothesis that tariff reductions were possibly not dramatic enough to offset the price increases, which to some extent resulted from other policy reforms. Alternatively, one could argue that tariff reductions notwithstanding, other factors could have prevented price transmission from the border to local prices. Lacking suitable data to estimate a tariff pass-through model, our approach is to follow the largest strand of the literature by using simulation analysis to explore the effect on welfare of a hypothetical trade policy reform (see for example, Porto 2003; Minot and Goletti 2000; Ravallion and van de Walle 1991). Having already estimated price elasticities of demand and using a partial equilibrium framework, we explore the potential distributional effects of further import tariff liberalisation on household welfare. For analytical convenience and due to data constraints, we assume that tariff reductions are fully transmitted to domestic prices. Further, for the model to be tractable, we abstract away from any potential general equilibrium effects on incomes, customs revenue and balance of payments, to mention just a few.

For the purpose of the simulations, a policy change is described as the change in the price of a good resulting from the tariff reform. We focus on a scenario in which all tariffs are cut by 50 percent. For a small open economy the domestic price

p_i^D for traded good i is related to the international price p_i^W through the following equation

$$p_i^D = p_i^W (1 - t_i) \quad (12)$$

Where t_i represents the *ad valorem* tariff rate applied to the import of good i . Following Porto (2003), we write the change in the (logarithmic) price of the i th good as

$$d \ln p_i^D = d \ln (1 - t_i) \quad (13)$$

Using data on pre-reform tariffs and prices, we use (13) to compute the price changes that would result from the tariff reform. Equation (13) is estimated using the Most Favoured Nation (MFN) tariff rates that prevailed in 1993 as the benchmark. The average tariff on food imports in 1993 ranges between 20% (for cereal, fish and meat) and 25% (for tubers and alcohol). Applying (13) to the hypothetical reform of 50% tariff reductions results in the prices of cereal, fish and meat declining by 8.7 percent and the prices of tubers and alcohol falling by 10.5 percent. These price changes are employed in re-estimating equation (13). Table 8 presents the simulation results of the effects of the 50% across-the-board tariff reductions.

The negative CV estimates indicate that all households would gain from further tariff reductions, suggesting that the tariff liberalisation in the 1990s was probably not large enough. Implementing the 50% across the board tariff cuts and thus reducing domestic prices by 8.7 to 10.5 percent could have offset the adverse effects of the price movements experienced in the 1990s. On average, the government would need to take away from each household about 6 percent of their 1991/92 total household expenditures to reduce its welfare to the pre-reform levels. The experiment further suggests that poor consumers, especially in the rural areas, would be the major beneficiary from further tariff liberalization. This means that tariff liberalisation would tend to relatively benefit the poor (6.4%) over the non-poor (5.7%) and thereby potentially reduce inequality. Rural households also stand to gain substantially (6.5%), compared to their urban counterparts (5%). These findings indicate that trade policy may not have been responsible for the welfare losses observed in the previous analysis. The role of other factors and policies such as the removal of fertilizer subsidies, exchange rate depreciation and domestic supply constraints could be decisive.

Tables 8 and 9 provide information on what happened to real incomes of households across the income distribution and in different sectors during the 1990s. We are interested in knowing whether real incomes increased adequately to compensate households for the food price shocks and the implied welfare losses documented in Table 9. Table 9 shows a marginal increase in average real income by 2.5 percent between 1991/92 and 1998/99. However, across the income distribution and locality, the evidence indicates that it is not uniformly the case that all households experienced real income increase. Consistent with our *a priori* expectations, urban households in Ghana, especially its poorest (32.8%), had their real incomes falling substantially (10.7%) compared with an increase in real incomes for rural households (12.5%). In fact, it is non-poor rural households who saw the greatest improvement in income at 21 percent. These results show that

even after allowing for real income increases, poor households, particularly in urban localities, were clearly disadvantaged by the rising consumer food prices.

TABLE 8: Compensating Variation due to Tariff Reform

<i>Household Category</i>	<i>First-order Effects (%)</i>	<i>Full Effects (CV) (%)</i>
<i>Locality</i>		
Rural	-6.3	-6.5
Urban	-4.8	-5.0
<i>Income group</i>		
1 st quartile	-6.3	-6.5
2 nd quartile	-6.1	-6.2
3 rd quartile	-5.7	-5.9
4 th quartile	-5.2	-5.4
<i>Poverty status</i>		
Non-poor	-5.5	-5.7
Poor	-6.2	-6.4
<i>Poverty status</i>	<i>Rural</i>	<i>Rural</i>
Non-poor	-6.2	-6.4
Poor	-6.5	-6.6
<i>Poverty status</i>	<i>Urban</i>	<i>Urban</i>
Non-poor	-4.8	-4.9
Poor	-5.2	-5.3
Ghana	-5.8	-6.0

Source: Author's calculations from GLSS 3 & 4.

Note: Compensating variation is measured as a proportion of 1991/92 total household expenditures.

TABLE 9: Household Income and Changes in the 1990s

<i>Household Category</i>	<i>1991/92</i>	<i>1998/99</i>	<i>Changes (%)</i>
<i>Locality</i>			
Rural	2,024,815	2,277,439	12.5
Urban	3,029,128	2,704,301	-10.7
<i>Income group</i>			
1 st quartile	1,680,675	1,458,722	-13.2
2 nd quartile	2,300,523	2,211,556	-3.9
3 rd quartile	2,472,098	2,877,610	16.4
4 th quartile	3,046,975	3,188,210	4.6
<i>Poverty status</i>			
Non-poor	2,712,510	2,831,827	4.4
Poor	1,865,052	1,573,762	-15.6
<i>Poverty status</i>	<i>Rural</i>	<i>Rural</i>	
Non-poor	2,276,180	2,753,458	21
Poor	1,784,633	1,583,733	-11.3
<i>Poverty status</i>	<i>Urban</i>	<i>Urban</i>	
Non-poor	3,202,658	2,927,371	-8.6
Poor	2,275,599	1,529,843	-32.8
Ghana	2,374,914	2,433,936	2.5

Source: Author's calculations from GLSS 3 & 4.

Note: Amounts are stated in Cedis per annum in the constant prices of Accra in January 1999.

CONCLUSION

In this paper, we had three main objectives: (1) to estimate a food demand system using recent household survey data for Ghana; (2) to measure the (consumer) welfare impact on households of food price changes in the 1990s; and (3) to assess the extent to which changes can be explained by trade and agricultural policy reforms. Using the linear approximate version of the AIDS model, we have calculated expenditure, own-price and cross-price demand elasticities for 6 food aggregates important for providing the calorific needs of most Ghanaian households. The results indicate that demand for most food commodities in Ghana is price sensitive. The estimated price and expenditure elasticities are plausible and consistent with economic theory: all own-price elasticities were negative and statistically significant. Similarly, estimated expenditure elasticities were positive and statistically significant for all food groups as is expected. The demand estimates presented in this paper provide information

about the characteristics of food demand in Ghana.

With regard to our second and third objectives, we employed the estimated price elasticities to evaluate the welfare consequences of the relative food price changes in terms of compensating variation. Results suggest that Ghanaian household consumption did respond to relative price and real income changes, which to some extent resulted from policy reforms. We find that the remarkable increases in food prices resulted in severe erosion of real income and purchasing power for the urban poor, in particular. Although the food price changes have had differential effects on the population, the general experience has been that for the vast majority of households, the price changes brought severe hardship through higher food prices. The results indicate that the burden of higher consumer food prices fell largely on the urban poor households.

Whilst it is difficult to attribute the food price changes, and by implication the welfare losses, to any particular policy *per se*, our counterfactual experiment indicates that trade liberalisation may not (for consumers) have been responsible for the welfare losses. The role of other factors and policies such as the removal of fertilizer subsidies and exchange rate depreciation could be decisive. The simulation exercise suggests that further tariff liberalisation would tend to offset the welfare losses of higher food prices for all household groups, although it is the poor and rural consumers that stand to gain the most. In sum, the results suggest, perhaps unsurprisingly, that although trade liberalisation may have a positive impact on welfare, at least from a consumption perspective, other factors may offset this, at least in the case of Ghana.

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AN ASSESSMENT OF FEEDBACK EFFECTS IN THE INFLATION-ECONOMIC GROWTH NEXUS: EVIDENCE FROM NIGERIA

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ABSTRACT

This paper seeks to examine the relationship between inflation and real GDP growth for the Nigerian economy. Empirical evidence is obtained from the ECM-type of Granger Causality tests using quarterly data for the period 1970:1 – 2005:4, from the CBN's Statement of Accounts, Annual Reports and Statistical Bulletin, as well as International Financial Statistics published by the IMF. It is found that there exists a significant feedback effect between inflation and economic growth. However, causality from economic growth to inflation appears stronger and dominates. These results imply that moderate inflation is helpful to growth, but faster economic growth tends to feed back into inflation and exert pressure on the Nigerian economy. Hence, a monetary policy target of single-digit inflation should be pursued as a complement to other macroeconomic policy targets.

Keywords: Economic growth, feedbacks, inflation, Nigeria

INTRODUCTION

The controversial relationship between inflation and economic growth originated in Latin America in the 1950s, and it has since generated a series of debates among various schools of thought, most especially between the *structuralists* and the *monetarists*. To the *structuralists* inflation is essential for economic growth; the *monetarists*, on the other hand, believe that inflation is detrimental to economic growth. The relationship has remained debatable in both the theoretical and empirical literature

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literature ever since. Friedman (1973:4) succinctly summarizes the inconclusive nature of the relationship between inflation and economic growth as follows:

“Historically, all possible combinations have occurred: inflation with and without development, no inflation with and without development.”

Mallik and Chowdhury (2001) give the two aspects to the debate: firstly the nature of the relationship, if one exists; and secondly, the direction of causality. There abound evidence in both theoretical and empirical studies that there is a significant negative relationship between inflation and growth. However, there is a dearth of works on the direction of causality between the two macroeconomic variables, especially in developing countries including Nigeria.³ Studies on inflation in Nigeria such as Ajisafe (1996); Folorunso and Abiola (2000); Akinlo (2004); and Oladipupo (2004) argue that inflation has a long-run implication for the real economy. Also, there is a consensus that output level is a significant determinant of inflation in both short and long runs in Nigeria; but the direction of causality is yet to be established for Nigeria.

The policy relevance of establishing the direction of causality between inflation and economic growth stems from the fact that low inflation rate could stimulate economic activities positively. In addition, economic growth that is generated by greater productivity, for instance, could suppress inflation. This is particularly important in an economy like Nigeria where various policy reforms are ongoing. In Nigeria, the first noticeable increase in general price level was in the early 1970s. The monetary authorities have since been pre-occupied with the goal of achieving price stability, among other objectives. This has become paramount in assessing the effectiveness of various monetary policy measures in Nigeria.

In his acceptance speech in May 29, 2007, the late President Yar'adua of Nigeria declared and emphasized that a double-digit growth rate is required for Nigeria to be among the top twenty economies by 2020 AD. Similarly, the National Economic Empowerment and Development Strategy (NEEDS, 2004) asserts that a 10-13 percent economic growth rate, if it remains consistent over some six years, could drastically reduce the number of people living below the poverty line. Besides, moderate inflation has been established to be necessary for stimulating economic growth (see Malik and Chwdhury, 2001). This underlines the importance of inflation and growth behaviour in the development process in any economy, including Nigeria. Therefore, an examination of whether inflation and economic growth feed back on each other in Nigeria becomes imperative.

The remaining part of this paper is structured as follows: section 2 contains a review of related literature, sections 3 and 4 conceptual framework and research

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see Ahmed and Mortaza, 2005; Gokal and Hanif, 2004; Mubarik, 2005; and Singh and Kaliappa, 2003 for survey of the literature.

methodology respectively. Section 5 contains empirical evidence and discussion while section 6 presents a conclusion and policy implications.

REVIEW OF RELATED STUDIES

Empirical studies have provided evidence on the significant negative relationship between inflation and growth. Moreover, attempts have been made to examine empirical studies to establish the direction of causality in inflation-growth relationship. Paul, Kearney and Chowdhury (1997) find no causal relationship in 40 per cent of the countries surveyed. They report bidirectional causality in about 20 per cent of countries studied and a unidirectional (inflation to growth or vice versa) relationship in the rest.

Also, Mallik and Chowdhury (2001) find that there is a significant two-way causation between inflation and economic growth in the four south Asian countries of Pakistan, India, Bangladesh and Sri Lanka; whereas Gokal and Hanif (2004) found that causation runs one-way from economic growth to inflation in Fiji.

The few existing studies in Nigeria on the relationship between inflation and economic growth include: Osakwe (1972); Akinlo (1987); Habeeb (1994); and Ajilore (2006). Osakwe (1972) examines the relationship between growth and inflation on the one hand, and inflation and some factors which influence output growth on the other. He finds that the relationship between rates of price changes and economic growth, price changes and growth in private investment did not conform to the general expectation that the rate of price change was inversely related to the growth of private investment and economic growth. The estimates for exports and savings are not statistically significant and statistical evidence based on those variables is therefore inconclusive.

Akinlo (1987) provides a critique of Osakwe's (1972) study. The study is based on time series data of variables such as rate of inflation, investment, saving, imports and exports for the period 1961-85. Using the Spearman rank correlation approach along with regression analysis, he finds that growth and inflation are positively related in Nigeria.

Both Osakwe's (1972) and Akinlo's (1987) studies agree that price changes and economic growth, and price changes and investment move in the same direction in Nigeria over the period studied. However, the studies do not provide evidence for the direction of causality, especially between inflation and aggregate economic growth.

Habeeb (1994) assesses the extent to which prices have influenced the growth of output in the Nigerian economy and how demand management of price adjustments would accelerate the growth of output. The study employs a quadratic model for 1970-1994 and reports that to achieve sustainable growth, demand management should include anti-inflationary policies.

Orubu (1996) appraises government policies at managing price levels in Nigeria. He points out specifically that output growth reduced inflation. This implies a negative relationship between growth and inflation. Inflation was taken as the dependent variable while output growth was included as one of the explanatory variables in the hybrid monetary model employed for the empirical study that covered 1960 - 1994. His findings are generally consistent with findings elsewhere on the causes of inflation in Nigeria. Specifically, Ajisafe's (1996) and Folorunso and Abiola's (2000) studies suggest a negative relationship with no suggestion on the direction of causality between the variables

Olomola (2004) finds that a low rate of inflation would have a positive impact on long-term growth. He further states that if the long-run growth of the economy is targeted at 10 per cent, there has to be a moderate annual inflation growth rate of about 2.3 percent. The conclusion was arrived at while the author was examining the effects of macroeconomic policies on the long-run economic growth in Nigeria over the period 1960-98. Olomola's (2004) findings underline the imperative of establishing the causal pattern between inflation and economic growth in Nigeria.

A related study by Olofin (2005) examines the relationship between money supply and economic growth in Nigeria between 1970 and 2005. The findings of the study provide evidence of causal patterns between the two variables.

The basic shortcoming of these studies on Nigeria is that they failed to examine the direction of causality between inflation and economic growth. Unlike previous studies, the kernel of this paper is to examine the existence of bidirectional relationship between policy goals of inflation and economic growth⁴ using an ECM-type Granger non-causality test. This technique is more efficient in testing a causal pattern than the conventional pair-wise causality test.

Given the evidence from Fiji, for instance, attempts by the Nigerian monetary authorities to place higher preference on price stability than high economic growth may greatly distort the economy at large. Hence in Nigeria evidence is required on the existence or otherwise of bi-directional relationship among the two variables.

THEORETICAL ISSUE

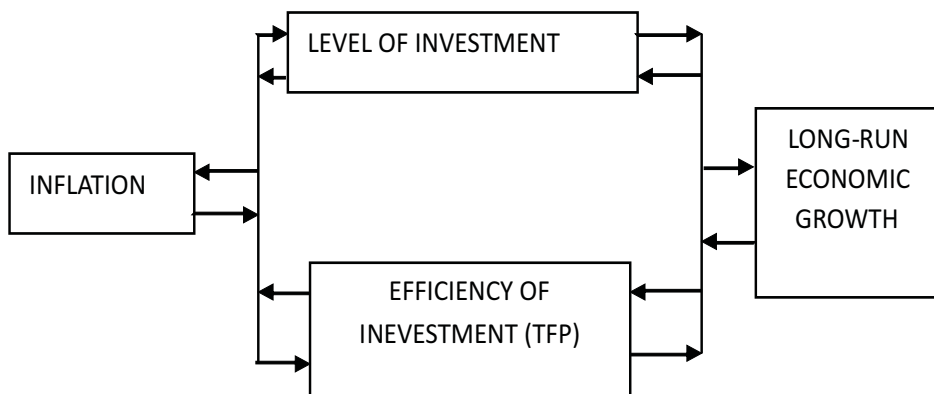
The theoretical literature does not exclusively state any direct link between inflation and economic growth, particularly on causal patterns, the plethora of studies in this area notwithstanding. It is of note that inflation affects economic growth, but the direct effect is trivial and difficult to model (Li, 2006). A lot of attempts, however, have been made to explain the link between inflation and economic growth.

Economic growth theories - from Classical to endogenous growth (EG) - postulate varying positions about the growth effects of inflation. EG theories account for these effects through the impact of inflation on investment and capital accumulation

⁴ These studies include Ajisafe, 1996; Ojameruaye, 1998; and Folorunso and Abiola, 2000.

accumulation. Mundell (1963) articulates a mechanism relating inflation and growth separate from the excess demand for commodities. According to him, an increase in inflation or its expectations immediately reduces people's wealth. This works on the premise that the rate of return on individual's real money balances falls. So, to accumulate desired wealth people save more by switching to assets, increasing their price, thus driving down real interest rate. Greater savings means greater capital accumulation, which in turn leads to faster growth.

It is with no doubt that (moderate/low demand-pull) inflation redistributes income and wealth in the economy. For instance, fixed income earners lose whereas business people and investors tend to gain. The gains could be ploughed back into business for further production resulting in a higher level of investment expenditure in both capital and human factors of production. This means more employment, higher income and output, which in turn tends to feed back into a further inflationary level in the economy. Specifically both Keynesians and monetarists agree on some channels such as capital accumulation/ investment through which general price level increases influence real economic activity and vice versa. The following diagram suggests the interconnection between inflation and economic growth with the transmission mechanism presented as follows:



Following the previous discussion the research questions for the paper include:

(i.) does inflation cause economic growth? and (ii.) does economic growth feed back into inflation in Nigeria over the study period? Simply put, is there a bi-directional causality between inflation and economic growth in Nigeria?

RESEARCH METHODOLOGY

Model Specification and Estimation Techniques

A specific causal relation between inflation and economic growth is addressed by employing error correction mechanism (ECM) types of Granger Causality tests. However, the causality may be bi-directional in nature. In this regard, the bivariate causality testing is applied. Given that the series are first-difference stationary (when a non-stationary and stationary series are pooled and regressed in a model, the results tend to be spurious. see Gujarati 2005), the error correction equations used for testing causality between inflation and economic growth are as follows:

$$y_t = a_0 + b_1 y_{t-1} + c_1 \pi_{t-1} + d_1 ec_{t-1} + \dots \quad (i)$$

$$\pi_t = a_1 + c_1 y_{t-1} + f_1 \pi_{t-1} + d_1 ec_{t-1} + \dots \quad (ii)$$

Where ec_{t-1}^1 and ec_{t-1}^2 are the lagged residuals of the long run cointegrated equations. For there to be unidirectional causality from inflation (π) to economic growth (y), the estimated coefficients on lagged π in equation (i) should be jointly significantly different from zero and the set of estimated coefficients on lagged y in equation (ii) should not be significantly different from zero. For there to be unidirectional causality from y to π , the estimated coefficients on lagged y in equation (ii) should be jointly significantly different from zero and the set of estimated coefficients on lagged π in equation (i) should not be significantly different from zero. Bidirectional causality is suggested when both estimated coefficients in the two equations are statistically different from zero.

The time series properties of the data set were examined using Dickey- Fuller (DF), Augmented Dickey- Fuller (ADF) and Phillip- Perron (PP) tests. To determine the non-stationary property of the series the relevant DF and ADF tests are employed. The DF test is based on the following model:

$$X_t = \beta_0 + \lambda X_{t-1} + \gamma T + e_{1t} + \dots \quad (iii)$$

Where β_0 is a constant; X , the vectors of variables and T , the trend term. When λ is negative and significantly different from zero, then the series is $I(0)$, i.e., stationary. In most cases stationary series have a finite variance, transitory innovations from the mean and a tendency to return to their mean value. The critical t values for the test are calculated by Monte Carlo simulation in MacKinnon (1999) because the distribution is not standard. However, the error term e_{1t} should be white noise.

The ADF test is a modification over the DF test. While the ADF test allows for higher autocorrelation in residuals and includes the lagged values of the dependent variables in the estimation of equation (iii) as follows:

$$X_t = \beta_0 + \lambda X_{t-1} + \gamma T + X_{t-1} + e_{2t} + \dots \quad (iv),$$

Culver and Papell (1997) point out that the DF and ADF tests are unable to discriminate well between non-stationary and stationary series with a high degree of autoregression. It is therefore possible that inflation, which is likely to be highly autocorrelated, is stationary whereas the DF and ADF tests may show that it is non-stationary. The tests may also incorrectly indicate that the inflation series contains a unit root when there is a structural break in it.⁵ Also, since it is widely believed that both DF and ADF tests do not consider the cases of heteroscedasticity and non-normality frequently revealed in raw data of economic time series variables (Phillips and Peron, 1988), the PP test for unit root has been used in empirical analysis. Moreover, the test has an advantage over the ADF test when the concerned time series has serial correlation and there is a structural break. It provides robust estimates over the DF and ADF tests and is modeled as follows:

$$X_t = \phi + \lambda X_{t-1} + y(t - T/2) + \psi X_{t-1} + e_{3t} \quad \dots\dots\dots (v)$$

In equations (iii), (iv), and (v), Δ is defined as the first difference operator and e_{1t} , e_{2t} , e_{3t} are the respective covariance stationary random error terms.

When residuals are found to be integrated of order zero, $I(0)$, then it can be concluded that the time series are co-integrated and thus a valid and stable long-run relationship exists between them. This implies the existence of a stable long-run relationship between inflation and economic growth. Also, Engle and Granger (1987) show that if two or more variables are co-integrated (i.e. there is a long-run relationship), then there exists a corresponding short-run relationship. Hendry's (1979, 1995) general-to-specific approach has been applied in this case where the model is used in the following form:

$$\begin{array}{llllllll} t & 4,0 & \overset{k}{i-1} & 4,i & t & \overset{k}{i-1} & 4,i & i_t & 4, & \overset{k}{i-1} & 4,i & i_y & 4,i & m_t & 1ecm_{t-1} & 4,t \dots (vi) \\ & & k & & & k & & & & k & & & & & & \\ i_t & 4,0 & \overset{k}{i-1} & 4,i & t & \overset{k}{i-1} & 4,i & i_t & 4, & \overset{k}{i-1} & 4,i & i_y & 4,i & m_t & 2ecm_{t-1} & 4,t \dots (vii) \\ & & k & & & k & & & & k & & & & & & \\ y_t & 4,0 & \overset{k}{i-1} & 4,i & t & \overset{k}{i-1} & 4,i & i_t & 4, & \overset{k}{i-1} & 4,i & i_y & 4,i & m_t & 3ecm_{t-1} & 4,t \dots (viii) \\ & & k & & & k & & & & k & & & & & & \end{array}$$

⁵

see Mallik and Chowdhury, 2001 and Ahmed and Mortaza, 2005

$$m_t = \theta_1 m_{t-1} + \theta_2 m_{t-2} + \theta_3 m_{t-3} + \mu_1 + \mu_2 + \mu_3 + \epsilon_t \quad (ix)$$

where, θ_1, θ_2 and θ_3 are the error correction terms coefficients, which a priori are negative and $0 \leq \theta_1, 0 \leq \theta_2$ and $0 \leq \theta_3$ should hold for the series to converge to the long-run equilibrium relation. μ_1, μ_2 and μ_3 are random disturbance terms, and k is the number of lag lengths determined by using appropriate lag order criteria such as Akaike information (AI) and Schwarz Bayesian (SB) criteria. Here i begins at one and j begins at zero in order for the series to be related within a VAR (see Engle and Yoo, 1991).

Sources of Data and Measurement of Variables

Economic growth was measured by real per capita gross domestic product growth (rgdpg). The real per capita GDP is defined as the nominal GDP per individual in the country deflated by the composite consumer price index (1985=100). Since the quarterly GDP, which is one of the key variables in the model, is not published by most available data sources, this study adopted the Gandolfo's (1981) algorithm for the interpolation of annual real GDP series using quarterly flow time-series. The use of this interpolation technique is justified on the grounds that it is robust and based on Order Statistical theory, which is not confined to any variable type, whether stock or flow. The Order Statistical theory is centered on the principle of accumulation of realizations or experiences in short intervals, e.g., hourly to daily, weekly to monthly and quarterly to annually. The real GDP growth rate was sourced from the Central Bank of Nigeria's Statistical Bulletin (2008).

Inflation was measured by the composite consumer price index (1985 = 100). The measure of inflation was selected from the 2005 edition of International Financial Statistics published by the International Monetary Fund.

Real investment is defined as the ratio of the **gross capital formation** to gross domestic product (GDP). It was measured by using gross capital formation at constant price. The Central Bank of Nigeria's Statistical Bulletin (2008) edition contains a series on gross capital formation that was used in the study.

Money supply is defined as the broad money (M2) in the Nigerian economy for the period covered by the study. Its real term value was derived by deflation of the nominal M2 by price index. M2 was sourced from the 2005 edition of International Financial Statistics published by the International Monetary Fund's International Financial Statistics (2008).

To estimate the models specified in this study, quarterly data covering the period 1970:1 to 2005:4 were used. In total, this sample consists of 144 observations. The choice of quarterly data stemmed from the understanding that studies on monetary policy require high frequency data. Moreover, since it is expected that the impact of monetary policy on economic activities would be studied in the short-run, studies of this nature are best conducted using high frequency data.

EMPIRICAL EVIDENCE AND DISCUSSION

Unit Root Tests

To test for causality, it is important to ensure that the series are stationary to avoid spurious rejection or acceptance of causality. Therefore, the time series properties were investigated using DF, ADF and PP tests. The result is as presented in Tables 1 and 2. Using the DF, ADF and PP tests, all the variables were regarded as non-stationary at their levels.⁶ The result was followed by testing whether first differences make the variables stationary. The results of these tests were reported in Table 3. These results, however, confirm that differencing once is all that is required to bring these variables to stationary at 5% significance level. The variables were as well rightly signed. Hence we conducted a cointegration test.

Cointegration Test

Following the results in section 3.1 we tested for possible cointegration among these variables. The study applied the multivariate cointegration technique developed by Johansen (1988) and Johansen & Juselius (1990) to the system variables due to the evidence that it performs better than single-equation and alternative multivariate methods (Ibrahim, 2000). As cited by Mallik and Chowdhury (2001), the procedure, unlike others, tests for the possible existence of a third cointegrating vector. In addition, the procedure's *maximal eigen value* test examines the null hypothesis that there are at least r cointegrating vectors, as against the alternative that there are $r+1$. Also, the cointegration technique gives *the trace-test*, where the alternative hypothesis is that the number of cointegrating vectors is equal to or less than $r+1$. The results of the cointegration tests were reported in Table 4. Table 4 shows that the null hypothesis of no cointegration was rejected at both 0.01 and 0.05 levels of significance.

Granger Causality Test

The interest of the section is to examine the existence (or non-existence) of a possible two-way causality between inflation and economic growth.⁷ Since there is evidence that measures of inflation and economic growth are non-stationary

⁶ The reported t-statistic for each variable is not greater than the critical t-values of -1.9431 (-2.5817) & -2.9910 (-3.5332); -28823 (-3.4778) & -3.4425 (-4.0254), and -2.8817 (-3.4765) & -3.4416 (-4.0235) for both the untrended and trended series for DF, ADF and PP at 5% (1%) significance level respectively.

⁷ The results of the vector error correction model are not reported here, as the focus of the study is on the Granger causality model. The result is available upon request.

but cointegrated, the Granger causality is applied using $I(0)$ series. An error correction procedure is then employed to model short-run changes in the relationship between real economic activity and inflation. The estimated results of equations (i) and (ii) are reported in Tables 5 and 6.

The estimated regression result shows that inflation does Granger-cause growth ($F = 7.54$, $\text{prob} < 0.10$) and economic growth does Granger-cause inflation ($F = 14.48$, $\text{prob} < 0.05$). This implies that economic growth is induced by general price levels. Similarly prices are induced by the growth in the real economic activity. The significant (and negative) error correction terms ecm^1 ($t = -1.96$) and ecm^2 ($t = -2.30$) support the claim that the direction of causation runs in both directions (from economic growth to inflation and inflation to economic growth). It clearly indicates the speeds of adjustment. It takes a longer time for movement from inflation to economic growth, but a long time for movement from economic growth to inflation. There, thus, exists a bi-directional causality between variables. Hence, we accept the hypothesis that significant feedback effects exist between inflation and economic growth in Nigeria.

It is found that there exists a significant feedback effect between inflation and economic growth. However, causality from economic growth to inflation appears stronger and dominates. These findings support the structuralists' view that inflation is necessary for development. They run contrary to earlier studies such as Gokal and Hanif (2004), but partly corroborate studies such as Paul, Kearney and Chowdhury (1997). This seems reasonable in the context of basic economic reasoning that moderate inflation rate generated by demand and structurally induced economic growth would positively feed into each other and stimulate the economy.

To further establish the claim on causal relationship among the variables of interest in the study, a pairwise Granger-causality test was carried out. As previously established, the Nigerian economic growth and inflation measures Granger-cause each other at both 5% and 10% levels of significance. The findings in this section imply that both inflation and economic growth are vital in explaining the behaviour of each. Thus inflation and growth are functions of each other.⁸

CONCLUSIONS AND POLICY IMPLICATIONS

The literature is replete with evidence on the significant negative relationship between inflation and economic growth across economies. Studies on the specific causal pattern, particularly in developing countries, are however sparse. This paper provides an insight into the existence of a two-way causality between inflation and growth relationship in a small open economy like Nigeria. The Granger Causality test results indicate that causality runs in both directions.

⁸ see Appendix for results

Thus the variables feed back on each other. However, causality from growth to inflation seems to be stronger. These results have important policy implications. Moderate inflation is helpful to growth, but higher and faster economic growth tends to exact pressure on the economy. The commitment to achieving a single-digit inflation rate should be pursued, taking into consideration the growth in the real economic activity. The effectiveness and complementarities of both monetary and fiscal policies appear to be vital to the development of the Nigerian economy.⁹

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⁹

These findings should be handled with adequate caution since the transmission channels between the variables are not identified. Besides, the source of economic growth in Nigeria over the study period is mainly from oil production. Further studies in Nigeria on the issue could employ the non-oil GDP growth rate as a measure of economic growth.

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APPENDIX

TABLE 1: Unit Root Tests for the Variables in Levels

<i>Series</i>	<i>DF</i>		<i>ADF</i>		<i>PP</i>	
	<i>Untrended</i>	<i>Trended</i>	<i>Untrended</i>	<i>Trended</i>	<i>Untrended</i>	<i>Trended</i>
Lrgdp	0.0124	-1.9597	-2.1619	-2.7218	-2.5338	-4.3298
Lcpi	1.0426	-2.0732	-0.2119	-2.6296	0.1469	-1.9463
Ims	2.4881	-3.9473	-0.3131	-3.9503	-0.8208	-10.6656
Irinv	1.5884	-1.6283	-0.1545	-1.6105	0.0650	-1.2887

TABLE 2 :Unit Root Tests for the Variables in Levels (Order of Integration)

<i>Series</i>	<i>DF</i>		<i>ADF</i>		<i>PP</i>	
	<i>Untrended</i>	<i>Trended</i>	<i>Untrended</i>	<i>Trended</i>	<i>Untrended</i>	<i>Trended</i>
Lrgdp	I (1)	I (1)	I (1)	I (1)	I (1)	I (0)
Lepi	I (1)	I (1)	I (1)	I (1)	I (1)	I (1)
Ims*	I (1)	I (0)	I (1)	I (1)	I (1)	I (0)
Irinv	I (1)	I (1)	I (1)	I (1)	I (1)	I (0)

Notes: *i* * means the series is significant at one percent level.

- i. The Maximum Bandwidth for PP test has been decided on the basis of Newey-West (1994).
- ii. All tests have been performed on the basis of a 5% significance level using E-Views.
- iii. The DF, ADF and PP tests are based on the null hypothesis of unit roots.

Source: *Author's Computation.*

TABLE 3: Unit Roots Tests for the Variables in First Difference

<i>Series</i>	<i>DF</i>		<i>ADF</i>		<i>PP</i>	
	<i>Untrended</i>	<i>Trended</i>	<i>Untrended</i>	<i>Trended</i>	<i>Untrended</i>	<i>Trended</i>
Lrgdp	-2.7160	-4.2610	-5.1607	-5.1834	-18.0844	-18.0970
Lcpi	-3.7401	-3.7506	-3.7384	-3.7375	-8.5348	-8.5223
Ims	-3.6342	-8.5442	-8.6057	-8.5724	-92.5837	-91.9336
Irinv	-2.7593	-3.0214	-3.4317	-3.3942	-5.4694	-5.4343

Note: i. Critical values at 5% level for DF, ADF and PP are -1.9432, -2.8823 and -2.8818 for the untrended series and -2.9920, -3.4427 and -3.4418 for the trended series, respectively.

ii. *i* is first difference symbol

Source: *Author's Computation*

TABLE 4: Johansen Cointegration Test Results

<i>Eigen value</i>	<i>Trace statistics</i>	<i>5 percent critical value</i>	<i>1 percent critical value</i>	<i>Hypothesized Number of Cointegrating Equations</i>	
				Null	Alternative
0.2884	80.0712	63.8761	71.4792	r=0	r=1*
0.1265	32.0907	42.9153	49.3628	r= 1	r=2
0.0623	13.020	25.8721	31.1539	r= 2	r=3
0.0276	3.9511	12.5180	16.5539	r=3	r=4

<i>Eigen value</i>	<i>Likelihood Ratio</i>	<i>5 percent critical value</i>	<i>1 percent critical value</i>	<i>Hypothesized Number of Cointegrating Equations</i>	
				Null	Alternative
0.2884	47.9805	32.1183	37.4870	r=0	r=1*
0.1265	19.0706	25.8232	30.8340	r= 1	r=2
0.0623	9.0690	19.3870	23.9753	r= 2	r=3
0.0276	3.9511	12.5180	16.5539	r=3	r=4

Notes:

- Both Trace test and Likelihood Ration statistics indicate one cointegrating equations at both 0.01 and 0.05 levels
- * denotes rejection of the hypothesis at both 0.01 and 0.05 levels
- The series of estimation are *ligde*, *lcp1*, *lms* and *lrinv*.
- Critical values are from Mckinnon-Haug-Michelis (1999).
- r denotes the number of cointegrating vectors
- The results reported are based on the assumption of constant and a linear trend in the data with optimal lag length 2

Source: Author's Computation.

TABLE 5: ECM Granger Causality Results (Modelling) *lrgdp* by OLS Sample (adjusted): 1970: 4-2005:4

<i>Series</i>	<i>Coefficient</i>	<i>Std Error</i>	<i>t-statistic</i>	<i>Prob</i>
<i>lrgdp1</i>	-0.394796	0.091840	-4.2987741	0.0000
<i>lrgdp2</i>	-0.241848	0.086344	-2.800988	0.0058
<i>lcp11</i>	-0.614423	0.389111	-1.579041	0.1167
<i>lcp12</i>	-0.041113	0.385981	-1.91651	0.0753
<i>ecm1</i>	-0.090591	0.053558	-1.961461	0.0493
Constant	0.053564	0.028170	1.901457	0.0594

$$R^2 = 0.518345$$

$$F\text{-statistic} = 7.542093$$

$$\text{Schwarz criterion} = -0.0236407$$

$$\text{Observations} = 141$$

$$HQ = -0.023412$$

Source: Author's Computation

$$RSS = 6.494830$$

$$\text{Prob}(F\text{-statistic}) = 0.070003$$

$$D\text{-W statistics} = 2.036407$$

$$\text{Adj } R^2 = 0.502341$$

TABLE 6: ECM Granger Causality Results (Modelling) lcp1 by OLS Sample (adjusted): 1970:4-2005:4

<i>Series</i>	<i>Coefficient</i>	<i>Std Error</i>	<i>t-statistic</i>	<i>Prob</i>
lrgdp1	0.353914	0.086359	4.098172	0.0001
lrgdp2	-0.029452	0.086525	-0.340386	0.7341
lcp1	-0.002990	0.019911	-0.150172	0.8809
lcp2	-0.009647	0.019911	-0.501931	0.6165
ecm2	-0.007493	0.019220	-2.296548	0.0232
Constant	0.030732	0.006243	4.922930	0.0000

$R^2 = 0.6387663$

$RSS = 0.330515$

$D-W statistics = 1.991976$

$SC = -3.007400$

$Observations = 141$

$Adj R^2 = 0.613796$

$\hat{F} statistic = 14.481703$

$HQ = -3.081888$

$Prob (F-statistic) = 0.000126$

Source: Author's Computation.

Pairwise Granger Causality Tests

<i>Null Hypothesis</i>	<i>F-Statistic</i>	<i>Prob.</i>
**LRGDP does not Granger Cause LRINV	2.38199	0.0962
*LRINV does not Granger Cause LRGDP	3.74079	0.0262
LCPI does not Granger Cause LRINV	1.98627	0.1411
LRINV does not Granger Cause LCPI	0.15987	0.8524
LMS does not Granger Cause LRINV	0.80913	0.4474
*LRINV does not Granger Cause LMS	6.52607	0.0020
**LCPI does not Granger Cause LRGDP	4.38256	0.06961
*LRGDP does not Granger Cause LCPI	6.10242	0.0029
LMS does not Granger Cause LRGDP	1.96544	0.1440
LRGDP does not Granger Cause LMS	1.47851	0.2316
LMS does not Granger Cause LCPI	2.06472	0.1308
*LCPI does not Granger Cause LMS	13.8553	0.0002

Note: * Null hypothesis rejected for five per cent level of significance.

