DRAFT

# GHANA EDUCATION IMPACT EVALUATION SURVEY

**2003**

# REPORT ON FINDINGS

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# EXECUTIVE SUMMARY

The 2003 Ghana Education Impact Survey is a nationally representative sample survey. It covered all the 85 clusters selected from the GLSS 2 clusters. The survey covered a total of 1,740 households corresponding to 8,000 individuals. The entire field data collection was completed within six calendar weeks. A total of 710 basic schools and 3,129 teachers were also interviewed. The principal objective of the survey was to provide a wide range of relevant information on educational achievements. In addition, information on school facilities and household characteristics were collected to serve as basis to monitor and evaluate the impact of the Ghana's educational reforms, and to suggest ways to inform future educational policies, programs and projects at the district, regional and national levels.

## Survey instruments

Five data collection instruments were used to collect information form the field.

i. A hundred questionnaires were used to collect information form household members on demographic, economic, education, anthropometrics measurements, agriculture household expenditure, cognitive skill etc.
ii. A school questionnaire covers primary and JSS to obtain information on facilities, staffing and school management that can be used to assess the quality of the physical and human infrastructure.
iii. A teacher questionnaire was used to obtain information on experience, training and motivation of teachers that can be used to assess the quality of schooling in Ghana.
iv. A cognitive skills questionnaire was used to lest educational achievements of all 9-55 years olds in the households and not more than fire teachers selected from all schools within the cluster.

## Main Field Data Collection

A two-week training workshop was organized for personnel involved in the main field data collection activity. This covered the period form 19$^{th}$ to 30$^{th}$ January 2003. After the training and assessment, eight field teams were formed. They conducted household, school and teacher interviews in 84 out of the 85 clusters. One of the clusters surveyed in 1988 was not inhabited in 2003.

Where a school has both primary and JSS, it was treated as two separate schools. If they have the same head teacher, he or she can act as respondent for both the primary and JSS, making ten teachers in all.

## Household Survey

### *Household Interviews*

The household questionnaire was administered in all selected households. Members of household aged 9 to 55 years took the raven test as well as the simple English, Local Languages and Mathematics tests. Those who scored 50 percent or more on these tests were asked to take the advanced tests in English and Mathematics. Height and weight

measurements of members were also taken as one of the basis to assess the nutritional status of household members, especially children under 5 years.

***Demographic characteristics***

Overall, 1740 households from the selected 84 clusters were covered yielding 7191 persons, 53 percent of which were in urban areas and 48 percent male and 52 female. These zones were also covered: Coastal (31%), Forest (44%) and Savannah (25%).

The study indicates, that one in every three (33.5%) households in Ghana is leaded by a female with the central region recording the highest proportion (40%) and the Northern the least (3.3%).

***Education***

The highest certificate or degree obtained by majority of Fathers (73.9%) and Mothers (60.6%) were middle school and junior secondary school certificate. Differentials of parent's education are much pronounced at the tertiary level: Fathers (9.2%) and Mothers (3.0%).

Self-assessment literacy for adults who can read increased from 41.2 percent in 1988 to 50.9 percent in 2003 while those who can write also increased from 39.5 percent in 1988 to 49.1 percent in 2003. Generally, adult literacy rate for males and those residing in urban areas are much higher than females and rural residents respectively.

***Employment***

Information was gathered on economic activities of household members in the 7 days preceding the survey. A little over one-half (54.1%) of persons who are 7 years or older was recorded for current activity, while about a third of the household members worked for 6 days out of the 7 days and 26.7 percent also worked 5 days in the week.

The unemployment rate was 7.4 percent with the male rate (7.9%) is slightly higher than female (7.0%) majority of the non-active persons was students (60.4%): 73.5 percent males and 49.2 percent females.

Information about the occupation of household members was solicited. The most prominent occupations are agriculture (40.9%) and sales (23.6%) while Administrative and Managerial was the least (0.4%).

The industry that one works is closely related his/her occupation. The study results reveal that agriculture, hunting, forestry and fishing is the main industry (41.1%). On the other hand self-employment is the main employment status (77.5%) of the economically active population.

### *Housing*

The predominant type of house in Ghana is compound house with rooms, which represents two-thirds (66.8%) in 2003. There was a sharp increase of household living in separate homes from 7.3 percent in 1988 to 19.0 percent in 2003.

The main material for outer walls of buildings in 1988 was mud-bricks (68.5%), but the situation has changed over the 15-year period, making cement block (52.5%) as the main material in 2003. Indeed, the proportion of main outer walls of buildings increased from 28.9 percent in 1988 to 52.5 percent in 2003 while the proportion of mud bricks declined from 68.5 percent in 1988 to 47.9 percent in 2003.

The study indicated that while rivers/streams, pond and dugout constitute the main (48.8%) sources of drinking water in 1988, the situation has changed, making pipe-borne water the main (48.4%) and bore-hole (26.3%) the main sources of water in 2003. Unfortunately while four-fifth (80.1%) of households in coastal zones used pipe-borne water in 2003, only 12.1 percent of savanna residents used that.

A sizeable proportion of households dumped waste either at a central location or indiscriminately elsewhere for both 1988 (96.4%) and 2003 (83.3%) surveys. Within the same period while pit latrine was much popular in 1988 (56.7%) as the major type of toilet facility, public toilet gain much popularity-in 2003 (29.1%)

## Educational Survey

### *School/Teacher Interviews*

All schools in the selected clusters as well as those just outside the cluster but used by children in the cluster, were surveyed. The listed schools were given a 5-digit identification code. The first 2-digits refer to the cluster number, i.e. 01 through 85, the third digit signifies the type of school, 1 for primary, 2 for JSS and 3 combined school (primary and JSS), the last 2-digit were the serial number of the school within the cluster.

If there is no primary school in an EA, or the primary school in the EA did not cover all six grades, then the nearest primary school to EA was also enumerated. A maximum of five teachers were interviewed form each selected school. They also took the Raven, Advanced English, Advanced mathematics and Local Language tests. Where there were more than 5 teachers in a school, a list of all teachers is prepared to serve as a frame for selected teachers.

### *Changes in school facility*

With respect to adequate number of classrooms, the major education reform, which started in 1987/88, had yield significant impact as the number of adequate number of classrooms increased from 249 in 1988 to 370 in 2002. At the same time, the proportion of primary school classrooms that can be used when raining has tremendously improved from 47.6 percent in 1988 to 61.1 percent in 2003. Similarly, both the quality and quantity of classrooms at JSS have improved.

Provision of libraries has not experienced any appreciable gain for the 15-year period under consideration. The total number of libraries in primary school and increase from 22 (7.7%) in 1988 to 41 (9.8%) while that of JSS increased from 23 (9.9%) to 48 (16.6%) in 2003.

Over 7 out of 10 classrooms at both primary and SSS have chalkboard with enough chalk. Provision of English textbooks also improved during the period. In 1988, 2.4 percent of the pupil at primary school did not have English textbook, every pupil was provided with English textbook in 2003 similarly, while 1.7 percent of the pupil at primary school did out have mathematics textbook, every pupil had received one by 2003.

### *Teacher Quality*

The proportion of schools with full complement of teachers reduced from 91.3 percent in 1988 to 82.7 percent in 2003. Within the same period, unfortunately the proportion of non-trained teachers increased from 2.1% (6) to 17.4 percent (72).

Parent-Teacher Association is popular in Ghana with about 81.9 percent of the schools having PTA, which is active; only 9 out of 408 schools did not have it. It is also significant that 81.1 percent (338) have School Management Committees: 94.7 percent public and 36.1 percent private.

### *Teachers Working Conditions*

About 71.5 percent of teachers indicated that their morale was never a problem, while 12.9 percent said that if was always a problem. Thus, teachers' morale is very high in Ghana.

On regularity of payment of salaries, 52.7 percent of the teachers said that they always received salary on time always, while 13.5 percent said that they never received their salaries regularly.

### *Extra Classes*

About 44.5 percent of teachers did extra classes for pay while 21.8 percent received other sources of payment other than working for extra classes. In terms of working condition, 60.3 percent of teachers said that they are satisfied. Furthermore, 59.6 percent of teachers said that they enjoy teaching, whilst about 55 percent perceived teaching as having poor working condition.

### *Teachers Accommodation*

Only a tenth (10.5%) of teachers have been provided with accommodation by school authorities or the communities of the total number of teachers intervened a majority of them (80.3%) have access to electricity. Furthermore, almost four-fifths (79.1%) of teachers have access to portable water.

# CHAPTER 1

# INTRODUCTION

## 1.1 Background of the Survey

Education is a fundamental element of poverty reduction strategies. This recognition has led the United Nations to set the provision of primary education to all children of the world (for both boys and girls), by year 2015, as one of the Millennium Development Goals.

Ghana typifies many of the challenges faced by African countries as they strive to meet the MDGs. Having established one of the best education systems in Africa, the number of children attending primary school began to fall in the mid-70s. School quality was falling with non-salary recurrent expenditures being squeezed out. Many schools had no more than one textbook to a class and the majority of primary school graduates were illiterate. In 1986, the government embarked on an ambitious reform program to increase efficiency by restructuring pre-university education and increasing cost recovery among senior secondary and tertiary students, enabling resources to be re-allocated to basic education. In the mid-1990s a policy of free, compulsory universal basic education (fCUBE) was launched. Since 1997, the education sector has been decentralized with increased community management and the introduction of School Management Committees and School Performance Assessment Meetings.

The government's efforts to improve education have been supported by the World Bank and other donors. The Bank's assistance began with the Health and Education Rehabilitation Project (HERP), which supplied school learning materials. The reform program was supported by two education sector adjustment credits (EdSAC I and II). These adjustment credits were followed by two investment projects: the Primary School Development Project and the Basic Education Sector Investment Credit (BESIP). The resources provided by the Bank have been predominately used for school building and rehabilitation, and textbook supply. The Bank's support helped the government carry out a reform program that was resisted by the teaching profession and some segments of the population.

Since 1987, the Ghanaian educational system has undergone a process of reforms directed at improving the quality and the availability of educational facilities. Several development partners, particularly the World Bank, have supported the Ghanaian Government's effort. The support of the World Bank has been in the area of school building and rehabilitation, provision of school furniture, teaching materials, teachers' training, advice on institutional reforms and promotion of community involvement.

Apart from the World Bank, other development partners such as DFID, USAID, JICA, CIDA and GTZ have assisted in diverse ways in Ghana's educational reforms.

In order to inform future Ghanaian educational policy, an assessment is required of the impact of the past education interventions on educational outcomes and on the welfare of the Ghanaian households. This report gives the overview of the survey and analysis of the impact on past educational interventions.

## 1.2 Objectives of the Survey

The objective of the present survey is to provide a wide range of information on, educational achievements, school facilities and household characteristics that can be used to assess the impact of the Ghanaian educational reform, and to suggest ways to inform future educational policies at the national level.

The study was a collaboration of the World Bank, Ghana Statistical Service and the Ministry of Education covering 1,740 households, 710 basic schools, and 3,129 teachers. This nationally representative survey was carried out in the same 85 clusters in the country as the education module of the second round of the Ghana Living Standards Survey in 1988/89, enabling a unique and detailed picture of changes in schools over the 15-year period.

## 1.3 Methodology of the Survey

The aim of the survey was to produce data on households' welfare and educational outcomes that can be compared to the information provided by data collected before the inception of the Ghanaian educational reforms. The second round of the Ghana Living Standard Survey (GLSS2) conducted in 1988/1989 has a module, which tested educational achievements of all household members, and teachers in 85 of the 170 Census Enumeration Areas (EAs) surveyed at that time. In 1988 household members tested were 9 – 55 years old with at least three years of schooling. In addition, a school facility survey was carried out in the selected 85 EA of GLSS2.

The current survey is a nationally representative sample survey. It covered all the 85 clusters selected from the GLSS2 clusters. These clusters are now equivalent to 210 Census enumeration areas from the 2000 Population and Housing Census of Ghana. The survey aimed at collecting data on households, teachers and school facilities in the same 85 EA surveyed in 1988. As in 1988, each EA was assigned a number of 'workloads' i.e. a number of households which were interviewed. The survey was expected to cover a total of 1,700 households corresponding approximately to 8000 individuals. The entire data collection was scheduled to be completed within 6 calendar weeks.

## 1.4 Survey Instruments

In order to achieve the objective of the survey, five instruments were used to solicit information from households, schools, teachers and the community.

A *household questionnaire* addressed to household members. It collected information the demographic characteristics, educational attainment, economic activities, weights and heights of all household members. The household questionnaire also collected information on housing conditions, household expenditure, land and livestock ownership as well as cognitive test skills.

A *price questionnaire* for collecting prices of commodities (food and non-food items) purchase by the households in the community markets.

A *school questionnaire* (Primary and JSS) to obtain information on facilities, staffing and school management that can be used to assess the quality of the physical and human infrastructure of basic Ghanaian schools. It covered topics such as school characteristics, enrolment and time allocation, school expenses, school staff and management. All schools in the cluster were surveyed as well as those just outside used by children in the cluster.

A *teacher questionnaire* to obtain information on experience, training and motivation of teachers that can be used to assess the quality of schooling in Ghana. Topics covered include demographic characteristics of the teacher, training, teaching materials, teaching methods, attitudes and methods, incentives and supervision.

A *cognitive skills questionnaire* testing educational achievements of all 9-55 years olds in the households and not more than five teachers selected randomly from all schools within the cluster.

## 1.5 Organization of the Survey

A Project Directorate, assisted by a staff of technical officers and eight data collection and entry teams, conducted the Survey. This was a joint effort between the Ghana Statistical Service (GSS) and the Ministry of Education (MoE) Ghana. The team supervisors were staff from GSS while school/teacher interviewers were staff from the Ministry of Education.

Each of the eight field data collection teams consisted of:

- 1 Supervisor
- 3 Household Interviewers
- 1 School / Teacher Interviewer
- 1 Test Administrator
- 1 Driver

The Supervisor is the team leader, responsible for overseeing, monitoring and where necessary correcting the work of the interviewers and the test administrator. The Supervisor is also responsible for managing the team's equipment, vehicle and funds, and represents the Project Director at the community level. Additionally, the supervisor completes the *price questionnaire* in all EAs visited by the team.

The Interviewers conduct the interviews of the *household questionnaire*. They are also responsible for taking the weights and heights of all members of the household, thus completing the *anthropometric questionnaire* module contained in the household questionnaire.

The School/Teacher Interviewer conducts interviews using the primary school, junior secondary school and teacher *questionnaires*. Not more than five teachers were randomly selected from each school in the cluster. The teachers were also tested in English and mathematics.

The Test Administrator applies the *cognitive skill questionnaire* to all household members aged 9 to 55 years and all selected teachers of the EA visited.

The Driver transports the members of the team to the places where the survey is being carried out. The driver also assisted enumerators with the anthropometrics equipment.

The fieldwork covered a period of seven weeks between February and March 2003

## 1.6 Sample Design

The sample was self-weighting based on the design adopted for GLSS2, outlined in Scott and Amenuvegbe (1989). The design is such as to first randomly sample clusters and then allocate a certain number of workloads to each cluster. The self-weighting formula allocates workloads proportionate to the number of households in the cluster. This section explains this procedure, and the adjustment required to allow for the fact that the clusters were chosen using weights based on population data for a year different to the year of the survey.[1]

### *Two Stage Sampling*

The objective is to take a random sample of *h* households from across the county in which each household has the same probability of being selected. In principle this could be done by making a list of all households in the country and picking *h* households at random from that list. But there are two objections to this approach. First, it is very costly to prepare a list of all households across the country. Second, the selected households would be distributed across all parts of the country so that data collection would also be costly – visiting one household in one village, two in the next, none in the next two villages and one in the next and so on. Two stage, or cluster, sampling tackles both these problems. The first stage is to randomly select clusters (or enumeration areas, EAs) from across the country. The second stage is to randomly select households from within the chosen clusters.

[1] GLSS2 was forced to adopt such an approach since 1984 census data were used to identify the clusters. However, the technique also makes it possible for us to ensure a self-weighting sample using the same cluster as used in GLSS2.

Does this procedure satisfy the requirement that each household in the country have the same probability of selection? It will do so provided that the selection of clusters is population-weighted, that is, the probability of selection of a cluster depends on that cluster's population, with larger clusters having a greater probability of selection. That is

$P_{1,i} = k\ M_i$

where $P_{1,i}$ is the probability of EA i being selected, Mi the population of EA i and k is a constant. Since $\Sigma P_{1,i} = 1$ then $\Sigma k\ M_i = k\ \Sigma\ M_i = k\ P = 1$, where P is total number of households in the country, so that k = 1/P. Hence the probability of selecting cluster i is equal to the cluster's share in the country's population. Defining the sample in this way ensures that it is what is called self-weighting (i.e. is nationally representative without weights being used).

By definition

$P_{2,i} = m_i / M_i$

where $m_i$ is the number of households selected from cluster i. hence the probability of a household being selected is

$P_i = P_{1,i}\ P_{2,i} = k\ M_i\ \ m_i / M_i\ = k\ m_i$

Hence all households have the same probability of selection if $m_i$ is the same for all EAs. That is a constant workload (number of households) *b* is selected from each cluster. Hence

$P_i = f = kb$

where *f* is the fixed probability.

How large is b will depend on the desired sample size, *h*, and the number of clusters, since

$nb = h$

As a rule of thumb, to ensure a representative sample, the number of clusters should not be less than 5 per cent of the total number of EAs.