** Null hypothesis rejected for ten per cent level of significance.

Source: Author's Computation

VAR Lag Order Selection Criteria

<i>Lag</i>	<i>LogL</i>	<i>LR</i>	<i>FPE</i>	<i>AIC</i>	<i>SC</i>	<i>HQ</i>
0	-547.3438	NA	0.039027	8.107996	8.193663	8.142809
1	287.3730	1608.057	2.30e-07	-3.931955	-3.503624	-3.757892
2	333.3313	85.83405	1.48e-07*	-4.372520*	-3.601523*	-4.059206*
3	343.8595	19.04353	1.61e-07	-4.292051	-3.178389	-3.839487
4	353.9198	17.60555	1.76e-07	-4.204703	-2.748375	-3.612888
5	370.6017	28.21202*	1.75e-07	-4.214731	-2.415738	-3.483666
6	380.7589	16.58022	1.92e-07	-4.128808	-1.987150	-3.258492
7	388.7359	12.55203	2.19e-07	-4.010822	-1.526499	-3.001256
8	396.0318	11.05117	2.52e-07	-3.882821	-1.055833	-2.734005

Notes: i. *indicates lag order selected by the criterion ii. LR: sequential modified LR test statistic at 5% level)

iii. FPE: Final prediction error iv. AIC: Akaike information criterion

v. SIC: Schwarz information criterion vi. HQC: Hannan-Quinn information criterion

Source: Author's Computation.

STRENGTHENING LIFELONG EDUCATION FOR DEVELOPMENT IN GHANA

D. ODURO-MENSAH¹

ABSTRACT

Lifelong education can be described as the most important driver of social, economic, political, technological and environmental development. Meaningful and realistic national development can, therefore, be achieved only when sufficient attention is paid to strengthening lifelong education. Through documentary research, the paper examined lifelong education in Ghana and how it can be strengthened. The need for a strong political will was identified and advocated for to focus resources on adult continuing education for expedited development of Ghana. The paper, among others, recommended revamping library systems in Ghana and equipping them with ICT facilities so as to promote e-learning and attract the populace to libraries. It concluded with a call for the strengthening and proper management of lifelong education in order to build the requisite human resources for Ghana's development.

Key Words: Lifelong education, education, development, national development,

INTRODUCTION

Lifelong education, although an old concept, is currently in the limelight and receiving needed attention from governments all over the world. The concept has received as many and varied explanations as there are practitioners of education. Lindeman (1926), among others, first provided an intellectual basis for a comprehensive understanding of education as a continuing aspect of everyday life. He touched on varying traditions such as the French notion of *education permanente* and drew upon developments within adult education traditions in Britain and North America. It was upon this basis, perhaps, that Lindeman (1926) described lifelong education as life but not merely preparation for an unknown kind of future living. By this he meant that the whole of life is learning and education, and these have no end.

To Faure *et al.* (1972), lifelong education should serve as the master concept for educational policies for both developed and developing countries. Jessup (1969:18) had earlier implied this when he stated that, “a man cannot achieve or

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even discover the potentiality of which he is capable unless he continues to learn; only so can he make the most of himself". Malassis (1976) also emphasized the relevance of lifelong learning when he stated that life-long education was the arena in which the battle to decide the fate of the rural world may be fought. In fact, life-long education and life-long learning should be regarded as indispensable processes required for human development in the 21st Century. The two provide requisite knowledge, skills and attitudes required to bolster and harness available physical and social resources for national development in an era of rapid scientific and technological growth.

Lifelong education may be viewed as all forms of education engaged in from birth (womb) to death (grave). It can be formal, informal or non-formal and involves continuing education usually provided through short and long-term courses such as on-the-job and off-the-job training, apprenticeship, conferences, workshops and seminars that enable individuals or groups of people acquire knowledge, skills and attitudes to build and improve upon their competencies and livelihoods. This paper examines the relevance and promotion of Lifelong Learning and Education (LLE) in Ghana. It also highlights some of the existing challenges and suggests steps to strengthen lifelong education in Ghana

RELEVANCE OF LIFELONG EDUCATION

For a developing country like Ghana, recognising the relevance of lifelong education is, indeed, an extremely important one. This is because the one important national strategy for survival is to have as highly educated and knowledgeable a population as possible; that is, a population which has the capacity and the will to adapt to global changing trends. Lifelong education becomes an indispensable educational strategy when appropriately planned, implemented and managed. It can lead developing nations, including Ghana, to leap-frog to the middle level income economy for which they are all yearning.

Three key features stand out in lifelong education. First, lifelong education builds upon and affects all existing educational provisions from Early Childhood Care and Education (ECCE) through basic to tertiary levels. Secondly, it extends beyond the activities of formal education providers to encompass all agencies, groups and individuals involved in all kinds of learning activities. Thirdly, it rests on the belief that individuals are, or can become, self-directing, and see the value in engaging in lifelong education (Tight, 1996). These observations about lifelong education are noteworthy, as emphasized by Tight (1996). This is because lifelong education and learning are not only feasible, but are essential to and unavoidable for the survival of both the young and adult in today's globalised world.

Field (2000) observed that many adults now take part in organized learning throughout their lifespan; that the post-school system is populated by adults as well as by young people; and that non-formal learning permeates daily life and is valued. In more recent years, however, there have been shifts into discussion of lifelong learning and the notion of informal learning.

Whatever the case may be, one thing that is apparently clear is that in today's globalised world, knowledge and skills acquired in executing jobs keep changing in rapid succession. This has resulted from the revolution and major breakthroughs made, and continuing to be made, in the field of new information and communication technologies (ICTs). In addition, the human mind has an infinite capacity; hence, people can continue to learn throughout their lives to become useful to themselves in their everyday lives, especially in their roles as citizens, workers, and parents.

The observation above is imperative because nearly one billion adults in the world cannot even read, let alone write (Hinzin, 2008). Of this number, almost two-thirds are known to be women and about 20% young people between the age of 15 and 24, most of whom live in extreme poverty. The majority of these people have thus been neglected by the very governments who signed the United Nations' declaration for a 50% reduction in illiteracy by the year 2015 (Hinzin, 2008; cited in IAE Report, 2009). According to the General Monitoring Report on Education for All (GMR) for 2008, illiteracy is highest in the countries and households with the greatest poverty where about 96 million children and young people of school-going age are not in school. In fact, the 2009 Education for All (EFA) Global Monitoring Report (UNESCO, 2008; cited in Benavot, 2008) provides evidence of millions of students who attend several years of primary school, and even graduate, but fail to acquire a minimal toolkit of reading and writing skills.

Indeed, Benavot (2008) has observed that there is a pressing need for governments all over the world to address the unmet learning needs of young people and adults. He opined that significant portions of school children in recent decades have either been excluded from school or received a low quality education. All these individuals have been failed by past and current provision of formal education. This indicates that the process of people becoming self-reliant, employable and competitive in both local and global marketplaces can be realised, and more appropriately, if lifelong education is strengthened, particularly in developing countries such as Ghana. Additionally, in the globalised world of today where knowledge and the processing of information are increasingly becoming means of social mobility and economic progress, learning throughout life should be the norm rather than exception.

PROMOTION OF LIFELONG EDUCATION IN GHANA

Present and past governments, Constitutions and Laws in Ghana have all recognised the importance of education as an instrument for social advancement and have, thus, made the right of every child to basic education a fundamental human right (Addae-Mensah, 2000). The educational system in Ghana has therefore witnessed a number of reforms, ostensibly to make education a lifelong endeavour and more accessible to every segment of the society. The most recent policy documents and educational policy reform that have influenced lifelong education in Ghana are the Vision 2020 Document;

The Ghana Poverty Reduction Strategies (GPRS I & II, 2001-2008); and The New Education Reform (Anamua-Mensah's Report, 2007). The Government of Ghana has become a major provider of funds, logistics and scholarships for lifelong education in Ghana. This is seen from public funded basic schools including crèches and kindergartens, where the institution of the Capitation Grant takes care of pupils' user-fees, to tertiary institutions where tuition is free.

Learning begins before a child walks through the classroom door (UNESCO, 2007). The government of Ghana has, therefore, taken steps to expand educational provision at the pre-school level. Primary schools are now mandated to provide kindergarten programmes. Some schools also have crèches attached to them. These measures are aimed at promoting lifelong education and helping to achieve the first Education for All (EFA) goal which calls for the expansion and improvement of comprehensive Early Childhood Care and Education (ECCE); especially for the most vulnerable and disadvantaged children.

Basic teaching and learning aids including textbooks, technical tools, equipment as well as 'a free meal a day' for pupils in some selected deprived schools through what is termed the 'School Feeding Programme' (SFP) have been introduced to help keep children, especially those of the poor, in school. Pupils also enjoy free bus rides to and from schools, especially in communities where metro mass transport systems operate.

In second cycle institutions, governments have provided bursaries and scholarships to needy but brilliant students to pursue secondary, technical as well as vocational education. School buses have also been provided for almost all second cycle educational institutions. Infrastructural facilities in many second cycle schools have seen massive expansion. More and more schools are currently enjoying internet facilities and teaching staff are becoming motivated to continuously build their capacities through different continuing education programmes.

Similar developments are taking place in tertiary institutions in Ghana. Ten polytechnics and six publicly-funded universities in Ghana have witnessed the provision of infrastructural facilities on their campuses. All students have access to loan facilities from a Students' Loan Trust, a subsidiary of the Social Security and National Insurance Trust (SSNIT) of Ghana. Additionally, many teaching staff secure scholarships to pursue further education abroad. All these developments are taking place because of the establishment of a 'GET-Fund' by the government of Ghana. The Ghana Education Trust Fund (GET-Fund) is an educational fund into which all educational taxes are paid for eventual disbursement by appointed administrators for the improvement of education. The Government also promotes lifelong education by strengthening apprenticeship training to build the skills and capacities of the teeming unemployed youth who could not further their education formally. Training in apprenticeship is organised around master-craftsmen who mostly adopt demonstrations, discussions and, to a lesser degree, lectures in their training to improve upon the employable skills and employability of unemployed youth and adults. A modular skills training programme named the Skills Training

and Employment Programme (STEP) was instituted in 2003. The programme had trained 27,500 youth and adults as at the year 2007 (UNDP, 2007). This would go a long way to help address the seemingly insurmountable youth unemployment, low productivity in workplaces and the thorny issue of streetism confronting Ghana.

The print and electronic media which comprise newspapers, magazines, books, and more especially, the television and radio, are currently being used extensively to aid teaching and learning in formal and non-formal institutions and settings. The provision of lifelong education through the aforementioned sources becomes important because people have to continue their education at all ages.

Additionally, the provision of a motivational learning environment, including infrastructural facilities, relevant teaching and learning aids and well qualified teachers, has not only resulted in improved teaching and learning in educational institutions, but has also led to increase in access to education in Ghana. The number of schools and enrolment rate of primary education, for instance, have seen an appreciable increase in recent times. For instance, the number of kindergarten (KG) schools increased by 8.4% between 2006 and 2008 from 14,246 to 15,449. The increase is primarily due to the government's policy that each primary school should have a KG attached to it. Gross Enrolment Ratio (GER) increased at the KG level from 54.6% in the 2003/04 academic year to 89.9% in the 2005/06 academic year, representing an increase of 35.3%. This significant increase was also possibly due to the Capitation Grant provided by the Ghana government in public schools. Over the same period, the primary and junior high school (JHS) levels recorded marginal increases of 8.7% and 8.6% respectively (MoESS, 2008).

Since 1992, 2,000,000 youth and adults, mostly between the ages of 15 and 44 years, have graduated from the non-formal learning programme, with the majority being women (MoESS, 2008). Enrolment in Ghana's 26 Technical Training Institutes (TTIs) in the 2006/7 academic year was 18,000. Aside the normal on-campus degrees and higher degree programmes, all the six publicly-funded universities in Ghana – University of Ghana (UG), Kwame Nkrumah University of Science and Technology (KNUST), University of Cape Coast (UCC), University of Education, Winneba (UEW), University for Development Studies (UDS) and University of Mines and Technology (UMaT) – are engaged in one or the other form of Distance Education Programme. For instance, the University of Ghana's Distance Education degree programme which started in the year 2007 has enrolled over 7,000 qualified students who either have grades of up to twenty-four or have passed the mature students' exams. Currently, sandwich programmes at certificate, diploma, bachelor's and master's degree levels and other short courses are run in some of the universities for successful applicants during recess.

Large numbers of candidates have therefore secured admission to engage in continuing education in the universities up to the bachelor's and master's degree levels through distance and sandwich education programmes. All these notwithstanding, there are equally large numbers of Ghanaians who for one reason or the other are not able to take advantage of lifelong education

opportunities which are presumably the norm in today's competitive global marketplace. The million dollar question to ask however is: why can't every Ghanaian take advantage of lifelong education? Many individual Ghanaians and institutions involved in lifelong education are encountering some challenges that can only be addressed through a concerted effort of government and all other stakeholders.

CHALLENGES OF LIFELONG EDUCATION IN GHANA

Notwithstanding the frantic effort the government of Ghana is making towards strengthening lifelong education, it appears measures taken so far are not solid enough to permanently address serious challenges confronting lifelong education in the country. This is because many of the challenges, including lack of access to educational facilities, inadequate infrastructural facilities, untrained teachers, inadequate professionally trained adult educators, lack of motivation and commitment, as well as the general lack of a reading culture in Ghana as evidenced by the seeming neglect of the library system in the country, still linger. Indeed, the reality is that Ghana has not yet hit the hundred percentage mark in basic school enrolment. Basic school enrollment was 85% as at 2007 (UNESCO, 2007). This is due to the fact that there are still some children in some remote parts of the country, especially in the northern regions, that cannot access school facilities, either because there are no schools in their communities or because they are socially excluded through policies.

That there are still some communities that have no school infrastructure and that some children attend classes under trees, is to say the least, unthinkable. Such a deplorable situation does not promote any meaningful and conducive environment for effective teaching and learning. Added to this is the fact that currently, many of the schools in the remotest parts of the country are handled by untrained teachers who hardly get the opportunity to undertake in-service training as compared to their counterparts in the towns and cities who normally benefit from such training. There are also inadequate adult educators in the country to help adults to continue to learn to unearth their hidden potential and improve upon their competencies in their various fields of endeavour.

Another challenge is that many employers in the private sector are not committed to sponsoring and motivating their employees to participate in short courses to acquire knowledge and new skills to improve their competencies at their workplaces. There are also no comprehensive on-the-job training plans to enable them keep up with the keen competition being experienced currently at the global marketplace. Such situations lead organisations to produce below their capacities, leading to low productivity.

In addition, many communities in Ghana do not have libraries and the few regional, municipal and district libraries available lack current materials to entice reading and continuous learning. The provision of library facilities is also very imperative because the social disengagement of people as they grow old would be

mitigated if lifelong education and learning become accepted habits. This observation buttresses the point made by Faure (as cited in Oduro-Mensah, 2004), that knowledge should not be assiduously acquired just once. He advocated for learning how to build up a continuing, evolving body of knowledge all through life. This is what Faure called 'learning to be'. It is also universally recognized now, that what can be learnt at school is but an introduction to life, and that knowledge and skills in every sphere are accumulating and changing so rapidly that learning must of necessity be a continuing activity (Townsend and Keith, 1977).

Poverty is another challenge to many otherwise brilliant people who would have wished to continue their education to acquire new and better skills to earn a more decent living. The reality however is that many of such Ghanaians, especially the youth, do not have stable jobs, so hardly would they devote the little time they spend searching for jobs to participating in learning. Many adults in Africa have limited financial resources; hence, they are more likely to invest in small-scale business activities such as buying and selling which will bring them quick returns. It is, therefore, important for the government to address permanently the poverty situation staring Ghanaians in the face, because it is one of the determining factors for the success or otherwise of the lifelong education tradition in Ghana.

Some other observable challenges confronting lifelong education in Ghana include lack of financial support from the government for running such programmes and subsidising learners; inadequate parental, spousal and family support for learners who themselves may be breadwinners; and the general high cost of education. Many of the lifelong education institutions are themselves cash strapped. This influences their mode of delivery and goals. All these and many other challenges affect the smooth operation of lifelong education institutions. The aforementioned challenges can be addressed through concerted efforts by governments and other relevant stakeholders, such as the private sector.

STRENGTHENING LIFELONG EDUCATION IN GHANA

There are a number of steps to be taken to improve lifelong education in Ghana. One of the important steps is the promotion of comprehensive advocacy programmes for stakeholders, especially the government, the private sector and the local people themselves, to build more libraries and revamp the existing ones. Libraries could then be provided with ICT facilities and books to promote e-learning. The Government of Ghana must necessarily show genuine political will and commitment by allocating appropriate budgetary support to all the sub-sectors of education – primary, secondary, tertiary as well as adult continuing education – to sufficiently build the requisite manpower that will ensure sustainable growth and expedite the development of Ghana.

Additionally, access to basic education from KG to JHS must be provided for all children, both male and female. This is because according to the Ghana Millenium

Development Goals Report, by 2015 every child of school-going age should complete a full course of primary education (GMDG, 2008). This goal could be achieved if the Free Compulsory Universal Basic Education (FCUBE) is fully implemented to meet the socio-economic and cultural needs of the people, especially those in the rural areas.

The School Feeding Programme (SFP) must be expanded to cover all public schools, particularly schools located in communities where poverty is endemic. Added to this is the Capitation Grant instituted by the Government of Ghana. This grant needs to be increased to meet the challenges of inflation and the realistic needs of the school children. The Free Bus system for school children also needs to be expanded to reduce the cost of children commuting between home and school. The government should build more schools to increase access to school education and bring schools closer to children's places of residence; the situation whereby children have to walk many kilometres to school is a disincentive to many parents and their children. Reading materials should also be designed to make them more readable and user friendly to motivate both child and adult learners to read more.

The government needs to address the problem of inadequate infrastructure for lifelong education opportunities to promote increased interest in lifelong education at all levels. Private stakeholders and religious groups should also be encouraged to establish and manage more adult continuing education centres. As part of corporate social responsibility towards rural development process, organisations could be made to pay extra tax for continuing education programmes. The government could partner with religious and other organisations to build schools and training centres and provide logistics and scholarships for promising and hardworking members of the public who want to continue their education.

There is also the need to provide relevant post-literacy materials to sustain reading habits among the working population. The formation and growth of reading and debating clubs at the basic and high school levels would go a long way to instil and promote lifelong learning in Ghana. The establishment of mobile libraries for neo-literates and out of school youth would also help widen access to reading materials and encourage a reading culture that will help speed up development among Ghanaians. Education, according to Oduro-Mensah (2004), is development and not for development. This implies that when Ghanaians are encouraged to learn continuously through the provision and use of library facilities in their communities, they will acquire requisite knowledge, skills and attitudes to understanding problems confronting them in their environment and address them permanently.

Relevant stakeholders in education should regularly meet and dialogue on the appropriate ways to strengthen lifelong education in Ghana to help address permanently the challenges of unemployment, underemployment, low productivity and grinding poverty that confront many Ghanaians. The managers of private sector institutions and organisations must be sensitized to see the need to build the capacity of their employees through regular on-the-job and off-the-job training in order to increase productivity and the profitability of their operations. In that sense, the employees' salaries and conditions of service would equally improve and Ghana would be the better for it.

The government of Ghana needs to prioritise the challenges confronting its educational policies and strategise to deal with them and expand opportunities for lifelong education and training.

CONCLUSION

The paper has examined how lifelong education can be strengthened in Ghana by first looking at the concept lifelong education and its promotion in Ghana. It has also examined challenges confronting lifelong education in Ghana and suggested steps to be taken to address them. Lifelong education, which has become the driver of today's knowledge based globalised development in terms of its impact on social, economic, political, environmental, technological progress and sustainable development, has seen some progress in Ghana. However, for Ghana to realise the fullest benefit of lifelong education, all stakeholders should provide the necessary wherewithal for the system to actually work. This demands that all stakeholders sacrifice their resources and every conceivable expertise to promote lifelong learning so that Ghana can produce the manpower capable of placing the nation on the map of development in today's global village.

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MATERNAL AND NEWBORN HEALTH IN GHANA, 2006

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ABSTRACT

Data from the 2006 Ghana Multiple Indicator Cluster Survey are used to assess maternal and newborn health and examine demographic and socio-economic factors associated with institutional delivery, low birth weight and current use of any contraception. Analyses are based on 1,365 or 23.2 percent of 5,890 females aged 15-49 who gave birth in the two years preceding the survey. The level of antenatal care is high (94.5 percent). Sixty four percent of mothers received at least two doses of the tetanus toxoid vaccine during the last pregnancy and seven out of 10 children aged 12-23 months have received all the required vaccinations. Fifty percent of women delivered at home. Current use of any contraceptive method is low (16.8 percent). Place of residence, level of education and wealth index quintiles are the significant predictors of institutional delivery. The Ghana government's free maternal delivery services policy should translate into effective action particularly in the rural areas. Higher female education should be encouraged because of its positive influence on health outcomes.

Keywords: Maternal, Health, Newborn, Correlates, Ghana

INTRODUCTION

The unacceptably high ratios of maternal and under-five mortality in Ghana have attracted much concern about progress towards the attainment of the Millennium Development Goals (MGDs) 4 and 5 by 2015. The estimated maternal mortality ratio calculated from maternal deaths identified among the 240,000 households sampled in Phase 1 for the five years preceding the 2007 Ghana Maternal Health Survey was 580 per 100,000 live births (GSS et al., 2009). This high maternal mortality ratio seems to suggest that Ghana has a long way to go to improve maternal health and thereby reduce the number of preventable deaths. The estimated neonatal mortality from the same survey for the period 2003 through 2007 was 29 deaths per 1,000 live births, while post-neonatal mortality was 21 deaths per 1,000 live births. Neonatal deaths account for nearly three out of five infant deaths, while maternal mortality is the second largest cause of female deaths at 14 percent after infectious diseases which account for about 40 percent of deaths to women aged 12-49 years (GSS et al., 2009).

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The under-five mortality rate of 111 per 1,000 live births for 2006 tells the story of poor health conditions for children in Ghana (Ghana Statistical Service et al., 2007).

The highest proportion of women's ill health burden is related to their reproduction. Universal access to reproductive health care including family planning, care during and after childbirth and emergency obstetric care would reduce unwanted pregnancy, unsafe abortion and maternal death, thus saving women's lives and those of their children. In Ghana, women comprise more than half of the total population and contribute significantly to development. The sheer waste of human lives through high maternal mortality constrains human and sustainable development. The importance of women's and children's health is highlighted by MDGs 4 and 5. Goal 4 aims at reducing the under-five mortality by two-thirds between 1990 and 2015. A major Goal 4 indicator is the proportion of one-year old children who have been immunized against measles. With regard to maternal mortality, Goal 5 aims at improving maternal health by reducing the maternal mortality ratio by three-quarters between 1990 and 2015. One important indicator is the proportion of births attended to by health personnel.

The link between maternal and newborn health can hardly be overemphasized. A healthy mother is the first step towards a healthy child. If a mother dies, the foetus or the baby usually dies. Then too, conditions that complicate mothers' pregnancy also adversely affect babies. The timing of maternal and newborn deaths is clearly linked with most deaths occurring during delivery. Improving maternal health through qualified antenatal care translates into perinatal health (Ngy et al., 2007). Many studies have found that women's education is strongly associated with positive maternal health outcomes (Tawiah, 1998; Magadi, 2004; Overbosch et. al., 2002; Magadi et. al., 2003; Ram and Singh, 2006).

The paper has two aims: (i) to assess levels of maternal and newborn health and (ii) to examine demographic and socio-economic factors associated with institutional delivery, low birth weight and current use of any contraceptive method.

DATA AND METHODS

The 2006 Ghana Multiple Indicator Cluster Survey (MICS) was conducted as part of the United Nations Children Fund MICS programme to fill data gaps and to monitor the situation of children and women through statistically sound, internationally comparable estimates of socio-economic and health indicators. Four sets of questionnaires were used, namely the household questionnaire, the women questionnaire, the men questionnaire and the under-five questionnaire. Module 3 which is one of the 10 modules of the individual women questionnaire focused on maternal and newborn health and collected data from all women with a live birth in the two years preceding the date of interview. It collected information on variables such as receipt of vitamin A dose, antenatal care provider, timing of

first instance of antenatal care, number of times of receipt of antenatal care, contents of antenatal care, counselling about human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS) virus during antenatal visits for pregnancy, HIV/AIDS test, time of HIV/AIDS test, receipt of HIV/AIDS test result, malaria prevention, assistance at delivery of last child, place of delivery, weight of child and breastfeeding. In addition, Module 2 collected data on tetanus toxoid injection from all women with a live birth in the two years preceding the date of interview, while Module 6 collected information on current use of contraception from women currently married or in union.

The sample design for the 2006 MICS was to produce statistically reliable estimates at the national level for urban and rural areas as well as for the 10 regions of Ghana. A more detailed description of the sample design is provided elsewhere (Ghana Statistical Service et al., 2007, pp.128-130). The total number of female respondents aged 15-49 was 5890 and the analysis is based on 1,365 or 23.2 percent of women who gave birth in the preceding two years. The maternal and newborn health indicators are receipt of tetanus toxoid injection during pregnancy, antenatal care provider, type of assistance at delivery, place of delivery, current use of any contraception, use of treated mosquito net, breastfeeding and birth weight.

Descriptive analyses are used to describe inequalities in maternal and child health among regions and socio-economic groups and between rural and urban areas. Logistic regression analyses are employed to examine factors associated with two measures of maternal health, namely place of delivery and current use of any contraception. One aspect of newborn health (low birth weight) is also examined. The results of the logistic regression analyses are given as regression coefficients, odds ratio (if greater than unity, the probability of current use of any contraception, for example, is higher than that of non-use of any contraception), and p values, to assess the relative statistical significance of the selected variables.

RESULTS

Receipt of vitamin A dose

Vitamin A supplementation to mothers who are breastfeeding helps not only to protect their children during the first months of life but also to replenish the mothers' store of vitamin A which is depleted during pregnancy and lactation. Respondents were asked whether they had received a vitamin A dose in the first two months after their last birth. Table 1 shows the percentage of mothers who received vitamin A supplementation. One out of every two mothers received vitamin A supplement. While 64.9 percent of urban mothers received vitamin A supplementation, the corresponding percentage for rural mothers was 49.1. There are variations in vitamin A supplement by region. The Ashanti region recorded the highest percentage (67.9 percent), followed by the Western (66.3 percent), Greater Accra (64.7 percent) and Volta (64.6 percent) regions.

The Eastern and Northern regions are the most disadvantaged regions.

TABLE 1. Percentage of women aged 15-49 years with a birth in the two years preceding the survey who received a high dose vitamin A supplement before the infant was eight weeks old by region and place of residence, Ghana 2006

<i>Characteristic</i>	<i>Received vitamin A supplement</i>	<i>Not sure if received vitamin A supplement</i>
Region		
Western	66.3	0.0
Central	49.1	0.5
Greater Accra	64.7	1.2
Volta	64.6	0.0
Eastern	36.4	0.0
Ashanti	67.9	0.7
Brong Ahafo	60.8	1.3
Northern	38.0	3.3
Upper East	56.3	1.3
Upper West	60.1	0.0
<i>Place of residence</i>		
Urban	64.9	0.9
Rural	49.1	1.2
Total	54.5	1.1

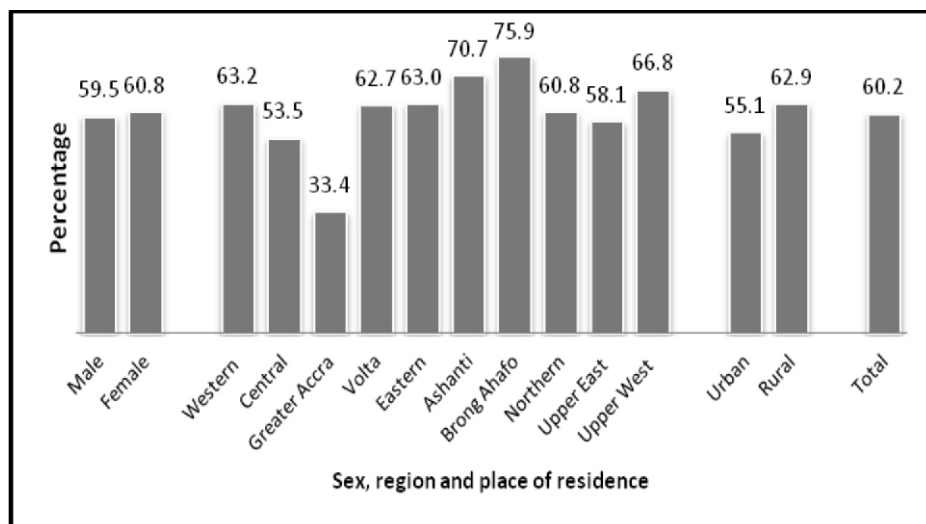
Figure 1 shows that six out of 10 children aged 6-59 months received vitamin A supplement in the six months prior to the survey. Receipt of vitamin A supplement does not vary by sex of child. There are regional differences in vitamin A supplementation ranging from 33.4 percent in the Greater Accra region to 75.9 percent in the Brong Ahafo region. Sixty three percent of children in the rural areas had received vitamin A supplementation in the six months prior to the survey compared to 55 percent of children in the urban areas. The percentage of children who had not received any vitamin A supplementation is 7.2. It varies from 3.5 percent in the Greater Accra region to 12 percent in the Upper East region. The corresponding figures for rural and urban areas are 8.4 percent and 5 percent respectively (figures not shown).

ANTENATAL CARE PROVIDER

Antenatal care (ANC) is a major component of safe motherhood. Its potential as an intervention to improve both maternal and newborn health can hardly be overstressed. Respondents were asked whether they had seen anyone for antenatal care for their last pregnancy, and if so, what type of person provided that care, when antenatal care was first given and how often antenatal care

was received. Table 2 shows that the level of antenatal care is high. The percentage of pregnant women who received ANC care one or more times is 94.5 (figure not shown). Antenatal

Figure 1: Percentage of children aged 6-59 months who received a high dose of vitamin A supplement in the last six months by sex, region and place of residence, Ghana 2006



care was provided to two out of every three births by nurse/midwife/auxiliary midwife, while doctors provided antenatal care to 23.3 percent of births. Six percent of births did not receive antenatal care. It is noted that more than half of births in each region received antenatal care from nurse/midwife/auxiliary midwife. The Upper West region registered the highest percentage while the Greater Accra region has the lowest percentage of births receiving antenatal care from nurse/midwife/auxiliary midwife.

Antenatal care provided by doctors varies according to region of residence. As expected, Greater Accra and Ashanti regions which have relatively more health facilities also have the highest percentages of doctors providing antenatal care. The three northern regions, namely the Northern, Upper East and Upper West, trail behind the other regions in terms of antenatal care provided by doctors. Provision of antenatal care varies by place of residence. Rural women are more likely to receive antenatal care from nurse/midwife/auxiliary midwife than their urban counterparts, while the reverse is the case for doctors. The proportion of births which did not receive any antenatal care varies from 1.4 percent in the Upper West region to 10.5 percent in the Volta region.

TABLE 2: Percentage distribution of women aged 15-49 who gave birth in the two years preceding the survey by antenatal care provider according to region and place of residence, Ghana 2006

Characteristic	Person providing antenatal care					Total
	Doctor	Nurse/ Midwife auxiliary midwife	Traditional Birth attendant	Community Health worker	No one	
Region						
Western	28.2	61.5	3.6	4.6	2.0	100.0
Central	21.0	17.7	0.0	3.1	4.1	100.0
Greater Accra	41.7	52.0	0.0	0.9	5.3	100.0
Volta	17.4	68.3	0.0	1.9	10.5	100.0
Eastern	30.7	60.6	0.9	0.0	7.8	100.0
Ashanti	32.7	64.8	0.6	0.3	1.7	100.0
Brong Ahafo	12.2	82.3	3.5	0.0	2.0	100.0
Northern	10.9	78.7	0.9	0.0	9.4	100.0
Upper East	2.6	88.4	0.0	1.0	8.0	100.0
Upper West	5.3	90.8	0.0	1.7	1.4	100.0
Place of Residence						
Urban	33.9	62.1	1.2	0.0	2.8	100.0
Rural	17.8	72.4	1.0	1.7	7.0	100.0
Total	23.3	68.8	1.0	1.1	5.5	100.0

Note: Relative/friend/other/missing comprises 0.1 percent.

CONTENTS OF ANTENATAL CARE

In order to assess the quality of care during pregnancy, the 2006 MICS included a series of questions on the content of antenatal care. Respondents were asked whether they were weighed, had their blood pressure measured and had their urine and blood tested. Table 3 shows the percentage of women according to the extent of care given to them during their antenatal care visits. More than 90 percent of women had their blood pressure checked and their weight measured. Eighty percent had their urine specimen tested and 78.3 percent had their blood samples taken for laboratory examination.

Regional differences in the level of antenatal care are more noticeable for blood samples taken for laboratory examination. The percentage of pregnant women who had their blood samples taken varies from 46.3 in the Northern region to 93.9 in the Brong Ahafo region. This is largely due to differences in the availability of laboratory facilities for testing blood samples.

The four indicators of “quality” of ANC seem to suggest that women in the Brong Ahafo region have a relatively higher quality of antenatal care than their counterparts in the other nine regions. The quality of ANC is higher among urban than rural women. The percentage of women who had each content of ANC is more than 90 for urban women.

TABLE 3: Percentage of pregnant women according to contents of antenatal care by region and place of residence, Ghana 2006

<i>Characteristic</i>	<i>Percentage of pregnant women who had:</i>			
	<i>Blood Sample taken</i>	<i>Blood pressure measured</i>	<i>Urine specimen taken</i>	<i>Weight measured</i>
Region				
Western	88.4	92.0	90.6	90.7
Central	85.1	92.9	86.8	92.6
Greater Accra	92.5	93.8	94.0	92.1
Volta	67.8	83.3	69.7	85.8
Eastern	87.1	90	89.5	85.1
Ashanti	90.0	96.5	95.0	95.7
Brong Ahafo	93.9	98.0	96.5	98.0
Northern	46.3	87.9	48.0	87.5
Upper East	69.9	88.8	60.5	91.3
Upper West	66.5	97.7	59.1	97.6
Place of Residence				
Urban	91.0	94.9	92.3	94.4
Rural	71.7	90.4	73.5	89.0
Total	78.3	91.9	80.0	90.9

TETANUS TOXOID INJECTION COVERAGE

One of the strategies to protect the newborn against neonatal tetanus, an important cause of death among infants, is to ensure that all pregnant women receive at least two doses of tetanus toxoid vaccine. Respondents with a live birth in the two years preceding the survey were asked whether during pregnancy they had received any injection to prevent tetanus. In general, the level of protection against tetanus is high among mothers. Table 4 shows that 63.8 percent of mothers received at least two doses of tetanus toxoid vaccine during the last pregnancy. The level of tetanus protection varies from 47.8 percent in the Volta region to 70.9 percent in the Central region. Urban mothers are 1.1 times more likely to have

received the tetanus toxoid vaccine compared to their rural counterparts.

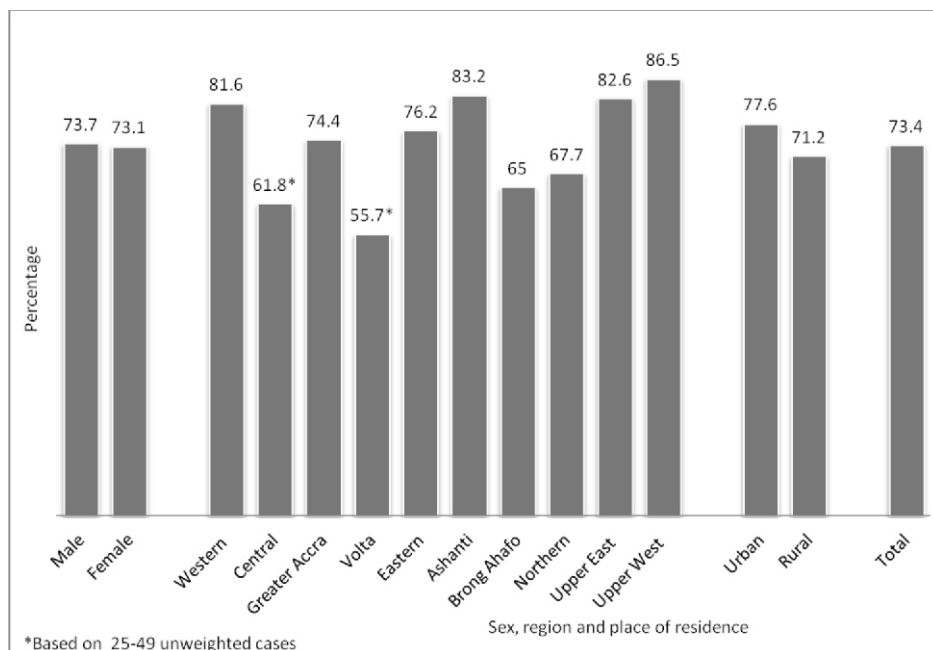
TABLE 4: Percentage of mothers with a live birth in the last two years protected against neonatal tetanus by region and place of residence, Ghana 2006

<i>Characteristic</i>	<i>Received at least Two doses during Last pregnancy</i>	<i>Received at least two doses, the last within preceding three years</i>	<i>Number of women</i>
<i>Region</i>			
Western	96.6	18.6	144
Central	70.9	8.3	105
Greater Accra	68.6	15.6	167
Volta	47.8	10.8	97
Eastern	53.4	15.4	182
Ashanti	63.0	11.3	207
Brong Ahafo	61.2	14.7	107
Northern	69.5	7.5	260
Upper East	66.5	13.0	58
Upper West	59.6	10.7	37
<i>Place of Residence</i>			
Urban	67.1	13.6	468
Rural	62.1	11.9	897
Total	63.8	12.5	1,365

VACCINATION COVERAGE

Figure 2 shows the percentage of children aged 12-23 months who received the recommended vaccinations by 12 months by sex, region and type of place of residence. More than seven out of 10 children had received all the required vaccinations, although this is below the 90 percent goal of *A World Fit for Children*. There is no variation by sex in terms of having all the required vaccinations. The Upper West region registered the highest percentage (86.5), while children from the Volta region recorded the lowest (55.7). Children in urban areas are more likely to have received all the required vaccinations than their rural counterparts.