***The Problem of Timing***

A problem arises if a sample is to be drawn at a time removed from the census. Census data are required for the first stage of the sampling procedure, since reliable data on the population of each EA are required. However, the population of each EA will have changed from Mi to Mi*. Hence:

$P_i = P_{1,i}\ P_{2,i} = k\ M_i\ \ m_i / M_i^*\ = k\ m_i\ M_i / M_i^*$

This expression is no longer made constant by taking a constant $m_i$. That procedure will mean that households in EAs, which have experienced rapid population growth, are under-represented in the sample. Scott and Amenuvegbe (1989) propose a solution to this problem, for which we need to know the current population only of the sampled clusters, which was collected during listing. This solution amounts to interval sampling, with the interval given by the total number of households to be in the sample (1,700 in our case) and the chosen number of households per workload. In GLSS 2 workloads of 16 households were used. Because of the differential growth of the clusters, workloads of 12 households were adopted for this survey.[2]

See the appendix for the sample distribution.

## 1.7 Training and Field Work

A series of training workshops were organized to prepare field workers for the various stages of the survey. The field workers came from staff of the GSS, staff of the Ministry of Education and casual staff with previous experience in surveys conducted by GSS. The contents of the training workshops covered the objectives of the survey, concepts and definitions, use of EA maps and descriptions, interviewing techniques, simulated interviews and field practice.

### *Household and School Listing activity*

The training for the household and school listing activity took place from the 6th to 9th November 2002. Seven teams were formed at the end of the training. Each team consisted of 1 supervisor, 2 listers and a driver. They worked for 6 weeks. Households and schools in all 85 clusters were listed yielding 10,775 residential households and 710 basic schools.

### *Pre-test of Survey Instruments*

The instruments for the survey were tested during the period from 18th to 30th November 2002 in three regions namely, Central, Greater Accra and Volta. Twenty-four field staff drawn from GSS and MOE was grouped into four teams. Each team pre-tested the instruments in one urban and one rural cluster within each region. Volta region had two teams. The Task Manager and a consultant of the World Bank were in the field for the pre-test.

The lessons learnt from the field helped us to finalized the questionnaires and planned adequately for the main field data collection.

[2] Since the sample size was targeted for around 1,700 households using larger workloads would have meant fewer workloads, increasing the possibility that smaller clusters would be excluded from the survey altogether.

***Main Field Data Collection***

A two-week training workshop was organized for personnel involved in the main field data collection activity. This covered the period from 19th to 30th January 2003. After the training and assessment, eight field teams were formed. They conducted household, school and teacher interviews in 84 out of the 85 clusters. One of the clusters surveyed in 1988 was not inhabited in 2003.

Household Interviews

The household questionnaire was administered in all selected households. Members of household aged 9 to 55 years took the raven test as well as the simple English and math tests. Those who scored 50 percent or more on these tests were asked to take the advanced tests in English and math. Tests in the local languages were also administered. Height and weight measurements of members were also taken.

School / Teacher Interviews

All schools in the selected clusters as well as those just outside the cluster but used by children in the cluster, were surveyed. The listed schools were given a 5-digit identification code. The first 2-digits refer to the cluster number, i.e. 01 through 85, the third digit signifies the type of school, 1 for primary, 2 for JSS and 3 for combined school (primary and JSS), the last 2-digits were the serial number of the school within the cluster.

If there is no primary school in an EA, or the primary school in the EA did not cover all six grades, then the nearest primary school to the EA was also enumerated.

A maximum of five teachers were interviewed from each selected school. Where there were more than 5 teachers in a school, a list of all teachers is prepared to serve as a frame for selection. A random number system based on days of the week was used to select the five teachers to be interviewed. The teacher's questionnaires were administered to the selected teachers. They also took the raven, advanced English, advanced math and local language tests.

Where a school was combined, containing both primary and JSS, this was treated as two separate schools. If they have the same head teacher, he or she can act as respondent for both schools. In such cases five teachers would be interviewed from both the primary and JSS, making ten teachers in all.

Efforts were made to match the schools surveyed in 1988 with those surveyed in 2003.

Procedure to Match Schools from 1988

It was essential for the study design that the field teams identify which of the schools in each EA were previously surveyed.

Unfortunately there was only a short list of some of the schools in some (about 20) of the clusters, in the 1988 school list. Most of the names in that list do not match the names reported from the 2003 listing exercise (that is schools are given in the listing but not in

the school list, which is to be expected, but also schools in the 1988 school list are not included in the listing, which is more surprising). It is therefore necessary to match on characteristics.

The key characteristic on which to match is the year of establishment. This is the only piece of data collected in both surveys, which should not change, between the two surveys. Within each cluster the year of establishment is unique in all but a handful of cases (i.e. only rarely do two schools in the same cluster have the same year of establishment). Hence the year of establishment should be sufficient to make the match. However, other data are also provided to help verification, or to provide further information where there is doubt.

The other data provided are:

- Status: public, private and private religious. Status is very unlikely to have changed. However, there are few schools in the second two categories, so the usefulness of this variable is limited.

- Electricity: a school without electricity now will not have had it in 1988. The rural electrification programme of the 1990s may undermine the usefulness of this variable.

- School size (number of teachers and pupils): this variable will be of little use to enumerator himself or herself, but can be used in verifying a match with a key informant.

***Data Capture and Processing***

A training workshop was organized for fifteen Data Capture staff from the 17th to 21st February 2003. The best 12 were selected after assessment to capture field returns from the survey. They were taught how to use the data capture programs written in IMPS to enter and verify the data. They were also taken through simple editing (modification) of the data. The program was designed to check automatically, inconsistencies with the data. The data-entry staff captured the data within six weeks. Editing and cleaning of the data was accomplished using a program designed in IMPS – CONCOR. Processing and analysis was done with STATA, SPSS, CSPro and IMPS.

## 1.8 Overview of the Survey

Data collection focused on a household and school survey replicating the data collected in the second round of the Ghana Living Standards Survey (GLSS2) in 1988/89. Interviews were carried out in 84 of the 85 clusters covered by the 1988 survey, including 1,740 households, 710 schools and 3,129 teachers (Table 1.1). Over 3,500 people took achievement tests.

**Table 1.1: Coverage of data collection instruments**

| | *1988* | *2003* |
|---|---|---|
| Clusters | 170 whole survey<br>85 education module | 84[a] |
| Household survey | | |
| Households[b] | 3,190 | 1,740 |
| Individuals[b] | 14,924 | 7,191 |
| Tests[c] | 3,718 | 3,582 |
| School survey | | |
| Primary | 286 | 417 |
| Middle/JSS | 233 | 289 |
| Teachers | 0 | 3,129 |

a. One cluster was no longer inhabited in 2003
b. In 1988 approximately half of these numbers were in clusters covered by the education module
c. Number of people taking the Raven's test.

The unique feature of the study design was the application of the same English and math tests used 15 years earlier. The nationally representative random sample of people taking the same test over this period gives a firm basis for mapping progress in learning outcomes. The study is unusual in linking data on both school and household characteristics with student test scores, allowing analysis of the factors behind changes in school attainment and achievement. The data also allow analysis of changes in school-level inputs over the period of the study.

The data were collected by Ghana Statistical Service, working in collaboration with the Ministry of Education, who advised on the design of the school and teacher questionnaires and provided enumerators for the school survey.

The survey was completed in 1,740 households, 56 percent of which were in urban areas. A total of 7,191 persons were covered, 53 percent of which were in urban areas and 48 percent male. The survey covered three ecological zones: Coastal (31%), Forest (44%), and Savannah (25%).

The school survey covered 710 basic schools, made up of 421 primary schools and 289 junior secondary schools (JSS). Ninety-three of these schools have both primary and JSS units. Of the Primary Schools, 62.7 percent were in the urban communities, 76.2 percent were public schools while religious bodies owned 53 percent. The JSS had 66 percent in urban areas, nearly 85 percent were public and about 46 percent have religious affiliation.

A maximum of 5 teachers were randomly selected from all the schools in the cluster. A total of 3,129 teachers were interviewed, made up of 59.4 percent males and 40.6 percent female teachers.

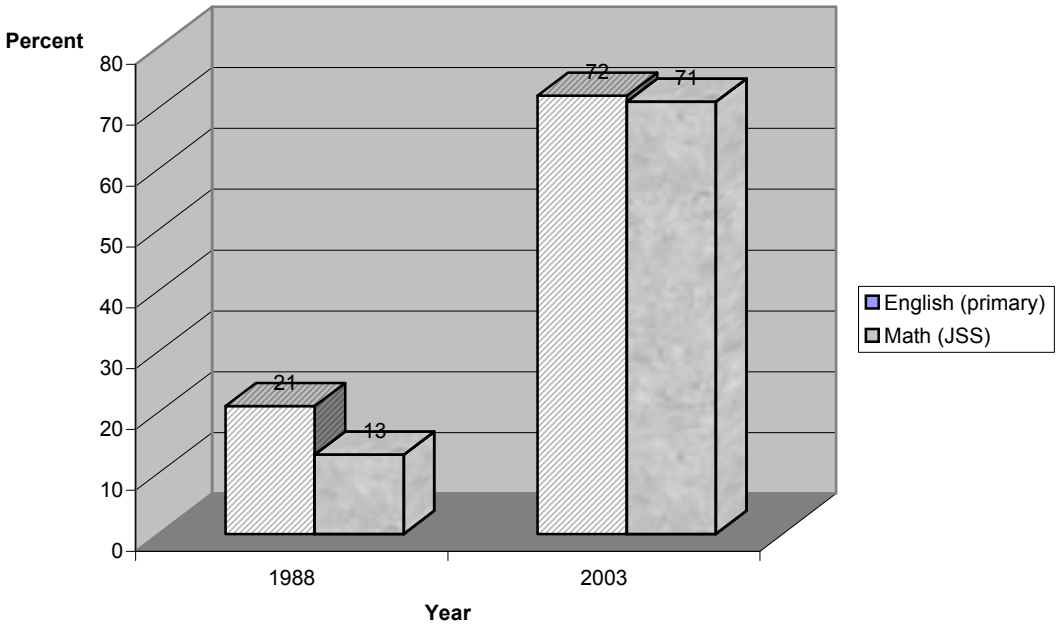
Price data were collected for 97 local markets within the selected clusters.

## 1.9 Summary of Findings

Analyses of the survey data show large improvements in school quality, especially with respect to material inputs. For example:

- In 1988, less than half of schools could use all their classrooms when it was raining, but in 2003 over two-thirds can do so.
- Fifteen years ago over two-thirds of primary schools reported occasional shortages of chalk, only one in 20 do so today, with 86 percent saying there is always enough.
- The percentage of primary schools having at least one English textbook per pupil has risen from 21 percent in 1988 to 72 percent today and for math books in Junior Secondary School (JSS) these figures are 13 and 71 percent, respectively (Fig 1.1).

**Fig 1.1: Primary/JSS schools having a textbook per pupil, 1988 and 2003**




School quality has improved across the country: in poor and non-poor communities alike. But there is a growing disparity within the public school sector. Increased reliance on community and district financing means that schools in relatively prosperous areas continue to enjoy better facilities than do those in less well off communities. Future investments in school quality cannot be solely demand driven, which will tend to favor the better off. Demand-driven programs should be complemented by interventions in disadvantaged schools, which can be identified through the annual school census conducted as part of the Education Management Information System (EMIS).

The importance of the private sector has increased greatly in the last 15 years. Close to 20 percent of the schools in the survey areas are private, compared to fewer than 5 percent five years ago. Private schools are not all elite schools. Many are in relatively poor areas and many do not perform well on quality measures.

Improving school quality has been accompanied by increased enrolments, which have grown by 10 percent over the 15 years. By 2000, over 90 percent of Ghanaians aged 15 and above had attended school compared to 75 percent 20 years earlier. In addition, dropout rates have fallen, so completion rates have risen: by 2003, 92 percent of those entering grade 1 complete Junior Secondary School (grade 9). Gender disparities have been virtually eliminated in basic enrolments. Primary enrolments have risen in both disadvantaged areas and amongst the lowest income groups. The differential between both the poorest areas and other parts of the country, and between enrolments of the poor and non-poor, have been narrowed but are still present.

Using the English test results to measure literacy shows that the literacy rate among those aged 15-24 (one of the MDG indicators) has risen from 49 percent to 68 percent between 1988 and 2003. The increase in school quality (higher scores achieved by those enrolled in school) accounts for over half (57 percent) the increase in literacy, with the remainder coming from increased quantity (higher enrolments).

Statistical analysis of the survey results shows the importance of school infrastructure on enrolments. Building a school, and so reducing children's travel time, has a major impact on enrolments. While the majority of children live within 20 minutes of school, some 20 percent do not and school building has increased enrolments among these groups. In one area surveyed, average travel time to the nearest school was cut by 45 minutes with enrolments increasing from 10 to 80 percent. In two other areas average travel time was reduced by nearly 30 minutes and enrolments increased by over 20 percent. Rehabilitating classrooms so that they can be used when it is raining also positively affects enrolments. Complete rehabilitation can increase enrolments by as much as one third. Across the country as a whole, the changes in infrastructure quantity and quality have accounted for a 4 percent increase in enrolments between 1988 and 2003, about one third of the increase over that period. A large part of this improvement can be attributed to the World Bank, which has been overwhelmingly the main funder of better infrastructure in this period.

Learning outcomes depend significantly on school quality, including textbook supply. Bank-financed textbook provision accounts for around one quarter of the observed improvement in test scores. But other major school-level determinants of achievement such as teaching methods and supervision of teachers by the head teacher and circuit supervisor have not been affected by the Bank's interventions. The Bank has not been heavily involved in teacher training and plans to extend in-service training have not been realized. Support to "hardware" has been shown to have made a substantial positive contribution to both attainment and achievement. But when satisfactory levels of inputs are reached — which is still far from the case for the many relatively deprived schools — future improvements could come from focusing on what happens in the classroom.

However, the Bank's one main effort to change incentives — providing head teacher housing under the Primary School Development Project in return for the head teacher signing a contract on school management practices — was not a great success. Others, notably DFID and USAID, have made better progress in this direction but with limited coverage.

# CHAPTER 2

# DEMOGRAPHIC CHARACTERISTICS

## 2.1 Household Composition

A household is defined as a person or group of persons who have the same catering and sleeping arrangements and identified one among them as the head. For the purposes of this survey, one was considered a member of a household if he or she in addition to the criteria set above, had been present with the household for a period of 9 months or more within the last twelve months preceding the interview. The household head and infants less than 3 months were considered to be automatic members of the household.

Households in the sample were mainly Ghanaians (98.2%) and were composed mainly of heads (24.7%), spouses (12.9%), sons and daughters (45.8%) and grandchildren (7%). While males constituted 47.6 percent of the household, females represented 52.4 percent. The age distribution showed that more than half (51.4%) of the members of the household were less than 25 years and about 46.8 percent were not married. Those who were married constituted 37.1 percent (33.6% monogamous and 3.5% polygamous). A little over half (52.8%) of the of the study population lived in the urban areas.

## 2.2 Average Household Size

Table 2.1 presents average household size by region, zone and locality. According to the survey, the average household size in Ghana was 4.0. While the Northern Region had the highest household size of 7.6, Ashanti had the lowest average household size of 3.4. Central, Volta, Eastern, Ashanti and Brong Ahafo had average household sizes much lower than the national average.

Household size in the rural area (4.3) was higher than in the urban area (3.8). In terms of ecological zone, savannah recorded the highest (5.0) while the forest recorded the lowest (3.6).

**Table 2.1: Average household size by region, zone and locality**

| Selected Characteristics | Number of Households | Average Household Size | N |
|---|---|---|---|
| **Region** | | | |
| Western | 168 | 4.4 | 735 |
| Central | 120 | 3.6 | 434 |
| Greater Accra | 240 | 4.3 | 1,024 |
| Volta | 204 | 3.8 | 783 |
| Eastern | 192 | 3.7 | 707 |
| Ashanti | 396 | 3.4 | 1,337 |
| Brong Ahafo | 240 | 3.9 | 947 |
| Northern | 60 | 7.6 | 453 |
| Upper East | 72 | 5.3 | 383 |
| Upper West | 48 | 4.9 | 234 |
| **Locality** | | | |
| Urban | 972 | 3.8 | 3,715 |
| Rural | 768 | 4.3 | 3,322 |
| **Zone** | | | |
| Coastal | 528 | 4.1 | 2,176 |
| Forest | 864 | 3.6 | 3,110 |
| Savannah | 348 | 5.0 | 1,751 |
| Total | 1,740 | 4.0 | 7,037 |

## 2.3 Ages and Sex Distribution of Household Members

The results in Table 2.2 gives an indication that the sample is a young population with 51.2 percent of the population aged less than 20 years old and about 66.6 percent aged less than 30 years. The proportion of children aged less than 15 years in the rural areas is higher than in the urban areas. The dependent population (aged less than 15 years and older than 64 years) forms a total of 45.0 percent (40.2% less than 15 years old and 5.0% more than 64 years).

Up to about 24 years, the proportion of males tends to be higher than the proportion of females. However after age 24, for most of the age groups, females tend to be in slightly higher proportions than males.

The mean age of a household is 24.5 years. The mean age is lower for males (23.9 years) than females (25.1 years). The mean age for household members in urban areas is higher (25.4 years) than in the rural areas (23.5 years).