Figure 2: Percentage of children aged 12-23 months who received the recommended vaccinations by sex, region and place of residence, Ghana 2006



MALARIA PREVENTION

Malaria is and continues to be a major public health concern. It is one of the leading causes of morbidity and mortality, particularly among pregnant women and children under five years. Malaria was estimated to account for a quarter of deaths among children under five years (Ghana Health Service, 2001). One of the personal protective measures to reduce malaria transmission and morbidity is the use of both treated and untreated mosquito nets. Respondents were asked whether they slept in treated mosquito nets during pregnancy. The use of treated mosquito nets is low. Table 5 shows that three out of 10 women slept in treated mosquito nets. The high level of mosquito net use in the Volta region may be partly due to the customary practice whereby relatives give a mosquito net to the mother during the naming ceremony of a child. Rural women are more likely to use treated mosquito nets than urban women.

The 2006 MICS data show that 32.6 percent of children under-five years slept under any mosquito net the night preceding the survey and 21.8 percent slept under insecticide treated mosquito nets. The use of treated mosquito nets among children under five years varies by place of residence, region, age of the child and

wealth quintile. Rural children are 1.5 times more likely to sleep under a treated mosquito net the previous night than urban children (figures not shown).

Data from the National Malaria Control Programme show that both the public and private sectors distributed 8,282,656 insecticide treated nets (ITNs) in 2006 compared with 1,653,866 and 2,662,298 in 2005 and 2007 respectively (Macro International Inc., 2009, Table 7A7). It is worth mentioning that the higher level of ITN use by pregnant women and children under five years in rural than in urban areas is a reflection of the distribution network which tended to favour rural areas.

TABLE 5: Percentage of women who slept under treated nets during pregnancy by region and place of residence, Ghana 2006

<i>Characteristic</i>	<i>Yes</i>	<i>No</i>
<i>Region</i>		
Western	16.2	83.8
Central	19.0	81.0
Greater Accra	16.2	84.8
Volta	50.0	50.0
Eastern	28.6	71.4
Ashanti	29.9	70.1
Brong Ahafo	42.9	57.1
Northern	40.4	59.6
Upper East	45.3	44.7
Upper West	51.4	48.6
<i>Place of Residence</i>		
Urban	24.6	75.4
Rural	34.9	65.1
Total	31.2	68.8

Assistance at delivery

The type of person who provides assistance at delivery has serious implications for the fight against excessive maternal mortality. This is because trained health professionals are better equipped with skills to be able to cope with pregnancy and delivery complications than non-professional health staff. Almost half of the women received assistance during delivery from trained health professionals, while trained and untrained traditional birth attendants accounted for 31 percent. Relatives and friends provided delivery assistance to 15.3 percent of the women. In view of the current high prevalence rate of maternal mortality, it is crucial for health planners and managers to endeavour to reduce to the barest minimum the proportion of untrained relatives and friends providing

assistance during delivery. This will be in line with the attainment of MDG 5.

TABLE 6: Percentage distribution of women aged 15 – 49 with a birth In the two years preceding the survey by person providing assistance during delivery, region and place of residence, Ghana 2006

<i>Characteristic</i>	<i>Doctor</i>	<i>Nurse/ midwife</i>	<i>Trained traditional birth attendant</i>	<i>Untrained traditional birth attendant</i>	<i>Relative/ friend</i>	<i>No Attendant</i>	<i>Other missing</i>	<i>Total</i>
Region								
Western	2.0	37.6	42.3	9.2	5.8	2.3	0.7	100.0
Central	5.9	37.7	35.1	7.1	8.7	3.6	1.0	100.0
Greater Accra	28.7	54.3	3.7	1.0	8.8	3.6	0.0	100.0
Volta	9.6	35.0	7.0	8.2	31.0	5.0	4.2	100.0
Eastern	8.3	30.5	26.5	16.0	15.4	3.3	0.0	100.0
Ashanti	14.5	46.0	23.5	6.6	6.7	2.8	0.0	100.0
Brong Ahafo	4.1	54.0	1.1	4.9	10.7	5.2	0.0	100.0
Northern	1.0	37.1	16.1	17.7	26.0	0.6	1.6	100.0
Upper East	2.2	41.8	17.3	10.8	19.8	2.2	5.8	100.0
Upper West	4.0	25.1	27.1	1.6	38.4	0.6	3.2	100.0
Place of residence								
Urban	19.6	57.4	10.2	3.1	6.4	2.8	0.5	100.0
Rural	3.3	32.2	27.2	13.0	19.9	2.8	1.5	100.0
Total	8.9	40.8	21.4	9.6	15.3	2.8	1.1	100.0

As expected, doctors featured prominently in Greater Accra (28.7 percent) and Ashanti (14.5 percent), the two regions with the largest share of medical practitioners in Ghana. It is noted that the Upper West and Volta stand out as the regions in which relatives and friends provided assistance during delivery to more than three out of 10 women.

The disadvantage experienced by rural women is amply shown in Table 6. Whereas 77 percent of urban women were provided with delivery assistance by trained health professionals, the corresponding value for rural women is 35.4 percent. Trained and untrained traditional birth attendants provided delivery assistance to four out of 10 women, while almost 20 percent of rural women received assistance during delivery from relatives and friends compared with 6.4 percent for urban women.

Place of delivery

Table 7 shows place of delivery of women aged 15-49 who gave birth in the two years prior to the survey. Thirty eight percent of the women had their delivery in a public health facility compared to 10.8 percent of women whose delivery took

place in a private health facility. In other words, women are 3.5 times more likely to deliver in a public than a private health facility. It is noteworthy that half of the women delivered at home where it is most likely that delivery assistance would be given by relatives and friends whose delivery skills may be suspect.

The percentage of women delivering at a public health facility varies from 28.1 in the Upper East region to 56.0 in the Greater Accra region. All the regions except Greater Accra, Ashanti and Brong Ahafo have percentages of women delivering at a public health facility which are less than the national value of 37.7 percent. There are regional differences in terms of home delivery. In the Upper West region, seven out of 10 women delivered at home compared to 16.3 percent of women in the Greater Accra region. Having more than half of deliveries taking place at home in seven of the 10 regions points to the difficulty that has to be overcome in order to improve access to, or utilization of skilled delivery. An analysis of the wealth index quintiles by place of delivery shows that a total of 67 percent which comprises the poorest (35.1 percent) and the second poorest (31.9 percent) women delivered at home (figures not shown). It is most likely that the Ghana government's policy of providing free maternal health service in public health facilities initiated in July 2008 will begin to yield dividends and thereby contribute to a reduction in the number of home delivery.

TABLE 7: Percentage distribution of women aged 15 – 49 who gave birth in the two years preceding the survey according to place of delivery by region and place of residence, Ghana 2006

<i>Characteristics Region</i>	<i>Health Facility</i>					<i>Total</i>
	<i>Public Sector</i>	<i>Private Sector</i>	<i>Home</i>	<i>Other</i>	<i>Missing</i>	
Western	30.1	9.6	60.3			
Central	33.3	12.4	52.4	1.9		100.0
Greater Accra	56.0	27.17.1	16.3		0.6	100.0
Volta	34.7	7.7	56.2	2.0		100.0
Eastern	31.7	16.3	58.4	2.0		100.0
Ashanti	43.5	13.0	40.2			100.0
Brong Ahafo	44.4	0.8	42.6			100.0
Northern	33.7	14.0	65.1	0.4		100.0
Upper East	28.1		56.2		1.7	100.0
Upper West	28.9		71.1			100.0
<i>Place of Residence</i>						
Urban	56.6	20.3	22.2	0.4		100.0
Rural	27.9	6.0	65.2	0.8		100.0
Total	37.7	10.8	50.6	0.7		100.0

A further analysis to examine the relationship between antenatal care attendance and later attendance at an institutional facility to give birth shows that mothers who received ANC are more likely to deliver at an institutional facility than mothers who did not receive ANC. Fifty three percent of mothers who received ANC from health professionals delivered at an institutional facility compared with 22.2 percent and 17.7 percent of mothers who received antenatal care from birth attendants and those who did not receive any ANC respectively (figures not shown).

Breastfeeding status

Barring any pregnancy and delivery complications, the health and survival of the newborn depends on the quality of care given to the baby during the first few hours of life. In spite of a number of methodological limitations of study design, definitions and measurement problems, most of the articles reviewing the data on the link between breastfeeding and child health and survival provide convincing evidence of the health benefits of breastfeeding (Feacham and Koblinski; 1984; Jason et al., 1984; Anderson et al., 1984). The colostrum, milk secreted mainly during the first five post-partum days, contains a high level of antibody rich protein, especially secretory immunoglobulin A and lactoferrin which offer anti-infection protection to the newborn (Shah and Khanna, 1990; GSS et al., 2004).

Table 8 provides information on the percentage of women who breastfed their babies within one hour of birth and within one day of birth by region and urban-rural residence. Little over one out of three women (35.2 percent) initiated breastfeeding within one hour of birth. Early initiation of breastfeeding varies according to region of residence. The proportion of infants who were breastfed within one hour of birth varies from 14.9 percent in the Ashanti region to 46.3 percent in the Greater Accra region. A higher proportion of urban than rural women initiated breastfeeding within one hour of birth, 39 percent compared with 33 percent. The Upper West region has the lowest proportion of infants who were breastfed within one day of birth compared with a much larger percentage (83.2 percent) of infants in the Upper East region. The rural-urban pattern for breastfeeding within one day of birth is the same as that of breastfeeding within one hour of birth.

The World Health Organization (WHO) recommends that children should be exclusively breastfed for six months and continue to be breastfed with safe, appropriate and adequate complementary feeding for up to two years of age and beyond (GSS et al., 2007). Table 9 shows that almost two out of three living children aged zero to three months were exclusively breastfed. A higher percentage of female than male living children aged zero to three months were exclusively breastfed. The percentage of children who were exclusively breastfed for six months is 54.4, which is almost the same as the percentage (53.4) for 2003 (GSS et al., 2004). A higher percentage of urban children aged zero to three months, zero to five months and six to nine months were breastfed than their rural counterparts. The reverse is the case for children aged 12-15 months and 20-23 months.

TABLE 8: Percentage of women aged 15 – 49 years with a birth in the two years preceding the survey who breastfed their baby within one hour and within one day of birth by region and place of residence, Ghana 2006

	<i>Characteristic</i>	<i>Percentage who started breastfeeding within one hour of birth</i>	<i>Percentage who started breastfeeding within one day of birth</i>	<i>Number of women with a live birth in the two years preceding the survey</i>
<i>Region</i>	Western	43.4	72.3	144
	Central	39.4	79.7	105
	Greater Accra	46.3	80.2	167
	Volta	19.9	68.3	97
	Eastern	17.3	74.9	182
	Ashanti	14.9	65.5	207
	Brong Ahafo	25.0	63.0	107
	Northern	45.0	75.2	260
	Upper East	36.4	83.2	58
	Upper West	28.5	46.6	37
<i>Place of residence</i>	Urban	39.1	77.9	468
	Rural	33.1	69.6	897
	Total	35.2	72.5	1,365

TABLE 9: Percentage of living children according to breastfeeding status at each age group by sex and place of residence, Ghana 2006

	<i>Children 0-3 months</i>		<i>Children 0-5 months</i>		<i>Children 6-9 months</i>		<i>Children 12-19 months</i>		<i>Children 20-23 months</i>	
<i>Characteristic</i>	<i>Percent Number exclusively of breastfed children</i>		<i>Percent Number exclusively of breastfed * children</i>		<i>Percent Number receiving of breastmilk children solid/mushy food**</i>		<i>Percent Number breastfed of *** children</i>		<i>Percent Number Breastfed of *** children</i>	
<i>Sex</i>										
Male	64.2	113	52.8	202	63.5	125	96.6	112	55.4	106
Female	65.9	106	56.1	181	53.0	107	92.6	121	56.7	116
<i>Place of residence</i>										
Urban	68.4	89	59.9	148	66.3	73	85.6	70	34.2	72
Rural	62.7	130	50.9	135	55.2	159	98.4	163	66.6	150
Total	65.0	219	54.4	383	58.7	232	94.6	233	56.1	222

Source: Ghana Statistical Service et al., 2007, Table NU.3 page 22.

* Exclusive breastfeeding rate.

** Timely complementary feeding rate.

*** Continued breastfeeding rate at 12-15 months and at 20-23 months

Weight at birth

Birth weight is a good indicator not only of a mother's health and nutritional status but also the newborn's chances of survival, growth, long-term health and psychosocial development (GSS et al., 2007). Low birth weight (less than 2,500 grams) makes a child more susceptible to a range of health risks. It is a leading cause of poor infant survival and development (Vannucci and Vannucci, 2001). Low birth weight infants need special care which may not be available especially when delivery takes place at home.

The 2006 MICS used two approaches to collect information on child's weight at birth. Respondents were asked whether they thought when their last child was born he/she was very large, larger than average, average, smaller than average or very small. The second approach asked respondents whether the last child was weighed and if so, how much the child weighed. Based on the mother's assessment of child's size at birth, Table 10 shows that 36.1 percent of infants were weighed at birth and 9.1 percent were estimated to weigh less than 2,500 grams at birth. It must be stated that because many infants are not weighed at birth and those who are weighed may be a biased sample of all births, the reported birth weights cannot be used to estimate the prevalence of low birth weight among all children (GSS et al., 2007).

There are no significant variations in reported low birth weight according to region and type of place of residence. Central region has the lowest percentage of live births weighed at birth (19.2 percent), while Greater Accra region has the largest percentage of 74.3. Urban births are 2.4 times more likely to be weighed at birth than rural births. This is not unexpected because of the lopsided distribution of health facilities to the detriment of rural areas.

Current contraceptive use

Excessive childbearing predisposes women to greater risk of death, particularly in situations where births are delivered at home and without assistance from trained health professional staff. Appropriate family planning is important to the health of mother and child. This helps prevent pregnancies that are too early, late and closely spaced. Contraceptive use is low as shown in Table 11. Seventeen percent of mothers were using any contraceptive method. The use of any contraceptive method was lower in the Upper West region (5.4 percent) and highest in the Greater Accra region (27.3 percent). The percentages of mothers using any contraceptive method in the Upper West, Upper East, Volta and Western regions are less than the national average figure of 16.8 percent, which is also lower than the 2003 Ghana Demographic and Health Survey value of 20.7 percent for any contraceptive method for all women. Urban women are 1.8 times more likely to use any contraceptive method than rural women (13.3 percent). The corresponding value for any modern method is 1.4 times.

TABLE 10: Percentage of live births in the two years preceding the survey that weighed below 2,500 grams at birth by region and place of residence, Ghana 2006

<i>Characteristic</i>	<i>Percent of live births</i>		
	<i>Below 2,500 grams*</i>	<i>Weighed at birth**</i>	<i>Number of live births</i>
Region			
Western	10.4	34.3	144
Central	7.9	19.2	105
Greater Accra	9.3	74.3	167
Volta	9.5	30.6	97
Eastern	10.1	23.8	182
Ashanti	8.5	40.6	207
Brong Ahafo	7.6	36.8	107
Northern	9.0	27.8	260
Upper East	9.9	38.9	58
Upper West	8.8	20.4	37
Place of residence			
Urban	9.2	58.6	468
Rural	9.1	24.4	897
Total	9.1	36.1	1,365

Source: Ghana Statistical Service et al., 2007, Table NU.8, page 30.

* Based on mother's assessment of child's size at birth.

** Based on mother's recall of child's weight or the weight as recorded on a health card if the child was weighed at birth.

Predictors of institutional delivery

Using the ENTER method, three logistic regression models were ran to examine the relationship between the independent variables (region, place of residence, level of education, religion, age at first birth and wealth index quintile) and the dependent variables (institutional delivery, low birth weight and current use of any contraception). Table 12 shows that place of residence, level of education and wealth index quintiles are the significant predictors of institutional delivery. Compared with urban women, rural women are less likely to deliver in an institutional facility. Women with primary education are 1.7 times more likely than uneducated women to have delivered in an institutional facility. In the case of women with secondary and higher education, the odds ratio is as high as 3.4. Wealth index quintiles which are used here as an indicator of household wealth show that there is a significant association between wealth index quintile and institutional delivery. Women in the richest households are 8.7 times more likely than those from the poorest households

TABLE 11: Percentage of women aged 15-49 with a birth in the two years preceding the survey who are using a contraceptive method by region and place of residence, Ghana 2006

<i>Characteristic</i>	<i>Not using any method</i>	<i>Any modern method</i>	<i>Any traditio nal method</i>	<i>Total</i>	<i>Any method</i>	<i>Number of women</i>
<i>Region</i>						
Western	89.6	9.7	0.7	100.0	10.4	144
Central	75.0	18.3	6.7	100.0	25.0	105
Greater Accra	72.7	12.1	15.2	100.0	27.3	167
Volta	86.6	12.4	1.0	100.0	13.4	97
Eastern	82.5	15.3	2.2	100.0	17.5	182
Ashanti	77.5	20.2	3.3	100.0	23.5	207
Brong Ahafo	78.5	21.5	0.0	100.0	21.5	107
Northern	93.5	6.5	0.0	100.0	6.5	260
Upper East	87.9	12.1	0.0	100.0	12.1	58
Upper West	94.6	5.4	0.0	100.0	5.4	37
<i>Place of residence</i>						
Urban	76.7	16.9	6.4	100.0	23.3	468
Rural	86.7	11.7	1.6	100.0	13.3	897
Total	83.2	13.5	3.3	100.0	16.8	1,365

to deliver in an institutional facility after adjustments had been made for region of residence, place of residence, level of education, religion and age at first birth. Until July 2008, pregnant women had to pay for delivery services at public health facilities. The inability to pay for delivery services at public health facilities would tend to deter women from using those services.

Predictors of low birth weight

Table 13 presents the predictors of low birth weight. The Northern region is associated with a reduced risk of low birth weight when measured against the Greater Accra region. This may be due in part to the small variations observed among the regions in the bivariate analysis (see Table 10). Women with middle/JSS education experience an increased risk of low birth weight compared with uneducated women. Muslim women are four times more likely than Christian women to experience increased risk of low birth weight after adjustments have been made for the

TABLE 12: Logistic regression of institutional delivery by selected characteristics of women, Ghana 2006

<i>Characteristic</i>	<i>Logistic coefficient</i>	<i>Odds ratio</i>	<i>95% CI</i>	
Region				
Western	-0.788	0.455		
Central	-0.277	0.758		
Greater Accra	-0.070	0.933		
Volta	-0.126	0.882		
Eastern	-0.505	0.603		
Ashanti	-0.247	0.781		
Brong Ahafo	0.053	1.055		
Northern RC		1.000		
Upper East	0.640	1.896		
Upper West	-0.275	0.759		
Place of residence				
Urban RC		1.000		
Rural	-0.837	0.433	***	0.301-0.623
Level of education				
No education RC		1.000		
Primary	0.537	1.710	**	1.150-2.544
Middle/JSS	0.863	2.369	***	1.618-3.470
Secondary+	1.218	3.382	***	1.632-7.009
Religion				
Catholic	-0.031	0.969		
Christian	0.096	1.101		
Moslem RC		1.000		
Traditional	-0.744	0.475	*	0.257-0.881
Spiritualist	-0.852	0.427	*	0.187-0.973
Age at first birth				
14-19				
20-24				
25-29 RC	0.391	1.479		
30-34	0.114	1.120		
35-52		1.000		
Wealth index quintiles				
Poorest RC	0.037	1.038		
Second	0.339	1.404		
Middle				
Fourth		1.000		
Richest	0.262	1.300		
	0.561	1.753	*	1.127-2.727
	1.490	4.436	***	2.706-7.272
	2.166	8.723	***	4.426-17.193

Constant -0.577
 Model χ^2 426.023

Nagelkerke R² 0.379
 Df 25

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 13: Logistic regression of low birth weight by selected characteristics of women, Ghana 2006

<i>Characteristic</i>	<i>Logistic coefficient</i>	<i>Odds Ratio</i>	<i>95% CI</i>	
Region				
Western	-0.937	0.392		
Central	-2.017	0.133		
Greater Accra RC		1.000		
Volta	-0.961	0.382		
Eastern	-0.510	0.600		
Ashanti	-0.453	0.636		
Brong Ahafo	-0.652	0.521		
Northern	-1.781	0.168	*	0.029-0.971
Upper East	-0.606	0.546		
Upper West	-1.193	0.303		
Place of residence				
Urban RC		1.000		
Rural	0.175	1.192		
Level of education				
No education RC		1.000		
Primary	1.004	2.728		
Middle/JSS	1.275	3.580	*	1.179-10.870
Secondary+	0.336	1.400		
Religion				
Catholic	0.901	2.461		
Christian RC		1.000		
Moslem	1.384	3.992	**	1.437-11.084
Traditional	-0.249	0.780		
Spiritualist	1.543	4.678	**	1.385-15.802
Age at first birth				
14-19	-0.387	0.679		
20-24	0.155	1.168		
25-29 RC		1.000		
30-34	-0.179	0.836		
35-52	-0.612	0.542		
Wealth index quintiles				
Poorest	-0.592	0.553		
Second	0.137	1.147		
Middle	0.403	1.497		
Fourth	0.133	1.142		
Richest RC		1.000		

Constant -4.161

Model X^2 35.398* $p < 0.05$, ** $p < 0.01$ Nagelkerke R^2 0.114

Df 25

influence of region, type of place of residence, level of education, religion, age at first birth and wealth index quintiles (OR = 3.99; 95% CI: 1.437-11.084). Women who profess to be "Spiritualists" are 4.7 times more likely than Christian women to have increased risk of low birth weight.

A model was ran to examine the relationship between the use of antenatal care and low birth weight. The model did not perform well because the level of antenatal care is high (94.5 percent) in Ghana and a small proportion of infants (9.1 percent) were estimated to weigh less than 2,500 grams.

Predictors of current use of any contraceptive method

Table 14 shows that women in the Greater Accra region are 2.4 times more likely to use any contraceptive method than women in the Northern region, although this is not significant. This is not surprising because Greater Accra is the most urbanised region, with a greater share of educated women and health facilities. Christian women are six times (odds ratio, 6.2) more likely to use any contraceptive method than Muslim women. The odds ratio for Catholic mothers is 2.0 but it is insignificant. A significant relationship between women in the richest households and current use of any contraceptive method was observed. Women from the richest households are eight times more likely to use any contraceptive method than women from the poorest households.

SUMMARY AND DISCUSSION

The paper has attempted to assess levels of maternal and newborn health as well as examine factors associated with institutional delivery, low birth weight and current use of any contraception. Vitamin A supplementation is quite high for both children and mothers. Six out of 10 children aged 6-59 months received vitamin A supplement in the six months prior to the survey, while among mothers it is one out of every two mothers. The percentage of pregnant women who received ANC one or more times is 94.5 and nurse/midwife/auxiliary midwife provided antenatal care to two out of every three births. The level of protection against tetanus is high among mothers. Sixty four percent of mothers received at least two doses of tetanus toxoid vaccine during the last pregnancy. Vaccination coverage is high among children aged 12-23 months. The study found that seven out of 10 children have received all the required vaccinations, although this falls short of the 90 percent goal of *A World Fit for Children*.

One important finding from this study is the high prevalence of home delivery among pregnant women. Home delivery accounted for one out of every two births and this makes the battle against excessive maternal mortality a herculean one. Coupled with the problem of home delivery is the issue of relatives and friends providing delivery assistance to 15.3 percent of the women.

TABLE 14: Logistic regression of current use of any contraception by selected characteristics of women, Ghana 2006

<i>Characteristic</i>	<i>Logistic coefficient</i>	<i>Odds Ratio</i>		<i>95% CI</i>	
Region					
Western	-0.021	0.980			
Central	0.399	1.490			
Greater Accra	0.883	2.419			
Volta	0.261	1.298			
Eastern	-0.248	0.780			
Ashanti	-0.079	0.924			
Brong Ahafo	-0.242	0.785			
Northern RC		1.000			
Upper East	0.410	1.506			
Upper West	0.510	1.163			
Place of residence					
Urban RC		1.000			
Rural	0.589	1.803			
Level of education					
No education RC					
Primary	-0.196	0.822			
Middle/JSS	-0.784	0.457			
Secondary+	0.560	1.751			
Religion					
Catholic	0.710	2.033	*	1.303-20.649	
Christian	1.644	6.174			
Moslem RC		1.000			
Traditional	-0.297	0.743			
Spiritualist	-0.181	0.834			
Wealth index quintiles					
Poorest RC		1.000			
Second	0.311	1.365			
Middle	1.053	2.865			
Fourth	1.002	2.723			
Richest	2.131	8.427	*	1.532-46.364	
Age at first birth	-0.004	0.996			
No. of living children	-0.119	0.888			

Constant -3.049

Nagelkerke R² 0.220Model X² 41.710

Df 23

*p<0.05

Relatives and friends may not have the necessary delivery skills to be of much help in the face of delivery complications. The results show that the odds of institutional delivery are significantly higher for women from the richest households than for women from the poorest households. This is to be expected because women from the richest households may have relatively more financial resources and other means to pay for delivery services. The Ghana government's "policy" of free maternal delivery services at public health facilities initiated in July 2008 will "do the trick" particularly for urban women because of the availability of relatively more public health facilities. The need to expand public and private health facilities to cover the rural areas can hardly be overemphasized.

The finding that women with middle/JSS education experience an increased risk of low birth weight compared with uneducated women must be interpreted with extreme caution because it tends to suggest that the education of women is not associated with positive health outcomes. The percentages of low birth weight do not vary much by mother's level of education. They are 8.8 percent for women with secondary and higher education, 9.0 percent each for primary and middle/JSS women and 9.4 percent for uneducated women. However, the proportion of births weighed at birth varies by mother's education. A smaller proportion of births (21.9 percent) to uneducated women were weighed at birth compared with 47.1 percent for women with middle/JSS education and these may be a biased sample of all births.

It should be mentioned that at the heart of maternal health are socio-political conditions, laws, conventions, traditions, customs, religion, superstition etc. This study has examined some demographic and socio-economic factors that influence maternal and child health outcomes. Higher female education is associated with favourable health outcomes as has been found in other studies (Letamo and Majelantle, 2001; Ngy et al., 2007).

A few policy implications flow from this study. More than half of children aged 0-5 months were exclusively breastfed. The Ghana Infant Nutrition Action Network in collaboration with the Ministry of Health and the Ghana Health Service organises the yearly World Breastfeeding Week celebration during every first week of August. The yearly celebration should be intensified to cover in each year more rural areas where the majority of the people live. The Ministry of Health and other stakeholders should focus more on programme strengthening to sensitize women on the importance of breastfeeding as a life-saving intervention during emergencies. In addition, the Ministry of Health and the Ghana Health Service should create and sustain an environment that encourages and supports regular breastfeeding for children up to two years of age.

All pregnant women should be encouraged by the Ministry of Health, the Ghana Health Service and other stakeholders such as non-governmental organizations operating in the health sector to deliver at institutional facilities, particularly at public health facilities where maternity services are free. Although the level of antenatal care is high in Ghana, all pregnant women should attend

antenatal services because these services serve as the central medium through which the socio-economic conditions and the reproductive health behaviour of women operate to influence birth outcome. Higher female education is good in its own right apart from its positive influence on health outcomes. The Ministry of Health should ensure that the Ghana government's free maternal delivery services policy translates into effective action.

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GHANAIAN FEMALES' DECISION-MAKING AUTONOMY AND THEIR WEIGHT STATUS

NAA DODUA DODOO¹

ABSTRACT

This paper investigates the influence of Ghanaian females' decision-making autonomy on their health, with body mass index as the measure of health. Questions from the Ghana Demographic and Health Survey, 2003 are used to construct an index of decision-making autonomy. The level of autonomy is quite high, with almost half of the respondents having autonomy in making all of the three decisions considered. Bivariate analyses show that body mass index (BMI) is strongly associated with autonomy and greater proportions of women with high decision-making autonomy are overweight or obese. Controlling for socioeconomic and demographic characteristics, however, reveal that much of the association between autonomy and BMI is due to the socioeconomic status of women and not their autonomy per se. This implies that it is a woman's socioeconomic status that has an influence on her decision-making autonomy and through that, her health. Two recommendations arise from these findings: first, there should be a drive to increase awareness of the hazards of obesity and promote healthy body weights. Second, interventions to improve women's health should consider socioeconomic status as a key theme to be addressed rather than only target increasing their decision-making power.

Keywords: autonomy, health, body mass index, women, decision-making

INTRODUCTION

The quest for a better standard of living for individuals has long been the focus of nations, continents and the global community. Although ultimately economic growth, poverty reduction and sustainable development will lead to a better world, the pre-requisites for this development and the mechanisms through which it will work are dictated by human beings, who need to be in a state that will allow them to give of their best for optimum productivity and development. To this end, population health has been recognised as a crucial link in the development process.

Women are important resources for development. They are the primary caregivers for children, who are the future of this planet. Women are also an important part of the world's workforce. In spite of this, women, especially in the

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developing world, are often marginalised in society and do not have equitable and equal access to food, health and economic resources (Bates *et al.*, 2004). This marginalisation is due mainly to a culture of patriarchy which exists in many societies and institutes men, be they husbands, fathers, elder brothers or other male relatives as the main decision-makers in homes and society and the custodians of resources. Therefore, as much as it is important to improve women's health by improving the physical access to facilities and the affordability of care, in the developing world especially, where many societies are still highly patriarchal and women's status is quite low compared to men's, it is equally important to improve women's relative power. They will then have the freedom to make decisions and implement them for themselves and their families without having to necessarily consult with, or wait for, someone else's approval. The greatest benefit of this increase in power will be in situations when the decisions made by the men in the lives of marginalized women are coercive rather than of mutual beneficial interest to the family. This, it is hoped, will enable women be in better charge of their lives and welfare.

PURPOSE OF THE STUDY

Many studies have attempted to find out which socioeconomic and demographic characteristics determine the health of women so that these can serve as the basis for developing policies and programmes that seek to improve the health and well being of this vulnerable group (Benoit, 2006; Noar and Zimmerman, 2005). In many parts of Asia (for example, India and Pakistan) and in South America, women's status, especially their decision-making autonomy, has been found to be a good predictor of their health. Unfortunately though, few studies in Africa have investigated the possible linkages between women's status and their health. This paper therefore seeks to investigate how much of an influence a woman's control over her own life, measured via her level of decision-making autonomy, has on her health.

WOMEN'S AUTONOMY AND ITS IMPLICATIONS

According to Mason (1995), women's autonomy refers to women's freedom to act as they choose rather than as others would have them act. This is especially relevant within the context of the family or household (Dyson and Moore, 1983, Jejeebhoy, 2000). For many years, work on women's autonomy employed various variables as proxy measures of autonomy. Different proxies that have been used over time to represent autonomy include demographic variables, for example, female versus male mortality rates, average husband-wife age difference and sex preference in childbirth; kinship and family indicators, for example, Purdah, polygyny and dowry; and economic indicators, for example, female employment opportunities, female labour force participation rates, female education and women's access to credit (Mason, 1986). (Purdah refers to a broad set of norms and regulations that promote the seclusion of women, enforce their exclusion from

public spaces, and give specific gender identities to labour. It is practiced in some Asian countries, for example, India and Bangladesh. Observance of purdah grants status and prestige, and non observance erodes status.)

However, several studies raised concerns about the validity of proxies and their reliability, especially when used in different contexts (see, for example, Jejeebhoy and Sathar, 2001; Agarwala and Lynch, 2006). In the light of these problems, recent studies have employed direct measures to capture the construct of women's autonomy. These measures have eliminated many of the problems of proxy measures, for example, the ambiguity of using a characteristic to represent autonomy. They have also helped to investigate the pathways via which previously used indicators of autonomy, for example, labour force participation, education and socioeconomic status, affect and/or are affected by autonomy (Bloom *et al.*, 2001; Ghuman, 2003).

Despite the simple definition of women's autonomy, it is a multidimensional concept. Sets of dimensions of autonomy identified in various studies have included knowledge autonomy, decision-making autonomy, physical autonomy, and economic and social autonomy (Jejeebhoy, 2000); and sexual autonomy, reproductive autonomy, physical mobility and economic access or control over resources (Sen and Battiwala, 2000). A woman may have a high score when one dimension is measured and yet score low on another dimension of autonomy. Further, each dimension is determined by different demographic and socioeconomic factors and predicts different outcomes (Agarwala and Lynch, 2006; Jejeebhoy, 2000; Mason, 1986; Smith *et al.*, 2003). Therefore, it is important in work on autonomy to investigate predictors, dimensions and outcomes of autonomy selectively. In this study, decision-making autonomy is the dimension used.

The level of a woman's autonomy is influenced by two factors: the community or environment in which she lives and her own personal and household characteristics. In a community, the general status of women and the gender roles and norms pertaining to their behaviour and independence will determine acceptable behaviour, rights and duties of a woman (Balk, 1994; Smith, 1989). Personal characteristics which have an influence on a woman's level of autonomy are, for example, her age, educational attainment and employment status (Allendorf, 2007; Jejeebhoy and Sathar, 2001; Roy and Niranjana, 2004). Some household characteristics that have been found to have an effect on the level of a woman's autonomy are her parity, family's wealth and whether or not she lives in the home with her husband's kin (Allendorf, 2007; Heaton *et al.*, 2005). Some writers have argued that women's autonomy is more an attribute of their culture and environment than of themselves or their households (Balk, 1994; Jejeebhoy and Sathar, 2001; Kritz *et al.*, 2000; Mason and Smith, 2003). This has arisen after empirical studies demonstrated that community level variables have more influence than personal characteristics in determining autonomy. Morsund and Kravdal (2003), therefore, suggest that even in studies of individual outcomes of autonomy, contextual factors (for example, place of residence) should also be considered.

The benefits of higher female autonomy on women themselves and their families, especially their children, have been found to be numerous. The health seeking behaviour of women with higher autonomy is usually better than that of other women (Allendorf, 2007; Bloom *et al.*, 2001; Navaneetham and Dharmalingam, 2002; Uchudi, 2001). Also, women with higher autonomy use contraception more and have lower fertility than those with lower or no autonomy (Jejeebhoy, 1995; Morgan and Niraula, 1995; Ngom *et al.*, 2003; Saleem and Bobak, 2005). In other studies, infant mortality rates have been found to be lower for women with greater autonomy than for others (Das Gupta, 1990; Fantahun *et al.*, 2006; Kishor, 2000; Jejeebhoy, 1998).

Factors that determine health can be broadly classified into four: Genetic/ biological factors/ inheritance factors, environmental factors (physical, social, cultural, economic, demographic and political environments), availability of health information and health care, and lifestyle/behaviour (UN. NGLS, 1991). These interact with each other to affect the health of an individual. Social and economic factors are especially important determinants of health and explain, to a large degree, differences and disparities in health between men and women even in the same geographical region, population or income group (Walters, 2004). A myriad of studies have established a relationship between the differential status of men and women and their health (Health Canada, 1999; Walters, 2004), and women's autonomy and their reproductive health. The question that arises now is whether women's autonomy (which is in fact, a measure of the lower position and marginalization of women with respect to men) has an effect on other aspects of women's health. Examination of the literature on this subject leads to a few studies which have investigated the effect of autonomy on other aspects of a woman's health and well being and found strong links between the two groups of variables. For instance, in a cross-sectional survey in India, Prince *et al.* (2007) identified strong associations between common mental disorders and certain indicators of disadvantage, including the absence of decision-making autonomy. Berhane and others found that in Ethiopia, women with increased social agency (the ability to control and/or make a difference through decision-making power) were more likely to have higher scores of self-reported health (Berhane *et al.*, 2001). Also, Hindin (2005), in a comparative study of Zambia, Zimbabwe and Malawi, found that women in Zambia, who had higher levels of decision-making autonomy, had a much lower prevalence of chronic energy deficiency (underweight) than did women in the other two countries, who had lower levels of decision-making autonomy. Among a national sample of Nepalese women, Furr and Das (2006) also reported that greater autonomy correlated with higher body mass index scores.

Study Objective

The studies cited above give grounds for the question which is the focus of this study: in Ghana, does having greater decision-making autonomy give a woman a better health status; in this case, a healthier body mass index?

Methodology

The data used in this study are from the Ghana Demographic and Health Survey of 2003. It was a nationally-representative survey implemented by the Ghana Statistical Service (GSS) in collaboration with the Noguchi Memorial Institute for Medical Research (NMIMR) and the Ghana Health Service. ORC Macro provided technical assistance through the MEASURE DHS programme, while the U.S. Agency for International Development (USAID) and the Government of Ghana provided financial support for the survey (GSS *et al.*, 2004). The survey was household based and interviewed men and women in sampled households. In all, 5961 women aged between 15 and 49 were interviewed, of whom 3992 had ever given birth. Only 3894 of the mothers had their weight and height measured for their BMI.

The main independent variable considered in this paper is the decision-making autonomy of women. Further, two of the most commonly used proxy variables of autonomy, educational attainment and employment status, are also used as secondary independent variables. Other socioeconomic characteristics of the women and their households are added on as controls in the regression models. Personal characteristics used as control variables include age, parity, marital status and household wealth quintile. Characteristics to account for the context (community/environmental characteristics) of the woman are her type of place of residence, region of residence, religion and ethnicity. Thirdly, variables which consider the marital context of a woman are also added on as controls. These are the partner's educational level, living arrangements of the couple and age difference of the couple. Age difference is further coded as a 'small difference' if the age difference between husband and wife is in the range of plus or minus five years and a 'large difference' if it is greater than five years.

The decision-making autonomy variable is constructed from three of five questions posed to female respondents about decision-making on various things in the household of the woman. All the questions had the same preamble: "*Who in your family usually has the final say on the following decisions?*" and the five decisions are:

- (i) *Own health care,*
- (ii) *Large household purchases,*
- (iii) *Household purchases for daily needs,*
- (iv) *Visits to family and friends and*
- (v) *Food to be cooked each day.*

For each of these questions, the possible response options were:

- (a) *Respondent alone,* (b) *Respondent and husband/partner,* (c) *Respondent and other person,* (d) *Husband/partner alone,* (e) *Someone else and,* (f) *Decision not made/ not applicable.*

The questions on own health care, large household purchases and visits to family and friends were used to construct the decision-making autonomy

measure for input into the regression model for determinants of women's health. The other two questions were not used because in Ghana, decisions on buying household items for daily needs, for example, salt and sugar, and also food to be cooked each day, are not issues on which there is a power struggle or by which men impact much dominance over women in a home. Often a husband provides housekeeping money, popularly called 'chop money', and it is out of this that a wife buys food and other little items needed for the home. She does not need his input on when or how to buy such items. With regard to cooking, a husband may request a particular meal or ask the wife to prepare any food of her choice, and this decision does not involve a power struggle.

For the three questions used, however, there is a clear indication of instances where a woman and her partner's wills may vary and she may be forced into submitting to his will, thus having her wishes overruled. For all the three questions, a woman is coded as (1) having autonomy on those issues if she has the final say in making the specified decision either alone or jointly with a husband/partner or someone else. After this coding is done, a cumulative score of the three questions is computed for each woman. The minimum attainable score is zero (0) and the maximum, three (3). This cumulative score is used as a continuous variable in regression models.

The dependent variable, body mass index (BMI), is a statistical measure of how the weight of an individual compares with his/her height. The mathematical formula for its computation is $\text{weight (kg)} / \text{height}^2 \text{ (metre}^2\text{)}$. A person with a BMI below 18.5 is considered underweight, one with a BMI of between 18.5 and 25 is normal, one with a BMI between 25 and 30 is overweight, and a BMI over 30 means that the person is obese (WHO, 1995).

Apart from frequencies and crosstabulations, multinomial logistic regression is used to study the independent effects of decision-making autonomy and particular background characteristics on health status. All analyses are conducted in the Statistical Package for Social Sciences (SPSS) Version 13. For the effect of autonomy on health, a set of nested models is used. Model 1 has decision-making autonomy as the only predictor. In Model 2, the educational attainment and employment status of the woman are added on as predictors. Educational attainment and employment status, as previously indicated, were selected because they have often been used as proxy measures of women's autonomy and are also key determinants of health. The third model includes all the other background variables as controls.

Results and discussion

The first part of the results illustrates the distribution of decision-making autonomy and body mass index and their associations with each other. In the second part, results of the regression models fit to the data are presented. Table 1 reveals that almost one-quarter of Ghanaian mothers have no autonomy. About one-third have partial autonomy (in making one or two of the three decisions considered), whilst almost half of the mothers have autonomy in making all three decisions.

TABLE 1: Number of decisions that women have autonomy in making

<i>Number of decisions</i>	<i>Frequency</i>	<i>Percent</i>
0	878	22.6
1	757	19.5
2	476	12.2
3	1780	45.7
Total	3891	100.0

Source: Ghana Demographic and Health Survey, 2003

This means that the level of decision-making autonomy that women in their reproductive age have is quite high. According to Table 2, 4.6 percent of women in Ghana who have ever had children are underweight, whilst 18.6 percent and 15.1 percent are overweight and obese respectively. The proportion of obese women is more than three times the proportion that is underweight, giving an indication that overnutrition is more of a problem for Ghanaian women than undernutrition is.

TABLE 2: Frequency distribution of women according to their BMI category

<i>BMI Category</i>	<i>Frequency</i>	<i>Percent</i>
Underweight	179	4.6
Normal	2400	61.6
Overweight	726	18.6
Obese	589	15.1
Total	3894	100.0

Source: Ghana Demographic and Health Survey, 2003

Influence of Women's Decision-Making Autonomy on Women's BMI

Table 3 shows the association between decision-making autonomy and BMI. There is a clear indication that greater proportions of women who have autonomy in making two or all three of the decisions considered are overweight or obese when compared to women who have autonomy in making none or only one decision. The proportions of women who are underweight are highest amongst women who have autonomy in making only one decision and lowest among women who have autonomy in making all three decisions. The indication from this table therefore is that women with more autonomy tend to have higher body mass indices, leading to their being overweight or obese.

Table 3: Association between DMA and BMI

<i>Level of DMA*</i>	<i>Body Mass Index</i>				
	<i>Underweight</i>	<i>Overweight</i>	<i>Obese</i>	<i>Normal</i>	<i>N</i>
Zero	5.1	14.5	14.6	65.8	878
One	5.8	14.2	12.1	67.8	758
Two	5.0	20.4	13.9	60.7	476
Three	3.7	22.1	17.0	57.2	1779
Total					3890
Chi-square test (significance)				$\chi^2 = 45.597 (0.000)$	

Source: Ghana Demographic and Health Survey, 2003 DMA- decision-making autonomy

* Level of DMA indicates the number of decisions women have autonomy in making

Table 4 presents odds ratios and 95% confidence intervals for all the three models fitted to investigate the influence of women's decision-making autonomy on their BMI. Model 1 suggests that 1.4 percent of the variation in women's BMI can be explained by women's decision-making autonomy. Model 2 explains 7.5 percent of the variation in the BMI of a woman, and Model 3 explains 26.4 percent of the variation in BMI.

In Model 1, decision-making autonomy is significant in predicting the tendency to be overweight or obese but not to be underweight. The higher the level of decision-making autonomy a woman has, the more likely she is to be overweight or obese. With level of education and employment status added on as predictors in Model 2, decision-making autonomy is only significant in predicting a woman's likelihood of being overweight but not the likelihood of her being underweight or obese. However, education and employment status reduce the influence of decision-making autonomy on the propensity to be overweight, as indicated by the reduction in log odds. When all the other background variables are controlled for in Model 3, decision-making autonomy is no longer significant in explaining the variation in BMI, and the effect of employment status on BMI is reduced. Instead, the socioeconomic and demographic characteristics of women which are introduced as controls have a significant influence on BMI, as evidenced by the better fit of the model (Model - 2LL chi-square and pseudo R^2 are much greater, comparing Models 2 and 3). These findings suggest that a woman's decision-making autonomy does have a small but significant influence on her BMI. Smith *et al.* (2003) reported an improvement in the BMI of mothers, as well as the nutritional status of the children of mothers who had more household decision-making power.

However, they found that women having high decision-making autonomy made the greatest difference in poorer and more disadvantaged societies and places where overall, women had a very low status in society. Thus, in Asia where most women had low decision-making autonomy, women with greater decision-making autonomy were found to have much better nutritional outcomes for themselves and their children. On the other hand, in sub-Saharan Africa, where women's status differed from country to country, the improvement observed for women with high decision-making autonomy was not as much as it was in Asia; and in Latin America, where the general level of women's autonomy was high, having high decision-making autonomy made very little difference in women's and children's health.

There is a general propensity towards being obese or overweight for women with better socioeconomic circumstances, according to the results. Being overweight is a sign of poor health and puts one at risk of developing chronic disease conditions, for example hypertension, coronary heart disease, type 2 diabetes mellitus and orthopaedic disorders. However, in Ghana, many cultural norms and expectations tend to push people towards putting on weight. It is seen as a sign of affluence to be 'fat', and if one loses weight, it is often considered a sign of illness or adversity. Therefore, society seems to encourage obesity, and this may explain why women who are better off socioeconomically tend to be overweight or obese. Ghana's Ministry of Health has recently begun a campaign on healthy living to prevent non-communicable diseases, with the aim to raise awareness of the risks of unhealthy lifestyles.

As indicated by Model 2, a woman with primary education is 63 percent less likely to be underweight and about 60 percent more likely to be overweight than one with no education. There is, however, no significant difference between the odds of women with primary education being obese and those of women with no education. Women with secondary or higher education have almost 2.3 times the odds of being overweight and 2.4 times the odds of being obese when compared to women with no education. It can, therefore, be deduced that the higher the educational attainment of a woman, the more likely she is to be overweight or obese, irrespective of her level of decision-making autonomy. In Model 3, education loses its significance as a predictor of BMI. This implies that it may not be education by itself, but other attributes of educated women, which give the significant association between education and health status found in Model 2. Further crosstabulations (not presented) show that highly educated women tend to be in paid employment and higher wealth quintiles. Educated women are also more likely to be employed in sedentary jobs, which means that they are less physically active, a factor which increases the risk of obesity.

TABLE 4: Odds ratios and confidence intervals for the prevalence of underweight, overweight and obesity among women: Results from a multinomial logistic regression model, 2003 GDHS

Variable	Underweight			Overweight			Obese		
	Model 1 Exp β 95% C.I)	Model 2 Exp β (95% C.I)	Model 3 Exp β (95% C.I)	Model 1 Exp β (95% C.I)	Model 2 Exp β (95% C.I)	Model 3 Exp β (95% C.I)	Model 1 Exp β 95% C.I)	Model 2 Exp β (95% C.I)	Model 3 Exp β (95% C.I)
Level of DMA	0.937 (0.830,1.058)	0.961 (0.846,1.092)	0.922 (0.794,1.072)	1.241 (1.157, 1.331) **	1.142 (1.062,1.228)**	1.042 (0.958,1.133)	1.137 (1.056, 1.225) **	1.065 (0.985,1.151)	0.947 (0.864,1.039)
Age of woman			1.007(0.981,1.034)			1.035 (1.020,1.051) **			1.049 (1.032,1.066)**
Parity			0.987(0.886,1.099)			0.970 (0.912,1.031)			1.016 (0.949,1.087)
Educational attainment									
No Education	1.000		1.000	1.000		1.000	1.000	1.000	1.000
Primary	0.365 (0.537,0.883)*		0.613 (0.372, 1.009)	1.641 (1.287,2.091)**		1.164 (0.883,1.535)		1.075 (0.809,1.429)	0.939 (0.671,1.314)
Secondary or	0.729 (0.515,1.030)		0.942 (0.593,1.496)	2.271, (1.848,2.790)**		1.084 (0.830,1.416)		2.387 (1.921,2.966)**	1.121 (0.823,1.527)
Higher									
Employment									
Status									
Not working	1.405 (0.879,2.245)		1.433 (0.869, 2.364)	0.861 (0.633,1.172)		0.937 (0.670,1.309)		1.242 (0.924,1.670)	1.334 (0.954,1.865)
Works and	0.701 (0.462,1.321)		1.433 (0.393, 1.181)	0.324 (0.206,0.510)**		0.436 (0.271,1.302) **		0.339 (0.208,0.555) **	0.481 (0.286,0.809) **
Works for Cash	1.000		1.000	1.000		1.000	1.000	1.000	1.000
(R)									
Marital Status									
Never Married			0.525 (0.162, 1.703)			0.242 (0.127,0.462) **			0.287 (0.134,0.612) **

Table 4 (Cont'd)

Variable	Underweight			Overweight			Obese		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	Exp β	Exp β	Exp β	Exp β	Exp β	Exp β	Exp β	Exp β	Exp β
	(95% C.I)	(95% C.I)	(95% C.I)	(95% C.I)	(95% C.I)	(95% C.I)	(95% C.I)	(95% C.I)	(95% C.I)
Currently Married (R)			1.000			1.000			1.000
Formerly Married			1.751 (1.011,3.035)*			0.653 (0.478,0.892) **			0.865 (0.604,1.240)
Region of Residence									
Western			0.758 (0.312, 1.844)			0.676 (0.460,0.993) *			0.525 (0.326,0.846) **
Central			0.373 (0.133, 1.049)			0.583 (0.383,0.889) *			0.514 (0.304,0.868) *
Ashanti			0.762 (0.332,1.751)*			0.505 (0.361,0.706) **			0.843 (0.592,1.199)
Volta			0.376 (0.150,0.940)			0.411 (0.272,0.621) **			0.513 (0.322,0.816) **
Eastern			0.552 (0.235, 1.300)			0.570 (0.397,0.898) **			0.753 (0.501,1.134)
Brong Ahafo			0.558 (0.225, 1.384)			0.434 (0.291,0.648) **			0.663 (0.429,1.025)
Northern			0.692 (0.250, 1.916)			0.287 (0.157,0.524) **			0.572 (0.313,1.045)
Upper East			1.290 (0.461, 3.613)			0.480 (0.255,0.904) *			0.851 (0.454,1.593)
Upper West			0.690 (0.194, 2.457)			0.316 (0.128,0.779) *			0.756 (0.326,1.756)
Gt. Accra (R)			1.000			1.000			1.000

Table 4 (Cont'd)

Variable	Underweight			Overweight			Obese		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
	Exp β (95% C.I.)	Exp β (95% C.I.)	Exp β (95% C.I.)	Exp β (95% C.I.)	Exp β (95% C.I.)	Exp β (95% C.I.)	Exp β (95% C.I.)	Exp β (95% C.I.)	Exp β (95% C.I.)
No Education			1.045(0.627, 1.743)			0.585(0.421, 0.812) **			1.198(0.853, 1.684)
Primary Education			1.164(0.696, 1.946)			0.829(0.618, 1.112)			0.579(0.389, 0.861) **
Secondary/Higher Living			1.000			1.000			1.000
Arrangements Live Together (R)			1.000			1.000			1.000
Husband Stays Elsewhere			1.136(0.746, 1.729)			1.052(0.845, 1.310)			1.494(1.176, 1.899) **
Age Difference									
Small Difference			1.000			1.000			1.000
Large Difference									
			0.963(0.676, 1.373)			0.704(0.576, 0.860) **			0.909(0.728, 1.136)
Model -2 Log Likelihood	46.608 (0.000)	262.461 (0.000)	1020.916 (0.000)	46.608 (0.000)	262.461 (0.000)	1020.916 (0.000)	46.608 (0.000)	262.461 (0.000)	1020.916 (0.000)
χ^2 (significance)	0.014	0.075	0.264	0.014	0.075	0.264	0.014	0.075	0.264

Exp β - Odds Ratio; C.I. - Confidence Interval; (R) -Reference Category; * Significant at $\alpha = 0.05$ ** Significant at $\alpha = 0.01$

The reference category for the dependent variable is 'normal' BMI

A woman's employment status has no significant relationship with her likelihood of being underweight. However, compared to women who work for money, those who work but earn no money are 67 percent less likely to be overweight and 66 percent less likely to be obese (Table 4, Model 2) and in Model 3, are 56 percent less likely to be overweight and 52 percent less likely to be obese. There is no statistical difference between women who do not work and those who are in paid employment, and a crosstabulation of household wealth quintile and work status revealed that women in higher wealth quintiles are more likely either to be in paid employment, or not to work at all. This similarity of these two groups of women in their tendency to be overweight or obese, again supports Ghanaian societal perception of 'the rich being fat'.

It is interesting to note that marriage and the characteristics of the partners of married women have an influence on their health. Studies in other countries have found a relationship between a husband's status and a wife's health, and other outcomes. For instance, in Mexico, Casique (2001) found that a husband having seven or more years of education increased his wife's use of contraception whilst on the other hand, a wife's educational attainment had no effect whatsoever on her own contraceptive usage. Using the 1988, 1993 and 1998 DHS data on Ghana, DeRose and Ezech (2005) demonstrated that a husband's education has a significant effect on the wife's fertility intention, while her own education does not.

Although several studies on sexual and reproductive health issues have shown that the effect of decision-making autonomy on outcome variables of interest often persist after controlling for other socioeconomic and demographic characteristics, this does not hold for decision-making autonomy and body mass index in the Ghanaian context. There may however be several reasons why decision-making autonomy lost the little significance it had as a predictor of a woman's health status, when other socioeconomic and demographic variables were controlled for. First, the measure of decision-making autonomy used in this study leaves something to be desired in terms of its ability to capture the concept of decision-making autonomy in Ghana. This, however, is a limitation of the data used, since the same questions are used in all DHS surveys worldwide and are not context and culture specific to Ghana. In spite of this drawback, the DHS data are the only source of nationally representative information on both women's health and their status. Secondly, a model (not presented) run to determine predictors of decision-making autonomy, with the same socioeconomic and demographic characteristics used as controls here as predictors in that model, revealed that almost all of these characteristics were significantly associated with a woman's level of decision-making autonomy. This is most likely the reason why once these characteristics were controlled for, the very little influence of decision-making autonomy on health was lost.

CONCLUSION AND RECOMMENDATIONS

The paper has revealed that though the level of decision-making autonomy is quite high in Ghanaian mothers (almost half of them have full autonomy according to the measure used), the influence of decision-making autonomy on the health of women is small. Socioeconomic and demographic characteristics of women in Ghana have a greater and more significant influence on their health. These characteristics are also predictors of the level of decision-making autonomy a woman has and therefore the association between decision-making autonomy and weight status is in fact, due to socioeconomic and demographic factors. In particular, characteristics of women that depict their economic circumstances have a great influence on health status. For this reason, though it is true that improving women's position and power is important, to achieve the quickest improvements in women's health in a developing country such as Ghana, in the face of limited resources, policy and interventions should be geared more towards improving financial access to health for women, as well as the physical accessibility and quality of health services. It is also important to increase awareness regarding the health hazards for Ghanaians of being overweight or obese, as findings suggest that it is women who would, in the Ghanaian context, be considered better placed socially and financially who tend to carry excess body weight.

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**ESTIMATING GENDER EARNINGS GAP IN THE INFORMAL SECTOR
KAYAYEI LABOUR MARKET: MICRO-LEVEL EMPIRICAL EVIDENCE
FROM KUMASI, GHANA**

ISAAC ADDAI¹

ABSTRACT

The existence of differential-payment for labour market services between male and female is taken as a universal phenomenon in almost all countries regardless of the nature and structure of the economic system. The few previous studies that have compared male and female earnings in Ghana have concentrated on the formal sector, notably the public sector labour market, to the neglect of that of the informal sector. To overcome this deficiency and to aid in future policy formulation, this paper used a formalized method to analyze the log monthly earnings differential between male and female Kayayei migrants in the Kumasi informal sector labour market to determine what portion of this differential is due to different market skills and labour market discrimination. An important feature of the paper was the emphasis on discrimination in hiring that pertains in the Kumasi Kayayei informal sector labour market which suggests that male Kayayei operating in the informal sector labour market in Kumasi with sample average female characteristics earn 43% more on average and ceteris paribus than their female counterparts.

Key words: *Kayayei migrants, labour market, gender, earnings gap, informal sector, ceteris paribus.*

INTRODUCTION

The existence of differential payment for labour market services between males and females is taken as a universal phenomenon in almost all countries regardless of the nature and structure of the economic system. In Becker (1957) model, discrimination in earnings due to discriminatory tastes of employers, co-workers, or customers can lead to a segregated workforce. A gender earnings gap in the labour market could arise due to statistical profiling. Statistical profiling occurs where employers

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employers discriminate based on differences in expected productivity or the reliability of predicted productivity between groups (Solberg, 2005). Mincer & Polachek, (1974) and Blau & Ferber (1991) argued that women choose occupations in order to minimize the losses associated with their more intermittent attachment to the labour market. As such, women may avoid jobs requiring large investments in skills unique to a particular employer or occupation if those skills are subject to rapid obsolescence because the returns on them depend on staying with that employer or in continuous employment in that occupation. Bergmann (1974) and Bren & Garcia-Penalosa (2002) crowding hypothesis posited that excess supply of women in “female” jobs depresses wages for otherwise equally productive workers. *Kayayeei* migrants in Kumasi are internal labour migrants from the Northern territories of Ghana who are mostly female school drop-outs, who view self-participation in the informal sector labour market as the only way to acquire minimum assets for either better marriage prospects or greater economic stability (Agarwal 1994). Typical of a developing economy, two forms of economic activities, namely formal and informal sector activities, exist side by side in Ghana. The distinction between formal and informal employment opportunities had over the years been based on the difference between workers who earn monthly salaries (wage-earners) and those who are self-employed and enjoy no monthly salary opportunities. The formal sector in Ghana operates under the support of accepted rules and regulations which are enacted and implemented by the government (Ray, 1998). The formal sector has organized and recognized associations like the Ghana Trade Union Congress (TUC), Ghana National Association of Teachers (GNAT) and other similar bodies. The Ghanaian informal sector on the contrary, represents a loose combination of usually small scale organizations and self-employed persons who operate independently of many of the regulations and benefits that exist in the formal sector. Employees in the Ghanaian informal sector mostly do not have access to the privileged facilities that exists in the formal sector. The Ghanaian informal sector does not adhere to the requirement of paying minimum wages, and does not have retirement plans and benefits or compensation for employees in case of termination of appointment. The sustained growth of the informal sector in Ghana holds the key to generating new employment opportunities as is evidenced by the growth in the sector in recent times particularly, the retail and wholesale sub-sectors, (McKay & Aryeetey 2007). Hart (1973) pioneered work on the informal sector employment in Ghana at a suburb called Nima in the national capital of Accra. Abdul-Korah (2004), Abdul-Korah (2006), Songsore (1983), Songsore (2003), Lentz (1994) and Nicholas van Hear (1982) are all part of the rich and extensive literature that addresses colonial labour policies toward northern Ghana migrants. However, none of these scholarly works analysed the gender earnings gap of northern labour migrants operating in the informal sector. This paper therefore attempts to bridge the gap by empirically analysing the gender earnings gap using micro-level data on *Kayayeei* migrants operating in the Kumasi informal sector

labour market. Although empirical evidence indicate that male porters are generally not from northern Ghana, for the purpose of this paper, *Kayayei* is defined to include all male and female porters from the northern sectors of Ghana operating in the informal sector labour market in the Kumasi Metropolis and *Kayayoo* is used to refer to an individual migrant working as a courier or porter in the informal sector labour market in the Kumasi Metropolis. The structure of the paper is outlined as follows: the next section deals with the methods used. The penultimate section evaluates the empirical estimates and the final section offers the conclusion and recommendations.

METHODS

Data

A unique individual-level survey comprising 209 *Kayayei* migrants operating in the Kumasi Metropolis was conducted by the author. The survey was conducted from July to September 2007. It has always been difficult to gather reliable estimates on the number of *Kayayei* residing and operating in the Kumasi metropolis as they hardly have residential addresses. The Kumasi Metropolitan Assembly (KMA) was handicapped in providing the author with reliable estimates regarding the number of *Kayayei* migrants in the metropolis. The key informant sampling methodology was adopted using migrant *Kayayei* who are fluent in the Twi dialect to elicit an extensive useable array of information from respondents. The individual-level survey obtained information on:

- a) the individual migrant's demographic characteristics;
- b) the place of abode of the individual migrant;
- c) the socio-economic difficulties confronting the individual *Kayayoo* migrant and his or her monthly earnings;
- d) their migration and remittance history.

In addition to the conventional biases associated with obtaining complete and correct responses from a sample survey, a survey on migrants engaged in informal activities encounters difficulties arising from the zeal of respondents to reveal or over emphasize the difficulties and problems confronting them. In order to attenuate the effect of this systematic bias on survey responses, the approach of interviewing was modified to minimize respondent bias. The confidential nature of the survey was emphasized and the *Kayayei* were assured that the information would only be used for research purposes. The sequence and wording of the questions on the questionnaire were adjusted to elicit as honest a response from the migrants as possible under the circumstances. 12 respondents were excluded as they could not provide appropriate responses. The sample mean age is 21.7 years and the average *Kayayei* had spent up to 14.5 months operating in the Kumasi metropolis by the date of interview. The data, however, does not permit an explicit examination of the statistical or the

crowding models of the gender earnings gap in the *Kayayeei* informal sector labour market in Kumasi.

Empirical variables

The key dependent variable is the log of *Kayayoo* monthly earnings expressed in Ghanaian cedis and is defined as the total value of the money a *Kayayoo* migrant earns from the informal sector labour market. A variety of explanatory variables are used and these are described in Table 1.

TABLE 1: Description of Variables

<i>Variable</i>	<i>Description</i>
Inmot	Natural log of <i>Kayayoo</i> monthly earnings in Ghanaian Cedis
GENDER	=1 if individual <i>Kayayoo</i> is male; = 0 if female
NOTHREG	=1 if individual <i>Kayayoo</i> is from the northern region; = 0 otherwise
UPEAST	=1 if individual <i>Kayayoo</i> is from the Upper East region; = 0 otherwise
UPWEST	=1 if individual <i>Kayayoo</i> is from the Upper West region; = 0 otherwise
ASHREG (default)	=1 if individual <i>Kayayoo</i> is from the Ashanti region; = 0 otherwise
AGE	The age of the <i>Kayayoo</i> respondent in years
AGE2	The age of the <i>Kayayoo</i> respondent in years squared
NOED (default)	=1 if individual <i>Kayayoo</i> respondent has no formal education; 0 otherwise
PRIMARY	=1 if individual <i>Kayayoo</i> respondent has primary education; 0 otherwise
BASICED	=1 if individual <i>Kayayoo</i> respondent has basic education; 0 otherwise
MARRIED	=1 if individual <i>Kayayoo</i> respondent is married; 0 otherwise
CHILD	=1 if individual <i>Kayayoo</i> respondent has a child; 0 otherwise

Table 1: Description of Variables (cont'd)

<i>Variable</i>	<i>Description</i>
TIMESPENT	The total time spent in the Kumasi <i>Kayayoo</i> market by the respondent expressed in months
TIMESPENT2	The total time spent in the Kumasi <i>Kayayoo</i> market by the respondent expressed in months squared
SUSU	=1 if individual <i>Kayayoo</i> respondent do save by means of susu; 0 otherwise

CHARACTERISTICS OF INDIVIDUAL KAYAYEI MIGRANTS

A set of individual characteristics capturing the *Kayayoo* migrant's age, gender and marital status are included in the regression analysis.

Regional-level characteristics

Variables relating to the regional and geographic characteristics of the *Kayayei* migrants at the destination are also included in the analysis. The set includes a dummy variable for whether the migrant comes from the Northern, Upper East, Upper West and Ashanti regions respectively.

Duration of Stay at the destination

In an attempt to examine the effect of the duration on the gender earnings for *Kayayei* migrants operating in the Kumasi Metropolis, variables for the time spent at the destination and the time spent squared are included as explanatory variables. The *Susu* is designed to capture among other things the savings culture among the *Kayayei* operatives in the market.

THE OAXACA DECOMPOSITION

In modelling the gender gap in earnings in the Kumasi *Kayayei* informal sector labour market, the Oaxaca (1973) earnings decomposition model is used. The variant of the Oaxaca & Ransom (1994) technique is however not pursued here. The model measure the difference in earnings by decomposing the difference in *Kayayei* earnings into a part attributed to skill and another part attributed to discrimination based on gender characteristics. The Oaxaca (1973) decomposition is modelled as:

$$\frac{W_m}{W_f} \neq \frac{W_m}{W_f}, \quad (1)$$

Where $\frac{W_m^o}{W_f}$ is the ratio that prevails in the absence of discrimination. $\frac{W_m}{W_f}$ is the observed male/female *Kayayei* earnings ratio and m and f refers to males and females in the *Kayayei* labour market respectively. In the absence of discrimination in earnings in the *Kayayei* market,

$$\frac{W_m^o}{W_f} = \frac{MP_m}{MP_f} \quad (2)$$

where MP , is the marginal product of males and females respectively.

Unfortunately however, $\frac{W_m^o}{W_f}$ is an unknown expression. A general wage equation is therefore expressed as follows:

$$W = \beta_0 + \beta_1 \bar{Z} + u$$

Where W represents the predicted mean earnings for a group, β_{ys} are the estimated parameters from the regression and

$$\text{Thus, } W_m = \beta_{0m} + \beta_{1m} \bar{Z}_m + u_i \quad (3')$$

Expression (3') is the male *Kayayei* earnings structure and expression (3'')

$$W_f = \beta_{0f} + \beta_{1f} \bar{Z}_f + u_i \quad (3'')$$

gives the female *Kayayei* earnings structure. The difference in mean earnings is therefore given as:

$$W_{m-f} = W_m - W_f = (\beta_{0m} + \beta_{1m} \bar{Z}_m) - (\beta_{0f} + \beta_{1f} \bar{Z}_f) \quad (4)$$

Expressing equation (4) in a natural logarithm form gives:

$$\ln(W_{m-f}) = \ln(W_m) - \ln(W_f) = (\beta_{0m} + \beta_{1m} \bar{Z}_m) - (\beta_{0f} + \beta_{1f} \bar{Z}_f) \quad (5)$$

Equation (5) is decomposed into a part based on the individual *Kayayoo* productivity characteristics ($\bar{Z}_{mf}$) and a part based on the *Kayayoo* market earnings due to the individual traits (β_{mf}). After some algebraic manipulation, equation (5) can be specified as:

$$\ln(W_m.W_f) = (\beta_{0m} - \beta_{0f}) + \bar{Z}_f (\beta_{1m} - \beta_{1f}) + \beta_m (\bar{Z}_m - \bar{Z}_f) \quad (6)$$

given:

$$\ln(W_m.W_f) = [(\beta_{0m} - \beta_{0f}) + \bar{Z}_f (\beta_{1m} - \beta_{1f})] + [\beta_m (\bar{Z}_m - \bar{Z}_f)] \quad (6')$$

The first part of equation (6') presents the portion of earnings difference due to market returns based on gender and is known in the labour economics literature as the 'discrimination' effect. The second grouped term is the difference in earnings which is due to differences in individual *Kayayoo* traits estimated in the labour market. In calculating the gender earnings gap in the Kumasi *Kayayeei* informal sector labour market, the summary statistics for the log monthly earnings for the mean pooled model, the mean male and female *Kayayeei* sub-sample characteristics are used. A standard (Mincer, 1974) earnings function with the log monthly earnings as the dependent variable estimation procedure is adopted in estimating the log monthly earnings function in the Kumasi *Kayayeei* informal sector labour market.

EMPIRICAL RESULTS

The regression analysis was performed separately for the pooled sample as well as the male and female sub-samples using the STATA (version 10) statistical software package. The reported mean pooled model, the mean male sub-sample and the mean female sub-sample characteristics statistics are presented in Table 2.

The pooled and sub-sample Mincerian earnings function estimates are also presented in Table 3. Table 4 immediately follows and shows the (Oaxaca, 1973) decomposition in earnings due to endowment in the Kumasi migrant *Kayayeei* labour market. Table 5 also presents the Oaxaca decomposition in earnings due to discrimination in the Kumasi migrant *Kayayeei* labour market. The total gender earnings gap in the Kumasi *Kayayeei* labour market is computed and presented in Table 6.

TABLE 2: Mean Statistics for the Kumasi Kayaye Market

<i>Variable</i>	<i>Pooled Sample</i>	<i>Male Sub-Sample</i> ($\bar{m}$)	<i>Female-Sub</i> <i>Sample</i> ($\bar{f}$)
lnmot	3.956576	4.121483	3.869649
gender	0.3451777	1.000	0.000
nothreg	0.4467005	0.3235294	0.5116279
upeast	0.2639594	0.3529412	0.2170543
upwest	0.2335025	0.25	0.2248062
age	21.6599	22.04412	21.45736
age2	476.736	494.2794	467.4884
primary	0.4873096	0.5441176	0.4573643
basiced	0.4568528	0.3823529	0.496124
married	0.1218274	0.1029412	0.1317829
child	0.6091371	0.1470588	0.8527132
timespent	14.54315	15.01471	14.29457
timespent2	236.5025	251.5441	228.5736
susu	0.6497462	0.1470588	0.9147287
Sample size	197	68	129

TABLE 3: Log Monthly Earnings Estimates in the Kumasi *Kayayei* Labour Market

<i>Variable</i>	<i>Pooled Sample</i>	<i>Male Sub-Sample</i>	<i>Female-Sub Sample</i>
constant	4.896743 (.6604907)	5.922847 (1.337138)	5.28318 (1.125312)
gender	.2612478* (.0565004)	N/A -	N/A -
nothreg	.0815353* (.0672621)	-.0079854 (.1118767)	.1016881 (.1117421)
upeast	.0395489* (.0569502)	-.0259384 (.097549)	.0695081 (.0779553)
upwest	.0797217* (.0588007)	-.11959 (.1109437)	.1920511 (.0825388)
age	-.1137369* (.0578194)	-.1633329 (.1172473)	-.1523628 (.1033921)
age2	.0026148* (.0013109)	.0034284 (.0025678)	.0036176 (.0024149)
primary	.0250186 (.0728117)	.1543414 (.0955722)	-.0691017 (.0911964)
basiced	.0377992 (.0787533)	.1654497 (.1046377)	-.0302984 (.1254573)
married	-.0007873 (.049808)	-.0339586 (.0950396)	.0048462 (.0637948)
child	.0745685* (.0507164)	.0986592 (.0979395)	.0368018 (.0808517)
timespent	.0083635 (.0138538)	.0047837 (.025199)	.0036741 (.0185943)
timespent2	-.0001489 (.0005074)	-.0003129 (.0008586)	.0001319 (.0006574)
susu	-.0616764 (.0654357)	-.0348825 (.1007963)	-.0150678 (.1046718)
R²	0.30	0.18	0.10
Sample size	197	68	129

*denotes statistical significance at the 0.05 level using two-tailed tests.

(White, 1980) standard errors in parentheses

The semi-logarithmic form for the Mincerian equation has formed the basis for estimating richer specifications that capture racial or gender differences in earnings. This is done by introducing dummy variables into the semi-logarithmic specifications so that when $MALE_i = 0$, $e^0 = 1$ and when $MALE_i = 1$, we have e . Thus, in going from female ($MALE_i = 0$) to male ($MALE_i = 1$), $\ln(W_i)$ changes by $e - 1$. Since a change in the log wage is a proportional change, $[e - 1]100$ yields a percentage change. Thus, if $MALE = 1$ the male wage is: e ; and if $MALE = 0$, the female wage is e^0 .

The percentage change in wages between the male and female gender groups is then expressed as: $[(e - e^0)e^0]100 = [(e - 1)1]100 = [e - 1]100$.

Hence, in interpreting a dummy coefficient when the dependent variable is in logarithms, one has to take the antilog, subtract one and multiply the result by 100. This gives the *ceteris paribus* effect on the dependent variable of being in the dummy category relative to the base category. Thus, a male *Kayayoo* earns on average and *ceteris paribus* $[e^{.2612478} - 1] \times 100 = 30\%$ more than female *Kayayoo*. This is an indication of the existence of discrimination in earnings at the informal sector labour market. Migrant *Kayayeei* from the Northern region earn on average and *ceteris paribus* $[e^{.0815353} - 1] \times 100 = 9\%$ percent more than *Kayayeei* from the **Ashanti region**. Married *Kayayeei* earn on average and *ceteris paribus* $[e^{-.0007873} - 1] \times 100 = 8\%$ less than unmarried *Kayayeei*. *Kayayeei* with children earn on average and *ceteris paribus* $[e^{.0745685} - 1] \times 100 = 8\%$ more than *Kayayeei* without children. The Oaxaca difference in earnings due to skills is also presented in Table 4.

TABLE 4: The OAXACA Decomposition for Difference in Earnings Due to Skills in the Kumasi *Kayayeei* Market

Variable	Male Wage Coefficient Estimates B_m	Gender Differences $(\bar{Z}_m - \bar{Z}_f) = \Delta \bar{Z}$	Wage Differential due to Skill $B_m(\Delta \bar{Z})$
nothreg	-.0079854	-0.1880985	0.0015020417619
upeast	-.0259384	0.1358869	-0.00352468876696
upwest	-.11959	0.0251938	-0.003012926542
age	-.1633329	0.58676	-0.095837212404
age2	.0034284	26.791	0.0918502644
primary	.1543414	0.0867533	0.01338962577662
basiced	.1654497	-0.1137711	-0.01882339436367
married	-.0339586	-0.0288417	0.00097942375362
child	.0986592	-0.7056544	-0.06961929858048
timespent	.0047837	0.72014	0.003444933718
timespent2	-.0003129	22.9705	-0.00718746945
susu	-.0348825	-0.7676699	0.02677824528675
Total			-0.06006045541022

Again, the gender earnings differential due to skill or endowment is $[e^{-0.06} - 1] \times 100 = -6\%$. That is, a male *Kayayoo* in the informal *Kayayeei* market who has sample average female characteristics is less 'skilful' by 6%, indicating that females are more 'skilful' in the Kumasi *Kayayeei* informal sector labour market than their male counterparts on average and *ceteris paribus*. Despite female *Kayayeei* being more

'skilful' than their male counterparts in the Kumasi informal sector *Kayayee* market, they are offered less compensation. Table 5 presents the computation of the Oaxaca decomposition of discrimination in earnings.

TABLE 5: The Oaxaca Decomposition for Difference in Earnings due to Discrimination in the Kumasi *Kayayee* Market

VARIABLE	Gender Coefficients estimates difference ($\beta_m - \beta_f$) = $\Delta\beta$	Mean Female Characteristics $\bar{Z}_f$	Wage Differential due to Discrimination $\bar{Z}_f \times (\Delta\beta) +$ Δ in Constant
change in constant			0.639667
nothreg	-0.1096735	0.5116279	-0.05611202249065
upeast	-0.0954465	0.2170543	-0.02071707324495
upwest	-0.0954465	0.2248062	-0.0214569649683
age	-0.0109701	21.45736	-0.235389384936
age2	-0.0001892	467.4884	-0.08844880528
primary	0.2234431	0.4573643	0.10219489702133
basiced	0.1957481	0.496124	0.0971153303644
married	-0.0388048	0.1317829	-0.00511380907792
child	0.0618574	0.8527132	0.05274662149768
timespent	0.0011096	14.29457	0.015861254872
timespent2	-0.0004448	228.5736	-0.10166953728
susu	-0.0198147	0.9147287	-0.01812507477189
Total			0.3605524317057

The market difference in returns between male and female *Kayayee* indicate that returns to males in the informal sector *Kayayee* market exceeds those of their female counterparts. The estimate of **0.36** is the total earnings differential due to discrimination and is explained as the female *Kayayee* sample average *ceteris paribus* unequal treatment or discrimination in the Kumasi informal sector *Kayayee* labour market. It suggests that males in the informal sector *Kayayee* labour market in Kumasi with sample average female characteristics earn $[e^{0.36} - 1] \times 100 = 43\%$ more than females with a matching level of characteristics. The total gender gap in earnings existing in the Kumasi *Kayayee* informal sector labour is computed and presented in Table 6. The computation indicates the prevalence of 20% discrimination in gender earnings against female *Kayayee* in the market.