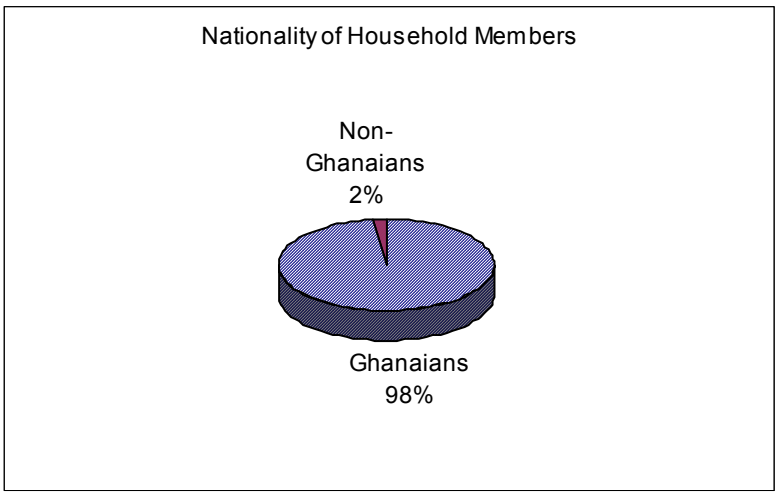
**Table 2.2: Age and sex distribution and mean age (years) of household members by locality, zone and sex**

| Selected Characteristics | Locality | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Urban | | | Rural | | | All | | |
| | Male | Female | Both | Male | Female | Both | Male | Female | Total |
| **Age Group** | | | | | | | | | |
| 0-4 | 10.2 | 11.0 | 10.6 | 17.0 | 13.5 | 13.6 | 13.4 | 12.2 | 12.8 |
| 5-9 | 12.4 | 10.3 | 11.3 | 14.9 | 16.7 | 15.8 | 13.6 | 13.3 | 13.4 |
| 10-14 | 12.8 | 13.6 | 13.2 | 15.7 | 13.3 | 14.4 | 14.2 | 13.4 | 13.8 |
| 15-19 | 13.2 | 11.7 | 12.4 | 10.9 | 8.9 | 9.9 | 12.1 | 10.4 | 11.2 |
| 20-24 | 10.5 | 8.7 | 9.5 | 6.4 | 6.4 | 6.4 | 8.6 | 7.6 | 8.1 |
| 25-29 | 7.2 | 9.3 | 8.5 | 5.2 | 6.5 | 5.9 | 6.4 | 8.0 | 7.3 |
| 30-34 | 6.5 | 6.4 | 6.4 | 5.1 | 6.1 | 5.6 | 5.8 | 6.3 | 6.0 |
| 35-39 | 4.3 | 5.7 | 5.0 | 5.2 | 6.2 | 5.7 | 4.7 | 5.9 | 5.4 |
| 40-44 | 5.5 | 6.1 | 5.8 | 3.8 | 5.0 | 4.4 | 4.7 | 5.6 | 5.2 |
| 45-49 | 4.3 | 3.9 | 4.1 | 3.2 | 3.4 | 3.3 | 3.8 | 3.7 | 3.7 |
| 50-54 | 3.3 | 3.5 | 3.4 | 3.4 | 2.8 | 3.1 | 3.3 | 3.2 | 3.3 |
| 55-59 | 2.7 | 3.0 | 2.9 | 2.2 | 2.5 | 2.4 | 2.5 | 2.8 | 2.6 |
| 60-64 | 2.5 | 2.3 | 2.4 | 1.6 | 2.6 | 2.1 | 2.1 | 2.5 | 2.3 |
| 65-69 | 1.6 | 1.5 | 1.5 | 2.1 | 1.4 | 1.8 | 1.9 | 1.5 | 1.7 |
| 70-74 | 1.3 | 1.0 | 1.2 | 1.4 | 1.8 | 1.6 | 1.3 | 1.4 | 1.3 |
| 75+ | 1.4 | 1.9 | 1.6 | 2.0 | 2.6 | 2.3 | 1.7 | 2.2 | 2.0 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Mean age | 25.1 | 25.7 | 25.4 | 22.5 | 24.5 | 23.5 | 23.9 | 25.1 | 24.5 |
| N | 1,786 | 1,929 | 3,715 | 1,595 | 1,727 | 3,322 | 3,381 | 3,656 | 7,037 |

## 2.4 Nationality

Figure 2.1 shows that a great majority of the population under study was Ghanaian (98%), while the rest (2%) is made up of other nations.

**Figure 2.1: Percentage distribution of nationality of the surveyed population**



## 2.5 Marital Status

Questions were asked about the marital status of members of the household who were 12 years or older. As provided in Table 2.3, greater proportions of the household members who are less than 18 years for males (48.6%) and females (58.65) have never married. Majority of the married household members for both sexes were in age group 25-50 or 51+ years. It is noticeable from Table 2.3 that a over 80 percent of males and females who were widow/widower were 51 years or above. The study also reveals that a higher proportion of younger females (2.7%) tend to be in form of marriage relationship at earlier age (less than 18 years) than boys (0.0%). This situation may account for the relatively high annual population growth rate (2.4%) and relatively lesser female (44.7%) compared to male (55.3%) on current enrolments rates in Ghana (2003) between the two sexes.

**Table 2.3: Marital status of household members by sex (6 years and over)**

| | Sex | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Selected Characteristics | Male | | | | | | Female | | | | | |
| Marital Status | <18 | 18-24 | 25-50 | 51+ | Total | N | <18 | 18-24 | 25-50 | 51+ | Total | N |
| Married monogamous | 0.0 | 2.2 | 64.3 | 33.5 | 100.0 | 854 | 0.3 | 9.0 | 72.6 | 18.1 | 100.0 | 921 |
| Married polygamous | 0.0 | 0.9 | 48.8 | 50.3 | 100.0 | 109 | 0.0 | 3.1 | 78.7 | 18.2 | 100.0 | 154 |
| Loose union | 0.0 | 14.4 | 80.1 | 5.5 | 100.0 | 84 | 2.7 | 33.6 | 63.0 | 0.7 | 100.0 | 149 |
| Divorced | 0.0 | 4.4 | 46.0 | 49.6 | 100.0 | 52 | 0.6 | 5.2 | 56.1 | 38.1 | 100.0 | 173 |
| Separated | 0.0 | 3.7 | 70.3 | 26.0 | 100.0 | 27 | 0.0 | 4.8 | 74.2 | 21.0 | 100.0 | 42 |
| Widow or widower | 0.0 | 0.0 | 12.0 | 88.0 | 100.0 | 25 | 0.0 | 1.2 | 14.4 | 84.4 | 100.0 | 227 |
| Never married | 48.6 | 34.3 | 16.7 | 0.4 | 100.0 | 1,204 | 58.6 | 30.4 | 10.9 | 0.1 | 100.0 | 923 |

## 2.6 Household Headship

The results of the survey in Table 2.4 indicate that about one in every three households in Ghana had a female as the head of the household. While females headed over 40 percent of households in Central and Ashanti, only 3.3 percent of households headed by females were recorded in the Northern Region. The urban areas recorded a higher proportion of households headed by females (34.8%) than rural (31.9%). This is the case for the coastal (33.3%) and forest areas (39.4%) against the savannah (19.3%) zone.

**Table 2.4: Distribution of household heads by sex, region, locality and zone**

| Selected Characteristic | Sex | | Total | N |
|---|---|---|---|---|
| | Male | Female | | |
| **Region** | | | | |
| Western | 72.0 | 28.0 | 100.0 | 168 |
| Central | 55.0 | 45.0 | 100.0 | 120 |
| Greater Accra | 67.1 | 32.9 | 100.0 | 240 |
| Volta | 64.7 | 35.3 | 100.0 | 204 |
| Eastern | 65.6 | 34.4 | 100.0 | 192 |
| Ashanti | 54.0 | 46.0 | 100.0 | 396 |
| Brong Ahafo | 71.7 | 28.3 | 100.0 | 240 |
| Northern | 96.7 | 3.3 | 100.0 | 60 |
| Upper East | 87.5 | 12.5 | 100.0 | 72 |
| Upper West | 91.7 | 8.3 | 100.0 | 48 |
| **Locality** | | | | |
| Urban | 65.2 | 34.8 | 100.0 | 972 |
| Rural | 68.1 | 31.9 | 100.0 | 768 |
| | | | | **Zone** |
| Coastal | 66.7 | 33.3 | 100.0 | 528 |
| Forest | 60.6 | 39.4 | 100.0 | 864 |
| Savannah | 80.7 | 19.3 | 100.0 | 348 |
| Total | 66.5 | 33.5 | 100.0 | |
| N | 1,157 | 583 | 1,740 | |

## 2.7 Educational Background of Household Members

### *Educational background of parents*

The socio-economic background of parents goes a long way to influence child growth, development and career. Subsequently, parents educational level plays a crucial role in determining household welfare including children's education.

Table 2.5a presents statistical information about parents' educational qualification by locality. Majority of fathers (73.9%) and mothers (60.6%) had obtained middle school or secondary education.

Mothers, who had not attained any certificate/diploma or degree in education, are significantly higher (32.1%) than fathers (11.2%). Differentials of mothers' and fathers' education were much pronounced at the tertiary level. While 3.0 percent of mothers had degree in tertiary education, a significant higher proportion (9.2%) of fathers on the other hand had degree in tertiary education.

**Table 2.5a: Education Attainment of Parents of Household Members**

| Selected Characteristics | Parent | | | | | |
|---|---|---|---|---|---|---|
| | Father | | | Mother | | |
| | Locality | | | | | |
| | Urban | Rural | All | Urban | Rural | All |
| **Highest Certificate** | | | | | | |
| None | 9.4 | 14.5 | 11.2 | 29.2 | 38.4 | 32.1 |
| MSLC/JSS | 73.1 | 75.1 | 73.9 | 61.8 | 58.1 | 60.7 |
| Com./Voc. | 4.9 | 5.3 | 5.0 | 4.9 | 2.0 | 3.9 |
| Tertiary | 11.6 | 5.0 | 9.2 | 3.9 | 1.5 | 3.0 |
| Other | 1.0 | 0.1 | 0.7 | 0.2 | 0.0 | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 1,320 | 726 | 2,046 | 603 | 279 | 882 |

Parents' certificate/diploma or degree in educational attainment by zone is presented in Table 2.5b. For all zones, large percentages of both fathers and mothers had the Middle School Leaving Certificate or JSS. Fathers in the savannah zone had the highest percentage (12.9%) with tertiary degree while fathers in the forest belt had the least figure (6.6%). In the case of mothers, persons living in the coastal areas had a relatively higher percentage (5.8%) with tertiary degree compared with mothers in the forest and savannah zones.

**Table 2.5b: Highest Certificate/Diploma or Degree obtained by Father and Mother by Zone**

| Selected Characteristics | Parent | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Father | | | | Mother | | | |
| | Coastal | Forest | Savannah | All | Coastal | Forest | Savannah | All |
| **Highest Certificate** | | | | | | | | |
| None | 8.8 | 12.2 | 10.4 | 32.1 | 23.2 | 38.8 | 33.3 | 11.2 |
| MSLC/JSS | 73.1 | 75.1 | 74.2 | 60.7 | 65.0 | 56.8 | 66.7 | 73.9 |
| Com./Voc. | 4.9 | 5.3 | 2.5 | 3.9 | 5.8 | 2.7 | 0.0 | 4.9 |
| Tertiary | 12.5 | 6.6 | 12.9 | 3.0 | 5.7 | 1.2 | 0.0 | 9.2 |
| Other | 0.7 | 0.8 | 0.0 | 0.3 | 0.3 | 0.5 | 0.0 | 0.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 746 | 1,118 | 202 | 2,006 | 472 | 48 | 882 | 1,402 |

## Adult Self-Assesment Literacy

Adult literacy is recognized worldwide as one of the basic indicators of development. Various studies conducted in Ghana and elsewhere suggest that education is positively associated with earnings, good health, family planning, clean environment and cognitive satisfaction. Literacy is also considered as the key that could easily be utilized to open up the frontier of opportunities for the individual and country as a whole.

In the survey, a set of questions (with a simple response; Yes or No) were asked to facilitate the estimation of adult literacy and numeracy rates. Table 2.6 presents the results of the study. Generally, adult literacy and numeracy rates in all the subjects' areas

increased in 2003 over the 1988/89 results. Within the same period, the proportion of members of households who could read increased from 41.2 percent (1988/89) to 50.9 percent (2003). For members of households who could read, the proportion of males increased from 54.6 percent in 1998/89 to 63.5 percent in 2003, as compared to females for whom the figure rose from 29.5 percent to 39.7 percent. For the three subject areas that households members were tested, it appears that both males and females did relatively better in Arithmetic than the rest of the subjects. For instance in 1988/89 and 2003, marks obtained by females and males in Arithmetic were higher than the other subjects.

**Table 2.6: Adult literacy and numeracy rates by locality and sex (percent)**

| Selected Characteristics | Year | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1988 | | | | | 2003 | | | | |
| Locality | Can Read | Can Write | Can Do Arithmetic | 3Rs | N | Can Read | Can Write | Can Do Arithmetic | 3Rs | N |
| **Accra** | | | | | | | | | | |
| Male | 86.4 | 84.9 | 90.7 | 84.7 | 418 | 90.2 | 89.4 | 93.1 | 86.9 | 251 |
| Female | 65.7 | 65.5 | 74.0 | 64.3 | 434 | 74.6 | 73.5 | 81.0 | 72.4 | 283 |
| Total | 75.8 | 74.5 | 82.2 | 74.3 | 852 | 81.9 | 81.0 | 86.7 | 79.2 | 534 |
| **Other Urban** | | | | | | | | | | |
| Male | 66.2 | 64.9 | 76.2 | 64.7 | 590 | 70.2 | 69.1 | 78.3 | 66.2 | 927 |
| Female | 39.4 | 38.7 | 49.7 | 37.3 | 1,032 | 46.4 | 45.3 | 57.0 | 42.9 | 1,007 |
| Total | 51.8 | 50.4 | 62.0 | 50.0 | 1,922 | 57.9 | 56.7 | 67.2 | 54.1 | 1,934 |
| **Rural** | | | | | | | | | | |
| Male | 45.2 | 43.6 | 55.5 | 43.5 | 2,500 | 48.3 | 47.0 | 58.9 | 45.4 | 854 |
| Female | 20.4 | 18.1 | 28.5 | 18.0 | 2,870 | 22.9 | 21.1 | 36.9 | 20.6 | 991 |
| Total | 32.0 | 30.0 | 41.1 | 29.9 | 5,370 | 34.6 | 33.0 | 47.0 | 32.1 | 845 |
| **All** | | | | | | | | | | |
| Male | 54.6 | 53.1 | 64.2 | 53.0 | 3,808 | 63.5 | 62.4 | 72.0 | 60.0 | 2,032 |
| Female | 29.5 | 27.4 | 38.1 | 27.3 | 4,336 | 39.7 | 38.2 | 51.2 | 36.9 | 2,251 |
| Total | 41.2 | 39.5 | 50.3 | 39.3 | 8,144 | 50.9 | 49.6 | 61.0 | 47.8 | 4,313 |

Literacy and numeracy rates for males were higher than females in all subject matter areas. Noticeable among the localities is that Accra rates were higher than other urban and rural areas rates. All the literacy and numeracy indicators showed that households residing in rural areas obtained significantly lower rates compared with other localities, especially with households in Accra.

## Adult Literacy and Test Scores

Self-assessment literacy may be misleading in the sense that a simple response as whether a person can read and write is not enough. Consequently, literacy of household members were assessed in relation to the marks they scored in simple reading in English and Mathematics.

Table 2.7 shows that in all, 1.7 percent of household members who were literate scored zero marks in the Easy Reading in English. While a little over 9 percent scored 50

percent of the marks, 34.1 percent scored 100 percent. If pass mark is set at 50 percent (4 marks) or higher, then 20 out of every 100 household members who were literate failed in what may be considered as a very simple (ABC) test in English. Considering the fact that English is the official language in Ghana, the performance could be considered extremely poor and worrying.

The Table further shows that 1.0 percent of urban household members who were literate score zero out of the 8 marks in the Easy Reading in English Test, while a higher proportion (3.7%). The proportion of household members who were literate in the urban locality (35.3%) was higher than in the rural areas (30.4%) for household members who scored all-100 percent (8/8) in the test. Again If 50 percent (4) is considered as the pass mark in the test, then about 18 percent on household members in the urban locality and a considerable higher proportion (26.6%) of household members in rural locality failed in the Easy Reading Test in English.

When data is disagggregated by sex, while 2.7 percent of literate females household members scored zero in the test, less than 1 percent (0.4%) of males did so. Setting 50 percent as the pass mark, the irony this time is that while a higher proportion (22.3%) of males failed in the Easy Reading Test in English, a lesser proportion of the literate females household members (18.3%) failed the test. This situation has a very serious implication for educational development in Ghana. Efforts must be made to encourage reading of simple reading materials for both sexes.

**Table 2.7: Proportion of Household members who were Literate and Test Scored in easy reading in English**

| Selected Characteristics | Test Scores in Easy Reading in English | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Literate | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Total | N |
| **Locality** | | | | | | | | | | | |
| Urban | 1.0 | 4.2 | 5.4 | 7.4 | 9.1 | 5.2 | 7.7 | 24.7 | 35.3 | 100.0 | 405 |
| Rural | 3.7 | 3.7 | 9.6 | 9.6 | 8.9 | 3.7 | 5.2 | 25.2 | 30.4 | 100.0 | 135 |
| **Zone** | | | | | | | | | | | |
| Coastal | 1.2 | 2.6 | 6.3 | 4.8 | 8.1 | 6.7 | 7.7 | 27.8 | 34.8 | 100.0 | 270 |
| Forest | 2.6 | 6.1 | 7.0 | 11.8 | 9.2 | 3.5 | 5.8 | 21.1 | 32.9 | 100.0 | 229 |
| Savannah | 0.0 | 2.4 | 4.8 | 7.1 | 14.3 | 0.0 | 9.5 | 26.2 | 35.7 | 100.0 | 42 |
| **Sex** | | | | | | | | | | | |
| Male | 0.4 | 5.3 | 7.7 | 8.9 | 7.7 | 4.5 | 6.1 | 24.4 | 35.0 | 100.0 | 246 |
| Female | 2.7 | 3.1 | 5.4 | 7.1 | 10.2 | 5.2 | 7.8 | 25.2 | 33.3 | 100.0 | 294 |
| All | 1.7 | 4.1 | 6.5 | 8.0 | 9.1 | 4.8 | 7.0 | 24.8 | 34.1 | 100.0 | 540 |

Table 2.8 presents the test results of literate household members in Local Language. In all, over 2 percent of literate household members scored zero in the Local language test

while 21.4 percent failed in the test. Over a third (33.9%) scored all the marks (8/8), a performance similar to the Easy Reading test in English.

At the locality level, a relatively larger proportion of urban literate household members (2.4%) compared to 3.6 percent rural household members scored zero in easy reading in local language. Again if pass mark is set at 50 percent, nearly twice of urban (24.2%) compared to rural household members (12.6%) failed.

In terms of sex, while a greater proportion of literate female household members (4.4%) performed poorly by scoring zero in the Local Language compared to males (1.1%), they performed comparatively better as lesser proportion (9.1%) failed the test in relation to males (24.3%).

**Table 2.8: Proportion of Household Members who were literate and Test Scored in Local Language**

| Selected Characteristics | Test Scores Marks in easy Reading in Local Language | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Literate | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Total | N |
| **Locality** | | | | | | | | | | | |
| Urban | 2.4 | 3.6 | 9.7 | 8.5 | 6.1 | 9.7 | 12.1 | 15.2 | 32.7 | 100.0 | 165 |
| Rural | 3.6 | 0.1 | 1.8 | 7.1 | 8.9 | 7.1 | 12.5 | 21.4 | 37.5 | 100.0 | 56 |
| **Zone** | | | | | | | | | | | |
| Coastal | 1.8 | 1.8 | 14.3 | 3.5 | 3.6 | 14.3 | 17.9 | 17.8 | 25.0 | 100.0 | 56 |
| Forest | 3.6 | 2.9 | 6.5 | 10.1 | 8.7 | 5.1 | 10.9 | 15.2 | 37.0 | 100.0 | 270 |
| Savannah | 0.0 | 3.7 | 0.1 | 7.4 | 3.7 | 18.5 | 7.4 | 22.2 | 37.0 | 100.0 | 27 |
| **Sex** | | | | | | | | | | | |
| Male | 1.1 | 3.2 | 7.4 | 12.6 | 3.2 | 6.3 | 10.4 | 17.9 | 37.9 | 100.0 | 95 |
| Female | 4.0 | 2.4 | 7.9 | 4.8 | 9.5 | 11.0 | 13.5 | 15.9 | 31.0 | 100.0 | 126 |
| All | 2.7 | 2.6 | 8.0 | 8.1 | 6.7 | 9.0 | 12.2 | 16.7 | 33.9 | 100.0 | 221 |

Mathematics is perceived as a difficult subject at all levels of education in Ghana, including the home. Table 2.9 indicates that less than 17 percent of literate household members scored 100 percent in the Easy Mathematics, which is relatively lower compared to scores in Easy Reading in English (34.1%) and the Local Language (34.1%).

The Table further shows that while 19.9 percent of literate male household members obtained marks below 50 percent in the Easy Mathematics Test, the failure rate for females is lower (17.5%). There is no much variation in test scores in Easy Mathematics between Rural and urban literates.

**Table 2.9: Literacy and Test Scores of Household Members in Easy Mathematics**

| Selected Characteristics | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Literate | Test Scores Marks in Easy Mathematics | | | | | | | | | | |
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Total | N |
| **Locality** | | | | | | | | | | | |
| Urban | 0.5 | 1.4 | 2.3 | 7.2 | 13.6 | 11.8 | 22.2 | 24.0 | 17.0 | 100.0 | 441 |
| Rural | 1.2 | 3.6 | 3.6 | 7.7 | 8.9 | 16.7 | 23.2 | 19.6 | 15.5 | 100.0 | 168 |
| **Zone** | | | | | | | | | | | |
| Coastal | 0.0 | 0.4 | 1.4 | 5.4 | 12.5 | 13.6 | 26.5 | 21.9 | 18.3 | 100.0 | 279 |
| Forest | 1.4 | 3.6 | 4.3 | 9.6 | 11.4 | 11.0 | 19.2 | 23.5 | 16.0 | 100.0 | 281 |
| Savannah | 0.0 | 2.0 | 0.0 | 6.1 | 16.4 | 22.4 | 18.4 | 24.5 | 10.2 | 100.0 | 49 |
| **Sex** | | | | | | | | | | | |
| Male | 0.7 | 1.8 | 2.9 | 8.3 | 11.2 | 12.3 | 22.0 | 22.4 | 18.4 | 100.0 | 277 |
| Female | 0.6 | 2.1 | 2.4 | 6.6 | 13.3 | 13.8 | 22.9 | 23.2 | 15.1 | 100.0 | 332 |
| All | 0.7 | 2.0 | 2.6 | 7.4 | 12.3 | 13.1 | 22.5 | 22.8 | 16.6 | 100.0 | 609 |

## Adult Literacy and Test Scores: 1988 and 2003 Compared

Table 2.10 compares test results in Easy Reading in English and Easy Mathematics for 1988 and 2003. In the Easy Reading Test in English, there was a significant improvement as the failure rate (marks scored below 4 or 50%) dropped from a higher proportion in 1988 (29.8%) to 20.3 percent in 2003; almost 10 percentage point. In addition, the proportion of household members who scored zero significantly dropped from 16.2 percent in 1988 to 1.7 percent in 2003.

In the case of Easy Mathematics, the failure rates are virtually the same for 1988 (20.9%) and 2003 (21.4%). The proportion of household members who scored zero in 2003 (2.7%) is slightly higher than in 1988 (2.5%). However, the proportion of household members who scored all (100%) was significantly higher in 2003 (33.9%) compared to 1988 (19.0%). Generally, it can be deduced that there have been improvements in performance of household members in test scores in both subjects in 2003 over 1988. However, it appears that while performance in English is consistent, that of Mathematics is unpredictable over the 15 year period.

Considering the fact that English is a medium of instruction in schools and the official language in Ghana, and also basic Mathematics is fundamental in transacting business everyday life, for those who are considered literate, the proportion of households that failed and even scored zero has a serious consequences in national development agenda. There is the urgent need to revamp education, especially in English and Mathematics at all levels of society.

**Table 2.10: Literacy and Test Scores of Literate Household Members in Easy Reading in English and Easy Mathematics**

| Selected Characteristics | | English | | Mathematics | |
|---|---|---|---|---|---|
| Test scores | | Proportion of Household Members (%) | | | |
| Marks | | 1988 | 2003 | 1988 | 2003 |
| (0%) | 0 | 16.2 | 1.7 | 2.5 | 2.7 |
| | 1 | 4.3 | 4.1 | 4.4 | 2.6 |
| | 2 | 5.8 | 6.5 | 5.2 | 8.0 |
| | 3 | 3.5 | 8.0 | 8.8 | 8.1 |
| (50%) | 4 | 5.2 | 9.1 | 11.7 | 6.7 |
| | 5 | 3.5 | 4.8 | 10.8 | 9.0 |
| | 6 | 5.5 | 7.0 | 16.7 | 12.2 |
| | 7 | 21.2 | 24.8 | 21.0 | 16.7 |
| 100%) | 8 | 34.8 | 34.1 | 19.0 | 33.9 |
| Total | | 100.0 | 100.0 | 100.0 | 100.0 |
| N | | 345 | 540 | 480 | 609 |

# CHAPTER 3

# SOCIO-ECONOMIC CHARACTERISTICS

## 3.1 Employment Charateristics

Respondents were asked whether they had done any work for someone or worked in a field or garden or raised some livestock or whether they had done any work of any nature in the 7 days preceding the survey. For those who had not done any work in the past 7 days preceding the interview, questions were asked to solicit reasons for not working.

Persons who did some form of work, looked for work or did not do so because they believed no work exists, were on vacation, awaiting reply of employer or agency, waiting to start work, had new jobs and were classified as economically active. For these who are economically active, three categories emerge: those who worked, those who had a job but did not work and the others who were classified as unemployed.

Persons who did not do any work and had no intention to look for a job were referred to as economically not active. These include students, homemakers, disabled persons, the aged and pensioners.

## 3.2 Economic and Non-Economic Activities

### *Current Activity Rates*

Table 3.1 presents the current activity rates of the sampled population interviewed who are 7 years or older. This is because there is enough evidence in the country that child as young as 7 years are economically active. The current activity rate of children 7-14 years is 10.1 percent. The rate is about three times higher in the rural areas than it is in the urban areas. In both urban and rural areas, the rate for males is always higher than the rate for females.

Persons in the age group 25-44 years were found to have the highest current activity rate of 90.2. Equally high is the current activity rate of persons in the age group 45-64 years, which stands at 86.3 percent. For both males and females and in both urban and rural areas, the high current activity rates are found in the 25-44 years age group and also the 44-64 years age group. In both urban and rural areas, the current activity rates of males are slightly higher than their female counterparts.

On average however, the current activity rates of persons who are 7 years or older is 54.1 percent. The rates in the rural areas are slightly higher than the rates in the urban areas. There is, in most cases insignificant variation of rates between males and females at the locality level.

**Table 3.1: Current activity rates by sex, age group and locality**

| Selected Characteristics | Sex | | Total | N |
|---|---|---|---|---|
| | Male | Female | | |
| Urban | | | | |
| 7-14 | 5.6 | 3.7 | 4.7 | 774 |
| 15-24 | 35.1 | 35.2 | 35.1 | 811 |
| 25-44 | 91.9 | 85.1 | 88.1 | 948 |
| 45-64 | 92.7 | 80.1 | 86.2 | 478 |
| 65-74 | 42.9 | 36.5 | 39.5 | 162 |
| 75+ | 52.7 | 50.3 | 51.4 | 3,173 |
| Rural | | | | |
| 7-14 | 17.3 | 13.3 | 15.3 | 798 |
| 15-24 | 48.9 | 53.3 | 51 | 527 |
| 25-44 | 94.8 | 91.6 | 92.9 | 722 |
| 45-64 | 89.9 | 83.4 | 86.4 | 368 |
| 65-74 | 64.4 | 56.4 | 60.2 | 191 |
| 75+ | 57.1 | 57.6 | 57.4 | 2,606 |
| Total | | | | |
| 7-14 | 11.6 | 8.6 | 10.1 | 1,572 |
| 15-24 | 40.4 | 42.4 | 41.4 | 1,338 |
| 25-44 | 93.1 | 87.9 | 90.2 | 1,670 |
| 45-64 | 91.5 | 81.6 | 86.3 | 846 |
| 65-74 | 54.5 | 47.3 | 50.7 | 353 |
| 75+ | 54.6 | 53.6 | 54.1 | 5,779 |

Economic activity is calculated for the age group 15-64 years in Table 3.2. In this population aged 15 -64 years, 73 percent are economically active. Of the economically active population, 91.9 percent worked at least one day, in the 7 days preceding the survey. The proportion that worked for at least one day is slightly higher (95.5%) in the rural areas than in the urban areas (89.0%). Slightly higher proportion of females than males worked at least one day in the week.

On average, about a third of the population worked for 6 days out of the 7 days. About 26.7 percent also worked 5 days in the week.

The unemployment rate stands at 7.4 percent. Higher proportions of males (7.9%) were unemployed compared to about 7.0 percent of females. This is true for both urban and rural areas. Unemployment is higher in the urban areas at 10.0 percent than it is in the rural areas (4.2%).

About 27 percent of the population was found to be economically not active for various reasons, such as sickness or handicap, homemakers, students, too old to work and other reasons. Students form more than half of the economically not-active population in the entire country. In both urban and rural areas, over 70 percent of the males who are economically non-active are students. Less than 50 percent of females who are not economically active however are students. As is to be expected, it is about six times more likely for the homemaker to be a female rather than a male in both urban and rural areas. Homemakers account for 9.8 percent of the non-economically active.

**Table.3.2: Economic Activity and Number of Days Worked by Sex and Locality**

| Selected Characteristics | Urban | | | Rural | | | All | | | N |
|---|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Both | Male | Female | Both | Male | Female | Total | |
| **Economically active** | | | | | | | | | | |
| Worked | 89.0 | 89.0 | 89.0 | 94.7 | 96.0 | 95.5 | 91.5 | 92.3 | 91.9 | 2,555 |
| One | 3.3 | 4.9 | 4.1 | 3.3 | 6.6 | 5.1 | 3.3 | 5.7 | 4.6 | 117 |
| Two | 3.0 | 6.9 | 5.0 | 6.1 | 5.8 | 5.9 | 4.4 | 6.4 | 5.4 | 139 |
| Three | 4.1 | 3.9 | 4.0 | 8.3 | 8.5 | 8.4 | 6.0 | 6.1 | 6.1 | 155 |
| Four | 6.9 | 5.9 | 6.4 | 10.9 | 15.1 | 13.2 | 8.7 | 10.4 | 9.6 | 245 |
| Five | 25.1 | 24.3 | 24.7 | 32.0 | 26.4 | 28.9 | 28.2 | 25.3 | 26.7 | 681 |
| Six | 37.0 | 31.2 | 34.0 | 26.8 | 25.8 | 26.2 | 32.4 | 28.6 | 30.4 | 776 |
| Seven | 20.5 | 23.0 | 21.8 | 12.6 | 11.9 | 12.2 | 17.0 | 17.6 | 17.3 | 442 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| Had job but did not work | 0.8 | 1.2 | 1.0 | 0.4 | 0.3 | 0.3 | 0.6 | 0.8 | 0.7 | 19 |
| Unemployed | 10.2 | 9.8 | 10.0 | 4.9 | 3.7 | 4.2 | 7.9 | 7.0 | 7.4 | 206 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 2,780 |
| N | 744 | 782 | 1526 | 571 | 683 | 1254 | 1315 | 1465 | 2780 | |
| **Economically non-active** | | | | | | | | | | |
| Sick or handicapped | 8.1 | 10.7 | 9.5 | 7.2 | 14.3 | 10.9 | 7.8 | 11.9 | 10.0 | 10.2 |
| Homemaker | 3.2 | 18.7 | 11.6 | 1.8 | 10.4 | 6.3 | 2.7 | 15.9 | 9.8 | 100 |
| Student | 73.5 | 49.2 | 60.4 | 66.5 | 45.1 | 55.3 | 71.1 | 47.8 | 58.7 | 600 |
| Too old or retired | 1 | 3.3 | 2.2 | 0.0 | 1.6 | 0.9 | 0.6 | 2.7 | 1.8 | 18 |
| Other | 14.2 | 18.1 | 16.3 | 24.6 | 28.6 | 26.6 | 17.8 | 21.6 | 19.8 | 203 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 1023 |
| N | 44 | 66 | 110 | 41 | 52 | 93 | 85 | 118 | | |

### *Economic Activity by Age Groups*

There is evidence that children as young as 7 years engage in some form of economic activity. Table3.3 shows that one out of every twenty (5.1%) economically active persons is a child between the ages of 7 and 14 years. A high proportion (48.2%) of the economically active population remain largely in the age group 25-44 years, with an additional 23.3 percent in the 45-64 year age group. This holds true for both urban and rural areas and for both males and females, with slight advantage to females and urban areas.

**Table 3.3: Economic Activity by Age Group, Sex, Zone and Locality**

| Sex | Urban | | | | Rural | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| **Male** | Coastal | Forest | Savannah | All Urban | Coastal | Forest | Savannah | All Rural | |
| 7-14 | 1.4 | 2.9 | 6.7 | 2.6 | 5.0 | 1.5 | 17.7 | 9.7 | 5.9 |
| 15-24 | 17.3 | 18.2 | 23.6 | 18.4 | 11.9 | 16.3 | 22.5 | 18.6 | 18.5 |
| 25-44 | 50.8 | 43.1 | 55.1 | 48.0 | 47.5 | 49.6 | 33.5 | 41.6 | 45.0 |
| 45-64 | 28.6 | 29.6 | 9.0 | 26.9 | 23.8 | 23.5 | 19.8 | 21.7 | 24.5 |
| 65+ | 1.9 | 6.2 | 5.6 | 4.1 | 11.9 | 9.1 | 6.6 | 8.3 | 6.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 370 | 341 | 89 | 800 | 101 | 264 | 334 | 699 | 1,499 |
| **Female** | | | | | | | | | |
| 7-14 | 0.5 | 0.8 | 11.5 | 1.8 | 3.5 | 2.3 | 12.7 | 6.8 | 4.2 |
| 15-24 | 17.5 | 16.0 | 14.9 | 16.6 | 14.9 | 18.0 | 17.8 | 17.5 | 17.0 |
| 25-44 | 57.6 | 52.6 | 46.0 | 54.2 | 47.4 | 50.0 | 45.5 | 47.7 | 51.0 |
| 45-64 | 22.5 | 25.3 | 21.8 | 23.7 | 23.7 | 21.1 | 19.6 | 20.9 | 22.3 |
| 65+ | 1.8 | 5.2 | 5.7 | 3.7 | 10.5 | 8.6 | 4.5 | 7.2 | 5.4 |
| | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| | 382 | 363 | 87 | 832 | 114 | 350 | 332 | 796 | 1,628 |
| **Both Sexes** | | | | | | | | | |
| 7-14 | 0.9 | 1.8 | 9.1 | 2.2 | 4.2 | 2.0 | 15.2 | 8.2 | 5.1 |
| 15-24 | 17.4 | 17.0 | 19.3 | 17.5 | 13.5 | 17.3 | 20.1 | 18.0 | 17.7 |
| 25-44 | 54.3 | 48.0 | 50.6 | 51.2 | 47.4 | 49.8 | 39.5 | 44.9 | 48.2 |
| 45-64 | 25.5 | 27.4 | 15.3 | 25.2 | 23.7 | 22.1 | 19.7 | 21.3 | 23.3 |
| 65+ | 1.9 | 5.7 | 5.7 | 3.9 | 11.2 | 8.8 | 5.6 | 7.7 | 5.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 752 | 704 | 176 | 1,632 | 215 | 614 | 666 | 1,495 | 3,127 |

### *Occupation of Persons Aged 15-64 Years*

Two main occupations emerge as the most widely engaged in agriculture and related work (40.9%) and sales work (23.6%), Table 3.4. This is true for both males and females. In the rural areas, about 66.8 percent of the population engages in agriculture and related work. There are slightly higher proportions of males than females in both rural and urban areas engaging in agriculture. The share of sales work in the occupations in the rural areas is 13.1 percent. In contrast, females predominate in this occupation in both rural and urban areas. In the urban areas, sales and related work, accounting for

32.8 percent of the population, is the predominant occupation with agriculture and related work accounting for 18.0 percent of occupations in urban areas.