TABLE 6: Total Gender Earnings Gap in the Kumasi *Kayayei* Informal Sector Labour Market

Earning Differences $\ln(W_{m-f})$ $= \ln(W_m) - \ln(W_f)$	Value 0.30049197629548	Total gender earnings gap
$\epsilon_m \times (\bar{Z})$	-0.06006045541022	$(-0.06006045541022 / 0.30049197629548) \times 100\% = -20\%$
$\epsilon_f \times (\bar{Z}) + \Delta$ in Constant	0.3605524317057	$(0.3605524317057 / 0.30049197629548) \times 100\% = 120\%$

Source: computed by author

The total gender gap in earnings in the Kumasi *Kayayei* informal sector labour market is computed and presented in Table 6 as:

Total Gender Earnings Gap = Discrimination Effect (120%) + Endowment Effect (-20%) = 100%. These demand side factors prevalent in the Kumasi *Kayayei* informal sector labour market result in 'discrimination in hiring' against female *Kayayei*.

The result is in resonance with the findings of Milne & Neitzert (1994) and Vijverberg (1993).

CONCLUSION AND RECOMMENDATIONS

The questions addressed by this paper are important from a policy perspective. Very little information currently exists on gender differences in the demand for *Kayayei* services despite the fact that labour market discrimination is a **universal** phenomenon. This limitation has to be overcome considering the fact that gender policies to regulate the operation of the informal sector labour market in Ghana are not pronounced and are also not enforceable as regards affirmative action. Again, the very little research and scholarships on labour market discrimination in Ghana has only focused on the formal sector labour market to the neglect of the informal sector labour market, which employs the largest share of the Ghanaian

labour force. The findings suggest an inverted U shaped *Kayayei* maximising age of 21.7 years. This implies that the human capital depreciation does not set in at a later age in the informal *Kayayei* labour market. This necessitates increasing *Kayayei* enrolment in the basic and secondary educational levels in Ghana as well as enacting social advocacy policies to help them to aspire to get more education. These measures will enable them to participate in the formal sector labour market where returns to education are higher and gender earnings discrimination is minimal. An analysis of selectivity bias using Heckman (1979) selection procedure to determine the selection of females into the informal *Kayayei* labour market in Kumasi and the reasons why male *Kayayei* earn more than their female counterparts and migrant porters from the northern regions are in such high demand were not explored and remain high on the agenda for future research.

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'ME SUMSUM NI HA'-THE DISLOCATION AND NON-BELONGING OF CHILD DOMESTIC WORKERS IN ACCRA

PEACE MAMLE TETTEH¹

ABSTRACT

Many Child Domestic Workers' (CDWs) experiences and lives in the homes of their employers can best be described as those of dislocation and non-belonging. The sense of being transplanted and in transition, together with their lived experiences of discrimination and maltreatment, justifies the characterisation of child domestic labourers in this regard. Non-belonging emanates largely from the class backgrounds of CDWs and the treatment received from employers. CDWs' feeling of being different is due to the fact that they suffer several discomforts, both explicit and implicit, and even maltreatment by many employers and/or other members of their employers' households. The expression 'me sumsum ni ha' (literally translated as 'my spirit is not here') encapsulates the real notions of non-belonging and dislocation. In this article, I draw out constructions of belonging/non-belonging and of dislocation experienced in the work of 103 domestic workers in Accra between 2009 and 2010. Exploring CDWs' constructions and practical consciousness of non-belonging illuminates our understanding of the conditions under which CDWs live and work and allows for an appreciation of the factors that underlie CDWs' perceptions and positions adopted regarding domestic service as a whole.

Keywords: *Child, Domestic Labour, Dislocation, Non-belonging, Ghana*

INTRODUCTION

In many cultures in Ghana and elsewhere, child domestic labour is accepted and not viewed as something negative. Indeed, it is frequently viewed as benefitting the child, and the domestic context is perceived of as a safe haven for Child Domestic Workers (CDWs) compared to other contexts within which child labour occurs. This article, based on an exploratory study of the world and situation of

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CDWs in Accra, discovers information that has thus far remained hidden because very little work has been done that allows us to hear the narratives and voices of CDWs. Thus, CDWs' own perceptions of their work and situation remain unknown. Where some information is available, the attitudes to Child Domestic Labour are usually those of apathy because of the ubiquity of the practice which renders it normal. This article seeks to reveal CDWs' constant struggles with discrimination, ill treatment, abuse of various forms and the battle with a loss of identity, dislocation and non-belongingness. In this article, I explain the factors that engender the consciousness and indeed the experiences of dislocation and of non-belonging. I also examine the implications of these conditions for CDWs' sense of personhood and esteem and explore how CDWs negotiate these experiences of dislocation. The contribution of this article is two-fold. First it seeks to draw attention to CDWs' own descriptions and sentiments regarding the experiences of domestic labour. Secondly, this paper contributes to the theoretical position that children are active agents who can, and do challenge, albeit in subtle ways, difficult situations such as are present in domestic service.

THE CONDITIONS AND COPING STRATEGIES OF CHILD DOMESTIC WORKERS: THE LITERATURE

Millions of children are engaged in domestic labour globally but it has been impossible to give reliable estimates because of the hidden nature of the practice. The ILO reports that domestic service is the largest source of employment for girls around the world -about 90% of CDWs are girls (ILO, 2009: 23). Thus, child domestic labour, far from being an antiquated practice, is like other forms of child labour, relatively pervasive in contemporary societies including Ghana. The Ghana Child Labour Survey (GCLS, 2003: xii) estimated that about 1,273,294 children (20%) were engaged in child labour in the country. A myriad factors have been identified as responsible for domestic labour in varied contexts. Some of these factors (the perceived opportunities and/or availability of employment in the cities, the relatively higher wages, ideas of a good life, female labour force participation, illusions that domestic service is a protected environment and gives children an opportunity for education) are like a centri-petal/pull, acting as a lure to children and their parents. Other factors (poverty and its feminisation, social exclusion, gender discrimination and domestic violence, lack of education, displacement, loss of parents to diseases and/or conflicts, and dysfunction in the family) act like a centri-fugal/push, compelling children to leave their natal homes in rural areas to urban centres in search of jobs.

Child domestic workers have varied and complex work and living conditions. The heterogeneity of the conditions of CDWs depicts the dynamic and diverse experiences of domestic service for the children involved. Indeed, the experiences of domestic service may vary from child to child or even for the same child over different periods of time. It is not surprising then that the literature on the work

and living conditions of child domestic workers presents a somewhat inconsistent result. While Apt (2005) reports that domestic labour presents children with a home and opportunities unavailable in their natal homes, other researchers as Jacquemin (2009) report conditions that are unfavourable and make it very unlikely that the expected opportunities such as access to education are achieved at all. Jacquemin (2009:12) emphasises this point by describing the situation of domestic workers as involving 'brutal forms of exploitation and extreme verbal, physical or sexual violence at one end of the spectrum and more or less harmonious contractual relationships or relations that reflect the family ideal at the other end'.

The often difficult and harsh treatment of child domestic workers has many implications for their education, health and general well being. Many arguments exist on the link between children's work and education. The most common argument is that work and education are mutually exclusive. At the heart of this argument is the view that education is the central task for children and their involvement in work denies children access to and draws them away from education. Indeed, in his study in Ghana on the effects of child labour on learning achievement, Heady (2000) found that children's math and writing scores were low. He indicated that those children who worked more achieved lower scores on tests; hence girls who tended to work more than boys in the sample group tested had much lower scores than the boys. These situations have emphasised the incompatibility of formal education with full-time work for children.

Besides education, domestic labour has implications also for children's physical, emotional and psychological health and wellbeing. The ILO has identified a number of hazards to which CDWs are particularly vulnerable, and which have the potential to adversely affect their health and wellbeing. These factors include: long and tiring working days, use of toxic chemicals, carrying of heavy loads, handling of dangerous items such as knives, axes and hot pans, insufficient and inadequate food and accommodation, and humiliating or degrading treatment including physical and verbal violence and sexual abuse (www.ilo.org/ipec/areas/childdomesticlabour).

Many CDWs do not have access to health care. Their rights to rest, leisure, play and recreation are often denied. These factors can have an irreversible physical, psychological and moral impact on the development, health and wellbeing of the child. CDWs are also vulnerable to particular types of abuse - physical, verbal and sexual. Indeed, the ILO indicates that child labour is simply the most important source of child exploitation and child abuse in the world today. Poor work conditions and work environment may manifest in a child's health condition which is closely linked with the child's emotional development. For instance, the ILO reports that in Cambodia, 23 percent of child domestic workers complained of exhaustion; 21.1 percent complained of constant fear; and 20.3 percent suffered from insomnia. In Indonesia, 31.3 percent of child domestic workers also stated that they could not sleep, whilst 28.9 percent had no appetite (ILO/IPEC, 2006).

These implications notwithstanding, Bledsoe (1990:71) argues that there is a need to move beyond the facile label of 'abuse' of domestic servants to understand the cultural logic underlying these practices. She explains how cultural notions made explicit in a Sierra-Leonean maxim of 'No success without struggle', help child domestic workers cope with their work and living conditions. Such maxims are used to exhort fostered children to persist in their training, despite difficulties. The hard work, beatings and sickness CDWs suffer at the hands of employers and employer/guardians are perceived to mould their character and earn them knowledge for adult life. The belief is that the hard training these children receive makes them more likely to succeed than those who remain with their parents. Indeed, the harsher and meaner the conditions, the higher the 'opportunity for greater character development and an incremental rise in the children's future prospects' (Bledsoe et al, 1999: 78).

Thus, while acknowledging that domestic service has benefitted some children, there is no denying the fact that the life of many child domestic workers is relatively difficult. The manner in which many child domestic workers are treated and related to in their employers' homes creates feelings of detachment and a sense of non-belonging.

Belonging is a relatively fluid and multi-dimensional term that is a recurrent theme in identity and migration discourse. It is a term that is conceived of as 'a sense of intimacy with the world' (Boym, 2001:251) and 'the sense of being accepted or being a full member of' (Anthias, 2006: 19). Yuval-Davis et al (2006: 2) define belonging as being 'about feeling 'at home' and also about feeling 'safe'. Occasionally, the concept of dislocation is used to contrast belonging (Davidson and Khun-Eng). Thus, for CDWs, being dislocated would suggest a situation of not being accepted as full members of their employers' households, of not feeling at home and/or of not feeling safe in these settings. The sense of belonging is important because it provides a sense not only of social identity (Ahmed, 2011) but of personal wellbeing especially for children.

Related to the concept of belonging is the notion of attachment. The key assumption of the attachment theory is that the particular attachment style young children learn become their schema of what relationships are like. This childhood relationship schema typically stays with individuals throughout life and generalises to all relationships with others (Mikulincer and Shaver, 2003). Thus, children who have a secure attachment style characterised by trust, a lack of concern of being abandoned, and the view that one is worthy and well liked are able to develop mature, more lasting and fulfilling relationships as adults. Children who have avoidant and/or anxious-ambivalent attachment relationships with significant others are less able to trust others and to develop lasting close relationships (Collins and Feeney, 2004).

This article explores the concept of (non) belonging in relation to the experiences of CDWs in Accra and considers the strategies these CDWs employ

to cope with their situations. Often, CDWs negotiate these conditions by resorting to the use of several coping tactics and strategies which are deployed depending on their particular social positions, job descriptions, employment conditions, ages, gender, personalities, type of employer and constraints of the job market. Child domestic workers may employ ingratiation; getting employers in a good mood by consenting to do their every bidding so as to obtain favours in return (Baron, Byrne & Branscombe, 2012). Mendez (1998) terms this tactic as "strategic personalism," while others have referred to it as one of a number of structural coping tactics which consist of 'personalism, resistance, flight' (Mendez, 1998; Rollins, 1985; Dill, 1988). Jacquemin (2004) reveals that CDWs also employ individual survival strategies by comparing their situation to that of others in more difficult circumstances. The comparisons of their situation to others in worse conditions help CDWs perceive their present situation as better than it really is. All these tactics point to the complexity of the situation and the practice of a 'continual dialectic' between exploitation and empowerment set within the context of unequal power relations (Mendez, 1998). This article argues that companionship, attachment, acceptance and a sense of belonging are crucial and inextricably linked with children's development and wellbeing. Hence, the sense of dislocation and non-belonging expressed by CDWs in this study needs to be taken seriously and not stifled by apathy to the plight of young domestics.

METHODOLOGY AND PROFILE OF CHILD DOMESTIC WORKERS

Considering the heterogeneity of the sample, it was deemed most appropriate to employ a mixed method approach for this study. A cross-sectional survey employing the questionnaire method was used to interview 91 CDWs, 60 employers and 300 parents of CDWs. In-depth interviews with four recruiters and 12 case studies of CDWs were used to draw out the qualitative meanings CDWs gave to their situation and to obtain information to explain and address the issues that could not be interrogated with the use of the questionnaire.

All the CDWs interviewed were aged below 18 years, with the majority (63.8%) aged between 15 and 17 years. More than a third (35.2%) of CDWs were below age 15, the minimum age stipulated for employment by the ILO Convention 182, with the youngest aged nine. But, considering the age at first employment, it is apparent many CDWs became involved in domestic labour long before the age of nine. About five CDWs had entered domestic service at the age of 8, while five others did not know when they started, perhaps because they were too young to recall. Despite domestic child labour being a relatively pervasive national phenomenon, CDWs mainly came from the coastal and Savannah areas of Ghana. About 20% of CDWs came from the Central Region and an equal percentage (20%) came from the Volta Region, with just about 14.4% from the Greater Accra Region. Nineteen percent of CDWs came from the

Northern and Upper Regions of Ghana. This finding is supported by the evidence in the GLSS (4) where the coastal and savannah areas had the highest levels of economically active children; 94.4% and 23.3% respectively (GLSS 4:28). In relation to education, the majority (67%) of CDWs have only had basic education (Junior High School/Middle School). Almost a fifth (17.6%) of CDWs, however, have never been to school.

TABLE 1: PROFILE OF CHILD DOMESTIC WORKERS

<i>AGES OF CDWs</i>	<i>NUMBER</i>	<i>PERCENTAGES</i>
9	3	3.3
10	3	3.3
11	3	3.3
12	3	3.3
13	9	9.8
14	11	12.1
15	17	18.7
16	21	23.1
17	21	23.1
TOTAL	91	100
<i>CDWS RELIGIOUS AFFILIATION</i>	<i>NUMBER</i>	<i>PERCENTAGES</i>
Christians	73	80
Muslims	14	16.
Traditional Religion	1	1
Other	3	3
TOTAL	91	100
<i>ETHNIC BACKGROUND</i>	<i>NUMBER</i>	<i>PERCENTAGE</i>
Akan	37	40.2
Ewes	18	20
Ga-Dangmes	15	16.7
Dagbani	7	7.8
Other	14	15.3
TOTAL	91	100
<i>REGION OF ORIGIN</i>	<i>NUMBER</i>	<i>PERCENTAGES</i>
Central Region	18	20
Volta Region	18	20
Greater-Accra Region	13	14.
Northern and Upper Regions	17	19
Other	25	27
TOTAL	91	100

TABLE 1: Profile of Child Domestic Workers (Cont'd)

EDUCATIONAL LEVEL OF CDWs	NUMBER	PERCENTAGES
No Education	16	17.6
Basic (Middle/JHS)	61	67
Secondary/Vocational	14	15.4
TOTAL	91	100

EDUCATIONAL LEVEL OF CDWs	NO./ % FOR	NO./% FOR FATHERS
PARENTS	MOTHERS	
No Education	43 (47.2)	23 (25.3)
Basic Education	29 (32)	37 (40.6)
Secondary Education	7 (7.6)	7 (7.6)
Tertiary Education	1 (1.1)	9 (9.9)
Don't Know/ missing	11 (12.1)	15 (16.5)
TOTAL	91 (100)	91 (100)

EMPLOYMENT STATUS OF CDWs	NO/% FOR	NO/ % FOR FATHERS
PARENTS	MOTHERS	
Employed	82 (90.1)	53 (57.1)
Unemployed	6 (6.6)	28 (30.7)
Don't Know/Missing	3 (3.31.1)	11 (12.1)
TOTAL	91 (100)	91 (100)

Parents' illiteracy and unemployment puts children at increased risk of entering into domestic service. Almost half of mothers of child domestics have never been to school. A little over a third had basic education (Middle/JHS) and only a few had obtained secondary/vocational education (See Table 1). Though many CDWs' parents were employed, they had mainly low income informal sector jobs: specifically peasant farming and petty trading.

Domestic service is not the only experience of work for some CDWs, as some had been engaged in other forms of child labour (e.g. street hawking) before entering into domestic service. Others had been employed in other households as domestics prior to their current work.

THE CHALLENGE OF DISLOCATION AND NON-BELONGING

The sense of dislocation and non-belonging experienced by CDWs and captured succinctly in the sentiment of 'me sumsum ni ha' is engendered by three interrelated factors, namely transitioning into and interactions within the family; access to basic needs and resources, and treatment and abuse of CDWs. The three factors are now discussed in turn.

Transitioning and Interactions within the Family:

Transitioning into employers' households is one main source of dislocation for CDWs. People may experience a culture shock when they find themselves in new environments. The ability to adjust or otherwise to a new environment is determined by several factors including the age of admittance to the new environment, the treatment by people in the new environment, the ability to learn about and use equipment and facilities in the new environment and to some extent, the willingness of the 'new entrant' to adjust at all.

Most of the CDWs in the study were old enough to appreciate the movement from their homes to those of their employers. Indeed, for some the transitions and movements have been many, from one employer or relative to another over a period of time. These notwithstanding, many CDWs have found it difficult to fit in and adjust to the new environments in their employers' homes. This was the case for both older and younger children. The challenges for the former derived from the fact that they have known a previous reality and now have to cope with new ways of living, new relationships and people. The nostalgia of those who left their parents and siblings at very tender ages was also palpable. As Doris said, 'since I was born, I have never lived with my mother... I wish I could go and live with my mother'. Feeling generally dislocated thus, CDWs struggle to adjust to their new environments in employers' homes. One of the factors that could facilitate or impede the adjustment process is CDWs' ability to use items in their new environment, such as vacuum cleaners, washing machines, microwave ovens and blenders. Many of the children interviewed said though they saw these household gadgets for the first time in their employer's homes, learning to use these was relatively simple.

Interactions with employers and the members of their households not only significantly influences CDWs' ability to adjust to employers' households but also have implications for their sense of belonging in these settings. Many CDWs explain that being constantly told that they did not belong undermined their attempts to adjust or feel a part of their employers' home. The often used vertical mode of communication, where employers related to their domestics only when they were issuing orders, did not provide space for conversation or friendly interaction between these parties. Even in cases where their employers had children of similar ages to CDWs, the latter rarely played with them. As Dufie, a sixteen year old domestic worker puts it '*I am not happy here... nobody chats or plays with me. My only play mate is this baby*'; referring to her employer's one-year old daughter (Interview with Dufie, child domestic worker, Sakumono, employer's home, 17/12/09).

Many employers communicated with their domestics in one of the Ghanaian languages (Twi, Ga, or Ewe). Thus, CDWs' non-inclusion in conversations did not derive from the children being in any way linguistically handicapped, but rather from the fact that they just were not considered as 'people' with whom to converse. Auntie Afia (a pseudonym), an employer of a

domestic worker, confirms this when she intimates; What do I have in common with a house help... to make me chat with her? She is not my friend-besides she is not my equal. I speak to her when I have to. You see, my sister has this habit of chatting with her helps which makes them disrespectful and gossip. As for me I don't do that (Auntie Afia, employer, Dansoman, June, 2009).

This sentiment is shared by many employers who consider that cordial interactions and conversations with their domestic workers would make it likely for the CDWs to disrespect them, or obtain information about them which may be spread through gossip. The absence of, or limited conversation with domestic workers, together with their non-inclusion in many family activities, leads to loneliness and a sense of alienation. This loneliness is often compounded by the fact that some CDWs are left at home alone all day as explained by the domestic Sekina, - 'they leave me here alone all day with no one to talk to' (Interview with Sekina, CDW, Sakumono in employer's home, 15/12/09) . The loneliness and CDWs' sense of dislocation thus stems not only from their absence from family and friends, but most especially from the norms and values surrounding domestic work. They are often 'starved of respect and positive social interaction' (Romero, 1992). Indeed, CDWs indicate that in many instances, employers and their children spoke to them without respect, as if, as Vida puts it, 'as for you, you are not part of humanity' (Interview with Vida, CDW, Sakumono, in employer's home, 18/12/09).

An effort was made in this study to distinguish between domestic workers living with either relations (35%) or non-relations (65%) to examine whether a CDW's relationship to her employer; whether as kin or non-kin, influenced her work and living conditions in any way. This distinction was also made to specifically examine the controversial notion of the treatment of domestic workers 'like one of the family'. Interestingly, in this study, whilst many employers said they treated their domestic workers 'like one of the family', many domestic workers expressed the sentiment of 'my spirit is not here'. Indeed, in the view of many CDWs, the notion of domestic workers being treated 'like one of the family' is a myth rather than a reality, in that they did not feel like family at all because of the discriminatory treatment meted out to them in employers' homes. CDWs recount how they, unlike the children of their employers, woke up early to do lots of work throughout the day, whilst employers' children slept and did nothing. Yet still, others indicate that unlike the children of their employers, they cannot ask for anything, and even when they have the courage to, it is often denied them. They were often the recipients of employers' insults. Thus, even where CDWs are kin to their employers, or where employers says a CDW is 'one of the family' if she is non-kin, they are rarely treated as family. In many instances, as many scholars (Anderson, 2000; Romero, 1992) of the subject have intimated, the description 'as one of the family' only clouds the boundaries and leads to the exploitation of CDWs,

who are either not remunerated at all or given just a pittance because they are family. This assertion finds support in this study where CDWs who were related to their employers were found to be the more disadvantaged compared to those not related to their employers. They were less likely to have a written contract, be remunerated for their work, or have the freedom to easily leave an employer when they were dissatisfied.

CDWs' consciousness of non-belonging also results from the restrictions and limitations placed on their contact and interactions with friends and family. Contact with family and friends is uncommon for many live-in child domestic workers, unlike live-outs who see their family and friends on a daily or regular basis. Often, CDWs have to sneak out to see their friends when their employers are away from home. For others, an opportunity to see friends came only when they went out to work in the market (27.2%), or went to church (18.2%). CDWs explain that the absence of, or limited number of friends they had was because employers were against their making and/or seeing friends and had indeed warned them against doing these in many instances. Interestingly however, some CDWs did not make friends because they perceived themselves as unworthy and inferior. For instance, Dufie explains, 'I don't have friends in this neighbourhood because I don't belong to their class'. Thus, CDWs tend to have a self-consciousness of 'inferiority' deriving perhaps from their poor backgrounds and reinforced by the comments and treatment they endure in employers' homes. This sense of inferiority culminates in mistrust which acts as a delimiting factor, preventing CDWs from venturing into friendships even with fellow domestic workers because as Mawuena, a CDW explains:

'Sometimes friends are bad. If I make a friend and say something, she will go and say it somewhere and I am in trouble-you understand? So I do not like having friends' (Interview with Mawuena, CDW, Sakumono in employer's shop, 20/01/2010).

The majority (60.5%) of CDWs have not had any visits from their parents since they started work in their employers' home. Only 27.5% of CDWs had had the opportunity to visit their parents, having done so once (56%) and twice (40%). Several factors, such as the distance from Accra to the place where a CDW's parents live, and the financial resources involved, will determine whether CDWs will visit their parents or vice-versa. What is crucial however is whether employers are willing to allow or even encourage such visits by parents. Some CDWs who had been employed before their current situation said they lost their jobs because they asked for time off to see their family. They explained that some employers tend to see requests for time away from work as a lack of seriousness on the part of the CDW- because they have work that needs to be done and thus, cannot cope with a CDW who takes days off to visit family. Thus, consciously

or otherwise, employers tend to isolate CDWs from family sometimes even when the CDWs are relations.

ACCESS TO BASIC NEEDS AND RESOURCES

Another factor that promotes feelings of non-belonging among child domestics is the absence of, or their limited access to certain basic needs such as food, clothing, comfortable sleeping places, rest, recreation and entertainment, among others. Many of the CDWs reported having relatively comfortable sleeping arrangements. Slightly more than a third (39.3%) of them had a room to themselves. About a similar percentage (34.5%) also slept in the same rooms as the children of their employers. Whilst sharing a room with employers' children sometimes created opportunities for CDWs to chat with the children, it was not the case in all situations. A fifth (19%) slept in the living room, whilst a few (3.6%) slept on a veranda. Only one CDW mentioned sleeping in a kitchen and a few others (2.4%) in the kiosk where their employers sell. Adjoa, one of the domestic workers who slept on the porch said: *'My madam says I cannot sleep in the bedroom with her children. I sleep on a piece of cloth on the floor of the porch'* (Interview with Adjoa, CDW, Sakumono, employer's home, 15/12/09).

Child domestic workers also gave relatively satisfactory accounts of how many times they ate in a day, the majority (67%) of them having three square meals a day. They are only treated as 'non-belonging' when it comes to the quantity of the food (they often get less food), the quality (they are often denied fish or meat) and the places where they sit to eat these meals. With regard to the quality of food, Adjoa says: *'I am not happy with my work because my madam maltreats me ('odi mani')'. She gives me food but she does not give me meat or fish'* (Interview with Adjoa, CDW, Sakumono, employer's home, 15/12/09). CDWs were never allowed to sit at a designated family dining area or table to eat their meals. Indeed, some CDWs said they only ate after all the members of the household had eaten. The allocation of food and the order of eating have been identified as a mechanism through which employers delineate household hierarchy (Cheng, 2003).

About a tenth (8.7%) of CDWs interviewed reported instances of food deprivation. Helen, an orphaned CDW living with her maternal aunt, recounts her experience in this regard as follows:

One of my cousins treats me very badly. She often refuses to give me food because of the things she said I said when my mother died. She said when my mother died, I cried saying that 'gbele aba ha mi nu ni ma nu (translated as 'death or my mother's ghost should send me water to drink). Because of this, she refuses to give me food. When I tell her mother (my aunt) she doesn't do anything about it (Interview with Helen, CDW, Sakumono, at school, 14/01/2010).

Helen was said to have uttered the words translated above when she was mourning the death of her biological mother, and they could be interpreted as her prayer to the supernatural to come to her aid as an orphan. The utterance could also refer to her desire to also die; to have her mother's ghost come for

her because of the hardship she is going through. Thus, because of this, Helen is often deprived of food because in her cousin's reasoning, if she is asking her mother's ghost for water, she should also ask it for food. Depriving CDWs of food, besides being often used as a form of punishment, is also one of the common forms of maltreatment that serves to reinforce the inferiority of domestic workers. The result is that such children are starved and thus sometimes either compelled to steal food and suffer brutal consequences if discovered, and/or rely on the kindness of neighbours for sustenance. This point is seen also in the case of Vida who lived with her maternal aunt who sold second-hand clothes and beddings. She says:

...The bed sheets were so big that sometimes I told my auntie, I couldn't wash them. But the day I would dare say I cannot wash or carry these heavy sheets, my auntie would insult me throughout the day and would not give me food. In fact, on many occasions when she gives her children 'chop money' because they don't always cook at home, I am left out. I had to be washing the clothes of a man in our house (we lived in a compound house) to earn some little money for food (Interview with Vida, CDW, Sakumono, employer's home, 18/12/09).

Recreation and leisure are yet another critical indicator for measuring the wellbeing of any persons, particularly children, whether they be CDWs or not. In this discussion, the contributions of these variables to CDWs sense of dislocation are examined. Even though a few (9.4%) CDWs said they were not involved in any family entertainment, the majority (81.2 %) said they get to watch television especially during the day when the employer was away from home. But to watch television when other family members are at home, CDWs often sit afar from the rest of the family or peep from the kitchen. Thus, unlike other members of the employers' household, CDWs are not allowed to sit together with the family even where they are allowed to 'enjoy' some form of recreation like watching television. Qayum and Ray (2003), in their study of domestic service in India, explain that these separate seating arrangements between employers and servants were to serve as a marker of class distinction. Sharing the same viewing experience and consumption of television series with servants made employers uneasy. Besides making a class statement, many employers express disapproval of domestic workers desiring to be 'entertained on the job'. Thus, even in situations where they are taken along on outings, Adjoa intimates that it is not to also go and have fun but to continue in her duties and in meeting the needs of her employer and her children.

CDWs' sense of dislocation and non-belonging also emanates from their limited access to education. The majority (66.7%) of CDWs at the time of this study were not in school. Asked if they would want to be in school, almost three-quarters (73.3%) responded in the affirmative. Thus, though the CDWs wished to be in school like the children of their employers, they could not, because as they said, employers claimed 'there was no money to pay their fees' (Akua, CDW, Nima, June 2009).

It seemed that many CDWs were of the opinion that employers were simply not committed to sending them to school even though many of them had been made that promise at the time of their recruitment. This was so because if they went to school, who would perform the chores at home? Thus, only about a third (33.3%) of CDWs were in school at the time of this study. School enrolment where it occurred was often seen by their employers as a reward or payment for the services of CDWs. The long hours of work and heavy workloads of CDWs also consistently interfered with their school performance. In some instances, CDWs have been called out of school to work before the end of the school day; or are not allowed to attend school at all on some days as is seen in Felicia's narrative below:

...I am not happy because she treats me badly. Sometimes when I am in school, she will come and ask me to leave the class and come and sell water by the roadside. This happens so often that I miss many lessons. It is as bad as though I were not in school at all (Interview with Helen, CDW, Sakumono, at school, 14/01/2010).

She goes on to narrate how on days when she stays in school till the end of the school day, she goes to her employer's shop to sell till 10 pm, thus making it difficult for her to find time to study. Ama, another domestic worker says:

'I am always late to school. I do too much work such that by the time I get to school, I am so tired. I do not eat breakfast before going to school. I am not always given pocket money to buy food' (Interview with Ama, CDW, Sakumono, at school, 16/01/2010).

Thus, CDWs' workload and schedule of work, coupled with employers' general lack of commitment to domestic workers' formal education, creates the conditions that undermine CDWs' performance at school. For instance, Ama came 100th in the last term's examinations in a class of 105 pupils. I was particularly moved by Ama's account of her experiences as a domestic worker and, rather contrary to the norm, went to speak to her class teacher. She confirmed Ama's story saying:

Ama is an overworked and unhappy girl. I sometimes have to buy her food in school to eat because she had not been given food at home or money to purchase some in school. Ama often sits in class with a blank/sad look-and is often absent-minded. On other occasions she sleeps-often explaining that she has not had enough sleep the night before (Interview with Ama, CDW's class teacher, Sakumono, at school, 16/01/2010).

Drawing from these, it is apparent that CDWs' sense of dislocation and non-belonging derives largely from their assessment of how accessible certain basic resources are to them compared to their employers' children. The sense of dislocation and non-belonging then is produced when domestic workers

determine that they are being deliberately denied these basic resources because of their status as domestic workers.

The Subject of Abuse

Yet another powerful stimulus that engenders the sense of 'my spirit is not here' is the incidence of several forms of abuse of CDWs. All the CDWs interviewed had experienced one form of abuse or another in the course of their employment. The most common form of abuse reported by CDWs was verbal (50%), followed by physical (45.5%) and sexual (2.3%). One CDW indicated experiencing all three forms of abuse.

Verbal abuse was a daily occurrence for all domestic workers and often included insults not only to the domestic workers, but also to their parents as is depicted in Dufie's narrative below:

She insults me on a daily basis which really makes me sad. I only keep quiet when she insults me. Even this morning she insulted me and insulted my parents. She said I have no sense because I come from the village. She said my parents are stupid, jobless people, engaged only in stupid farming. These insults really sadden me (Interview with Dufie, CDW, Sakumono, employer's residence, 17/12/09).

Another CDW, Sekina, also says: 'Just this morning, she insulted me and called me a dog' Every day, she says I am a dog' (Sekina, CDW, Sakumono employer's home, 15/12/09).

Yet another domestic worker, Adjoa says,

'For instance, this morning she insulted me very well. I didn't hear what she said though because she spoke in Ga and I don't understand the Ga language. Her husband doesn't insult me nor beat me, but she does' (Interview with Adjoa, CDW, Sakumono, employer's home, 15/12/09).

Physical abuse was also frequent for some CDWs and often included slaps, hitting domestic workers' heads against the wall, pulling their ears, caning, and giving them knocks on the head. Dufie says;

'I wish I could go back home. I don't like it here because the woman beats me too much. She gets angry at the least provocation and slaps my face 'basabasa' (translated as 'anyhow'). I want to go back home... because me sumsum ni ha' (Dufie, Sakumono, employer's home, 17/12/09).

Asked how often and why she has been beaten, Dufie says:

A countless number of times... The recent beating I received was because her son washed his socks and hanged them on the line outside the house to dry.

When I went to take them off the line, the boy told me to leave them there because they were not dry. The next morning, my madam called me and before I could explain why the socks were left overnight on the line, she started slapping my face and hitting my head. My madam's mother-in-law has told me to be patient because that is how my madam is. She beats any domestic worker who comes to live with her, which makes them ran away (Dufie, Sakumono, employer's home, 17/12/09).

Adjoa also says of her employer:

'She has beaten me at least four times since I came to live with her in the last three months. The last beating I received was because she said I didn't respond and come quickly when she called me. She called me into the room, locked me up and beat me mercilessly' (Adjoa, Sakumono, employer's home, 15/12/09).

The majority of the cases of physical and verbal abuse were perpetuated by the employers of the domestic workers. Only in a few cases were the spouses and/or children of employers perpetrators of these forms of abuse, as seen in Adjoa's account:

'Her children are also very disrespectful and insult me every opportunity they get. I especially do not like her six year old son because he is very stubborn and disrespectful' (Adjoa, Sakumono, employer's home, 15/12/09).

The sensitive nature of abuse, especially sexual abuse, makes many children afraid to report it. Thus, the reality of the situation may perhaps be worse than has been reported in this study, as some children may not mention details of incidents of abuse. It was not surprising then when over 90 percent of the CDWs said they had never reported the abuses they suffer to anybody. Indeed, whilst some said there is nobody to report to, obviously unaware of a domestic violence Law (Act 732) and other pieces of legislation which protect them, others said they dared not report because they were afraid of the repercussions of either being abused the more or of being sacked or sent back to the villages from where they came.

The few who indicated ever reporting the abuse they encountered said they reported it to the spouses of their employer, the mother of their employer and/or the children of their employers, who invariably did nothing about their situation.

Viewed within a framework of being trapped in a web of culture and poverty, it is understood why CDWs rarely bothered to report any forms of abuse. The abuse they experience is often justified as a form of training they are receiving from these employers to whom parental responsibility has been delegated. Even in instances when there is the need to react against these abuses, these children tend to be the 'losers' because they do not have the power, because of their poor backgrounds, to stand up to their employers. The result is that the maltreatment continues, and CDWs and their parents, cowered and constrained by poverty and culture, are unable to do anything. Thus, many domestic workers tend to keep

quiet and suffer quietly until they have the opportunity to return to their parents or go to another relative/employer who hopefully may be less abusive.

THE OUTCOMES OF DISLOCATION AND NON-BELONGING

The several incidences of both verbal and physical abuse of CDWs, the denial of food to some and the treatment that makes CDWs feel 'worthless' all constitute not only clear violations of the Domestic Violence Law (Act 732) but also engender a 'practical consciousness of non-belonging' (Parrenas, 2001: 201). The sense of 'being in transition' and the almost palpable consciousness of dislocation and non-belonging generate two outcomes for child domestic workers. First it generates an identity conflict which relates to whether to believe the names they are called; who and what they are; what their abilities and potentials are, and what the future holds for them. The identity crises CDWs experience stem from the insults, labelling, discriminatory and degrading treatment meted out to many CDWs which are fuelled by gender, age and class differences. Indeed, CDWs indicate that being called a 'thief' and/or a 'witch' and treated as if 'I am a fool, not knowing anything' (i.e. unintelligent), and 'as a villager' (i.e. backward) makes them feel 'as though we are not human' or 'as though we are not part of humanity' (Interviews with Sekina and Vida, Sakumono, employers' homes, 15/12/09 and 18/12/09 respectively). . The 'labelling' of CDWs and the 'inhumane treatment' of most of them have implications for their self esteem and self worth and overall personality. The discriminatory treatment of CDWs inculcates and reinforces in them a sense of inferiority for the present as well as the future. Hence, almost all the CDWs had very mediocre aspirations regarding what they hope to become in the future.

Secondly, the sense of non-belonging and dislocation creates a paradox for domestic workers. On the one hand, there is a sense of urgency to leave domestic service, while on the other hand there is the recognition and acceptance of the need to remain in domestic service for a relatively long time in order to achieve their aspirations. The sense of non-belonging and dislocation makes CDWs physically present in employers homes, but psychologically and emotionally absent as is encapsulated in the phrase 'me sumsum ni ha'. Many domestic workers also acknowledge that leaving domestic service 'prematurely' because of the difficulties associated with it would mean that they cannot attain the aspirations they set out to achieve by entering into domestic service. Thus, while wanting to leave domestic service, many CDWs also realise the impossibility of this happening anytime soon. Some indeed, dread the possibility of this happening because as they explain:

'For some of us, we do not have anywhere to go to. This work, and this employer is the only person we have who can help us because our parents cannot'. (Interview with Ama, Sakumono, at school, 16/01/2010).

It is this sense of relative helplessness then that creates the need for CDWs to devise several strategies and 'ways out' of their situation.

MANAGING THE SENSE OF DISLOCATION AND NON-BELONGING

Several studies have documented the use of different 'weapons' and resistance strategies by domestic workers. For instance, Rollins (1985) and Dill (1988) describe the use of such tactics as confrontation, chicanery and cajolery in their acts of resistance. Kondo (1993) indicated that domestic workers' weapons of resistance are of a 'continual dialectic' nature, where they use only one or two or more strategies simultaneously, depending on the circumstances.

To overcome the pain experienced from dislocation and non-belonging, CDWs, like older domestic workers, also adopt a series of strategies. But quite unlike adult domestic workers, CDWs' strategies include a passive acquiescence to their situation, a denial of their difficult situation, a conscious reinforcement of the transitional nature of the job, and a redefinition and reconstruction of their treatment as a form of training. Thus, even when CDWs admit that they are being maltreated, they reconstruct domestic service only as a transitional phase in their life, as is portrayed in Adjoa's statement:

'They make me feel unworthy because I come from the village. But what can I do? I won't be here forever. One day, I will get what I came here for and go back to where I came from, where I will be accepted as a human being' (Interview with Adjoa, CDW, Sakumono, employer's home, 15/12/2009).