About 7.2 percent of occupations are in the professional, technical and related work. It is twice as likely for the professional to be a male than a female. In the rural areas, only 3.8 percent of occupation is professional or related. Female professionals in the rural areas are only about 1.5 percent while their urban counterparts are 8.0 percent.

**Table 3.4: Occupation of Economically Active Persons aged 15-64 years**

| | Urban | | | Rural | | | All | | |
|---|---|---|---|---|---|---|---|---|---|
| **Occupation** | Male | Female | Both | Male | Female | Both | Male | Female | Both |
| Professional, technical and related workers | 12.4 | 8.0 | 10.2 | 6.7 | 1.5 | 3.8 | 9.8 | 4.9 | 7.2 |
| Administrative and managerial | 1.2 | 0.3 | 0.7 | 0.0 | 0.0 | 0.0 | 0.7 | 0.1 | 0.4 |
| Clerical and related | 4.7 | 4.2 | 4.4 | 0.9 | 0.3 | 0.6 | 3.0 | 2.3 | 2.6 |
| Sales and related | 15.9 | 48.9 | 32.8 | 4.1 | 20.6 | 13.1 | 10.6 | 35.1 | 23.6 |
| Service and related | 7.9 | 7.0 | 7.4 | 2.4 | 3.4 | 2.9 | 5.4 | 5.3 | 5.3 |
| Agriculture, animal husbandry and forest workers; fishermen | 22.2 | 14.1 | 18.0 | 69.5 | 64.5 | 66.8 | 43.5 | 38.5 | 40.9 |
| Production and related | 8.3 | 16.7 | 12.6 | 3.7 | 8.8 | 6.5 | 6.2 | 12.9 | 9.7 |
| Workers not classified by occupation | 27.5 | 0.9 | 13.8 | 12.8 | 0.9 | 6.3 | 20.9 | 0.9 | 10.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 662 | 696 | 1,358 | 541 | 656 | 1,197 | 1,203 | 1,352 | 2,555 |

### *Industry of Persons Aged 15-64 Years*

The industry that one works in closely relates to his or her occupation. Table 3.5 indicates that the main industry that engages most of the population in the country is agriculture, hunting, forestry and fishing (41.1%). The proportion of males is slightly higher than females. In the rural areas, 67.0 percent of industry is controlled by this sector. In the urban area, wholesale and retail trade and restaurants and hotels sector accounts for a third (33.7%) of employment, with about half (50.6%) of females so engaged. Manufacturing is the other industry that employs over 10 percent of the active population. It is more predominant in the urban areas than it is in the rural areas.

**Table 3.5: Industry of Economically Active Persons 15-64 years who Worked 7 Days Prior to Survey**

| | Urban | | | Rural | | | All | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Selected Characteristics | Male | Female | Both | Male | Female | Both | Male | Female | Both | N |
| Agriculture, hunting, forestry and fishing | 22.8 | 14.1 | 18.3 | 70.2 | 64.3 | 67.0 | 44.1 | 38.5 | 41.1 | 1,051 |
| Mining and quarrying | 2.3 | 0.1 | 1.2 | 0.6 | 0.2 | 0.3 | 1.5 | 0.1 | 0.8 | 20 |
| Manufacturing | 13.7 | 18.0 | 15.9 | 5.5 | 9.8 | 7.9 | 10.1 | 14.0 | 12.1 | 310 |
| Electricity, gas and water | 0.3 | 0.0 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.2 | 4 |
| Construction | 8.5 | 0.1 | 4.2 | 6.5 | 0.3 | 3.1 | 7.6 | 0.2 | 3.7 | 94 |
| Wholesale and retail trade and restaurants & hotels | 16.0 | 50.6 | 33.7 | 4.1 | 21.3 | 13.5 | 10.6 | 36.4 | 24.3 | 620 |
| Transport, storage and communication | 9.4 | 1.6 | 5.4 | 2.8 | 0.0 | 1.3 | 6.4 | 0.8 | 3.4 | 88 |
| Financing, insurance, real estate and business services | 0.9 | 0.3 | 0.6 | 0.4 | 0.2 | 0.3 | 0.7 | 0.2 | 0.4 | 11 |
| Community, social and personal services | 26.1 | 15.2 | 20.5 | 9.8 | 3.8 | 6.5 | 18.8 | 9.7 | 14.0 | 357 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | |
| N | 662 | 696 | 1,358 | 541 | 656 | 1,197 | 1,203 | 1,352 | | 2,555 |

### *Hours Worked by Persons aged 15-64 years*

More than one in every five persons aged 15-64 years and working, works for between 40-49 hours. There is however about 6.1 percent of the population that works for more than 80 hours. With the exception of the service and its related occupations, for all the other types of occupations, a high proportion of persons engaged work for periods between 40-49 hours in a week (Table 3.6).

About 70 percent of administrative and managerial, 46.3 percent of clerical and related occupations and 37.5 percent of professional, technical and related workers work for periods between 40-49 hours.

In the service and related occupations, 23.5 percent of persons work for over 80 hours in a week. There are also some substantial proportions of clerical and related workers (14.9%) who also work over 80 hours.

**Table 3.6: Occupation by Hours Worked**

| Occupation | Number of hours | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80+ | Total | N |
| Professional, technical and related workers | 1.6 | 4.3 | 13.6 | 21.7 | 37.5 | 6.5 | 4.9 | 4.9 | 4.9 | 100.0 | 184 |
| Administrative and managerial | 10.0 | 0.0 | 0.0 | 10.0 | 70.0 | 0.0 | 0.0 | 0.0 | 10.0 | 100.0 | 10 |
| Clerical and related | 3.0 | 1.5 | 3.0 | 7.5 | 46.3 | 7.5 | 6.0 | 10.4 | 14.9 | 100.0 | 67 |
| Sales and related | 7.1 | 8.8 | 9.1 | 11.1 | 16.3 | 8.8 | 13.1 | 15.9 | 9.6 | 100.0 | 602 |
| Service and related | 6.6 | 1.5 | 7.4 | 5.9 | 18.4 | 11.0 | 11.0 | 14.7 | 23.5 | 100.0 | 136 |
| Agriculture, animal husbandry and forest workers; fishermen | 9.8 | 12.8 | 19.3 | 21.5 | 21.7 | 7.3 | 6.1 | 0.9 | 0.7 | 100.0 | 1044 |
| Production and related | 7.6 | 9.2 | 8.8 | 10.8 | 26.9 | 8.4 | 13.7 | 9.2 | 5.2 | 100.0 | 249 |
| Workers not classified by occupation | 2.7 | 4.2 | 9.9 | 8.4 | 26.6 | 9.5 | 17.9 | 11.4 | 9.5 | 100.0 | 263 |
| All Occupations | 7.3 | 9.1 | 13.3 | 15.4 | 23.2 | 8.1 | 9.9 | 7.6 | 6.1 | 100.0 | |
| N | 186 | 232 | 341 | 394 | 594 | 207 | 252 | 194 | 155 | 2,555 | |

With the exception of the transport, storage and communication industry, all the other industries recorded high proportions of persons working between 40-49 hours. Electricity, gas and water industry (50.0%) and community, social and personal services industry (35.6%) had the highest proportions.

In the transport, storage and communication industry however, most persons engaged work for more than 80 hours (26.1%). It is noted that about the same proportions of persons in wholesale and retail trade and restaurants and hotels work for 40-49 hours a week (15.5%) or 70-79 hours a week (15.0%).

**Table 3.7: Industry by Hours Worked**

| Industry | Number of hours | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0-9 | 10-19 | 20-29 | 30-39 | 40-49 | 50-59 | 60-69 | 70-79 | 80+ | Total | **N** |
| Agriculture, hunting, forestry and fishing | 9.7 | 12.7 | 19.2 | 21.3 | 22.1 | 7.2 | 6.2 | 0.9 | 0.8 | 100.0 | 1,051 |
| Mining and quarrying | 0.0 | 10.0 | 15.0 | 10.0 | 20.0 | 10.0 | 15.0 | 10.0 | 10.0 | 100.0 | 20 |
| Manufacturing | 6.1 | 8.1 | 7.1 | 9.4 | 28.4 | 9.4 | 15.2 | 11.0 | 5.5 | 100.0 | 310 |
| Electricity, gas and water | 0.0 | 0.0 | 25.0 | 0.0 | 50.0 | 25.0 | 0.0 | 0.0 | 0.0 | 100.0 | 4 |
| Construction | 6.4 | 4.3 | 20.2 | 9.6 | 27.7 | 5.3 | 13.8 | 7.4 | 5.3 | 100.0 | 94 |
| Wholesale and retail trade and restaurants & hotels | 7.1 | 8.9 | 9.0 | 11.8 | 15.5 | 9.2 | 13.4 | 15.0 | 10.2 | 100.0 | 620 |
| Transport, storage and communication | 4.5 | 0.0 | 3.4 | 4.5 | 18.2 | 10.2 | 13.6 | 19.3 | 26.1 | 100.0 | 88 |
| Financing, insurance, real estate and business services | 0.0 | 0.0 | 0.0 | 9.1 | 27.3 | 9.1 | 18.2 | 27.3 | 9.1 | 100.0 | 11 |
| Community, social and personal services | 3.1 | 3.6 | 9.8 | 14.6 | 35.6 | 7.6 | 7.6 | 8.1 | 10.1 | 100.0 | 357 |
| All industries | 7.3 | 9.1 | 13.3 | 15.4 | 23.2 | 8.1 | 9.9 | 7.6 | 6.1 | 100.0 | |
| N | 186 | 232 | 341 | 394 | 594 | 207 | 252 | 194 | 155 | 2,555 | |

### *Type of Employers of Persons aged 15-64 years*

Table 3.8 shows the type of employers persons aged 15-64 years had in the last 7 days prior to the census by locality and by sex.

Self-employment remains the single most dominant employment status in the country. In total, those in self-employment constitute 77.5 percent of the economically active population. A higher proportion of the economically active in the rural areas (89.6%) is self-employed than their urban counterparts who form 66.8 percent. For both urban and rural areas, higher proportions of females are in self-employment than males. The next largest employer after self-employment is the private company or business constituting 13.0 percent of the economically active. It is three times more likely for one to be in a private company or business in the urban area (19.6%) than it is in the rural area (5.6%). In both urban and rural areas, higher proportions of males are employed in a private company or business than females.

**Table 3.8: Type of Employer for Persons aged 15-64 years in Employment Sector by Sex and Locality**

| | Urban | | | Rural | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| Type of employer | Male | Female | Both | Male | Female | Both | Male | Female | Both |
| Self employed | 57.5 | 75.5 | 66.8 | 82.7 | 95.2 | 89.6 | 68.9 | 85.1 | 77.5 |
| The Government or the army | 13.5 | 8.3 | 10.8 | 7.4 | 1.2 | 4.0 | 10.8 | 4.8 | 7.6 |
| A state owned company | 4.0 | 1.6 | 2.8 | 1.3 | 0.5 | 0.8 | 2.8 | 1.0 | 1.9 |
| A private company or business | 24.9 | 14.6 | 19.6 | 8.6 | 3.2 | 5.6 | 17.5 | 9.0 | 13.0 |
| All | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| N | 650 | 690 | 1,340 | 538 | 660 | 1,198 | 1,188 | 1,350 | 2,538 |

## 3.3 Land and Livestock

### *Land*

A little more than half (52.1%) of household members worked fields or a garden on their own account. To this 52.1 percent responded in the affirmative. Of these, the concentration is in Ashanti (21.6%) and Brong Ahafo (18.9%), as shown in Table 2.2.

Working fields is more a rural (68.3%) than urban (31.7%) phenomenon, and Greater Accra, that is over 80 percent urban, has only just about 3.3 percent of the population who work fields. Half of household members who work fields can be found in the forest zone, with a little over a third in the savannah.

**Table 3.9: Proportion of Household Members who are Farmers by Region, Zone and Locality**

| Selected Characteristics | Percent | N |
|---|---|---|
| **Region** | | |
| Western | 7.1 | 64 |
| Central | 7.1 | 64 |
| Greater Accra | 3.3 | 30 |
| Volta | 8.9 | 81 |
| Eastern | 13.9 | 126 |
| Ashanti | 21.6 | 196 |
| Brong Ahafo | 18.9 | 171 |
| Northern | 6.5 | 59 |
| Upper East | 7.6 | 69 |
| Upper West | 5.1 | 46 |
| Total | 100.0 | 906 |
| **Zone** | | |
| Coastal | 15.6 | 141 |
| Forest | 50.0 | 453 |
| Savannah | 34.4 | 312 |
| Total | 100.0 | 906 |
| **Locality** | | |
| Urban | 31.7 | 287 |
| Rural | 68.3 | 619 |
| Total | 100.0 | 906 |
| N | 906 | |

The results also indicate that 2.1 percent of household members provided land for someone else to work on. Household members who had provided land were found mostly in Greater Accra (41.2%), Eastern and Ashanti (17.6% each). It is interesting to note that, this practice is more an urban phenomenon than rural.

**Table 3.10: Proportion who Provided Land for Someone Else to Work on by Region, Locality and Zone**

| Selected Characteristics | Yes | N |
|---|---|---|
| **Region** | | |
| Western | 0.0 | 0 |
| Central | 5.9 | 1 |
| Greater Accra | 41.2 | 7 |
| Volta | 11.8 | 2 |
| Eastern | 17.6 | 3 |
| Ashanti | 17.6 | 3 |
| Brong Ahafo | 5.9 | 1 |
| Northern | 0.0 | 0 |
| Upper East | 0.0 | 0 |
| Upper West | 0.0 | 0 |
| Total | 100.0 | 17 |
| **Zone** | | |
| Coastal | 47.1 | 8 |
| Forest | 52.9 | 9 |
| Savannah | 0.0 | 0 |
| **Locality** | | |
| Urban | 70.6 | 12 |
| Rural | 29.4 | 5 |
| Total | 100.0 | 17 |
| N | 17 | |

In the country as a whole, a third of households farm up to 10 acres of land and about half (48.3%) farm between 11 and 50 acres of land (Table 3.11).

**Table 3.11: Acres of Land Farmed by Region, Locality and Zone**

| Selected Characteristics | Land size (acres) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 10-19 | 20-29 | 21-50 | 51-100 | 101-200 | 201-300 | 301-700 | 700+ | Total | N |
| **Region** | | | | | | | | | | |
| Western | 23.4 | 23.4 | 31.3 | 9.4 | 6.3 | 4.7 | 1.6 | 0.0 | 100.0 | 64 |
| Central | 34.9 | 30.2 | 30.2 | 4.8 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 63 |
| Greater Accra | 38.9 | 19.4 | 25.0 | 11.1 | 2.8 | 0.0 | 2.8 | 0.0 | 100.0 | 36 |
| Volta | 50.0 | 32.1 | 14.3 | 3.6 | 0.0 | 0.0 | 0.0 | 0.0 | 100.0 | 84 |
| Eastern | 38.0 | 19.4 | 26.4 | 9.3 | 5.4 | 0.8 | 0.8 | 0.0 | 100.0 | 129 |
| Ashanti | 39.7 | 25.6 | 20.6 | 8.5 | 5.0 | 0.5 | 0.0 | 0.0 | 100.0 | 199 |
| Brong Ahafo | 19.2 | 21.0 | 31.1 | 16.2 | 8.4 | 1.2 | 2.4 | 0.6 | 100.0 | 167 |
| Northern | 32.2 | 3.4 | 27.1 | 23.7 | 10.2 | 3.4 | 0.0 | 0.0 | 100.0 | 59 |
| Upper East | 40.6 | 18.8 | 29.0 | 10.1 | 1.4 | 0.0 | 0.0 | 0.0 | 100.0 | 69 |
| Upper West | 21.7 | 13.0 | 43.5 | 19.6 | 2.2 | 0.0 | 0.0 | 0.0 | 100.0 | 46 |
| **Locality** | | | | | | | | | | |
| Urban | 35.9 | 26.5 | 24.8 | 8.7 | 1.7 | 0.7 | 1.3 | 0.3 | 100.0 | 298 |
| Rural | 32.8 | 19.6 | 27.3 | 12.3 | 6.3 | 1.1 | 0.5 | 0.0 | 100.0 | 618 |
| **Zone** | | | | | | | | | | |
| Coastal | 38.1 | 28.6 | 24.5 | 4.8 | 2.0 | 0.7 | 1.4 | 0.0 | 100.0 | 147 |
| Forest | 35.9 | 23.4 | 23.8 | 10.2 | 4.8 | 1.1 | 0.6 | 0.2 | 100.0 | 462 |
| Savannah | 28.7 | 16.3 | 31.6 | 15.6 | 6.2 | 1.0 | 0.7 | 0.0 | 100.0 | 307 |
| Total | 33.8 | 21.8 | 26.5 | 11.1 | 4.8 | 1.0 | 0.8 | 0.1 | 100.0 | 916 |
| N | 310 | 200 | 243 | 102 | 44 | 9 | 7 | 1 | 916 | |

### *Livestock*

Table 3.12 shows that a third (34.3%) of households currently raise livestock and poultry. The proportion of chicken is the highest, followed by goats, sheep and other birds (ducks, turkey etc). Research findings and geographical information in Ghana suggest that the climate, especially savannah vegetation is more suitable in the northern part of Ghana than any area for animal rearing. It is therefore not surprising that most of all the types of livestock and animals are raised in the savannah zone. For instance, 85.9 percent of cattle are reared in the savannah. Livestock and animals are not very common in the coastal areas.