Thus, maintaining a sense of the 'temporariness' of their situation enables them to forge ahead 'for a season' and endure whatever treatment they experience until they are able to accomplish the expectations and needs that propelled them into domestic service in the first place. It can thus be said that CDWs, unlike their adult counterparts, tend to adopt tactics of docility because they recognise their weak position deriving from their age and class, which is compounded by the web of poverty and culture. Caught in this web, CDWs adopt tactics that do not jeopardise their jobs and the possible familial relations that may exist between them and their employers.

Again, many CDWs have managed their dislocation and non-belonging by redefining their situation and plight. Thus, even when they recounted incidents of abuse and maltreatment, they also tended to describe their work and living conditions as generally satisfactory. For example, Baby, a CDW who says domestic service destroys children's future, also says

'... but what can you do? If your parents cannot educate you, your only option is domestic service. So I can only say the work is good...' (Baby, Sakumono, employer's home, 18/12/09).

The 'denial' of generally bad living conditions seems to be a 'dissonance reducing strategy'- where CDWs, like many others seeking to reduce dissonance, re-define their situations positively. CDWs remind themselves, and indeed are often admonished by their parents to 'exercise patience' and 'endure the treatment because they know what they want'. This resonates with Bledsoe's (1990) findings in her study of fostered children in Sierra Leone-where based on the maxim 'no success without struggle', children are admonished to 'endure beatings and suffer sickness to mould their characters' and 'to persist in their training, despite difficulties'.

Besides the passive acquiescence, CDWs also exercised agency by seeking work with other employers even whilst they remained with their current employer. For instance, Dufie, a CDW whose employer maltreated her and threatened to send her away with nothing, had this to say:

I do not want to go back to the village. I have started asking around for an employer. If I get one, I will call my mother/sister to tell them that my first employer sacked me so I am with a new person. I would appreciate it if you can help me get a new employer'. My aspiration is to train as a hairdresser and have my own salon. I want to learn the hairdressing in Accra and that is why I am looking for a new employer who will enrol me in apprenticeship while I work for her (Dufie, Sakumono, employer's home, 17/12/09).

Thus, Dufie, like all other CDWs, saw domestic labour as a means to an end and not an end in itself. Hence, if the situation requires a CDW to 'hop' from one employer to the other until these needs are met, so be it.

Child Domestic Workers also tended to manage their sense of dislocation by managing their expectations and aspirations for the future. CDWs tended to have relatively modest aspirations which stem from their recognition of the limited opportunities associated with their work. In the face of such limitations, and being uncertain of the future, CDWs tend to aspire to only what seems possible. Being unsure of how long an employer will have them or when they will be sent to another relative by their current 'relative-employer', many CDWs lived a day at a time. A similar trend of a 'future with no illusions' is seen among child domestic workers in Abidjan, la Cote D'Ivoire (Jacquemin, 2004).

CONCLUSIONS

This article has sought to shed light on CDWs' lived experiences. CDWs' practical consciousness of dislocation and non-belonging is constructed succinctly in the phrase 'my spirit is not here'. Though domestic service is considered as a relatively safe employment for children, especially girls, the evidence points to the contrary. As has been portrayed herein, many CDWs are discriminated against, largely maltreated, and rarely treated as family even where they are related to their employers. When children are employed as domestic workers, they work round the clock, often with no remuneration. They have limited access to basic needs such as food, comfortable beddings and sleeping places, recreation and rest, education, and contact with friends and family. To compound this, CDWs are verbally, physically and in a few cases sexually assaulted on the job, with dire implications for their physical and psychological well-being.

Thus, CDWs' perceptions and constructions of dislocation and non-belonging emanate from the largely negative work and living conditions and the constant reminder by members of their employers' households that they do not belong. Child domestic workers however are not passive recipients of this negative treatment. They are active agents, constructing and reconstructing attitudes and finding practical ways to escape these situations. Even where their attitudes and actions seem like passive acquiescence, CDWs are not to be underrated. They consciously adopt such attitudes as a means to survive the conditions of their work to get what they want out of domestic service.

Exposing the dislocation and non-belonging CDWs experience may potentially result in a shift in the apathetic attitudes and the normalised notions of the practice. Indeed, any work that can make a person 'lose' her spirit literally, however temporary, cannot be safe. Hence, it is important to identify and deal with the factors that engender the sense of 'my spirit is not here'. Understanding the sense of dislocation and non-belonging CDWs experience is relevant for the calls for improvements in the work and living conditions of these children. CDWs are children, girls and workers and thus, improving their conditions has implications for child, gender and labour rights and protection.

Note:

All the names used in this article are pseudonyms, to protect the identity of the participants

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APPENDIX A: Profile of Child Domestic Workers (Case Studies)

<i>Child Domestic Workers</i>	<i>Age at first employment into domestic service</i>	<i>Present Age</i>	<i>Location of Interview</i>	<i>Date of Interview</i>
Adjoa	15	16	Employers Home	15-12-2009
Sekina	13	15	Employers Home	15-12-2009
Dufie	10	17	Employers Home	17-12-2009
Vida	14	17	Employers Home	18-12-2009
Baby	15	15	Employers Home	18-12-2009
Felicia	8	13	At School	12-01-2010
Ranji	13	17	At School	12-01-2010
Irene	2.5	11	At school	14-01-2010
Helena	7	14	At school	14-01-2010
Doris	13	13	At School	16-01-2010
Mawuena	15	16	At Employers shop	20-01-2010
Ama	3	10	At School	16-01-2010

- . All the interviewees were female
- . Ama and Irene's ages at first employment are estimations as these children could not recall when they came to live with their employer-relations under the guise of fosterage.
- . All the interviews were done in Sakumono, Accra between December 2009 and January, 2010.

THE COPING STRATEGIES OF SINGLE FEMALE PARENTS IN ACCRA

ALBERT KPOOR¹

ABSTRACT

This article examines the coping strategies of single female parents in Accra. Single female parents within Maamobi, New Dansoman and Roman Ridge areas in Accra were interviewed through in-depth interviews and a survey. Specifically, the study sought to find out the socio-economic factors that account for single female parenthood and how single female parents economically and socially support their households. The major findings are that divorce is principally responsible for single female parenthood mainly due to the infidelity of husbands. In the absence of men (husbands), single female parents although earning incomes which are low, bear the bulk of responsibility in the maintenance of children and the household. The fathers of the children of single female parents mostly do not assist the women in the maintenance of children. Kin of single female parents on the other hand mostly assist the women with housing and household chores. The study concludes that single female parents are to a great extent self-reliant in dealing with their responsibilities as parents.

Keywords: single motherhood, coping strategies, child maintenance, household maintenance, Accra

INTRODUCTION

The picture that comes to mind when we hear the term 'family' in recent times is typically that of father, mother and children living together in a household. This representation contradicts the reality of what has pertained in recent decades, particularly the surge in the percentage of families living in single female parent households the world over. Nine out of ten single parents in the world are women (Boyden and Unesco 1993). The reason for this trend is that men move more freely in and out of parenting relationships than women. In many cultures male partners are often transient members of the household (Boyden and Unesco 1993).

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According to the Ghana Living Standards Survey Report of the Fifth Round (GSS, 2008), almost a quarter of households in Ghana contain children living with only their mothers while about 3% of households comprise children living with only their fathers. Though in Ghana the majority of households (65.1%) contain both male and female parents living with their children (GSS, 2008), single female parent households are of significance and attract serious concern, as with the absence of a partner they are usually responsible for ensuring the wellbeing of their households. They are furthermore of grave importance as in Ghana women relative to men are disadvantaged in accessing society's economic resources and opportunities such as employment and education (GSS, 2005). It is thus not surprising that studies in Ghana have focused on the plight of mother-headed households (Ardayio-Schandorf, 1994; Lloyd and Brandon, 1991). Yet, few studies (Oware-Gyekye, Arthur and Dankwa, 1996) have concentrated specifically on how single mothers cope in Ghana. The extant literature on how females in single parent households manage as parents is largely based on the experiences of single mothers in Europe and America (Kanji, 2011, Taylor, 2011; Golombok and Badger, 2010; Evans, 2007; Hertz, 2006; Fortuijn and Ostendorf, 2004; Cairney, Boyle, Offord and Racine, 2003). Thus, the purpose of this article is to address this gap in the literature by examining the coping strategies of single female parents in Accra from a Ghanaian viewpoint.

FACTORS THAT LEAD TO SINGLE FEMALE PARENTHOOD

Single female parenthood is often the consequence of the dissolution of marriage through separation and divorce (Gonzalez, Bretones, Navarro-Galera and Sanchez-Fernandez, 2011). In Ghana, divorce and separation have been rising over a period of 40 years. Between 1960 and 2000, divorce and separation among women rose from 17% to 22% (GSS, 2010). Matriliney, the diminished influence of traditional norms and values governing marriage and the rather increasing influence of Western norms and values of individualism have been noted to be responsible for marriage instability in Ghana (Takyi and Gyimah, 2007; Nukunya, 2003; Takyi, 2001). Research also indicates that marital break-up through divorce is the consequence of a number of social factors including engagement in extra marital relationships by spouses (Diefenbach and Opp, 2007; Amato and Previti, 2003; Amato and Rogers, 1997), male violence (Lawrence and Bradbury, 2001; DeMaris, 2000), HIV infection of a spouse (Porter, Hao, Bishai, Serwadda, Wawer, Lutalo, Gray, and the Rakai Project Team, 2004), alcoholism (Amato and Previti, 2003), unhappiness of husbands (Gager and Sanchez, 2003), urbanization (Cvrcek, 2011), internal and international migration (Boyle, Kulu, Cooke, Gayle, Mulder, 2008; Frank and Wildsmith, 2005) and the implementation of unilateral divorce laws (Kneip and Bauer, 2009; Gruber, 2004). Economic factors also account for divorce. Some of these factors include long term declining male employment opportunities (Roy, 2011), unemployment of both male and female spouses (Jalovaara, 2003),

household income shocks (Nunley and Seals, 2010), and the increase in female employment and income (Bremmer and Kesselring, 2004; Phillips and Griffiths, 2004).

Consensual and visiting unions or cohabitation also leads to single female parenthood. In Ghana, 13.1% of women are in visiting and consensual unions (GSS, GHS and ICF, 2009). The consequence of this type of sexual union is that it is highly dissoluble (Ermisch, 2006; Oware-Gyekye, Arthur and Dankwa, 1996) and leaves women to cater for children all by themselves (Lichter and Qian, 2008; McLanahan, 2005). Cohabitation endures due to the low income of young men and their reluctance to begin a family (Sim, 2003). However, cohabiters who have intentions to get married are often able to do so (Guzzo, 2009) even though there is a greater risk of their marriage ending in a divorce (Liefbroer and Dourleijn, 2006).

Widowhood is also a key factor responsible for single parenthood. The demise of husbands often leaves women as single parents (Glazer, Clark, Thomas and Haxton, 2010). According to the 2000 Population and Housing Census, 8% of women in Ghana are widowed (GSS, 2010). Widowhood increases with age and is highest (36%) among women aged 55 years and beyond (GSS, 2010). The odds of widowhood as a route to single parenthood among women increase in Ghana as women live almost three years (62.25 years) longer than men (59.78 years) (CIA, 2011).

Desertion of wives by husbands also contributes to single female parenthood (Igra, 2007). Usually, men desert their wives if they find it an uphill task to meet their economic responsibilities to their families (Fayorsey, 1995). Desertion is increasingly becoming the cause of marital disruptions and especially a preferred option to divorce among the poor because they do not want to lose property or pay alimony (Cvrcek, 2011).

Some women also consciously choose to become single parents (Bock, 2000). These are often women who are in the main middle class, well educated, employed and mature enough to take on the responsibilities of motherhood (Bock, 2000; Mannis, 1999). They become mothers through adoption, artificial insemination and through intercourse with a willing or unsuspecting male partner (Hertz, 2006).

STRENGTHS, CHALLENGES AND COPING MECHANISMS OF SINGLE FEMALE PARENTS

A limited number of studies highlight the strengths of single mother families. These studies reveal that single mothers exhibit self dependence, personal growth, optimism, determination, confidence and strong networking skills as a result of their status (Ford-Gilboe, 2000, Morrison, 1995; Anderson, 1994; Sharma, 1993). Furthermore, the relationship between single mothers and their children has been found to be very close, cordial, friendly, honest, and devoid of conflict (Arditti, 1999; Richards and Schmiede, 1993), while their children have also been

found to exhibit high self-esteem, lower levels of anxiety, depression, hostility and problematic alcohol use than their counterparts from traditional families (Golombok and Badger, 2010). The strengths of single female parent families revealed by these studies are in direct contrast to the pathologized view of single female parent families in the literature.

Yet, a plethora of studies on single female parenthood show that these families experience numerous challenges. These studies suggest that they experience various types of economic disadvantage including low employable skills (Evans, 2007), poverty and economic hardships (Barnes and Millar, 2008; Correll, Benard, and Paik, 2007; Pulkingham, 2006), income instability (Morrissette and Ostrovsky, 2006) and food insecurity (McIntyre, 2004). The economic challenges of lone mothers have been found to contribute to deepening income inequality (McLanahan, 2004).

Apart from their economic challenges, lone female parents also experience role strain as child care givers, homemakers and breadwinners (Voss, Josephson, Stark, Vaez, Alexanderson, Alfredsson and Vingard, 2008; Oware-Gyekye, Arthur and Dankwa, 1996). The cumulative effect of these challenges contributes to health problems (Burstrom, Whitehead, Clayton, Fritzell, Vannoni and Costa, 2010). Thus, single female parents have been found to face various health problems such as depression and other mental disorders (Zeiders, Roosa and Tein, 2011; Barret and Turner, 2006; Gould, 2006). The economic challenges of lone mothers also lead to the problems that have been found to be associated with their children (Brandon and Fisher, 2001) such as child morbidity (Lipman, Michael, Boyle, Dooley and Offord, 2002). However, studies that examine differences in academic achievement among single mother families and two-parent families show mixed results. Some studies show that the academic attainments of children from single mother families are approximately the same as those from two-biological-parent families (Biblarz and Gottainer, 2000), whereas others demonstrate that they are substantially lower than those of children from two-parent families (Zeiders et al, 2011).

Lone female parents provide for their children by earning income through employment (Esping-Andersen, 2002). For instance, in the United Kingdom, the need for lone female parents to take care of their households has generated an increase in their participation in the labour force in the face of reduced state support (Gregg, Harkness and McMillan, 2006). In addition to their reliance on personal income, single female parents also receive assistance from extended family members in the form of childcare, housing and financial aid (Burstrom et al, 2011; Millar and Gardiner, 2004; Lokshin, Harris and Popkin, 2000; Oware-Gyekye, Arthur and Dankwa, 1996). Single female parents further cope with their responsibilities with the support of their children who take on additional household responsibilities and tolerate difficult circumstances (Millar, 2008). Single female parents also cope as parents by receiving state assistance by way of financial aid, educational grants for their children, housing and tax relief, especially in the advanced countries of the West (González-González, Bretones, Navarro-Galera and Sanchez-Fernandez, 2011; Irvin, 2010).

Though lone female parents cope as parents through earning an income and relying on social support, they still find it difficult to satisfy their everyday expenses (Evans, 2007; Walker, 2000) and also experience social isolation (Cairney, Boyle, Offord and Racine, 2003; Wallerstein and Kelly 1980). Thus, this study examines the various social and economic strategies such women adopt for their everyday survival and that of their households in Accra, especially in the absence of any form of state support.

CONCEPTUAL FRAMEWORK: HOUSEHOLD COPING

The coping strategies of single mothers are viewed within the conceptual framework of household coping (Adams, Cekan and Sauerborn, 1998). Coping is any strategy aimed at managing stressful events or circumstances (Lazarus and Folkman, 1984). According to the framework, catalysts such as the death of a husband or separation or divorce create stressful conditions for households, especially in terms of loss of income for the household. Households try to weather these crises by engaging in income generating activities and investing in exchange relationships. The framework further explains that the ability of households to cope is contingent on exogenous and endogenous factors. The exogenous factors are macro-economic forces such as inflation, taxation, local culture, institutions and networks, while the endogenous factors constitute characteristics of households such as size and access to education, income, social claims and transfers by means of kinship and membership to community organizations. Similarly, as already mentioned, the death of a husband, separation or divorce, the desertion of a husband and the unplanned pregnancy of an unwed mother result in single mother families, a situation which is especially stressful in the initial stages, often due to financial challenges (Sharma, 1993). The coping strategies of single mothers are mediated by exogenous and endogenous factors. Exogenous factors such as job availability, child care benefits, free education and free school feeding programmes enable single mothers to provide the needs of their household members (Gonzalez et al, 2011; Kanji, 2011, Ampratwum and Armah-attoh, 2010; Witter and Garshong, 2009; Fortuijn and Ostendorf, 2004; Phipps, 1999), while endogenous factors such as single mothers' access to assets, education, income, kinship and friendship networks enable them to cope with their role as single mothers (Ochien, 2011; Taylor, 2011; Heard, 2007; Zhan and Sherraden, 2003). Through the systematic assessment of exogenous and endogenous factors, the framework offers a conceptual guide to examine the coping strategies of single mothers. Thus, in this study, the presence of these exogenous and endogenous variables may determine to a large extent the coping strategies (Aldwin, 2007) of single mothers such as earning an income, combining resources with other household members and, relying on friends and kin among others to maintain their households.

METHODOLOGY

Study Area

Accra was selected for this study because as an urban area it offers a blend of people from different backgrounds in terms of education, occupation, ethnicity and cultural backgrounds due to in-migration. To ensure an unbiased representation of respondents of different backgrounds, it was imperative that the study be undertaken in a rapidly growing urban area like Accra. The specific areas of study selected in the Accra Metropolitan Area were Maamobi, New Dansoman and Roman Ridge. These areas were chosen for this study because they represent low, middle and high-income areas of Accra respectively. The rationale for choosing these three survey areas is not to make a comparative analysis of the areas but rather to ensure the representation of people of different socio-economic backgrounds in the study

Data Collection

The data for this study was collected between February and May, 2002. A mixed methods approach to data collection was employed: a survey was carried out involving 270 single female parents while an in-depth interview was conducted with 30 of these parents. The main tool in the collection of the quantitative data was the use of questionnaires. A self-administered questionnaire was adopted where the literacy and educational level of the respondents was judged to be relatively high and the respondent could complete the questionnaire herself without help from any person other than the researcher. A personal interview questionnaire was adopted where a respondent's formal literacy and educational level was relatively low and he/she could not read or write. Questions on the questionnaire were translated into the vernacular and put to the respondents and answers given were also translated into English on the questionnaire. The questionnaire was structured to cover the main themes of the research which included the socio-economic factors responsible for single female parenthood, maintenance of children, and other coping strategies.

The in-depth interview took the form of a personal face-to-face structured interview. A tape recorder was used to record the interview based on the consent of the interviewees. The names of interviewees indicated in this study are pseudonyms and not the actual names of the women as they were told that their actual names would not be used in the study. The qualitative data gathered provided detailed information that enhanced the explanation of the quantitative data.

Sampling

The purposive and snowball sampling techniques were used to contact respondents as the phenomenon of single female parenthood is not distributed randomly in the population of Accra. Thus, a house-to-house enquiry of single female parents was done in the selected study areas. The respondents who were identified in the early stages were each asked to nominate others for the study.

These nominees were added to the number of respondents for the study and were in turn asked for further nominations. Through this procedure, 270 respondents were contacted: 148, 92 and 30 respectively from Maamobi, New Dansoman and Roman Ridge. The explanation for having comparatively more respondents from Maamobi than in New Dansoman and Roman Ridge is that the people in Maamobi exhibited relatively closer social ties and thus willingly suggested others for the study.

For the in-depth interview, 30 women were also purposively selected. They were chosen based on age, the duration of single parenthood, and vulnerability to hardships so as to represent the various groupings that were identified during the survey. Another significant factor that influenced the selection of respondents for the in-depth interview was their willingness to participate in it due to the extensive nature of the discussions. The lengthy discussions also determined the selection of few respondents (30) for the in-depth interview so as to cut down on time and cost.

DEMOGRAPHIC PROFILE OF SINGLE FEMALE PARENTS IN THE STUDY

A demographic profile of respondents is given in Table 1. They were between the ages of 16-51 years and beyond, with most of them (20.7%) aged 51 years and above. Respondents were from diverse ethnic origins and more than half (56%) are Akans, Ewes and Ga-Adangmes made up 25% and 12% of respondents respectively. The religious group that has the largest proportion of following among respondents is the Pentecostal / Charismatic denomination which takes up 37%, followed by Catholics (31%), Protestants (21%), Muslims (5%) and others (6%) which include traditional religion and, Hinduism. Most of the respondents (25.6%) have a Middle / Junior Secondary level education, 5% have university education, while 12.5 % have no education. Most of the respondents (47%) had fewer children of up to two as compared to only 4.8% of them who had seven children and more.

ROUTES INTO SINGLE FEMALE PARENTHOOD AND COPING MECHANISMS OF SINGLE FEMALE PARENTS

Socio-economic factors that account for single female parenthood

The status of single parenthood among respondents (44.2%) mostly resulted from divorce due to the infidelity husbands. As observed in Table 2 below, 30.6 % of respondents indicated widowhood, 23.4% indicated never married/childbearing out-side marriage while only 1.8% indicated desertion as a factor.

TABLE 1: Demographic Profile of Respondents

<i>Demographic Characteristic</i>	<i>No</i>	<i>%</i>
<i>Age</i>		
16 – 20	14	5.2
21 – 25	22	7.8
26 – 30	26	9.6
31 – 35	30	11.1
36 – 40	31	11.9
41 – 45	44	16.3
46 – 50	46	17.4
51 years and above	57	20.7
Total	270	100
<i>Ethnicity</i>		
Ga Adabgme	32	12
Akans	151	56
Ewes	68	25
Mole-Dagbani	11	4
Guan	4	1.5
Grusi	3	1
Other	1	0.5
Total	270	100
<i>Religion</i>		
Pentecostal/Charismatic	100	37
Catholic	84	31
Protestants	57	21
Islam	13	5
Other	16	6
Total	270	100
<i>Educational Attainment</i>		
None	35	13
Primary	30	11
Middle/JSS	69	25.6
Secondary/SSS	62	23
Vocational/Commercial	36	13.4
Polytechnic/Nursing	24	9
University	14	5
Total	270	100

Table 1 (cont'd)

<i>Demographic Characteristic</i>	<i>No</i>	<i>%</i>
<i>Number of Children</i>		
1 - 2	127	47
3 - 4	90	33.4
5 - 6	40	14.8
7 and above	13	4.8
Total	270	100

TABLE 2: Responses on Factors that account for Single Parenthood and Reasons Given by Respondents

<i>Reasons Given</i>	<i>Factors Responsible for Single Parenthood</i>								<i>Total</i>	
	<i>Widowhood</i>		<i>Divorce</i>		<i>Never Married</i>		<i>Desertion</i>			
	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>	<i>No.</i>	<i>%</i>
Death of Spouse	81	100	-	-	-	-	-	-	81	30.6
Infidelity	-	-	88	75.2	-	-	3	60	91	34.3
Wife Battery	-	-	11	9.4	-	-	-	-	11	4.2
Wilful Neglect of Maintenance by ex-husband	-	-	12	10.3	-	-	1	20	13	4.9
Children's father not financially ready for marriage	-	-	-	-	60	96.8	-	-	60	22.6
Other	-	-	6	5.1	2	3.2	1	20	9	3.4
Total	81	30.6	117	44.2	62	23.4	5	1.8	265	100

In the study as observed from Table 2 above, 75.2% of respondents who indicated divorce as a factor responsible for their status cited infidelity on the part of their husbands as having led to their divorce. This is captured in the words of one divorced respondent in an in-depth interview who remarked:

My husband and I used to have a good and understanding marriage until I found out he was cheating on me. Despite repeated demands that he should stop, he did not. The emotional pain was so much for me such that I could not bring myself to continue with the marriage (Rita, Roman Ridge, 2nd March, 2002).

It is significant to note that from Table 2 above, 10.3% and 20% of divorced and deserted respondents respectively indicated wilful neglect on the part of their ex-husbands to maintain them as a reason for their divorce. The implication for these women in the study is that they may not receive any form of assistance from their ex-husbands in the maintenance of their children since according to the women prior to their divorce their ex-husbands had neglected to provide their needs and those of their children.

It is further significant to note from Table 2 above that 9.4% of respondents attributed their divorce to wife battery. In an in-depth interview with one respondent she declared that:

My husband drinks very heavily at times and does not give me “chop money”. When I protest he subjects me to severe beatings. In one instance he kicked me in the stomach and I fell unconscious. After that incident my family dissolved the marriage (Abena, Mamobi, 9th March, 2002).

Yet another factor responsible for single female parenthood is childbearing outside of marriage. These never-married yet single mothers constitute 23.4% (62) of respondents in the study. According to them, the reason for their status as single parents is that their children's fathers told them they were not financially well placed to deal with the responsibilities associated with marriage and therefore they could not marry them. Thus, the major factor that accounts for the status of single parenthood among respondents is divorce which the women attributed to the infidelity of men in marital unions.

The Economic means through which single female parents support their households

The majority of respondents (68.9%) indicated that they were employed in the informal sector while 19.3% indicated that they were employed in the formal sector. Of those employed in the informal sector, the majority (66.7%) were traders. Also, 11.8% of the women said they were unemployed. Most of the women (53%) earned low incomes of between GH¢1 and GH¢40, with very few (10%) earning high incomes of between GH¢ 80 and above as at the time of this study. The low incomes of respondents mean that there must of necessity be other means of economic support which are crucial for their survival. On a brighter note, however, many of the respondents indicated in the in-depth interview that they found it relatively easy within the informal sector to care for their children and perform domestic chores. In the words of one respondent in an in-depth interview:

My income is not enough for my three children and me as a trader but my job allows me ample time to do my household chores before going to work at around 9 am and also to pick up my children from school in the afternoon. I do not think I could have done this if I was working in an office (Akwele, Mamobi, 23rd April, 2002).

Very few unemployed single female parents said that they are compelled to rely on their boyfriends as their major source of income in order to cater for their children. This is captured in an interview with one respondent who indicated:

I am unemployed and I have three children to cater for. I am not proud to say it but I have a boyfriend who gives me money that enables me to put food on the table (Afua, New Dansoman, 6th April, 2002).

Provision of children's needs and sources of social support

Single parents in the study shoulder the bulk of responsibility in the maintenance of their children. Most of the women provided the nutritional, clothing and health needs of their children, though with regard to the payment of school fees their child/ children's fathers (75.9%) bore the bulk, as observed in Table 3 below.

TABLE 3: Responses on Who Provides Children's Needs

Children's needs	Responses of Respondents										Total	
	Children's father											
	Self				Family		In-laws		Friends			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Food	258	92.8	6	2.2	14	5	-	-	-	-	278	100
Clothing	258	91.8	9	3.2	13	4.6	1	0.4	-	-	281	100
Education (School fees)	41	19.3	161	75.9	7	3.3	1	0.4	2	0.9	212	100
Health	215	79.9	20	7.4	27	10	3	1.1	4	1.5	269	100

It is important to note from the above table that respondents also received assistance, though not significant, from kin, in-laws and friends in children's maintenance.

In addition to bearing the bulk of responsibilities for children's needs, single female parents bear most of the responsibility for the payment of household rent and utilities. This is shown in respondents' responses on who pays the household's rent and utilities in Table 4 below.

TABLE 4: Responses on Who Pays Household Rent and Utilities

Household Needs	Responses of respondents								Total	
	Self		Children's father		Family		Shared Payment			
	No.	%	No.	%	No	%	No.	%	No.	%
Rent	96	73.3	2	1.5	13	9.9	20	15.3	131	100
Electricity	146	56.2	8	3.1	50	19.2	56	21.5	260	100
Water	164	63.3	8	3.1	51	19.7	36	13.9	259	100

An interesting observation from the table above is the adoption of a strategy of shared payment or cost sharing with other adults in the household, which recorded 15.3%, 21.5% and 13.9% respectively in settling payments on rent, electricity and water by respondents. This strategy to cope with these payments is captured in the words of one respondent who declared that:

You know, I am burdened with providing my children's needs and to pay for rent, electricity and water all by myself will be too much for me to bear. So I insist that I share the payment with my younger sister and brother, who live with me in the house (Mabel, New Dansoman, 31st March, 2002).

Kin assisted respondents more with the payment of rent and utilities when compared to the earlier analysis of the provision of children's needs. According to most respondents in the in-depth interview this is because their family members considered the provision of their children's needs as more of an individual responsibility on the part of respondents.

An interesting observation from Tables 3 and 4 above show that children's fathers do not seem to contribute much generally to the up-keep of respondent's children. A further probe into the issue indicated that most respondents (59.4%) did not receive any form of support from their children's fathers whereas 40.6% indicated otherwise. Of the respondents who received assistance from children's fathers, a more probing revealed that the majority (55.1%) received occasional assistance whereas 39.1% and 5.8% obtained assistance on a regular and a very regular basis respectively. On the issue of how sufficient the assistance received was, the majority of respondents (77.6%) indicated that it was not sufficient, 3% said it was manageable while 19.4% said it was sufficient.

A further analysis of the provision of children's educational and health needs as well as the payment of rent and utilities revealed that the occupational income of respondents tends to influence how they cope with these responsibilities. To a large extent, where respondents earn a higher income they

tend to rely more on themselves for the provision of children's needs and the payment of rent and utilities than on others. This is depicted in Tables 5, 6 and 7 below.

TABLE 5: Income and Who Provides Children's Educational Needs

Income	Who Provides Children's Educational Needs								Total	
	Self		Father		Family		In-laws		No	%
	No	%	No	%	No	%	No	%		
Low (GH¢1 - 40)	13	13	85	85	1	1	1	1	100	100
Middle (GH¢41-80)	18	22.3	62	76.5	1	12	-	-	81	100
High (GH¢81 & above)	9	56.2	7	43.8	-	-	-	-	16	100

In Table 5 above, 56.2 % of high income parents tend to be more self reliant in the provision of children's educational needs as compared to 13% of low income parents. On the other hand, the majority of low income parents (85%) tend to cope with the provision of children's educational needs by relying on their children's fathers for support as compared to high income parents (43.8%)

TABLE 6: Income and Who Provides Children's Health Needs

Income	Who Provides Children's Health Needs										Total	
	Self		father		Family		In-laws		Friends		No	%
	No	%	No	%	No	%	No	%	No	%		
Low (GH¢1-40)	99	84	10	8.5	6	5.1	1	0.9	1	0.9	117	100
Middle (GH¢41-80)	83	95.4	1	1.1	2	2.3	-	-	1	1.1	87	100
High (GH¢81 & above)	21	95.5	-	-	-	-	1	4.5	-	-	22	100

In Table 6, it is similarly observed that 95.5% of high income parents are more self-reliant in the provision of children's health needs than low income parents (84.6%). It is also significant to note that low income parents mostly cope with the provision of children's health needs by relying on the support of children's fathers and family members than respondents who earn high incomes..

In the payment of rent, high income parents (88.9%) are more self reliant than low income parents (51.5%). Low income parents (30.3%), on the other hand, mostly manage with the payment of rent through a strategy of shared payment.

TABLE 7: Income and Who Pays Rent and Utilities

Income	Who Pays Rent								Total	
	Self		Father		Family		Share payment			
	No	%	No	%	No	%	No	%	No	%
Low (GH¢1-40)	34	51.5	1	1.5	11	16.7	20	30.3	66	100
Middle (GH¢41-80)	43	97.7	-	-	1	2.3	-	-	44	100
High (GH¢81 & above)	8	88.9	-	-	1	11.1	-	-	9	100
	Who Pays Electricity Bills								Total	
	Self		Father		Family		Share Payment			
	No	%	No	%	No	%	No	%	No	%
Low (GH¢1-40)	34	29.8	8	7	19	16.7	53	46.5	114	100
Middle (GH¢41-80)	80	95.2	-	-	4	4.8	-	-	84	100
High (GH¢81 & above)	21	100	-	-	-	-	-	-	21	100
	Self		Father		Family		Share Payment		Total	
	No	%	No	%	No	%	No	%	No	%
	No	%	No	%	No	%	No	%	No	%
Low (GH¢1-40)	53	46.6	8	7	19	16.7	34	29.8	114	100
Middle (GH¢41-80)	78	94	-	-	5	6	-	-	83	100
High (GH¢81 & above)	21	100	-	-	-	-	-	-	21	100

Similarly, in the payment of utilities, all high income parents (100%) are more self reliant than low income parents (29.8%). Low income parents (46.5%), on the contrary, manage with the payment of utilities through a strategy of shared payment. Also, a few low income parents (16.7%) tend to rely more on family members to effect this payment.

Child fostering as a coping strategy

Some single female parents (41.4%) did not live with some of their children. Of the respondents who did not live with some of their children, 41.3% did not live with as many as three children. Further, 22%, 33% and 2.7% of respondents did not live with one, two and four children respectively. These children lived with relatives (33.3%), fathers (17.6%), in-laws (12.3%) and friends (3.6%) while the rest (33.3%) lived on their own. The implication of some children not living with respondents is that respondents will at least be absolved of the responsibility of providing the day to day needs of their children. In the words of one respondent in an in-depth interview:

I sent two of my children to my mother in Kumasi. In Accra the cost of living is so high. Though I remit some money to them occasionally for their up-keep, it has to a large extent relieved me of some of my burdens, since I now have two children living with me (Akua, Mamobi, 27th April, 2002).

Some respondents also intimated in the in-depth interview that they had sent some of their children to live with others so that they would be well disciplined. This is captured by one respondent who remarked:

I have sent my son to live with my strict uncle so that he will be well disciplined. I think because I am a female he does not seem to take my instructions seriously (Esi, New Dansoman, 4th May, 2002).

Another respondent similarly indicated in the interview that:

My oldest son, who is sixteen years old, started misbehaving, so my elder brother came to take him away to discipline him (Ayesha, Mamobi, 13th April, 2002).

Thus, having some of their children, living with others or living elsewhere is also a means by which respondents may cope as single parents.

Residential Arrangements

Single female parents (40.8%) mostly live in a kin's house while others live in a rented house (37%), their own house (10%), an employer's house (9%) and their in-laws' house (5%). This suggests that kin assist respondents generally with accommodation. Some respondents further revealed in the in-depth interview that because they were living in their kin's house they were absolved of the payment of rent and even where they were required to pay rent it was relatively less expensive. This is shown in the words of respondents in the in-depth interview. One respondent intimated that:

My brother has two houses in Accra. He has given me one of them to live in with my children and therefore I do not pay rent (Awura Ama, 20th April, 2002).

Another respondent declared that:

I live in my auntie's house which has been rented out. However, because it is my auntie's house, the rent I pay is relatively less expensive when compared to the rent the other tenants pay (Ayele, 28th April, 2002).

The above statements by respondents thus further echo the support respondents receive from kin as regards accommodation which is noted to be a problem especially in Accra.

Household Activities and Assistance Received

Single female parents besides engaging in economic activities to provide the needs of their children also bear other responsibilities in the household to ensure the welfare of their dependants. Some of these responsibilities include cleaning (88.1%), washing (81.9%), shopping (90%), cooking (92.2%) and infant care (38.5%). Respondents are in the main assisted with these activities by kin (75%), house helps (12%) and older children (11%). Most respondents who relied on the assistance of house helps further revealed in the in-depth interview that due to their busy work schedule, it became necessary for them to secure the services of house helps in order to cope with household tasks. In the words of one respondent:

I leave home very early in the morning to the market and I return in the evening. So I have employed the services of a house help whom I pay monthly to cook for my three children as well as to tidy the house (Naa Ode, 5th May, 2002).

Challenges experienced by single female parents

The major challenge that single female parents (60.3%) cited was being overburdened with too many responsibilities. Others (14.3%) indicated the challenge of finance while 13.2% and 12.1% of respondents indicated loneliness and child-upbringing respectively as their major challenges. The negative consequence of role overload is a probable strain on the physical and mental health of the women, which can jeopardize their ability to properly provide care for their children and the household (Sharma, 1993).

CONCLUSION: SELF RELIANCE OF SINGLE FEMALE PARENTS

This study employed a mixed methods approach to find out the factors that account for single female parenthood and the social and economic strategies lone mothers employ in providing the needs of their households. The results of the study indicate that divorce due to the infidelity of men (husbands) is the main factor that accounts for single female parenthood. Although most single

female parents earn low incomes, this leaves them to shoulder the bulk of responsibility in the maintenance of children and the household. Single female parents who earn relatively higher income cope with children and household maintenance by relying mostly on themselves whereas those who earn relatively lower incomes cope by relying additionally on relations and friends, among others, as well as by adopting a strategy of shared payment. The fathers of children of single female parents mostly do not assist the women in the maintenance of children, and where they do, they do not provide enough to meet the needs of the women and their children. On the other hand, kin support the women with housing, household chores, food and clothing, among others, which was considered as sufficient by the women. The major challenge that the women face as single female parents is the overload of responsibilities. Finally, in view of most of the women bearing the bulk of responsibility in the maintenance of children and the household, it is the position of this study that single female parents are to a large extent self reliant in coping with their responsibilities as single parents.

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INFORMATION MANAGEMENT: THE NEMESIS OF GHANAIAI GOVERNMENTS

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ABSTRACT

The challenge of effective management and dissemination of information is a colonial legacy bequeathed to post-independence governments. Under Ghana's current constitutional representative democracy, communication is neither monopolistic nor hegemonic but two-way, with feedback considered paramount. The requirements of accountability, transparency and participation in democratic governance underscore the importance of information flow from governments and feedback from the public. Tracking ministerial reshuffles and two incidents with information management implications in 2009, the paper demonstrates that the Information Ministry bears the brunt of such changes, with ministers blamed for poor government information management. The article examines the educational and professional backgrounds of Ministers of Information, arguing that government information management is neither journalism nor job-for-whomsoever. It is professional public relations work and appointments should reflect this fact.

Keywords:

Ghanaian governments, ministerial reshuffle, information management; information dissemination; journalism; public relations

INTRODUCTION

Governments, irrespective of ideology or structure, endeavour to communicate their plans, policies, activities and programmes to their people. Ineffective management and dissemination of information has been the bane of successive Ghanaian governments since colonial times (Watson Commission, 1948). The problem has been more pronounced since Ghana's return to constitutional rule on January 7 1993 due to the requirements of democracy which the country has since practised. Ansu-Kyeremeh (2008) observed that often, in this struggle, it is the information ministry that gets the blame when a sitting President and his government are challenged by problems with communication. He adds that in modern democratic governance systems, a

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Ministry of Information cannot be effective given the rigid bureaucratic nature of a ministry. This is because democratic communication relies on free flow of information with the necessary feedback mechanisms.

This article employs Grunig and Hunt's (1984) four models of public relations as a framework to examine government information dissemination strategies in Ghana since independence to identify challenges that need to be addressed in order to improve the effectiveness of government communication. The central idea is that governments of Ghana are yet to understand that the role and functions of an effective Ministry of Information are, first and foremost, information management before information dissemination and, therefore, situated within public relations. Government information management is neither journalism nor patronage (job-for-whomsoever) but professional public relations at top management levels.

Assessing the educational and professional backgrounds of Ministers of Information and two incidents which had far-reaching public relations implications: the rumoured ministerial reshuffle of 2009 and the reported purchase of jets by the Government of Ghana from the United States in the same year, the article argues that the failure of government information has been the result of the failure of governments to appoint and allow persons with the appropriate public relations backgrounds to manage information. The two incidents triggered off this study of government information management. The article uses documentary and content analyses to examine the two incidents and tracks ministerial reshuffles since independence to demonstrate the non-performance of Ministers of Information. Extensive mass media reports on both incidents were purposively selected for study due to their potential for instruction as case studies in the field of public relations.

Documents studied included those pertaining to the establishment of the Information Services Department (ISD), ministerial reshuffles in Ghana, and content analysis of radio recordings and newspaper publications. Of particular interest were the discrepancies in the official reactions to the two issues as expressed by members of the government of President John Evans Atta Mills. These reactions were examined for some important communication indicators such as the binary opposition elements of message consistency or inconsistency; timeliness or tardiness of responses; spontaneity or the lack of it; the presence or absence of coordination; order/structure or lack thereof and the presence or absence of a chain of command in government information management. The article assesses whether ministerial reshuffles speak to ministers' backgrounds and levels of performance of their communication function. Ayee (2009)

² **Newspaper headlines found and studied included the following:**

- . "Team B Fumbles Again" (*Daily Guide*, Tuesday, 13 October 2009).
- . "Ministers Must Go To School" – Kwesi Pratt (*Ghanaian Observer* culled from www.ghanaweb.com: General News of Wednesday, 28 October 2009).
- . "Zita Must Go. Says Minister" (*Daily Guide* front-page story of Thursday, November 12 2009).

discusses ministerial reshuffles in Ghana since independence and states an already known fact that, usually, no reasons are publicly given for the removal and/or redeployment of ministers: "It is difficult to determine precisely the reasons behind ministerial reshuffles because in most cases, the reasons may not be made public" (Ayee, 2009, p. 11). Beyond the usual speculations and rumours associated with ministerial reshuffles, Ayee (2009) gives several motivations for such actions: to promote government effectiveness and efficiency; to redeem and enhance the public image of the government; or as a result of change in policy and policy differences; and to satisfy ethnic, regional and group interests. Reshuffles could also be based on the health status of ministers; resignations; major re-organisation and/or creation of new ministries; alleged criminal offences; and on the "dominant Head of State or Government theory" (Ayee, 2009, pp. 11-22).

GOVERNMENT PUBLIC RELATIONS SINCE COLONIAL TIMES

The Watson Commission (1948), set up to investigate and make recommendations in the wake of the 1948 riots, provided the rationale for establishing a government information bureau. One of its findings related to a communication gap between the Colonial Government of the Gold Coast and the population. The Commission, therefore, recommended a re-organisation of the Government's public relations machinery (ISD, 1957). This recommendation led to the establishment of what is known today as the Information Services Department, known at the time as the Public Relations Department. Poor government information management is, therefore, not a new or recent phenomenon but a long-standing one which has dogged all regimes in Ghana. Indeed, the problem can be described as a colonial legacy bequeathed to successive post-independence governments of Ghana.

The Ministry of Information was created after independence in 1957. It has since existed under different names including the Public Relations Secretariat; Ministry of Information and Culture; Ministry of Information and Tourism; Ministry of Communications; Ministry of Media Relations; Ministry of Information and National Orientation; and currently the Ministry of Information. With a vision to attain a free, united, informed and prosperous society with good governance through development communication, the Ministry of Information exists to facilitate two-way communication between the government and the people. In this regard, it aims to facilitate free flow of timely and reliable information from the government and feedback from its various publics. This is to enable the Ministry assist in the development and co-ordination of policy to monitor and evaluate the implementation of government programmes and activities by the Ministry's sector agencies.

THE SYMMETRICAL MODEL AND GOVERNMENT PUBLIC RELATIONS

The problem of ineffective government communication was addressed through Grunig and Hunt's (1984) two-way symmetrical model of public relations. Grunig and Hunt identified four models, namely, press agency/publicity; public information; two-way asymmetrical and two-way symmetrical models. Press agency is associated with publicity; public information relates to the dissemination of accurate information, two-way asymmetrical communication is seen as scientific persuasion, and two-way symmetrical communication is linked to dialogue, transaction and processes for securing mutual understanding and the maintenance of long-term relationships between organisations and their publics.

Press agency/publicity typifies the first stage of the historical development of public relations where the full truth was not always told in attempts to publicise organisations and their products and services. Communication using this model was and still is essentially one-way. The public information model, which marks the second stage of the development of public relations, contrary to the first stage, attempts to disseminate information as truthfully and accurately as possible. Public relations practitioners who operate within this model usually work in government agencies, public service and not-for-profit organisations as "journalists in residence" disseminating information to the public and attempting to represent the interests of organisations and publics they deal with.

The two-way asymmetrical model works in favour of the organisation concerned using public relations to persuade the public and incline them toward its viewpoints. Feedback sought under this model enables the organisation to assess attitudes toward it to help it map out strategies to change those which are unfavourable while taking advantage of favourable attitudes. The two-way asymmetrical model of public relations is practised by businesses in competitive environments. Of the four models identified by Grunig and Hunt (1984), however, the two-way symmetrical model is the most successful, the most preferred and the most recommended for effective communication. The model focuses on two-way communication with the communicator (organisation) and receiver (important publics) engaged in a transaction to reach consensus, resolve conflict and to promote harmony and mutual understanding between them. It works with the notion that sometimes an organisation (the government, in this case) will need to change through adaptation and negotiation in order to meet the needs of its publics.

The four models of public relations also relate to roles performed by public relations practitioners. Both two-way models – the asymmetrical and symmetrical – are based on research and strategic management which fall under the public relations manager's role; while both one-way models – press agency and public information – describe a simple output of communication from the organisation to its publics and are associated with the technician's role of public relations. According to Moss and Green (2001, pp. 120-121), "the technician's role is normally associated

with the creation and dissemination of communications messages, particularly in terms of handling mediated communications". The manager role, which is empirically and conceptually distinct from the technician role, according to Dozier (1984), is conceptualised as a composite of the expert prescriber, problem-solving process facilitator and communications facilitator roles of public relations.

GHANA'S CONSTITUTIONAL REPRESENTATIVE DEMOCRACY AND INFORMATION DISSEMINATION

Ghana's democracy, a hybrid of the American and British models, combines constitutionalism, representation and participation at both the national and local levels. Communication patterns in such a political arrangement are neither monopolistic nor hegemonic as those described by Ito (1990) and others, but two-way and symmetrical with feedback considered critical (Seitel, 1995; Hunt & Grunig, 1994; Barker, 1990), thereby recalling Grunig and Hunt's (1984) two-way symmetrical model. Democratic governments are expected to be accountable to the people they govern and are obliged to provide them with information about the processes of governance as well as their plans, policies and actions (Negrine, 1994). The electorate can meaningfully participate in governance and hold governments accountable if they are informed and are aware of what people in government are doing, and also have the opportunity to engage them in an open exchange of ideas and opinions. Such engagements transcend the public information model traditionally associated with public relations practice in government.

Political communicators in democracies recognise the fact that their audiences are not passive receivers of messages but active participants in the communication process. Ansu-Kyeremeh (1998) contends that audiences "are citizens who are not passive consumers of information transmitted by the decision and opinion leaders". He argues that they "always seek, and in fact, do enthusiastically exercise the right to respond to any messages they receive and therefore actively participate in the communication process" (p. 191). Consequently, information gathering, processing and dissemination have become extremely important components of governance in emerging democracies such as Ghana.

The role of the Minister of Information in Ghana's modern political communication structure as captured in the ISD (1957) publication is comparable to that of the "Okyeame" (linguist) in traditional Akan political communication. It is also central to the boundary role of public relations as well as to the two-step communication process. Yankah (1995) refers to the "Okyeame" as the centrepiece of Akan political oratory. He or she filters messages encoded and decoded through instantaneous "editing" to make them both suitable and acceptable for the occasion. Yankah (1995) further describes the "Okyeame" as "a man [or woman] of great eloquence and wit who would remove the sting from a gaffe made by a chief [or queenmother], or embroider his [or her] statement in a pleasing and entertaining manner". This is information

(and image) management which is at the centre of public relations. If the analogy between the “Okyeame” and the Minister of Information is sustained, it would imply that a Minister of Information must have the appropriate background in public relations or communication; or the capability, competence, passion and flair for communication to effectively perform the role and function of a mouthpiece of the government.

Since gaps, inadequacies and inconsistencies in the flow of information have the tendency to create ill-will for governments, information managers have a responsibility to communicate effectively with all publics. They also have a responsibility to consciously embark on image making, diplomacy and protocol for governments either directly or through modern media structures, mindful of the importance of public opinion to every democratic system as contained in the “laws of public opinion” developed by social psychologist Cantril (1972). Many political communicators including McNair (1999), Bryce (1988), Noelle-Neumann (1984), and McCombs and Shaw (1972) have stressed the importance of public opinion in a democracy. Noelle-Neumann's (1974; 1984) “spiral of silence” and McCombs & Shaw's (1972) “agenda-setting function of mass media” highlight the importance of mediating between communication sources and audiences, and the overall need to properly and appropriately package information.

Effectively packaging and disseminating government information is the responsibility of the Ministry of Information headed by a Minister to facilitate the development of strategies for managing information and communication between the Castle – Ghana's seat of Government – and the public to make information both available and accessible. Since Ghana's democracy is participatory and citizens are both actors and facilitators in such democracies, increased respectable rapport between political actors and the citizenry – mediated or otherwise – helps to open up the right channels of communication to enable public access to the government and its structures.

MINISTERIAL RESHUFFLES AND TENURE OF INFORMATION MINISTERS

The Ministry of Information has been affected by ministerial reshuffles in nine (69%) out of Ghana's 13 political administrations since independence. It has been affected in all regimes where reshuffles have been recorded except during the Progress Party (PP) and the first National Democratic Congress (NDC I) governments and was also spared during the second Supreme Military Council (SMC II) and the Armed Forces Revolutionary Council (AFRC) regimes. Although reshuffles of other ministries occurred during the first two regimes, the Information Ministry was spared while in the last two cases, those regimes were short-lived (SMC II, July 6, 1978 - June 4, 1979; and AFRC, June 4 - September 24, 1979) and recorded no reshuffles as shown in Table 1.

TABLE 1: Ghanaian Governments and Frequency of Reshuffles of Ministers of Information

Dates	Regime Type	Regime Name	Leadership	No. of Ministerial Reshuffles	No. of Reshuffles of Info Ministers
06/03/1957-24/02/1966	Civilian	Source: Prof. Mills (2012)	Dr Kwame Nkrumah	18	6
24/02/1966-01/10/1969	Military/ Police Junta	National Liberation Council (NLC)	Gen. J.A. Ankrah & Gen. A.A. Afrifa	7	4
01/10/1969-13/01/1972	Civilian	Progress Party (PP)	Dr K.A. Busia	3	Nil
13/01/1972-06/07/1978	Military	National Redemption Council (NRC) / Supreme Military Council I (SMC I)	Gen. I. K. Acheampong	13	6
06/07/1978-04/06/1979	Military	Supreme Military Council II (SMC II)	Gen. F.W.K. Akuffo	Nil	Nil
04/06/1979-24/09/1979	Military	Armed Forces' Revolutionary Council (AFRC)	Flt-Lt J.J. Rawlings	Nil	Nil
24/09/1979-31/12/1981	Civilian	People's National Party (PNP)	Dr Hilla Limann	2	1
01/01/1982-06/01/1993	Military	Provisional National Defence Council (PNDC)	Flt-Lt Jerry John Rawlings	21	6
07/01/1993-06/01/1997	*Constitutional I	National Democratic Congress I (NDC I)	Flt-Lt Jerry John Rawlings	7	Nil
07/01/1997-06/01/2001	*Constitutional I	National Democratic Congress II (NDC II)	Flt-Lt Jerry John Rawlings	10	3
07/01/2001-06/01/2005	Civilian	New Patriotic Party I (NPP I)	Mr John Agyekum Kufuor	17	3
07/01/2005-06/01/2009	Civilian	New Patriotic Party II (NPP II)	Mr John Agyekum Kufuor	3	3
07/01/2009-06/01/2013	Civilian	National Democratic Congress III (NDC III)	Prof John Evans Atta -Mills/John D. Mahama**	3	2

*Military regime, which succeeded itself as a constitutional government.

** John D. Mahama completed Prof Mills' term from July 24 2012 to January 6 2013 following the demise of the latter.

The table shows Governments of Ghana and the number of reshuffles during their tenure involving the managers of government information – designated variously as Commissioners, Secretaries or Ministers of Information depending on the regime concerned. As indicated above, the 27-month administration of the Progress Party (PP) and the first four-year term of the National Democratic Congress (NDC) did not reshuffle the Information Ministry. In the former case, there were three reshuffles while the latter recorded seven.

It is worth noting that appointees in Flt-Lt Jerry John Rawlings' first government of the Fourth Republic (NDC I; 1993-1997), which had a near one-sided parliament owing to a boycott by the main opposition party, the NPP, had a largely stable and secure tenure of office. With the exception of the Ministries of Finance and Economic Planning; Health; Local Government and Rural Development; Food and Agriculture; and Mines and Energy which were reshuffled once and the Ministry of Education (reshuffled twice), all other ministries had only one minister throughout, with some appointees predating the Fourth Republic. For instance, Dr Obed Yao Asamoah headed the Ministry of Foreign Affairs from 1982 to 1997 while Dr Kwesi Botchwey headed the Ministry of Finance and Economic Planning from 1982 to 1995, in both cases first as Secretary under the PNDC and then as Minister under Flt-Lt Jerry John Rawlings' NDC1.

Other examples from the Fourth Republic indicate that some ministries have had relatively stable leadership across regimes. These include the Ministries of Defence; Finance and Economic Planning; Foreign Affairs; Parliamentary Affairs; Chieftaincy and Culture; Food and Agriculture; Roads and Highways (or Transport); and Environment. From information available, no ministry recorded more than one reshuffle under NDC I, while the two ministries which saw the most reshuffles under NDC II were Health and Information (twice each). The ministry whose ministers were most reshuffled, under NPP I, was the Ministry of Information (three times), although no other ministry recorded more than one. Similarly, under NPP II, the only other ministry which joined the Ministry of Information to record three ministerial reshuffles was the Ministry of Interior. All others had their ministers reshuffled only once or twice, with Health; Food and Agriculture; Fisheries; Ports, Harbours and Railways; Women and Children's Affairs; and Presidential Affairs remaining stable throughout the four years.

TABLE 2: Tenure of Office of Ministers in some Selected Ministries in the Fourth Republic of Ghana

Ministry	Regime					
	NDC (1997-2001)	NPP (2001-2005)		NPP (2005-2009)		NDC (2009-2013)
	Minister	Period	Minister	Period	Minister	Period
Foreign Affairs	James Victor Gbeho	1997-2001	Hackman O-Agyeman Nana Akufo-Addo	2001-2003 2003-2005	Nana Akufo-Addo Akwas Osei-Agyei	2005-2007 2007-2009
	Esi Sutherland-Addy	1995-1997	C. Ameyaw Akumfi	2001-2003	Yaw Osafo Marfo	2005-2006
	Chris Amoako-Nuamah	1997-1998	Kwadwo Baah Wiredu	2003-2005	Papa Owusu Ankomah Dominic Fobi	2006-2007 2007-2009
	Ekow Spio-Garbrah	1998-2001				
Education	EKT Donkoh	1997-2001	Kwame Addo-Kufuor	2001-2005	K. Addo-Kufuor	2005-2007
Defence	Eunice Brookman Amisah	1997-1998	Richard W. Anane	2001-2003	Albert Kan Dapaah Courage Quashigah	2007-2009 2005-2009
Health	Sam Nuamah-Donkor	1998-1999	Kwaku Afriyie	2003-2005	George Adjah Sipankey Benjamin Kunburor	2009 2009-2011
	Kwame Danso Bofo	1999-2001			Joseph Yiele Chireh	2011-2012
					Alban Bagbin	2012-2013

Table 2 (Cont'd)

Ministry	Regime					
	NDC (1997-2001)	NPP (2001-2005)	NPP (2005-2009)	NDC (2009-2013)		
	Minister	Period	Minister	Period	Minister	Period
Local Government	Kwamena Ahwoi	1997 -	Kwadwo Baah-Wiredu	2001-2003	Charles B. Bintim	2005-2006
	Cecilia Johnson		Kwadwo Adjei-Darko	2003-2005	S. Asamoah-Boateng	2006-2007
					Kwadwo Adjei-Darko	2007-2009
Food & Agriculture	Kwabena Agyei	1997-1998	Courage Quashigah	2001-2005	Ernest A. Debrah	2005-2009
	J.H. Owusu-Acheampong	1998-2001			Kwesi Ahwoi	2009-2013
	Kofi Totobi Quakyi					
Information		01/1997	Felix Owusu	01/2001-	Dan Botwe	01/2005-
		04/1997	Agyepong	07/2001		05/2006
	Spio Garbrah	1997-1998	Elizabeth A. Ohene	07/2001	Kwamena Bartels	05/2006-
			Jake O. Lamptey	10/2001		05/2007
	John Mahama	1998-2001	Nana Akomea	03/2003	Oboshie Sai-Cofie	05/2007-
				0/2003-	S. Asamoah	05/2008-
				01/2005	Boateng	01/2009

Stable ministries under the four-year term of NDC III were the Ministries of Health; Finance; Defence; Food and Agriculture; Trade and Industry; Energy; Roads and Highways; Communications; Environment, Science and Technology; and Chieftaincy and Culture. The ministries which recorded the most reshuffles under this regime were Interior; Health; Youth and Sports (all reshuffled three times, the last two as a result of resignations or dismissals) and others including Information; Tourism; and Employment and Social Welfare, reshuffled twice. Comparing the tenure of office of Information Ministers to those of other ministers in the Fourth Republic (chosen for its stability), it is found that the Information Ministry is among those whose ministers are most frequently reshuffled, with ministers serving shorter terms of office. Table 2 compares the Ministry of Information to six other ministries and notes that the highest number of reshuffles involving that ministry occurred under President Kufour's NPP I and II governments.

EDUCATION AND PROFESSIONAL BACKGROUNDS OF MINISTERS OF INFORMATION

Ghana's past and present Ministers of Information have had varied educational and professional backgrounds, many of which are not related to communication studies or public relations - the two main areas of study appropriate for people engaged in information management. In fact, the average Minister of Information was found to be a lawyer, a teacher/educationist or a military officer. In an interesting case, a Head of State, General Ignatius Kutu Acheampong of the NRC, in May 1972, reshuffled his cabinet to personally take charge of his government's Ministry of Information as the one responsible for information and public relations.

As shown in Tables 3a and 3b, educational and professional backgrounds of people appointed as Ministers of Information were varied and did not correspond with the role assigned to them as government information managers. As indicated earlier, the job of government information management is public relations or communications, but only a few Ministers of Information - notably, Joyce Aryee, Ekwow Spio-Garbrah, John Dramani Mahama, Jake Obetsebi-Lamptey, Nana Akomea and Oboshie Sai-Cofie - had any education or training (formal or on-the-job) in public relations or communication studies. Although Information Ministers Kofi Baako, Tawia Adamafio, Elizabeth Ohene, John Akolgo Tia and Fritz Baffour had been trained in journalism and had either worked as journalists or as media consultants, it is the contention of this article that such backgrounds are not the same as public relations which is what government information management is about. Journalism only responds to the public information dissemination aspect of public relations working through media relations without necessarily responding to information management.

TABLE 3a: Educational and Professional Backgrounds of Ghana's Information Ministers from Independence to the AFRC Regime and their Tenure

Name of Information Minister	Education/ Profession	Date of Appointment		Period Served	Regime Name
		From	To		
Mr. Kofi Baako	Surveyor/Journalist/ Editor	06/03/1957	30/06/1960	3yrs	CPP
Mr. Kwaku Boateng	Lawyer	01/07/1960	29/07/1961	1yr	CPP
Mr. Tawia Adamafio	Lawyer/Journalist	---	---	11mths	CPP
Mr. L.R Abavana	Teacher	04/09/1962	01/10/1963	13mths	CPP
Mr. A.E. Inkumsah	Not Available	01/02/1963	31/01/1965	2yrs	CPP
Mr. N.A. Welbeck	Trade Unionist	01/02/1965	26/05/1965	---	CPP
Mr. J.K. Chinebuah	Educationist	12/06/1965	27/09/1965	3½mths	CPP
Mr. J.W.K. Harley	Police Officer	20/06/1966	29/06/1967	1yr	NLC
Mr. K.G. Osei Bonsu	Lawyer	30/06/1967	23/01/1968	7mths	NLC
Mr. J.E.O. Nunoo	Police Officer	24/01/1968	13/12/1968	10½mths	NLC
Mr. Ibrahim Mahama	Lawyer	14/02/1968	09/04/1969	14mths	NLC
Mr. Issifu Ali	Trade Unionist	10/04/1969	30/09/1969	5½mths	NLC
Mr. T.D. Broddie-Mends	Lawyer	01/10/1969	27/01/1971	27mths	PP
Major A.H. Selormey	Military Officer	14/01/1972	30/04/1972	3½mths	NRC
Col. I.K. Acheampong	Military Officer	01/05/1972	08/01/1973	8mths	NRC
Lt. Col. C.D. Benni	Military Officer	09/01/1973	11/06/1973	5mths	NRC
Col. L. Okai	Military Officer	12/06/1973	01/01/1974	6½mths	NRC
Col. C.R. Tachie-Mensah	Military Officer	02/04/1974	14/10/1975	18mths	NRC/SMC 1
Brig. R.E. Kotei	Military Officer	15/10/1975	30/11/1976	13½mths	SMC 1
Col. Parker Yarney	Military Officer	30/11/1976	05/10/1978	22½mths	SMC 1 & 11
Mr. Kwame Afreh	Lawyer	05/10/1978	24/09/1979	11½mths	SMC 11 & AFRC

TABLE 3b: Educational and Professional Backgrounds of Ghana's Information Ministers from the Third Republic to the Fourth Republic and their Tenure

<i>Name of Information Minister</i>	<i>Education/ Profession</i>	<i>Date of Appointment</i>		<i>Period Served</i>	<i>Regime Name</i>
		<i>From</i>	<i>To</i>		
Dr. J.S. Nabila	Professor of Geography	24/09/1979	– 30/11/1980	14mths	PNP
Mr. Yaw Opoku Afriyie	Not Available	01/12/1980	– 31/12/1981	13mths	PNP
Mr. Ato Austin	Food Scientist	25/01/1982	– 07/04/1983	...	PNDC
Ms. Joyce Aryee	PR/ Communications	08/04/1983	– 09/11/1984	19mths	PNDC
R.G. Adali-Mortey	Lecturer in Business Administration	14/11/1984	– 20/12/1984	1mth	PNDC
Mr. Kofi Totobi Quakyi	Government Administrator	21/12/1984	– 04/04/1988	4¼ yrs	PNDC
Dr. Mohammed Ben-Abdallah	Lecturer/Performing Arts	04/04/1988	– 13/04/1989	1yr	PNDC
Mr. Asiedu Yirenkyi	Lecturer/Performing Arts	04/1989	– 06/01/1993	3¾ yrs	PNDC
Mr. Kofi Totobi Quakyi	Government Administrator	07/01/1993	– 30/04/1997	4½yrs	NDC
Dr. Ekwow Spio-Garbrah	PR/Communications	30/04/1997	– 10/11/1998	19mths	NDC
Mr. John Mahama	PR/Communications	10/11/1998	– 06/01/2001	26mths	NDC
Mr. Felix Owusu Agyepong	Lawyer/ Quantity Surveyor	23/01/2001	– 06/07/2001	6½mths	NPP
Ms. Elizabeth Akua Ohene	Journalist	07/07/2001	– 12/10/2001	3mths	NPP
Mr. Jake Obetsebi-Lamprey	PR/Marketing/ Advertising	12/10/2001	– 14/03/2003	17mths	NPP
Nana Akomea	PR/Communications	14/05/2003	– 12/2004	19mths	NPP
Dan Botwe	IT Specialist	01/2005	– 11/05/2006	16mths	NPP
Kwamena Bartels	Lawyer	11/05/2006	– 05/2007	1yr	NPP

Table 3 (Cont'd)

Name of Information Minister	Education/ Profession	Date of Appointment		Period Served	Regime Name
		From	To		
Oboshie Sai-Cofie	Events Manager/PR	05/2007	- 05/2008	1 yr	NPP
Stephen Asamoah Boateng	Management Specialist	05/2008	- 06/01/2009	8mths	NPP
Zita Okaikwei	Lawyer	02/2009	- 26/01/2010	11mths	NDC
John Akolgo Tia	Journalist	02/2010	- 26/01/2012	24mths	NDC
Fritz Baffour	Journalist/Media Consultant	02/2012	- 06/01/2013	11mths	NDC

TWO RECORDED INFORMATION MANAGEMENT CHALLENGES

The rumoured ministerial reshuffle and the purchase of jets by the Government of Ghana, reported in September and October 2009, which highlighted inadequacies in the government's information management and dissemination processes, are discussed below.

1. *Rumoured Ministerial Reshuffle: Reportage and Responses*

On Saturday, September 12, 2009, Ghana's President John Evans Atta Mills, during an interaction with journalists in Cape Coast, the Central Regional capital, was reportedly asked whether he was on the verge of reshuffling his government. He was reported by the media to have said that though some of his Ministers were performing below expectation – reported by some newspapers to be “mediocre” – and despite his communication apparatus being weak, a ministerial reshuffle was not imminent.

The issue of ministerial reshuffle, said to be long overdue, had been alluded to and even discussed by some prominent personalities in the President's own political party, the National Democratic Congress (NDC). These personalities included former President Jerry John Rawlings, the then Majority Leader in Parliament, Honourable Alban Bagbin, and one-time presidential contender and rival to the President, Ekwow Spio-Garbrah. They had referred to the then crop of Ministers, Staffers and Aides as Team 'B', incompetent and largely incapable of pushing through the party's agenda of delivering a better Ghana to all Ghanaians. In view of these earlier exhortations and demands for reshuffle, various newspapers and radio stations were agog, taking various angles and twists on the President's words exchanged with journalists in Cape Coast. This invariably evoked mixed reactions from the public and spin from media pundits and regular callers into radio and television programmes popularly known in Ghana as 'serial callers'.

Consequently, on Monday, September 14, 2009, the then presidential spokesperson, Mahama Ayariga, granted an interview to an Accra-based radio station (*Joy FM's* “Super Morning Show”) in which he sought to clarify what the President said and its import to correct misinterpretations and incorrect conclusions that had been drawn. Ayariga said during the interview that the President had good reason for maintaining his current team:

But as President, he is admitting that his information dissemination and communication apparatus might not necessarily be perfect. He is admitting that he is working on it and trying to make sure that it achieves the desired goals which basically to him is the goal of ensuring that whatever policies and programmes we disseminate [are] able to get to the people so that they can

understand us better in terms of what we are doing, how we are doing it to be able to participate in the process (Mahama Ayariga, September 14, 2009 interview on *Joy FM*).

In the course of the interview with Mahama Ayariga, however, the President reportedly called the radio station through the personal cell phone of a journalist in the newsroom to request the host of the programme to replay the unedited tape recording of his interaction with journalists in Cape Coast to enable Ghanaians hear exactly what he said. The President was reported to be displeased with ongoing discussions and therefore wanted to correct wrong impressions being created because he felt he was being quoted out of context by commentators including his own spokesperson! It is noteworthy that *Joy FM* had earlier played the President's statement in which he reportedly admitted that although some of his Ministers were not performing as expected, he would not be compelled to reshuffle his cabinet.

1. *Purchase of Jets by the Government of Ghana: Reportage and Responses*

On Thursday, September 17, 2009, the *Daily Guide* newspaper carried a news story citing a US military purchasing website that the government of Ghana was in the process of acquiring four new jets for the Ghana Armed Forces at an estimated cost of \$618 million. Various radio and television stations called different members of government to seek verification of, and clarification on, the *Daily Guide* report. President John Atta Mills' political party, the National Democratic Congress (NDC) had, while in opposition, criticised the New Patriotic Party (NPP) government over a similar attempt to purchase air planes for the Ghana Armed Forces and the presidency. It had accused the NPP government of President J. A. Kufuor of insensitivity to the plight of the ordinary Ghanaian and of having misplaced priorities since there were more important areas that required urgent government intervention than the purchase of air planes.

In the case of President Atta Mills, different government officials, including members of the communication team, gave different responses on different radio and television stations. The first government official to speak on the issue, a Deputy Minister of Information, Samuel Okudzeto Ablakwa, claimed on Accra-based *Oman FM* on the same day - Thursday, September 17 2009 - that he had conducted checks "at the very highest levels at the presidency" and that the story was not true as the government was not even discussing the purchase of aircrafts. He said the President had only approved the purchase of one of two "controversial presidential jets" ordered by the previous NPP government from America.

Minutes later, however, Ablakwa's boss, the Information Minister, Zita Okaikwei, was heard on *Radio Gold* (another Accra-based station) admitting discussions involving the Ghana Armed Forces Council about plans to acquire some air planes. She said: "As I am speaking to you now, government's position is

that we have not committed at all to any such sale. It's the Air Force itself trying to re-equip their fleet who sent offers for proposals to military companies. Cabinet has not received the proposals, not to talk about approving [them]. So, where is this money that *Daily Guide* is quoting?"

The Minister of Defence, Major-General (rtd.) Joseph Henry Smith, confirming the intended purchase of aircrafts on Accra-based *Peace FM* the same day the news broke, said that Ghana was interested in acquiring aircrafts and that the President had discussed the purchase of aircraft with US President Obama as part of bilateral talks during the latter's state visit to Ghana in July 2009. The Defence Minister indicated that the Ghana Air Force had made a request for air planes and that he had already met with the American Ambassador to Ghana at the Ministry of Finance to fast track the purchase. This was confirmed by the Chief of Defence Staff, General Augustine Blay on *Oman FM* also on the same day. The two military men, however, noted that the government was only interested in buying two, not four, air planes and specified that the planes were turbo-props and not jets. They further noted that the costs of the two aircrafts were far lower than the reported \$618 million, although they failed to provide the actual costs involved.

Presidential Spokesperson, Mahama Ayariga, on his part, did not only deny the purported intention to purchase air planes but also accused the media of irresponsibility and falsehood-peddling. Responding to media inquiries on various radio stations including *Peace FM* and *Oman FM*, that Thursday morning, Mr. Ayariga discredited the source of the story, insisting that having checked at the presidency, the military and the office of the Chief of Staff, he was certain it was absolutely untrue. However, the Deputy Chief of Staff, Alex Segbefia, who also waded into the information confusion and inconsistency, confirmed on *Metro TV*, the next day, Friday, September 18, 2009, that the presidency was aware of the intended purchase.

Mahama Ayariga had said on *Peace FM* that the government had not expressed any interest or intention to purchase any military aircraft or equipment. He had explained that the purchase of the air planes was an action initiated by the Kufuor government and that the Mills administration had not made any decision on it, although he admitted that the Defence Minister had continued with discussions started by the previous government. Mr. Ayariga was upset with the media for putting out a story without making the necessary background checks and questioned the authenticity of the source of the *Daily Guide* story – the *US Defence Industry Daily*. He questioned the ethics of Ghanaian journalists who would bypass the state information machinery to seek information from an American website.

GOVERNMENT INFORMATION MANAGEMENT CHALLENGES

The two incidents studied demonstrate that the phenomenon of poor government information management, which existed during colonial times and necessitated the establishment of the Information Services Department, still persists in Ghana. Information communicated in the two situations was inconsistent; and responses to media inquiry were cacophonous and confused as different government officials gave different versions of the same incident and different answers to the same questions. There was an obvious lack of coordination, an absence of structure and order of information dissemination which was a sign of an absence of a clear chain of command in government information management. This situation raised questions about the role of the Information Minister who is supposed to be the government's chief communicator (ISD, 1957) and is expected to be equipped with the ability to provide "counsel on the timing, manner, and form important communications should take" (Guth & Marsh, 2006, p. 7).

According to Guth and Marsh (2006), the government's chief communicators (Ministers of Information) should not be "just soldiers who follow orders; they are also generals who help shape policy" (p. 7). This, and the fact that the function involves two-way communication - telling people about the government, its policies, plans and activities as well as listening to the concerns of the people to bring feedback to the government - make it mandatory to assign that role to a professional communicator in much the same way as the Ministry of Justice and the Attorney-General's department are the preserve of lawyers. Government information management is, indeed, as much about relationship management as justice delivery is about law and legal representation, and both require the expertise of trained professionals.

In this era of information technology, enlightenment and an insatiable quest for government accountability and good governance, public relations and communication in democracies have moved beyond persuasion to negotiation which is an important element of Grunig and Hunt's (1984) two-way symmetrical model of communication and demands expertise and professional skill. Neither the press agency/ publicity model nor the public information model of public relations is considered appropriate in a democratic system due to their unidirectional nature and absence of feedback (Hunt & Grunig, 1994; Grunig & Hunt, 1984). Furthermore, matters concerning image redemption and enhancement as well as promoting government effectiveness and efficiency which Ayee (2009) cited as some of the motivations for ministerial reshuffle, require managers of government information to be proactive and to adopt the two-way symmetrical communication strategies recommended by Grunig and Hunt (1984). Since their role is intermediary (boundary) and serves both the government and the citizenry, government information managers

are required to understand mechanisms of the two-way symmetrical model which strategically communicates to improve understanding through speaking and listening; and through negotiating with relevant publics of the government (Guth & Marsh, 2006).

The job of government information management as indicated earlier and as contained in the objectives and mission statement of the Ministry of Information (ISD, 1957), is public relations. However, the study showed that only six out of 43 (about 14%) Ministers of Information from 1957 to 2012 had any education or training (formal or on-the-job) in public relations or communications and five (close to 12%) in journalism. Combined, Information Ministers with backgrounds in journalism and public relations made up about 26% of all appointees to that ministry. The incongruous and inconsistent responses of various officials (none of whom had any communications background) to the two incidents studied attest to the possibility that dissonance in role requirements and Ministers' educational and professional backgrounds may be counter-productive to effective communication and information management. This situation might have explained the frequent reshuffle of Ghana's Information Ministers. However, the case of Mr. T.D. Broddie-Mends, a lawyer whose position as Information Minister remained unaffected by the three ministerial reshuffles of the 27-month Busia regime, belies the assumption that there is a link between ministerial reshuffles and Ministers' educational backgrounds. That assumption is further refuted by the fact that the longest serving Information Minister in Ghana, Mr. Kofi Totobi-Quakyi, with a total of nine years (four-and-a-half years apiece under the PNDC and the NDC) did not have a public relations or communications background.

Given the above instances, it would appear that expertise in communication or public relations with knowledge of the boundary-spanning role of the two-way symmetrical communication process is secondary in hiring or firing decisions and may only be necessary if it is complemented by some other considerations. The educational and professional backgrounds of Ministers of Information appeared to have little, if any, bearing on their appointments and tenure of office. Ministerial reshuffles neither spoke to ministers' backgrounds nor to their performance of the boundary-spanning communication function. Therefore, although it is generally not possible to determine the rationale for either appointing or dismissing ministers in Ghana (Ayee, 2009), in the case of Information Ministers, it could be argued that factors other than professional considerations account for such actions in view of the varied educational and professional backgrounds of appointees, which sometimes do not match the job they are assigned to perform.

PR IMPLICATIONS OF COMMUNICATION DISCREPANCIES

The two incidents portrayed public relations as press agency/publicity and public information, which are one-way models of communication not based on research or strategic planning (Grunig & Hunt, 1984). As such, audience attempts at engaging with information sources exposed the inaccuracies, distortions and contradictions in messages disseminated. Government communicators, as the interface between the government and the governed, must be able to meaningfully engage with audiences. The public relations debacle created by the two situations generated a whole new wave of reactions and exposed the internal lack of coordination, consistency and cohesion in government communication. The failure was abysmal and reflected negatively on the government's communication machinery. Paradoxically, media reports indicated a three-tier government communication system which, in itself, should connote comprehensiveness. At the office of the President were a communications directorate headed by a director and a presidential spokesperson. At the office of the Vice-President, there was reportedly a strategic communication team and then, at the ministerial level, there was the Ministry of Information with a substantive Minister and two Deputy Ministers. However, this reported three-tier communication system appeared to lack coordination and internal cohesion.

In the two situations studied, one notices a cacophony of voices from the government without any coordinating centre to produce a hymn sheet from which all those voices could sing. The government was presented as one that had a divided front with different actors (Ministers and Staffers) saying different things and taking different positions on the same issue. Their different postures created discord and undermined the credibility, honesty, truthfulness, seriousness and the reputation of the government and officers concerned. Article 1 of the code of ethics of the International Association of Business Communicators (IABC) requires of professional communicators to uphold the credibility and dignity of their profession by practising honest, candid and timely communication and by fostering the free flow of essential information in accordance with the public interest (Guth & Marsh, 2006).

The two incidents portray the government as incapable of putting across accurate and factual information in the public domain, thereby raising doubts about the usefulness of its information dissemination system. They raise questions about the professionalism, competence and efficiency of the then Presidential Spokesperson, Mahama Ayariga, Information Minister, Zita Okaikwei and other members of the government information management and dissemination team including Deputy Information Minister, Samuel Okudzeto Ablakwa. It is, therefore, not surprising that both Mahama Ayariga and Zita Okaikoi lost their positions in subsequent reshuffles.