Again, over 70 percent of the different livestock and animals are found in the rural areas. Northern region (31.5%), Upper East (31.5%) and Upper West (17.4%) have the largest share of cattle.

## Table 3.12: Number of Livestock Owned by Households by Region, Zone and Locality

| Region/Locality/Zone | Livestock or animal | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Cattle including cows | Sheep | Goats | Chicken | Pigs | Ducks, turkeys, guinea fowls etc. | Rabbits or guinea pigs | Other animals | N |
| **Region** | | | | | | | | | |
| Western | 0.0 | 4.0 | 3.7 | 4.9 | 0.0 | 0.8 | 0.0 | 4.8 | 44 |
| Central | 0.0 | 4.5 | 7.2 | 6.2 | 1.8 | 2.4 | 0.0 | 2.4 | 64 |
| Greater Accra | 7.6 | 2.8 | 4.7 | 4.7 | 0.0 | 4.1 | 0.0 | 16.7 | 60 |
| Volta | 1.1 | 2.3 | 8.1 | 6.7 | 0.0 | 1.6 | 0.0 | 0.0 | 63 |
| Eastern | 1.1 | 11.4 | 16.8 | 17.8 | 3.6 | 9.8 | 0.0 | 21.4 | 178 |
| Ashanti | 4.3 | 18.2 | 14.0 | 15.3 | 3.6 | 11.4 | 0.0 | 16.7 | 173 |
| Brong Ahafo | 5.4 | 15.9 | 9.0 | 13.1 | 7.1 | 5.7 | 25.0 | 2.4 | 135 |
| Northern | 31.5 | 14.2 | 12.8 | 10.9 | 10.7 | 24.4 | 0.0 | 7.1 | 183 |
| Upper East | 31.5 | 21.6 | 15.3 | 14.2 | 44.6 | 30.1 | 62.5 | 28.6 | 259 |
| Upper West | 17.4 | 5.1 | 8.4 | 6.2 | 28.6 | 9.8 | 12.5 | 0.0 | 109 |
| **Locality** | | | | | | | | | |
| Urban | 13 | 18.8 | 27.4 | 24.9 | 5.4 | 12.2 | 25 | 14.3 | 271 |
| Rural | 87 | 81.3 | 72.6 | 75.1 | 94.6 | 87.8 | 75 | 85.7 | 997 |
| **Zone** | | | | | | | | | |
| Coastal | 7.6 | 9.7 | 17.1 | 14.7 | 1.8 | 5.7 | 0 | 28.6 | 165 |
| Forest | 6.5 | 36.4 | 41.7 | 44.7 | 8.9 | 26 | 12.5 | 35.7 | 458 |
| Savannah | 85.9 | 54 | 41.1 | 40.7 | 89.3 | 68.3 | 87.5 | 35.7 | 645 |
| Total | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 1,268 |
| N | 92 | 176 | 321 | 450 | 56 | 123 | 8 | 42 | |

Table 3.13 presents the average cost per livestock or animal as obtained from the respondents. The average cost of cattle including cows is ¢1,665,543.00. It is almost two times expensive to buy cattle in the urban areas as it is in the rural areas. Indeed, goats, ducks, turkeys, guinea fowls, rabbits guinea pigs and some other animals not listed are more expensive in the urban areas than it is in the rural areas.

## Table 3.13: Average Cost of Livestock in Cedis (¢) by Locality

| Type of Livestock | Urban | Rural | Total |
|---|---|---|---|
| Cattle including cows | 2,801,667.00 | 1,495,125.00 | 1,665,543.00 |
| Sheep | 213,030.30 | 254,965.00 | 247,102.30 |
| Goats | 157,886.40 | 129,970.00 | 137,623.10 |
| Chicken | 24,634.06 | 30,998.58 | 29,414.52 |
| Pigs | 160,000.00 | 182,075.50 | 180,892.90 |
| Ducks, turkeys, guinea fowls | 107,600.30 | 84,750.15 | 87,536.76 |
| Rabbits or guinea pigs | 22,500.00 | 16,166.67 | 17,750.00 |
| Other animals | 521,333.30 | 187,194.40 | 234,928.60 |

The average cost of chicken is ¢29,414.52. Interestingly, chicken is cheaper in the urban areas (¢24,634.06) than it is in the rural areas (¢30,998.58). The price differential may be attributed to relatively high supply of daily products; especially imports in the urban than rural areas.

## 3.4 Nutritional Status of Children

It is acknowledged worldwide that child health is directly linked to his/her nutritional status. Consequently, the World Health Organization (WHO) has recommended the use of three indices- (*i) stunted, (ii) wasted and (iii) under weight* to determine the nutritional status of children. Accordingly, the extent of children's susceptibility to diseases and their chance of survival depend on the nature of the food and the feeding practices of parents.

*Stunted*: children whose height-for-age is below minus two standard deviations (-2SD) from the median of the reference population are considered stunted or short for their age. The height-for-age index is an indicator of linear growth retardation.

*Wasted*: the weight-for-height index measures body mass in relation to body length. Children whose weight-for-height measures are below minus two standard deviations (-2SD) from the median of the reference population are considered wasted or too thin for their height.

*Underweight*: measures children's weight-for-age. It is a composite index of height-for-age and weight-for-height. Children whose weight-for-age measures below minus two standard deviations (-2SD), from the median of the reference population are considered underweight for their age.

In all these indicators, a measure that is below - 3 standard deviation is considered 'severe'.

The level of malnutrition has important health and learning consequences of children education. Children who suffer from chronic mal-nutrition are more likely suffer setbacks in learning.

### *Nutritional status of children by age and sex*

An examination for height-for-age as presented in Table 3.14 shows that about 27.1 percent of the children below 5 years were classified as stunted (-2 SD) while nearly 12.8 percent were severely stunted (-2 SD). Those who were either stunted or severely stunted may be the result of inadequate feeding over a considerable long period of time or the effects of chronic illness. Thus, it could be inferred from the results that four out of every ten (39.9%) of the children at the time of the study had been suffering from a protracted malnutrition. Children between 24 and 35 months were worse affected as that group recorded the highest proportion of those who were stunted (35.5%) and severely stunted (16.9%). Generally, it appears that children who had not celebrated their first-year birthday at the time of the survey were relatively better nourished than older children.

Children aged 6-11 months are the most wasted (26.8% wasted and 3.6% severely wasted), followed by children 12-23 months and children less than 6 months old. It is interesting to note also that children between 12-23 months are much more severely wasted (5.0%) than even children between 6-11 months old (3.6%)

It can be deduced from the analysis that in the long period, older children are more likely than younger children to be mal-nourished. Overall, majority (43.0%) of children between 24-35 months were either stunted, or wasted or both stunted and wasted.

**Table 3.14: Stunting, Wasting and Under Weight for Children Below 5 years by Age and Sex**

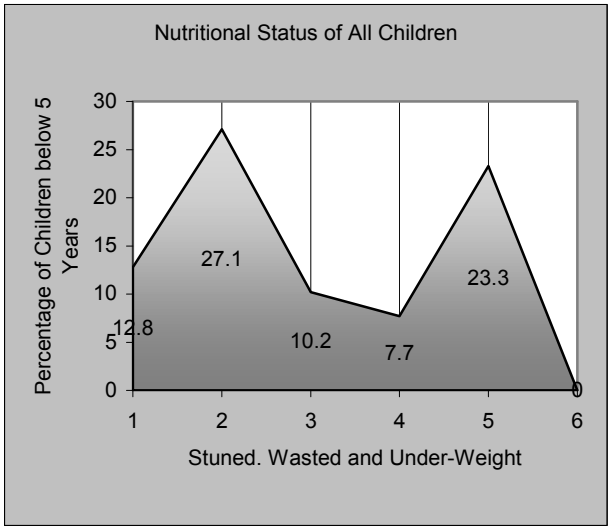
| Selected Characteristics | Height-for-age Stunted | | Weight-for-height Wasted | | Weight-for-age Under-Weight | | |
|---|---|---|---|---|---|---|---|
| | Percentage below | | | | | | |
| | 3 SD | 2 SD | 3 SD | 2 SD | 3 SD | 2 SD | N |
| Age in Months | | | | | | | |
| < 6 | 8.1 | 11.6 | 2.3 | 14 | 8.1 | 11.6 | 86 |
| 6-11 | 5.4 | 19.6 | 3.6 | 26.8 | 8.9 | 31.2 | 56 |
| 12-23 | 12.2 | 28 | 5 | 16.1 | 8.1 | 29.2 | 161 |
| 24-35 | 16.9 | 35.5 | 1.7 | 7 | 11 | 32 | 172 |
| 36-47 | 14.9 | 28.2 | 1.1 | 4.6 | 7.6 | 17.8 | 174 |
| 48-59 | 12.6 | 26.9 | 0.5 | 6.6 | 3.8 | 18.1 | 182 |
| Sex of Child | | | | | | | |
| Male | 12.8 | 28.4 | 2.8 | 13.5 | 7.8 | 25.5 | 831 |
| Female | 12.7 | 25.7 | 1.5 | 6.9 | 7.6 | 21.1 | 408 |
| All | 12.8 | 27.1 | 2.2 | 10.2 | 7.7 | 23.3 | 831 |

Like many developing countries, the survey results indicate that a greater proportion of both males and females are suffering from chronic malnutrition (27.1%) with an additional 12.8 percent severely so. Immediate policy interventions are needed to improve the availability and effective access to food to minimize the severity of malnutritional status. The results further reveal that a male child (13.5%) is twice as likely as the female child (6.9%) to get inadequate feeding in the short-term. The gap between the sexes in terms of long term malnutrition (stunting) and under- weighted is not wide. The phenomenal malnutrition that has affected some of children may be due to recent incidence of illness or acute food shortage or lack of a balance diet.

Figure 3.1 is the pectoral presentation of the nutritional status of all children. It could be observed from the Figure that stunting is the major problem of all children below five years as 27.1 percent of them were below 2 standard deviation and further 12.9 percent were below 3 standard deviation. The implication is that nearly 40 percent of all children suffered from mal-nutrition. In addition, an overwhelming proportion (23.3%) of all children below 5 years were severely under-weighted. The implication is that if care is not taken, many children will lack the necessary energy and intelligence to perform well

in school and even at home. Parents as well as the entire civil society should adopt the appropriate feeding practices for all children, especially those who are below 5 years.

**Figure 3.1: Stunting, Wasting and Under-Weight for Children Below 5 Years**




Note: Stunted (1=-3SD,2=-2SD), Wasted (3=-3SD,4=-2SD) and Under-Weighted (5=-3SD,2=-6SD)

### *Nutritional Status of Children by Region, Locality and Zone*

A greater differential in the nutritional status of children at the locality levels was observed. Greater proportions of children are stunted (32.4%), wasted (12.6%) or underweight (29.2%) at the rural areas than urban localities (20.2% stunted, 7.2%wasted and 15.7% under-weighted)). Children in the rural areas are twice as likely to be severely stunted (16.6%) than urban children (7.7%), as presented in Table3.15.

Children in the savannah ecological zone face more challenges of being fed on nutritious food than the other zones. Stunting of children in the savannah zone is much pronounced (36.3%) than coastal (16.6%) or forest (26.1%). While only 6.7 percent of children in the coastal area were suffering from chronic malnutrition at the time of the survey, 17.6 percent of the children in the savannah zone were desperately in need of food for survival. The pattern is similar for wasting and under-weight measures, which indicate the malnutrition indices to be more than twice as bad as in the other ecological zones.

At the regional level, Upper West (42.9%) stands out as having a relatively high concentration of children suffering from chronic malnutrition at the time of the survey, with an additional 25.7 percent as severely stunted. Upper West region recorded the highest proportion of children who were either wasted (28.6%) or under weight (48.6%).

**Table 3.15: Stunting, Wasting and Under Weight for Children Below 5 years by Locality, Zone and Region**

| Selected Characteristics | Height-for-age (Stunted) Percentage below | | Weight-for-height (Wasted) Percentage below | | Weight-for-age (Under-Weight) Percentage below | | |
|---|---|---|---|---|---|---|---|
| | 3 SD | 2 SD | 3 SD | 2 SD | 3 SD | 2 SD | N |
| **Locality** | | | | | | | |
| Urban | 7.7 | 20.2 | 7.2 | 3.6 | 15.7 | 0.0 | 362 |
| Rural | 16.6 | 32.4 | 12.6 | 10.9 | 29.2 | 0.0 | 469 |
| **Zone** | | | | | | | |
| Coastal | 6.7 | 16.6 | 2.1 | 8.3 | 1.0 | 13.0 | 193 |
| Forest | 12.5 | 26.1 | 1.1 | 6.1 | 4.5 | 19.7 | 376 |
| Savannah | 17.6 | 36.3 | 3.8 | 17.6 | 17.2 | 36.3 | 262 |
| **All** | 12.8 | 27.1 | 2.2 | 10.2 | 7.7 | 23.3 | 831 |
| **Region** | | | | | | | |
| Western | 4.6 | 10.8 | 0.0 | 6.2 | 9.2 | 0.0 | 65 |
| Central | 8.3 | 25.0 | 0.0 | 2.8 | 22.2 | 0.0 | 36 |
| Greater Accra | 9.8 | 23.9 | 2.2 | 8.7 | 15.2 | 0.0 | 92 |
| Volta | 7.5 | 18.3 | 2.2 | 5.4 | 14.0 | 0.0 | 93 |
| Eastern | 11.6 | 24.2 | 1.2 | 5.8 | 16.3 | 0.0 | 86 |
| Ashanti | 14.3 | 28.6 | 1.8 | 8.9 | 24.4 | 0.0 | 168 |
| Brong Ahafo | 14.9 | 33.6 | 3.7 | 14.2 | 26.9 | 0.0 | 134 |
| Northern | 22.2 | 38.9 | 4.2 | 19.4 | 38.9 | 0.0 | 72 |
| Upper East | 10.0 | 26.0 | 4.0 | 8.0 | 34.0 | 0.0 | 50 |
| Upper West | 25.7 | 42.9 | 0.0 | 28.6 | 48.6 | 0.0 | 35 |
| **All** | 12.8 | 27.1 | 2.2 | 10.2 | 23.3 | 0.0 | 831 |

# CHAPTER 4

# HOUSING CONDITION

## 4.1 Type of Houses

Ghana is characterised by different types of houses. The most predominant over the years is the compound house with rooms, accounting 63.2 percent in 1988 increasing to 66.8 percent in 2003, of all housing types in the country. While there has been a sharp increase in households living in separate houses (7.3% in 1988, 19.2% in 2003) less households are now living in huts/buildings with a drop from 23.3 percent in 1988 to 4.4 percent in 2003. The predominance of compound houses also cover both rural and urban localities as well as all ecological zones. For urban localities, there is a slight drop from 77.1 percent in 1988 to 70.2 percent in 2003. The rural locality however increased from 56.9 percent in 1988 to 62.8 percent in 2003. With regard to ecological zones, there has been a significant increase in compound houses in the savannah zone (41.3% in 1988 to 69.0% in 2003), with slight drops in both the coastal and forest zones, (Table 4.1).

**Table 4.1 Type of Houses by Locality and Zone (1988 and 2003)**

| Type of toilet | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| facility | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Separate House | 7.3 | 19.2 | 2.9 | 15.1 | 9.2 | 24.3 | 6.5 | 21.8 | 8.1 | 20.7 | 6.5 | 11.5 |
| Semi-Detached House | - | 4.3 | | 4.7 | | 3.6 | | 6.3 | | 3.6 | | 2.9 |
| Flat/Apartment | 2.1 | 4.6 | 6.0 | 7.6 | 0.4 | 0.8 | 5.1 | 11.4 | 0.7 | 1.9 | 0.9 | 1.1 |
| Compound House (Rooms) | 63.2 | 66.8 | 77.1 | 70.2 | 56.9 | 62.8 | 61.4 | 58.3 | 74.4 | 71.2 | 41.3 | 69.0 |
| Huts/Buildings (Same comp'd) | 23.3 | 4.4 | 11.6 | 1.3 | 28.7 | 8.2 | 22.2 | 1.3 | 12.7 | 1.9 | 47.8 | 15.2 |
| Other | 4.1 | 0.7 | 2.4 | 1.1 | 4.8 | 0.3 | 4.8 | 0.9 | 4.1 | 0.7 | 3.5 | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.2 Main Construction Material

Mud bricks and cement blocks have been the main materials for construction of buildings in the country. Mud bricks (68.5%) in 1988 was followed by cement blocks (28.9%) as the major material for building. In 2003 however, cement blocks (52.5%) followed by mud bricks (42.9%) is the main material for construction of outer walls. This pattern of a decline in the proportion of mud brick houses and a corresponding increase in the

proportion of cement block houses is true for both rural and urban as well as ecological zones. It appears attention is moving away from mud bricks material for construction to others, as the figures appear to drop between 1988 and 2003 in the localities and all ecological zones (Table 4.2).

**Table 4.2: Main Material for Outer Walls of Buildings by Locality and Zone (1988 and 2003)**

| Main material for | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| outer wall | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Mud bricks | 68.5 | 42.9 | 37.2 | 23.9 | 81.9 | 66.9 | 41.5 | 20.5 | 79.0 | 45.1 | 86.1 | 71.3 |
| Wood | 1.0 | 1.6 | 2.6 | 2.6 | 1.1 | 0.4 | 2.6 | 3.2 | 0.1 | 1.0 | 0.3 | 0.6 |
| Burnt bricks | 1.3 | 1.4 | 0.7 | 1.0 | 1.8 | 1.8 | 2.7 | 0.9 | 0.3 | 2.2 | 0.6 | - |
| Cement blocks | 28.9 | 52.5 | 59.0 | 71.1 | 15.2 | 29.0 | 52.9 | 74.6 | 20.3 | 50.0 | 12.1 | 25.3 |
| Landcrate | - | 1.1 | - | 0.8 | - | 1.4 | - | - | - | 1.0 | - | 2.8 |
| Other | 0.3 | 0.5 | 0.5 | 0.6 | - | 0.5 | 0.3 | 0.8 | 0.3 | 0.7 | 0.9 | - |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.3 Main Flooring Material

Main material for construction of floor has been predominantly cement/concrete. In 1988, cement floors contributed 79.5 percent and increased to 89.0 percent in 2003. Although no significant change is recorded over the period, both rural and urban recorded high percent for cement. Mud/mud bricks/earth is significant second material in rural areas and the savannah zone.

**Table 4.3: Main Flooring Material by Locality and Zone (1988 and 2003)**

| Main flooring material | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Cement/concrete | 79.5 | 89.0 | 93.5 | 95.0 | 73.2 | 81.5 | 85.2 | 93.5 | 91.4 | 90.9 | 78.0 | 77.6 |
| Mud/mud bricks/earth | 12.0 | 9.0 | 2.9 | 2.6 | 18.1 | 17.0 | 11.1 | 3.8 | 8.0 | 7.1 | 21.1 | 21.3 |
| Terrazzo | 1.0 | 0.7 | 2.8 | 1.1 | - | 0.3 | 0.2 | 1.1 | 0.4 | 0.8 | - | - |
| Other | 7.5 | 1.3 | 0.8 | 1.3 | 8.7 | 1.2 | 3.5 | 1.6 | 0.2 | 1.2 | 0.9 | 1.1 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.4 Main Roofing Material

In 1988, corrugated metal sheets formed 64.6 percent of the main roofing material used nationally as well as in the majority of situation in ecological zones and locality of residence (Table 4.4). These remain the predominant roofing materials in 2003, except the coastal, where because of the effect of the sea, slate/asbestos is the major roofing material, accounting for 43.3 percent. The thatch/raffia is also a significant second major roofing material in the savannah zone where it mitigates the effect of the scorching heat.

**Table 4.4: Main Roofing Material by Locality and Zone (1988 and 2003)**

| Main roofing material | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Thatch/palm leaf/raffia | 13.0 | 8.1 | 3.5 | 2.4 | 18.4 | 15.1 | 8.5 | 5.0 | 7.3 | 2.5 | 38.3 | 26.4 |
| Bamboo | 0.7 | 1.2 | 0.5 | 0.2 | 0.8 | 2.5 | 0.3 | 0.9 | 1.2 | 1.7 | 0.3 | 0.3 |
| Corrugated metal sheets | 64.6 | 70.6 | 66.4 | 66.9 | 67.2 | 75.3 | 54.3 | 41.7 | 86.1 | 89.3 | 58.0 | 68.1 |
| Slate/asbestos | 9.4 | 14.8 | 22.8 | 24.9 | 5.5 | 2.0 | 26.2 | 43.3 | 2.8 | 2.9 | - | 1.4 |
| Cement/concrete | 3.4 | 3.2 | 6.5 | 4.6 | 1.8 | 1.3 | 7.1 | 8.3 | 1.6 | 1.3 | 0.6 | - |
| Other | 8.9 | 2.1 | 0.3 | 1.0 | 6.3 | 3.8 | 3.6 | 0.8 | 1.0 | 2.3 | 2.8 | 3.8 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.5 Main Material for Fitting Windows

Availability of windows improves ventilation and circulation of air. The type of fittings for windows varies from place to place. Basically, shutters are the most predominant type of fitting windows in most communities in the country. In 1988 it formed 66.5 percent among all types and increased slightly to 72.6 percent in 2003.

The proportion of glasses used in fitting windows recorded significant increase, 3.8 percent in 1988 and 10.8 percent in 2003 with urban localities 10.6 percent in 1988 and 16.1 in 2003. The rural localities had a remarkable increase from 0.8 percent in 1988 to 4.0 percent in 2003. All the zones recorded an improvement in the use of glass as main window fitting but coastal was highly remarkable (8.3% in 1988 and 20.5% in 2003) (Table 4.5).

**Table 4.5: Main material fitted to windows by locality and zone (1988 and 2003)**

| Main material | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| fitted to windows | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Glass | 3.8 | 10.8 | 10.6 | 16.1 | 0.8 | 4.0 | 8.3 | 20.5 | 1.8 | 8.2 | 1.6 | 2.3 |
| Screen | 2.2 | 9.9 | 3.5 | 9.2 | 1.5 | 10.9 | 4.5 | 4.0 | 1.3 | 11.3 | 0.6 | 15.2 |
| Shutters | 66.5 | 72.6 | 77.1 | 70.1 | 61.6 | 75.8 | 69.6 | 72.4 | 71.4 | 70.3 | 57.0 | 78.7 |
| Curtains | 1.3 | 3.3 | 2.9 | 3.1 | 0.6 | 3.5 | 3.1 | 1.9 | 0.6 | 5.2 | 0.1 | 0.6 |
| No covering | 3.3 | 1.0 | 2.3 | 0.6 | 3.7 | 1.4 | 6.1 | 0.4 | 2.6 | 1.5 | 0.6 | 0.6 |
| No windows | 22.9 | 2.4 | 3.6 | 0.9 | 31.8 | 4.4 | 8.4 | 0.8 | 22.3 | 3.5 | 40.1 | 2.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.6 Source of Drinking Water

The perception that water is abundant and subsequently free is gradually giving way to general awareness that water like any other resource is relatively scarce and has a price. Water is now considered as one of the most essential household consumable items. Consequently, the availability and sources of drinking water to an extent determine its hygienic nature, which ultimately affect the health of the people. In order to throw more light on the nature of drinking water, appropriate responses were elicited from households about the sources of drinking water.

The proportion of household that use pipe borne water constituted 29.0 percent in 1988 but increased to 48.4 percent in 2003. In terms of urban-rural disparities, the proportion of urban households using pipe borne water was 70.3 percent in 1988 but increased to 78.2 in 2003. There is a general improvement in terms of proportion using pipe borne water in all zones particularly the coastal where it increased from 57.9 percent in 1988 to 80.1 percent in 2003. The borehole, an improved and relatively more hygienic than the well, is an important means for providing communities with portable water. Between 1988 and 2003 there was a significant increase in the proportion of households with access to the borehole, from 7.6 percent in 1988 to 26.3 percent in 2003. For the majority of households in rural (51.7%) and savannah zone (63.8%) localities, the borehole is the main source of drinking water (Table 4.6)

**Table 4.6: Main Source of Drinking Water by Locality and Zone (1988 and 2003)**

| Main source of | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| drinking water | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Pipe-borne water | 29.0 | 48.4 | 70.3 | 78.2 | 10.2 | 10.7 | 57.9 | 80.1 | 18.5 | 43.6 | 9.0 | 12.1 |
| Well | 16.2 | 11.7 | 16.8 | 8.2 | 15.9 | 11.7 | 13.8 | 6.3 | 15.6 | 15.2 | 21.1 | 11.5 |
| Borehole | 7.6 | 26.3 | 0.6 | 6.2 | 10.8 | 51.7 | 0.8 | 4.0 | 2.6 | 24.8 | 28.5 | 63.8 |
| Spring/rain water | 0.4 | 1.7 | 0.0 | 1.3 | 0.5 | 2.2 | 0.7 | 1.3 | 0.1 | 2.3 | 0.1 | 0.9 |
| River/stream/dugout/pond | 46.8 | 11.9 | 12.3 | 6.1 | 62.6 | 23.7 | 26.8 | 8.3 | 63.2 | 14.1 | 41.3 | 11.7 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.7 Waste Disposal

In recent times, concern has been expressed by civil society about the filth in both solid and liquid forms that have engulfed communities, especially in the urban localities. The form in which waste are disposed signify the extent to which society lived in a clean and healthy environment. In order to examine the various ways, which households dispose off waste, respondents were asked to tell how they get rid of waste in their houses.

The main waste disposal method is dumping either at a central place or indiscriminately elsewhere for both 1988 (96.4%) and 2003 (83.3%) and through out the country. Waste disposal method through collection of refuse by an agency (0.2% in 1988 and 8.5% percent in 2003) appears to be common only among urban and coastal households. Burning and burying as methods of waste disposal are not common practices among households in the country (Table 4.7).

**Table 4.7: Waste disposal methods by locality and zone (1988 and 2003)**

| Waste disposal | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| method | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Collected | 0.2 | 8.5 | 0.4 | 14.7 | 0.1 | 0.7 | 0.3 | 17.5 | 0.2 | 6.4 | 0.0 | 0.3 |
| Dumped | 96.4 | 83.3 | 93.5 | 79.4 | 97.7 | 88.2 | 91.9 | 76.3 | 98.9 | 86.6 | 97.3 | 85.6 |
| Burned | 2.9 | 6.8 | 5.6 | 5.0 | 1.6 | 9.1 | 7.1 | 4.9 | 0.5 | 6.0 | 2.1 | 11.8 |
| Buried | 0.5 | 1.1 | 0.5 | 0.7 | 0.6 | 1.6 | 0.7 | 1.3 | 0.4 | 0.6 | 0.6 | 2.0 |
| Other | - | 0.3 | - | 0.2 | - | 0.4 | - | 0.0 | - | 0.4 | - | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.8 Source of Lighting

It is acknowledged worldwide that cheap and easily accessible/ power is one of the major components of industrialization. There is the perception that students are able to learn and perform well in communities where there is reliable supply of electricity than where such facility does not exist. Availability of electricity provides better lighting system for pupil/students to complete school assignments and learn on the own for longer hours.

Teachers on the other hand are able to prepare their lesson notes on more regular basis, the use of communication facilities and computers.

From Table 4.8, electricity as the main source of lighting for households has increased from 23.6 percent in 1988 to 55.0 percent in 2003. This increase was experienced in all localities and zones, but more so rural (from 6.6% to 23.7%), forest (from 18.7% to 53.6%) and savannah (6.0% to 24.4%), probably as a result of the rural electrification programme. Kerosene/Oil/Gas as source of lighting drastically dropped from 75.8 percent in 1988 to 44.0 percent in 2003 and is reflected in all zones particularly in urban (from 39.0% to 18.8%), coastal (from 57.4% to 22.0%) and forest (80.9% to 45.1%).

**Table 4.8: Source of lighting by locality and zone (1988 and 2003)**

| Source of | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| lighting | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Electricity | 23.6 | 55.0 | 60.8 | 79.7 | 6.6 | 23.7 | 42.5 | 77.4 | 18.7 | 53.6 | 6.0 | 24.4 |
| Kerosene/oil/gas | 75.8 | 44.0 | 39.0 | 18.8 | 92.6 | 76.0 | 57.4 | 22.0 | 80.9 | 45.1 | 91.9 | 74.7 |
| Candle/torch | 0.3 | 0.6 | 0.1 | 1.0 | 0.3 | 0.0 | 0.1 | 0.6 | 0.1 | 0.8 | 0.7 | 0.0 |
| Solar | - | 0.3 | - | 0.4 | - | 0.1 | - | 0.0 | - | 0.4 | - | 0.6 |
| Other | 0.3 | 0.1 | 0.1 | 0.1 | 0.5 | 0.2 | 0.0 | 0.0 | 0.3 | 0.1 | 1.4 | 0.3 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.9 Type of Toilet Facility

While the proportion of households that uses pit latrine was quite high in 1988 (56.7%), the use of public toilet was much popular in 2003 (29.1%). Government policy to phase out the pan/bucket latrine is reflected in the dramatic decline in the proportion of households using the facility (from 11.3% in 1988 to 1.6% in 2003). There are similar declines in all zones and localities. The proportion of households using the water closet, the most hygienic toilet facility, increased from 5.1 percent in 1988 to 13.8 percent in 2003. The increase is seen in all localities and all zones, though that of savannah is insignificant. The proportion of households with no toilet facility and therefore use the bush/beach/field for human waste disposal is high (12.8%), particularly in rural (from 15.2% in 1988 to 24.0% in 2003) and savannah (from 20.2% in 1988 to 40.0% in 2003). The use of open spaces like beaches has a very serious implication on sanitation and tourism in Ghana. Efforts must therefore be made to increase access to modern toilet facilities to households at cheaper prices.

**Table 4.9: Type of toilet facility by locality and zone (1988 and 2003)**

| Type of toilet | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| facility | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Water closet | 5.1 | 13.8 | 14.2 | 23.5 | 0.9 | 1.6 | 12.7 | 31.0 | 1.7 | 8.2 | 1.0 | 1.4 |
| Pit latrine | 56.7 | 25.1 | 38.9 | 11.2 | 64.8 | 42.7 | 47.2 | 15.2 | 70.8 | 31.5 | 40.3 | 24.1 |
| KVIP | - | 16.2 | | 19.9 | - | 11.5 | - | 15.0 | - | 14.9 | - | 21.3 |
| Pan/bucket | 11.3 | 1.6 | 23.8 | 2.8 | 5.6 | 0.1 | 15.5 | 3.0 | 11.7 | 1.4 | 4.1 | 0.0 |
| Toilet in another house | - | 1.2 | - | 0.6 | - | 2.0 | - | 1.1 | - | 1.5 | - | 0.6 |
| Public toilet | - | 29.1 | - | 37.5 | - | 18.1 | - | 27.8 | - | 36.8 | - | 12.6 |
| Bush/beach/field (no facility) | 12.5 | 12.8 | 6.4 | 3.9 | 15.2 | 24.0 | 14.2 | 6.9 | 7.8 | 5.5 | 20.2 | 40.0 |
| Other | 14.4 | 0.2 | 16.7 | 0.6 | 13.5 | 0.0 | 10.4 | 0.0 | 8.0 | 0.2 | 34.4 | 0.0 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.10 Occupancy Status of Households

Table 4.10 shows that in 1988 more than half (51.6%) of urban household residents pay rent compared to 16.8 percent in the rural areas. This phenomenon is also true in 2003 as 58.0 percent urban households and 28.1 percent rural households pay rent. A household owing their own house is most popular in the rural areas for both 1988 and 2003. At the zonal level, most households in the coastal and forest areas pay rent while in the savannah areas the proportion of households owing houses (48.9% in 1988, and 48.5% in 2003) is comparatively higher than those who pay rent (20.5% in 1988 and 16.4% in 2003). There has been a significant increase in house ownership across the zones from 1988 to 2003.

**Table 4.10: Occupancy status of households by locality and zone (1988 and 2003)**

| Occupancy status | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| Own | 30.1 | 43.2 | 11.7 | 33.5 | 38.5 | 55.5 | 23.0 | 40.4 | 26.1 | 38.9 | 48.9 | 58.0 |
| Pay rent | 30.6 | 47.6 | 51.6 | 58.0 | 16.8 | 28.1 | 41.6 | 58.3 | 26.0 | 49.9 | 20.5 | 16.4 |
| Rent free | 39.3 | 9.2 | 36.7 | 8.5 | 44.7 | 16.4 | 35.4 | 1.3 | 47.9 | 11.2 | 30.6 | 25.6 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

## 4.11 Number of Rooms

Lack of accommodation constitutes one of the banes of development in least developed countries like Ghana. In the survey instrument, households were asked to indicate the number of rooms, including bedrooms, living rooms and rooms used for family business. Table 4.11 indicates that for the two periods, 1988 and 2003, about 4 in 5 household members occupy either one or two rooms that suggest that there is congestion or overcrowding in most communities in Ghana. The situation is worse in forest areas where 68.8 percent in 1988 and 60.6 percent in 2003 of households occupy one room

compared to savannah areas (33.2% in 1988 and 42.2% in 2003). Indeed, the savannah zone recorded the highest proportion (4.6% in 1988 and 7.2% in 2003) of households that occupy six or more rooms.