The situation points to a communication gap between members of the government information apparatus at the presidency and those at the Ministry of Information, as the flow of information appears inhibited. It projects the

system as one which lacks organisation, planning and preparation before information is disseminated, thereby unmasking message inconsistencies and contradictions. The lack of coherence in the flow of information by people who are not public relations practitioners but are doing public relations also tends to tarnish the image of professional public relations and to portray the profession as one that requires no careful thought, planning, preparation or management. Their actions, in the two situations, tended to project public relations as a tool for covering up deceit and protecting the interests of those in government, thereby impugning its credibility and betraying communicators' incompetence as sources of government information.

The lack of coordination among those communicating on behalf of the government raises many questions. Do the government information managers work as a team? What is the chain of information flow in the set-up? Who heads the government's communication machinery? How is information accessed, processed and disseminated? How is feedback elicited from the public? And what is done with the feedback? It appeared there was no clear order or system for accessing, processing, managing and disseminating or conveying information from the presidency (and the government in general) to the public, and no clearly defined chain of command. Consequently, whoever got any piece of information about the government ran with it without checking his or her facts with appropriate authorities. Similarly, it appeared that persons within the set-up answered questions about the government without seeking clearance and checking for accuracy, truthfulness and appropriateness. In the most bizarre case of the rumoured reshuffle, the spokesperson's views did not reflect those of his boss, the President, who publicly refuted those views.

TOWARDS A MORE EFFECTIVE INFORMATION MANAGEMENT SYSTEM IN GHANA

In a democratic society such as Ghana, public relations plays a critical role in ensuring that there is free flow of information between the government and the citizenry. Among the many benefits of public relations that a government can derive, according to Heath (1992), "is its ability to contribute to the collective shared reality that brings harmony, a shared perspective that leads people to similar, compatible conclusions" (p. 318). This view is shared by Guth and Marsh (2006:8) who believe that effective public relations is capable of managing communication between the government and the citizenry "to bring the public and public policies into harmony". They further indicate that:

For democratic societies to function in a healthy manner, the government and the people must reach a consensus on matters of importance. Consent cannot occur without the exchange of information and ideas. That, in turn, requires communication. Those

who cannot communicate effectively in democratic societies are left at a distinct and sometimes dangerous disadvantage (p.8).

Among the motivations for ministerial reshuffle advanced by Ayee (2009), the quest for efficiency and effectiveness and for image enhancement would appear to explain the frequent reshuffle of Ministers of Information in Ghana. However, appointments to the Ministry of Information have usually disregarded education and professional competence of people appointed as Ministers of Information who have the ultimate responsibility to manage government information and communication systems.

It is worth reiterating the fact that information management, currently approached from the perspective of journalism or news reporting by gathering and reporting pieces of information, requires much more. It requires structure, form and order. It requires coordination and responsibility. It requires uniformity and consistency. Above all, it requires a hierarchical arrangement and a determination of who has the responsibility to speak, about what, to whom, when, where and how. In Merrill's (2002) view, public relations "does a valuable job of expanding message pluralism in society. A PR person may do many things other than news gathering and dissemination..." (p.178). Information gathered must be centrally cleared, arranged, processed and disseminated as widely as required and managed with all recognised disseminators singing from the same hymn sheet to ensure message consistency and credibility.

The creation of the Ministry of Information with a substantive Minister was meant to ease the flow of information and communication between the government and the populace in order to make the citizenry much more informed (ISD, 1957) and essentially to institutionalise communication and information dissemination, if not information sharing. An important outcome of institutionalising channels of communication is the development of favourable public opinion for those who wield political power. Securing a favourable public opinion towards the government, its processes, plans and activities, therefore, is the ultimate aim and *raison d'être* of the government's information management team whose competence, capability and professionalism are enhanced by appropriate educational and professional backgrounds. Evidence from the study on which the article is based points to maladjusted communication, which creates doubt about information managers' and the government's credibility, honesty, truthfulness, effectiveness and efficiency. To correct this, the government needs to appoint public relations or communication professionals to manage information and allow them to work without undue interference, respecting their professional competencies. It is equally important to give such appointees reasonable security of tenure. As the study shows, none of the very few professional communicators appointed as Information Ministers stayed in that office longer than 26 months. Their average tenure was about 20 months.

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THE BRAKWA EARTHWORKS - PRELIMINARY REPORT OF FIELDWORK

FRITZ BIVERIDGE¹

ABSTRACT

This paper presents a preliminary report of archaeological reconnaissance surveys undertaken at five newly discovered earthworks, namely Asaman, Heman, Abutia, Ndwoaso and Baako, all located at Brakwa in the Central Region of Ghana. Archaeological data constituted the primary source of data used for the study. Oral information, historical and ethno historical data were also used to complement and support the archaeological data. The study suggests that the earthworks predated the arrival of Europeans to the Guinea coast and that the society was probably complex, as indicated by the relatively large expanse of the earthworks and depth of the ditches which would have required a very large specialized work force and a ruling class to supervise and execute. The earthwork settlers also smelted iron and produced iron implements as attested by the recovery of slag. Further archaeological investigations of the earthworks and chronometric dates are however required to enhance and facilitate our understanding of the cultural history of the builders as well as establish a chronological sequence of the earthworks.

Keywords: Earthworks, Trenches, Embankments, Potsherds, Cultural materials

INTRODUCTION

During the summer of the 2008/2009 academic year, the Ghana branch of the African Archaeology Network received funding to investigate a number of newly discovered earthworks located at Brakwa. The study was undertaken in two phases: the first phase involved surveying the earthworks and their environs as well as mapping and documenting some important topographical features associated with the earthworks with the aid of a Global Positioning System (G.P.S). The second phase involved conducting archaeological excavations to discover and recover archaeological data to aid reconstruction of the life ways of the builders of the earthworks. In all, five earthworks were located with assistance from the local people and investigated. This paper presents preliminary results of the survey undertaken at the five earthworks identified and investigated by the team. The study spanned fourteen days and the research team comprised three members of the local branch of the Network assisted by six local men employed as field assistants.

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REVIEW OF AVAILABLE DATA ON EARTHWORKS IN GHANA

In Ghana, earthworks are not unique to the Brakwa area but are also found in other parts of the country and have played a significant role in the reconstruction of the cultural histories of the people associated with them. The majority of these earthworks were discovered accidentally by geologists and civil engineers during the course of constructing roads and railways and in dredging and mining operations across the country during the colonial and post independence era. These activities also produced as by products, considerable quantities of archaeological data.

Some of the earliest discoveries were made by workers of the defunct Gold Coast Geological Survey Department at Birim in the 1920s and 1930s. The Birim earthworks were characterized by trench systems, banks and ditches, some of which measured 4 meters from ground surface. They were generally circular or ovoid in shape and averagely ranged between two and three kilometers in circumference.

R. Junner widened the scope of archaeological investigations on the Gold Coast when he undertook reconnaissance surveys and archaeological excavations of ancient entrenchments at Abodum, Domiabra, Kokobin and Manso, all located in the Akyem Kotoku district in 1934. He described the Akyem earthworks as "roughly pear shaped and very impressive" (Junner 1935: 215 - 216). They comprised four ancient trench systems, all of which had their longer axes running in a north-south direction. The first was located between Kokotenten and Osenasi. The second, located one mile north of Abodom, was 1.4 miles long at its longest stretch and had two annexes. The third was located on a track between Kotoku and Nkwaten while the fourth was located near the Otumi forest reserve.

Archaeological excavations undertaken in the settlement areas located within the earthworks yielded vast quantities of Akan type pottery associated with polished stone axes (*Nyame akuma*), grinding stones, stone beads, furnace remains and iron slag (Anquandah 1982: 68 - 69).

Junner (1935: 472) noted that the coarser sherds contained small quantities of quartz grit and occasionally staurolite, and were generally well fired. He also noted that decoration consisted of impressed, comb stamped and incised drawings. Rouletting and paintings were notably absent. No pedestals, lids or handles were found. The different styles also did not fall into any well defined groups corresponding to excavation levels. However, he noted that the "combed" types were commoner at the lower levels while the fine quality bronze hued wares predominated at the top. Some of these bronze hued wares contained mica. The wide curvature of the rims (averagely 23 centimeters) indicated that cooking probably constituted an integral method of processing food during that period (Junner 1935). Junner (1935) also made three remarkable discoveries of ancient trench systems at Manso and Akwatia. These trenches were roughly elliptical in form. Two were about half a mile long by a quarter of a mile wide and consisted of a series of trenches linked up with the others to form a continuous trench.

Not all of the earthworks investigated above were well preserved. The trenches bordering them varied in depth ranging from a few feet deep (where they had almost silted up) to almost twenty feet deep where no silt had built up. There was also considerable variation in the width of the trenches. The Abodom earthwork, for example, had a width of about twenty feet at the top and six feet at the base. Junner also noted “the stratification of stone axes in association with pottery at the upper levels above a level containing remains of iron furnace structures and iron slag” (Anquandah 1982: 24). Soils of the embankments along both sides of the trenches were of the same colour and texture as those at the bottom, suggesting that they were not brought from elsewhere but dug and collected from the ditch to form the embankments. Some artifacts recovered from excavations included large quantities of coarse crude pottery with various types of decorations, polished stone celts, grinding stones, dimpled and grooved stones, fragments of iron slag and gum copal. Notably absent were faunal remains and stone tools unique to the Paleolithic (Junner 1935: 14).

Kiyaga-Mulindwa (1982) re-excavated the Akyem Kotoku earthworks (located in the Birim valley) and obtained Carbon 14 dates of 15th century A.D for the *Atweafo* cultural level which overlays the earthwork. Traditions of the people of the area refer to post earthwork settlers as *Atweafo*. In his report which followed the excavation, he identified two cultural phases for the area. He termed these phases “*two temporal horizons*” (Kiyaga-Mulindwa 1982: 63). Kiyaga-Mulindwa suggested that the earthworks were constructed and occupied during the *earlier horizon* (first phase) which spanned the first millennium A.D. through to the 16th or 17th century A.D. He designated the pottery tradition made by these earlier settlers as “*Earthwork Ware*” while the pottery made by the settlers of the “*later horizon*” (second phase) was “*Atwea Ware*.” (The word “ware” is used here to designate special diagnostic attributes unique to a pottery type).

He noted that the latter ware (*Atwea Ware*), was “remarkably similar to and likely continuous with the earthenware pottery of the present day peoples of the southern Ghana forest: the Fanti, the Asante and the Akimfo” (Kiyaga-Mulindwa 1982: 67). Kiyaga-Mulindwa noted further that in the Birim valley area, “the ‘*Atwea Ware*’ was found in a stratigraphy which suggests that in terms of occupation it succeeds “*Earthworks Ware*”, although the evidence also suggests that the earliest “*Atwea Ware*” may have been roughly contemporaneous with the latest “*Earthwork Ware*” (Kiyaga-Mulindwa 1982: 67).

The corpus of archaeological data and contexts within which these materials were recovered indicated that the trenches were occupied at a remote period in antiquity. Sherds belonging to the “*Earthwork Ware*” pottery tradition contained a high concentration of quartz grains and the texture was generally coarse. Other cultural materials recovered included slag crusted tuyeres, stone beads and stone tools.

On subsistence and chronology of the earthwork people, Kiyaga-Mulindwa (1982: 67) suggested that “the earthwork people practiced an Iron Age

economy based on hunting and forest occupation, continuous with the Neolithic and Early Iron Age populations of the area in the period between 1000 B.C and A.D 500". The exploitation of freshwater and floral resources such as molluscs and palm kernel and exchange with inland and coastal populations may have constituted other important subsistence strategies of the earthwork builders.

According to Kiyaga-Mulindwa (1982: 73), the quantum and variety of material remains recovered, particularly pottery as well as the variety of ornamentation represented on them, is indicative that occupation of the *earlier horizon* settlers was long, probably spanning several centuries. The recovery of slag and tuyeres also made him to suggest that these settlers probably smelted iron and made iron tools and implements. Other assertions in his report were that the Akyem Kotoku earthworks were completed over a short period, probably using "intensive labour of a considerable proportion of the population", and that the earthworks may have served as fortified settlements to deter small scale attacks, petty slave hunting forays and kidnappings. This assertion was based on early European documents indicating that the "*Later horizon*" (16th - 17th centuries A.D) period was marked by the growth of an export in slaves from the forest regions to the Gold Coast. This period saw a dramatic shift from the export of legitimate goods like gold and elephant tusks to slaves.

However, Wilks (1959: 99 - 102 & 1959: 102 - 106) is of the view that the earthworks were military fortifications built by the Akwamu in the mid-seventeenth century primarily to strengthen their western frontier against aggression from the Akim state. He asserts that the *Akwamuhene*, who controlled much of the Birim valley, was a great trader in slaves, selling averagely 3,600 slaves a year to European traders on the coast during that period.

Wild (1935) also discovered similar ancient earthworks at Adukrom in the Akwapim District of the Eastern Region of Ghana. He described one "as a hillock measuring sixty five yards long and twenty yards wide at its base and its crests rising to about twenty five feet above the surface of the ground in its vicinity" (Wild 1935: 215). The stratigraphy contained pink and red stratified sand and earth with the seams containing abundant charcoal, fragments of pottery, shells, bones, rubbing stones (quartzite), a gold bead and the husks of palm kernels. According to Wild (1935: 216), the chief of Adukrom informed him that the earthworks predated the arrival of their ancestors to the area which occurred over a hundred years ago.

Other scholars whose work led to a better understanding of Ghana's earthworks include Oliver Davies, who excavated an entrenchment site at Kokobin in 1964, and Richard York and Duncan Matthewson, who excavated Kitare. The latter is a great earthwork site located in the Northern Region of Ghana and is perhaps the largest and most outstanding in the north. Dated to circa 17th century A.D, it comprised three concentric lateritic embankments which enclosed ditches extending over an area of nearly two square kilometers. It also contained several reservoirs believed to have been used to store water. The above named researchers suggested that the settlement areas within the Kitare earthwork were probably resting places

for long distance gold and kola caravan traders who operated between the forest regions of Ghana and Hausaland and Bornu in the late 15th century A.D.

The purposes of the various earthworks in Ghana remain obscure and there is currently no consensus among scholars as to what purposes they may have served in the remote past. Wild (1935: 213), for example, suggests the Birim earthworks served as ancient fortified encampments, while Anquandah (1982: 28) contends that the Kitare earthworks were probably trade posts used by long distance caravan traders.

The authorship of these earthworks is also uncertain. Ethno-linguistic groups located within the environs of these structures have disclaimed knowledge and ownership of them. They assert in their oral traditions that the earthworks existed before their ancestors migrated to their present localities. Whatever functions may be assigned to them, what is certain is that these many impressive earth edifices and the artifacts recovered from follow-up archaeological excavations prove that there existed in Ghana phases of the Neolithic and Iron Ages.

THE RESEARCH AREA AND THE PEOPLE

The research area is located in the Asikuma-Odoben-Brakwa district of the Central Region of Ghana. The district covers an area of approximately 765 kilometer squared with an estimated population of 89,395 (www.ghanadistricts.com).

The topography is characterized by several inselbergs, many of which rise to between 550 meters and 750 meters above sea level (Ghana Survey Sheets Nos. 0501A3, 0501A1, 0502B4 & 0502B2)). Several streams can be found in the research area and these include the *Asonsu*, *Ogyaalele*, *Gyan Kobiti*, *Wora Afue* and *Okyi* streams. During the wet season, they overflow and form swamps along their banks which become fertile grounds for several species of freshwater aquatic resources such as *Tilapia* and different species of crustaceans.

The research area falls within the humid tropical climatic zone which is characterized by relatively high temperatures ranging from a maximum of about 35 degrees Celsius between March and mid April to a minimum of about 20 degrees Celsius in August, the coolest month. The area experiences double maxima of rainfall annually under the influence of the Tropical Maritime Air Mass. The first is the major rainy season and occurs from April to mid-July whilst September to early December corresponds to the minor rainy season. The amount of rainfall recorded during the two maxima is not stable and varies yearly; however, the mean is about 920 millimeters.

Much of the vegetation of the area today consists of secondary forests and shrubs overgrown with climbers and creepers. Tree species include *Acacia* sp (*Acacia*), *Milicia excelsa* (Odum), *Triplochiton scleroxylon* (Wawa), *Adansonia digitata* (Baobab), *Azadirachita indica* (Neem) and *Antiaris toxicaria* (Kyenkyen). Some of the shrubs have formed dense thickets and a number of them function as fetish groves and shrines for the communities in the research area. Cane rat (*Thryonomys scriptus*),

Giant rat (*Cricetomys gambianus*) and land tortoise (*Kinixys sp*) constitute some important fauna found in the area.

The main soil type consists of rich humus underlain by clay and occasional patches of laterite. The soil is rich in organic matter and nutrients. Farming is the main occupation of the people, who cultivate both cash and staple crops. Cocoa and Oil palm are the principal cash crops while cocoyam, cassava, maize, plantain, tomatoes and pepper constitute the main food crops.

THE RESEARCH AREA IN HISTORICAL PERSPECTIVE

Early European documents indicated that the area was occupied by the Akan. Dutch, Portuguese and English records from the 15th to 17th centuries referred to them variously as “Arcanny”, “Accanny”, “Hecanny”, “Heccany” and “Arcania”. European maps also referred to the Birim valley region where the Brakwa earthworks are located as “Great Akanji” or “Akani” country (Bosman 1705: 335). The term Akan means “foremost” or “genuine” and is derived from the word “Akanniba” which means 'son of Akan’ (Kiyaga-Mulindwa 1980: 504). Currently, the term Akan is used interchangeably to refer to different dialects of the Twi language, Twi speaking peoples and ethnic groups belonging to the “Akan racial stock” such as Asante, Fante, Akyem, Akwapim, Akwamu and Assin.

Ethno-historical traditions of the indigenes assert that their ancestors originated from diverse ethnic backgrounds. According to these traditions, one of the earliest groups to relocate to the area came from Breman near Kumasi. This group was later joined by small bands of Fante and Akyem settlers. The migration of the above named ethno-linguistic groups to the Brakwa area may have been facilitated by the opportunities, incentives and the lucrative nature of the coastal trade with Europeans on the Guinea Coast and may have promoted social interaction and cohesion between them.

THE BRAKWA EARTHWORKS

Five earthworks were surveyed and investigated by the research team. These are Asaman, Baako, Ndwoaso, Heman and Abutia, all located within a 3 kilometer radius of Brakwa. Information gathered from the local people indicated that there are other earthworks in the vicinity; however, due to time and financial constraints, it was not possible to locate and investigate them. The team intends to investigate and document these features when funds become available.

All five earthworks were surveyed and documented using a Global Positioning System. Important topographical and anthropogenic features unique to each earthwork were also noted. In addition, the earthwork at Asaman was excavated and the stratigraphy documented. A full report will be published when the other earthworks have been excavated, the artifacts analyzed and

dated to establish a chronological sequence of all five earthworks. The survey revealed that all the five earthworks have cocoa growing on them as well as other food crops such as cocoyam, cassava, maize and occasionally vegetables. The soils at the upper levels had also been disturbed by farming activities.

THE ASAMAN EARTHWORK

The Asaman earthwork (fig.1) is located on longitude N5.71750 and latitude W0.97801 and lies approximately 1.5 kilometers north-east of Brakwa. It is roughly ovoid in shape, with the northern end being slightly wider than the southern end. It has two embankments: an inner one and an outer one. The total circumference of the outer embankment was 637.6 meters long and covered an area of 2.4 hectares whilst that of the inner embankments measured 518.0 meters and covered an area of 2.1 hectares. The outer embankment measured approximately 13.95 meters from the inner embankment.

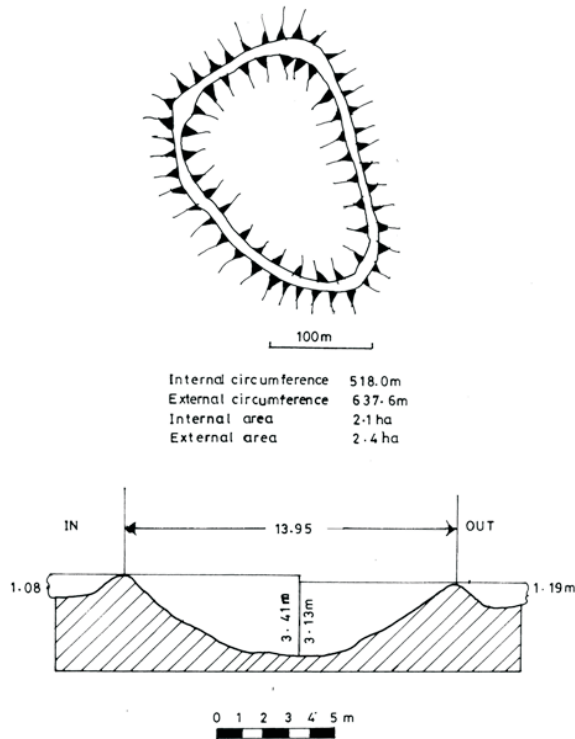
Comparatively, the trench around the Asaman earthwork was relatively well preserved, as attested by the steep sided nature of its embankment. Only a few sections along its north western frontier were silted. Soil colour and texture of both the outer and inner walls of the upper sections of the trench were the same, indicating that the soil was collected at the place and was not brought from elsewhere. The trenches were also deeper than the other trenches investigated in the locality, with an average depth of 3.41 meters.

Along several portions of the bottom of the trench, rain water had collected and formed large pools. The survey exercise at Asaman revealed six small mounds at different locations within the inner embankment. Further investigations will establish whether they are natural or man-made. Artifact scatter was sparse and comprised a few potsherds. This was probably because much of the surface area was densely littered with cocoa leaves and piles of semi decomposed cocoa pods.

The two excavated units, however, contained copious quantities of potsherds similar in shape and decorations to the Birim valley earth ware which Kiyaga-Mulindwa (1982) designated "*Earthwork Ware*". A total of 2,701 potsherds were recovered from Trench A which measured 4 meters by 1.5 meters and the sterile level was 100 centimeters below ground surface. 4,001 potsherds were recovered from Unit B which measured 2 meters by 2 meters and 100 centimeters constituted the sterile level.

The total number of potsherds recovered was 6,702. Out of this, 5,537 (representing 82.6%) were undecorated while 1,165 (representing 17.4%) were decorated. Other cultural materials recovered included part of a furnace, slags, a flat bifacial oval shaped hammer stone with a very smooth surface, charcoal and one mollusc shell. Dark grey clay constituted the main soil type, with several large angular stone granules. Much of the stratigraphy down to Level 4 (80 centimeters) was wet.

ASAMAN EARTHWORKS 2009

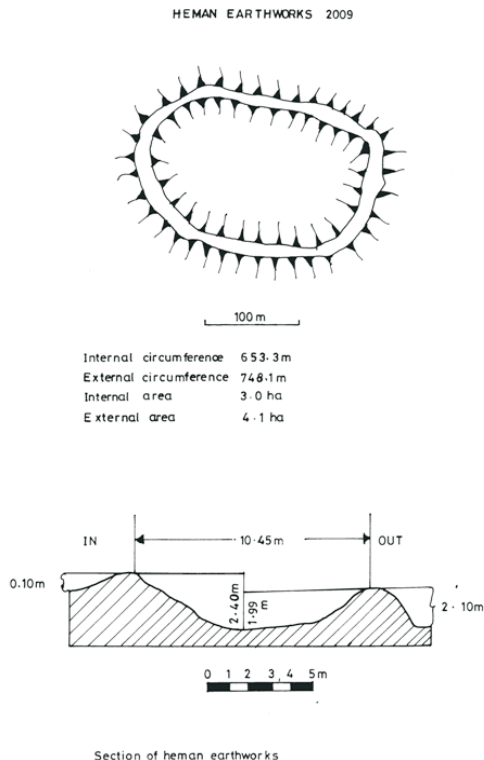


Section of asaman earthworks

THE HEMAN EARTHWORK

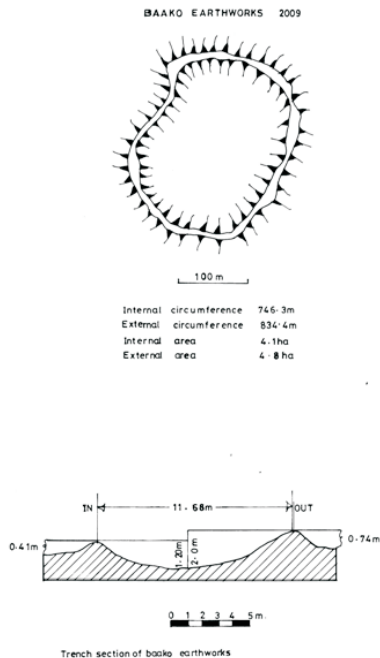
The Heman earthwork (fig.2) is located 2.8 kilometers south-east of Brakwa on longitude N5.69061 and latitude W0.97485. It is roughly circular in shape, with the east-west axis longer than the north-south axis. The total circumference of the outer embankment was 748.1 meters and covered an area of 4.1 hectares while that of the inner embankment was 653 meters long and covered 3.0 hectares. The outer embankment measured 10.45 meters from the inner embankment. Unlike the Asaman earthwork, several sections of the trench were almost silted up, with an average depth of 10.45 meters. The embankments were also more rounded, probably

because much of the top soils had been washed down into the trench by erosion. Artifact scatter was scanty and comprised only a few potsherds. Also visible were eight small mounds within the inner embankment.



THE BAAKO EARTHWORK

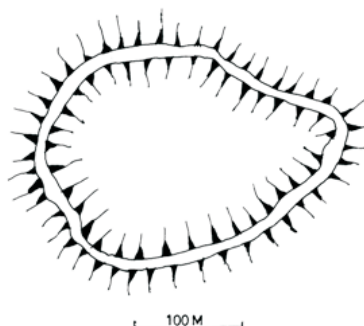
The Baako earthwork (fig.3) lies approximately 4.2 kilometers east of Brakwa on longitude N5.72028 and latitude W0.95915. It is roughly circular in shape. The total circumference of the outer embankment was 834.4 meters and it covered an area of 4.8 hectares while that of the inner embankment was 746.3 meters and it covered an area of 4.1 hectares. The distance of the outer embankment from the inner embankment was 11.68 meters and the average depth of the trench from the bottom to the top was 1.20 meters. The only surface data noted during the reconnaissance survey consisted of a few potsherds and two small mounds.



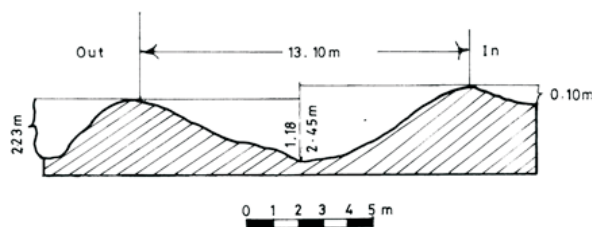
THE NDWOASO EARTHWORK

The Ndwoaso earthwork (fig. 4) is located 1.4 kilometers south of Brakwa on longitude N5.69205 and latitude W0.99056. It is ovoid shaped, with the north-south axis slightly longer at its western end. The total circumference of the outer embankment was 897.8 meters and covered an area of 4.2 hectares while that of the internal embankment was 625.1 meters and covered 2.7 hectares. The distance of the outer embankment from the inner embankment was 13.10 meters. Several portions of the trench had been silted up almost to the top and the deepest point from the bottom to the top was 2.1 meters. No artifacts were found during the reconnaissance survey.

NDWOASO EARTHWORKS 2009



Internal circumference	625.1m
External circumference	897.8m
Internal area	2.7ha
External area	4.2 ha

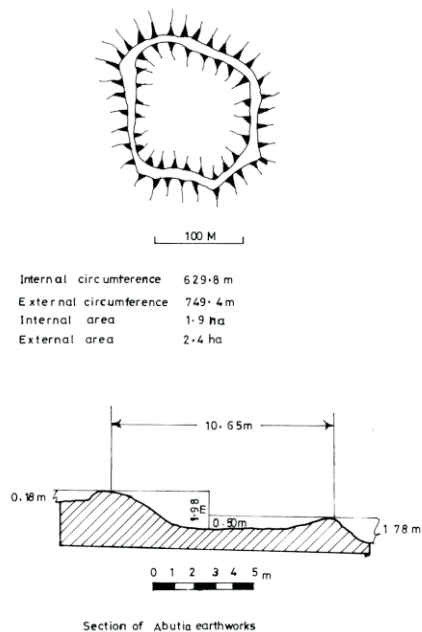


Section of ndwoaso earthworks

THE ABUTIA EARTHWORK

The Abutia earthwork (fig. 5) lies about 3.1 kilometers north-east of Brakwa on longitude N5.72954 and latitude W0.97762. No shape can be assigned to this earthwork because of its irregularity. Its east wall, for example, lies in a straight north-south direction while the north, south and west walls are rounded, with occasional angular ends. The total circumference of the outer embankment was 749.4 meters, covering an area of 2.4 hectares, while that of the inner embankment was 629.8 meters and covered an area of 1.9 hectares.

ABUTIA EARTHWORKS 2009



The distance of the outer embankment from the inner embankment was 10.65 meters. Like the Ndwoaso earthwork, several portions of the trench had silted up and the average depth of the trench from the bottom to the top was 1.24 meters. No artifacts were recovered from the settlement area within the earthwork. However, four small mounds were discovered and noted.

DISCUSSION

The survey exercise revealed that all the five earthworks described above were archaeologically unexplored although much of their surface areas had been disturbed by farming activities of the people. Their sizes varied and did not conform to any uniform standard. The largest, the Baako earthwork, covered an area of 4.8 hectares while the smallest, Abutia, covered a total area of 2.4 hectares. Shapes also varied and ranged from near ovoid to elliptical. The depth and width of the embankments and ditches also varied. The average depth of the ditches ranged from 0.50 meters for Abutia to 3.41 meters for Asaman. The distance from the center of the inner embankment to the center of the outer embankment ranged from 13.95 meters for Asaman to 10.45 meters for Heman.

There was also considerable variation in the state of preservation of the ditches and embankments. Those at Abutia and Baako, for example, were almost silted up,

averaging only a few 100 centimeters from the bottom to the top along some portions. On the other hand, the Asaman earthwork was relatively well preserved, with an average ditch depth of 3.10 meters from the top to the bottom.

The archaeological evidence correlated with ethno historical narratives did not indicate the builders of the earthworks. The indigenes disclaim any knowledge or ownership of the earthworks and assert that they existed before their ancestors relocated there. Similarities in the shapes and structural designs of the earthworks suggest they were probably constructed by the same people. The relatively large expanse and depth of the ditches presuppose a large labour force would have been required to complete their construction which may have spanned several months or years. It is also probable that a centralized ruling authority with the capacity to mobilize, control and coordinate a large labour force existed which controlled and supervised their operations.

The recovery of slags and parts of a furnace is indicative that the people smelted iron and probably manufactured iron tools and implements. This would have facilitated construction of the earthworks and other subsistence strategies undertaken by the people because iron tools are stronger and easier to work with than other media such as stone. The populations associated with the earthworks and their pottery were probably fairly complex societies, as attested by their smelting of iron and the presence of a ruling class. Another characteristic feature of the society may have been its socially stratified mix and specialized workforce.

Potsherds constituted the main cultural material recovered from the two units excavated at Asaman. The total count of potsherds was 6,702. Other finds recovered included 2 pieces of slag, part of a furnace, mollusc shells and a flat bifacial oval shaped stone with a very smooth surface. All the cultural materials recovered belonged to one cultural level. The pottery was distinctive in form, with the majority being plain and devoid of decorations. Red slipped and smudged pottery constituted only a small percentage of the total. Body fabric was generally thick, measuring on the average 5 millimeters across. The texture was coarse, with several pieces of relatively large quartz grit embedded in the fabric. A few had small traces of mica. Decorative patterns were unique, characterized by longitudinal, transverse and oblique patterns on the neck and shoulder regions of the vessels.

The Brakwa earth ware is unique and different from modern Akan pottery. It is similar in form and style to the pottery tradition which Kiyaga-Mulindwa (1978) called Earthwork Pottery or *Atweafo* Pottery. According to some scholars (Spiers 2007: 254, Chouin 2009 42 – 47 & DeCorse 2001: 41), the earliest dates for this pottery tradition are in the first millennium AD. This is indicative that the producers were non-Akans.

It was not easy to immediately ascribe a chronological sequence to the earthworks and the pottery. The absence of European imports such as ceramics, smoking pipes and glass beads is indicative that these massive features were constructed before the arrival of Europeans on the Guinea Coast in the late fifteenth century. The very weathered state of the pottery and the fact that in many places,

the ditches within the trenches surrounding the earthworks had silted up significantly, is a further pointer to their antiquity.

To establish veritable dates of the earthworks and associated finds, 8 charcoal samples, 4 each from Units 1 and Unit 2, were collected at various levels and sent to the Angstrom Laboratory in Uppsala, Sweden to be dated by the radiocarbon dating method. 7 samples out of the 8 were successfully dated; however, one sample recovered from 37 centimeters below ground surface level at Unit 1 could not be dated because it did not contain "any organic material to be dated". The following dates calibrated by Oxcal vers 4.1 using the IntCal 04 curve (Ramsey 2001; Reimer *et al.* 2004) were established. All the dates were calibrated to one and two standard deviations with the Oxcal 4.1 (IntCal 04 Curve) Programme (Ramsey 2001: 355 – 363).

<i>Unit</i>	<i>Lab. No.</i>	<i>Depth of sample</i>	<i>Uncal bp</i>	<i>Cal AD/BC</i> 68.2%	<i>Cal AD/BC</i> 95.4%
1	Ua-38354	36 cm		437 - 570 A.D	430 - 595 A.D
1	Ua-38355	57 cm	1470 ± 33	567 - 632 A.D	543 - 647 A.D
1	Ua-38360	76 cm	2243 ± 34	383 - 231 B.C	400 - 186 B.C
2	Ua-38356	62 cm	1141 ± 34	873 - 973 A.D	780 - 983 A.D
2	Ua-38357	69 cm	1374 ± 34	635 - 675 A.D	601 - 763 A.D
2	Ua-38358	70 cm	2523 ± 35	782 - 557 B.C	795 - 538 B.C
2	Ua-38359	72 cm	2524 ± 35	784 - 559 B.C	796 - 538 B.C

It will be noted that sample Ua-38354 which was collected at 36 centimeters below ground surface level produced an older calibrated date of 430 – 595 AD when compared to sample Ua-38355 collected from 57 centimeters below ground surface level which produced a 2-sigma calibrated date of 543 - 647 AD. Going by the stratigraphy, the two dates are inverted; however, this problem should be alleviated because the two dates overlap. The third sample Ua-38360 collected from 76 centimeters, which was the deepest, however produced the anticipated calibrated date of 400 – 186 BC, which was the earliest.

All the four samples collected from Unit 2 however produced the expected results in conformity with their stratigraphic levels. The earliest date of 796 – 538 BC was derived for sample Ua-38359 which was collected from the deepest level of 72 centimeters. Sample Ua-38358 collected at a depth of 70 centimeters produced a date of 795 – 538 BC. Sample Ua-38357 collected from a depth of 69 centimeters produced a date of 601 -763 AD while sample Ua-38356 collected from a depth of 62 centimeters produced a date of 780 – 983 AD.

It is worthy to note that all the samples which produced the earliest dates were associated with pottery while the other cultural materials such as slag and daub

were all stratified above the samples which produced the earliest dates. The early dates of 796 – 538 BC and 795 – 538 BC are a clear testament that the forest regions of southern Ghana were occupied by sedentary populations long before the coming of Europeans.

The purpose of the Brakwa earthworks is currently contentious and obscure and the available data is not indicative of what purposes can be ascribed to their construction. According to Wilks (1982: 231 – 249), the earthworks were work camps for slaves engaged in subsistence stratagems like land clearing to produce food and gold mining. Considering their structural design and sizes, they were probably products of several seasons of intensive labour of very significant numbers which served as permanent fortified encampments to protect and safeguard the builders from antagonistic neighbours. The recovery of a large quantity of pottery and slag precludes their use as seasonal hunter-gatherer settlements.

It is imperative to note that ethno-historical traditions of the people assert that the forest regions of the Central Region, which incorporates parts of the research area, in the past had abundant gold reserves which were mined by the people who occupied the area. Stone tools believed to have been used in mining gold ore such as cylindrically shaped stone “axes” traditionally called *Nyame Akuma*, (probably used for digging and crushing ore), large bi-conical drilled stones (probably used as weights) and fragments of pottery (probably used as containers for washing and separating the gold from its geological matrix) have been recovered from excavations from the hinterland forest regions (Bellis 1987: 37 – 38). This notion that inland populations mined gold is supported by some early European documents which asserted that when they arrived on the coast, the indigenes were engaged in alluvial gold mining and were elaborately decorated with gold ornaments (Bosman 1705, Barbot 1732). These records further claimed that gold constituted an integral item of trade between the people of the forest regions and several coastal populations who lived south of them. The earthworks may have served as fortified encampments for these gold miners.

Like gold, slaves constituted an important trade “commodity” in high demand by several European traders on the Guinea Coast during the 15th to late 19th centuries. Early European records indicated that there was high demand for them and that the trade was extremely lucrative for both the slave raiders and European traders. It is probable that the earthworks served as encampment sites where captives were kept prior to being marched to the coast to be sold. They may have also served as fortifications for the settlers in response to slave raiding expeditions characteristic of that period.

The ditches within the embankments may have been utilized as water collecting points during the wet season in the remote past. Rainwater would have drained down into the bottom of the ditches which would have become handy during the dry season when water would have been scarce. This may have been so because during the survey exercise, I observed that water had collected along several portions within the entrenchment.

CONCLUSION

The propositions made above must remain tentative until additional data from further excavations of the remaining four un-investigated earthworks are undertaken. The inner and outer embankments, the bottom of the ditches, as well as areas bordering the earthworks also need to be investigated to discover if they contain any data which could be relevant in shedding more light on them.

The use of aerial photography and ground probing archaeological equipment in future investigations could prove very useful because they can reveal more details of the earthworks which are presently unseen as a result of the thick vegetative cover. It could facilitate the discovery of new sites which are presently unknown to the local people, as well as the purposes for which they were constructed

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