**Table 4.11: Number of rooms occupied by households by locality and zone (1988 and 2003)**

| No. of rooms | Total | | Urban | | Rural | | Coastal | | Forest | | Savannah | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 | 1988 | 2003 |
| One | 52.5 | 52.3 | 58.7 | 53.2 | 49.6 | 51.0 | 53.3 | 45.5 | 60.8 | 60.4 | 33.2 | 42.2 |
| Two | 26.3 | 26.3 | 25.2 | 27.4 | 26.8 | 24.9 | 24.5 | 30.2 | 26.4 | 24.1 | 28.7 | 25.9 |
| Three | 10.9 | 10.3 | 7.3 | 9.5 | 12.6 | 11.3 | 10.5 | 12.7 | 7.5 | 8.3 | 18.9 | 11.5 |
| Four | 5.8 | 5.7 | 4.2 | 5.8 | 6.6 | 5.6 | 6.9 | 6.5 | 2.9 | 4.1 | 10.5 | 8.6 |
| Five | 2.1 | 2.3 | 2.3 | 1.6 | 1.9 | 3.1 | 2.5 | 2.3 | 0.8 | 1.3 | 4.1 | 4.6 |
| Six or more | 2.4 | 3.1 | 2.3 | 2.5 | 2.5 | 4.1 | 2.3 | 2.8 | 1.6 | 1.8 | 4.6 | 7.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| N | 3,139 | 1,739 | 984 | 971 | 2,155 | 768 | 1,001 | 527 | 1,460 | 864 | 678 | 348 |

# CHAPTER 5

# CHANGES IN SCHOOL FACILITIES

## 5.1 Changes in Quality at the Basic Education Level

Different regimes in the history of Ghana since the 1960s have formulated and implemented polices with the principal goal of not only giving the Ghanaian child access to education but also to improve quality of education at all levels especially the basic level where education is free and vital for the socio-economic and cultural development of the state.

One of such interventions was the major education reform, which started during the 1987/1988 academic year and which brought along with it changes in both structure and content of education in Ghana. This chapter makes an attempt at finding the impact the reform has made, as far as quality of education at the basic level is concerned.

The main focus is on evaluating the change in quality, looking at the following determinants between 1988 and 2003.

1. **Infrastructure** - For this study, the school infrastructure considered includes classrooms, school library, tables, chairs, blackboard or chalkboard.

2. **Teaching and learning aids** like textbooks, visual aids, chalk and other items.

3. **Teacher Quality** - that is teacher's qualification or training acquired and the teacher's current state of affairs as far as his or her general academic performance and attitude to work is concerned.

4. **Supervision** - Supervision at both the school level by the headteacher and at the district level by the school authorities.

5. **Teacher-Pupil Contact Hours** - How much of the school time is utilized for the teaching and learning process in the classroom.

### Infrastructure

For effective teaching and learning to take place, there is the need to have the necessary physical facilities that would create conducive atmosphere for learning. At the basic school level, the classroom is the most important unit since that is where most of the teaching and activities, particularly interaction between the teacher and the pupil, takes place.

### Adequacy of Number of Classrooms

Table 5.1 gives a distribution of the surveyed primary schools by level of adequacy of classrooms available to them in 1988 and 2003. The figures indicate that the level of

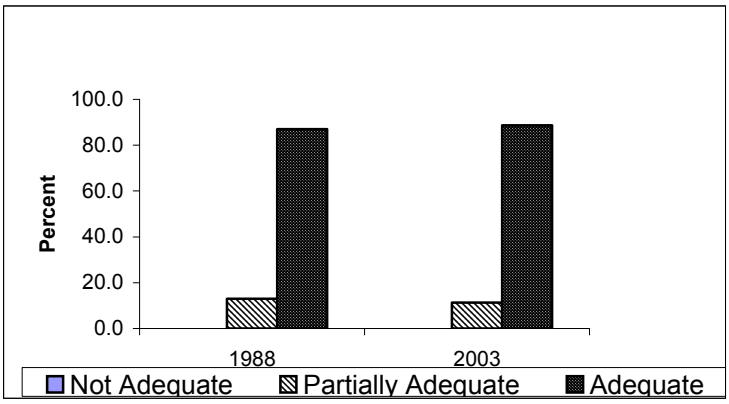
adequacy of classrooms did not change significantly between 1988 and 2003. In 1988, the proportion of schools with sufficient classrooms was 87.1 percent and this only increased slightly to 88.7 percent in 2003.

**Table 5.1: Adequate of number of classrooms in Primary schools (1988 and 2003)**

| | Number | | Percent | |
|---|---|---|---|---|
| Response | 1988 | 2003 | 1988 | 2003 |
| Not Adequate | 0 | 0 | 0.0 | 0.0 |
| Partially Adequate | 37 | 47 | 12.9 | 11.2 |
| Adequate | 249 | 370 | 87.1 | 88.7 |
| Total | 286 | 417 | 100.0 | 100.0 |

An illustration of the situations as in 1988 and 2003 is given in Fig. 5.1

**Figure 5.1: Adequacy of number of classrooms in primary schools**




As far as adequacy of classrooms is concern in the Middle/JSS schools, over the 15-year period, there was a 3 percentage point increase in the number of schools with adequate number of classrooms (from 80.3% in 1988 to 83.0% in 2003) as shown in Table5.2. This increase, even though quite minimal, is twice as much as the gain made at the primary school level.

**Table 5.2: Adequacy of number of classrooms in Middle/JSS**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Response | Percent | N | Percent | N |
| Not Adequate | 0.0 | 0 | 0.0 | 0 |
| Partially Adequate | 19.7 | 46 | 17.0 | 49 |
| Adequate | 80.3 | 187 | 83.0 | 240 |
| Total | 100.0 | 233 | 100.0 | 289 |

### *Condition of Classrooms*

As shown in Table 5.3, whereas in 1988, less than half or 47.6 percent of the primary schools had classrooms that could be used all weather or when it was raining, in 2003, 68.1 percent of the primary schools surveyed had classrooms that could be used for teaching and learning even when it was raining. This shows that there has been improvement in the condition of classrooms in primary schools between 1988 and 2003.

**Table 5.3: Primary school classrooms that can be used when raining**

| Category | 1988 | | 2003 | |
|---|---|---|---|---|
| | Percent | N | Percent | N |
| Less than half of classroom | 28.7 | 82 | 19.9 | 83 |
| More than half of classroom | 23.8 | 68 | 12.0 | 50 |
| All classrooms | 47.6 | 136 | 68.1 | 284 |
| Total | 100.0 | 286 | 100.0 | 417 |

Conditions of classrooms at Middle/JSS level is shown in Table 5.4. It is observed that 66.4 percent of the schools surveyed in 2003 could use all their classrooms during raining seasons as against the 60.9 percent in 1988. This improvement is not as significant as that of primary schools which recorded an increase of 20.5 percentage point in schools where all classrooms operate in wet weather.

**Table 5.4: Middle/JSS classrooms that can be used when raining**

| Category | 1988 | | 2003 | |
|---|---|---|---|---|
| | Percent | N | Percent | N |
| Less than half of classroom | 20.2 | 47 | 19.7 | 57 |
| More than half of classroom | 18.9 | 44 | 13.8 | 40 |
| All classrooms | 60.9 | 142 | 66.4 | 192 |
| Total | 100.0 | 233 | 100.0 | 289 |

### *School Libraries*

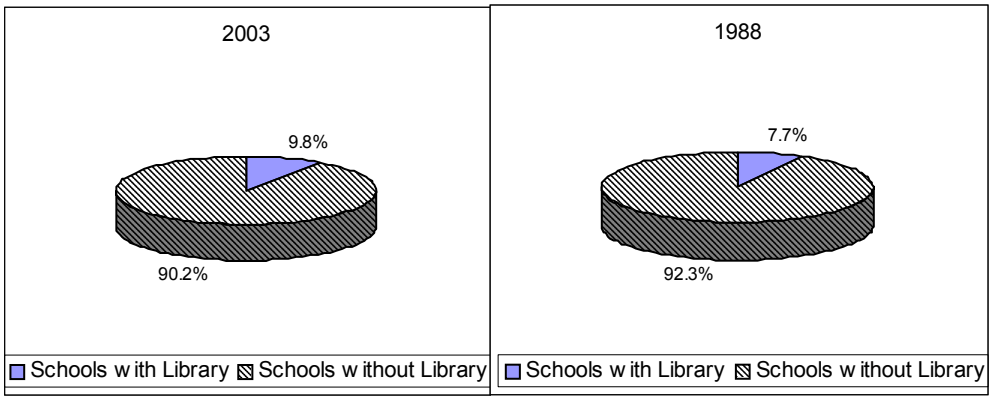
According to Fuller and Clarke (1994), their study in 25 countries showed that effective use of instructional time and provision of libraries rank highest at the primary level among various determinants of effective learning. For this study, however, provision of libraries is one determinant that has not experienced any appreciable gain for the 15- year period. The poor state of as many as 92.3 percent of schools lacking libraries in 1988 had more or less remained static with 90.2 percent schools without a library as shown in Table 5.5. The slight increase of 2.1 percentage point during the period in the provision of this facility, considered to be one of the highly ranked determinants of effective learning, is not encouraging and calls for greater effort in this area.

**Table 5.5: Availability of school library at the Primary school level, 1988 and 2003**

| Category | 1988 | | 2003 | |
|---|---|---|---|---|
| | Percent | N | Percent | N |
| Available | 7.7 | 22 | 9.8 | 41 |
| Not available | 92.3 | 264 | 90.2 | 376 |
| Total | 100.0 | 286 | 100.0 | 417 |

The current situation on availability of libraries is shown in Fig.5 2. From the chart 90.2 percent of schools are without libraries. This is very serious because children need to have access to book to enable them to read and become literate. This situation needs to be looked at critically.

**Figure 5.2: Availability of school library at the primary school level, 1988 and 2003**



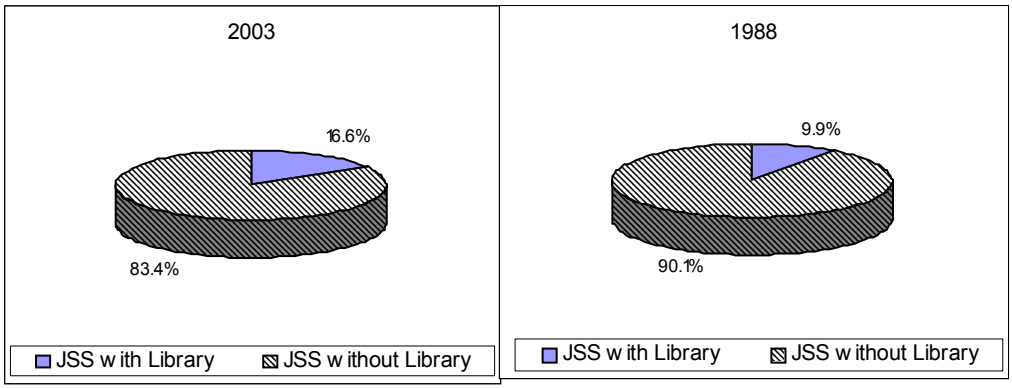

The availability of a library, even though a very important facility that greatly supplements instructional time, seems to be very inadequate at all levels in both the 1988 and 2003 surveys. In the Junior secondary schools studied only 16.6 percent of them had a library. This however shows an increase of 6.7 percentage points as shown in Table 5.6

**Table 5.6: Availability of school library in Middle/JSS**

| Category | 1988 | | 2003 | |
|---|---|---|---|---|
| | Percent | N | Percent | N |
| Available | 9.9 | 23 | 16.6 | 48 |
| Not available | 90.1 | 210 | 83.4 | 241 |
| Total | 100.0 | 233 | 100.0 | 289 |

Fig 5.3 clearly shows the proportion of schools with libraries in both 1988 and 2003.

**Figure 5.3. Availability of school library in middle/JSS**




## Adequacy of writing places

A convenient writing place is necessary for practical learning, taking notes and doing exercises. Data collected in the 1988 survey indicated that only 11.5 percent of children in basic schools had the standard writing place of one pupil to one space. As seen in Table 5.7, this condition changed five fold to 67.4 percent by year 2003. Though this change is quite appreciable, the current situation still leaves about 32.6 percent of the surveyed schools without adequate place for writing.

**Table 5.7: Adequacy of writing places in primary schools**

| Category | 1988 | | 2003 | |
|---|---|---|---|---|
| Desks (writing places) | Percent | N | Percent | N |
| Less than one or two | 18.2 | 52 | 1.2 | 5 |
| Less than one or one | 70.3 | 201 | 31.4 | 131 |
| One for one | 11.5 | 33 | 67.4 | 281 |
| Total | 100.0 | 286 | 100.0 | 417 |

In the 1988 survey, majority (77.7%) of the schools visited reported not having enough desks for students and only 13.3 percent of the schools had desks for every child. This tend has changed for the better in year 2003 with two thirds (67.8%) of the Junior Secondary schools with desk for each student (Table 5.8)

**Table 5.8: Adequacy of writing places in middle/JSS**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Desks | Percent | N | Percent | N |
| No desks or tables at all | 9.0 | 21 | 1.0 | 3 |
| Some but not enough | 77.7 | 181 | 31.2 | 90 |
| Enough for everyone | 13.3 | 31 | 67.8 | 196 |
| Total | 100.0 | 233 | 100.0 | 289 |

## Blackboards/Chalkboards

The blackboard is the main instructional device that enables the teacher to demonstrate and explain the subject matter and his thoughts properly to the pupils or the class for each lesson. In 1988, 78.3 percent of the surveyed schools had adequate blackboards while additional 20.6 percent did not have enough of this very important device to supply to all classrooms. After fifteen years, the situation has changed greatly for the better, with 94.0 percent of the schools now with blackboards for all classrooms and only 5.5 percent can supply some classrooms.

**Table 5.9: Availability of blackboard (chalkboards) at the primary school level**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Response | Percent | N | Percent | N |
| No Classroom | 1.1 | 3 | 0.5 | 2 |
| Less than half | 3.9 | 11 | 1.9 | 8 |
| More than half | 16.7 | 48 | 3.6 | 15 |
| All Classrooms | 78.3 | 224 | 94.0 | 392 |
| Total | 100.0 | 286 | 100.0 | 417 |

Quality is the degree of excellence, so comparing the data for 1988 and 2003 on quality of blackboards, it is observed that majority of the chalkboards ranging from excellent to fair was quite good-approximately 78.3 percent and in 2003 after fifteen years quality has not improved much –94.4 percent. This is shown in Table 5.10.

**Table 5.10: Quality of Blackboards (Chalkboards) at the primary school level**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Quality of blackboards | Percent | N | Percent | N |
| Excellent | 9.5 | 27 | 8.2 | 34 |
| Good | 32.6 | 93 | 17.4 | 72 |
| Fair | 53.3 | 149 | 69.1 | 286 |
| Poor | 4.6 | 13 | 5.3 | 22 |
| Total | 100.0 | 282 | 100.0 | 414 |

## Availability of Chalk

Chalk and the chalkboard are the main tools used by teachers to teach when addressing the pupils, explaining new concepts, writing notes and assigning them work to be done during class period or at home. Data captured in the 1988 survey showed a high of 66.8 percent of schools with occasional shortages of chalk. This situation has however improved, showing as few as 5.5 percent of the schools surveyed have occasional shortages and just 8.4 percent never have enough. The increase in proportion of schools that always have enough chalk from 20.5 percent in 1988 to 86.1 percent in 2003 is a great achievement and needs to be sustained and even improved upon further.

**Table 5.11: Availability of chalk at primary school level**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Availability of Chalk | Percent | N | Percent | N |
| Never enough | 12.7 | 36 | 8.4 | 35 |
| Occasional shortages | 66.8 | 189 | 5.5 | 23 |
| Always enough | 20.5 | 58 | 86.1 | 359 |
| Total | 100.0 | 283 | 100.0 | 417 |

Just as in the Primary Schools provision of chalk increased remarkable in the Junior Secondary Schools from as low as 18.6percent of schools having enough chalk in 1988 to 79.9 percent in 2003 (Table 5.12) below. This situation therefore reduces the proportion of schools with occasional shortages from about three quarters (72.7%) in 1988 to just a tenth (10.7%) in 2003.

**Table 5.12: Availability of Chalk at Middle/JSS School Level**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Availability of Chalk | Percent | N | Percent | N |
| Never enough | 8.7 | 20 | 9.4 | 27 |
| Occasional shortages | 72.7 | 168 | 11.7 | 31 |
| Always enough | 18.6 | 43 | 79.9 | 231 |
| Total | 100.0 | 231 | 100.0 | 286 |

## Availability of English Books

A textbook is a book containing the assigned text for a course of study and as such, it is very necessary and useful in the learning and teaching process for both the teacher and the pupil. The ideal and normal situation demands that each child possesses a copy to be used whenever necessary both at school and at home. Table 5.13 indicates that at the inception of the education reforms in 1988 only 21 percent of primary schools in the sample surveyed had a copy of the English textbook for each pupil. Fifteen years after the reforms, there has been some improvement with 72.4 percent of schools in 2003 have pupils having a book each. This however still shows that as many as 28 schools in every 100 have pupils share an English textbook.

**Table 5.13: English books per pupil at primary school level**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| English Books per Pupil | Percent | N | Percent | N |
| None | 2.4 | 7 | 0.0 | 0 |
| Less than one between two | 55.9 | 160 | 11.3 | 47 |
| Less than one for one | 20.6 | 59 | 16.3 | 68 |
| One or more per Pupil | 21.1 | 60 | 72.4 | 302 |
| Total | 100.0 | 286 | 100.0 | 417 |

The desirable situation for parents, teachers and students as far as books are concerned is for every student to have a book. This situation gives every child the opportunity to

study well both in school and at home. In 1988 however, only a fifth (20.6%) of the Middle/Junior Secondary Schools had this privilege, with a little over a third (37.3%) having an English book between two students during classes time (Table 5.14). The proportion of Junior Secondary Schools with students having a book each increased from the 20.6 percent in 1988 to 35.3percent in 2003.

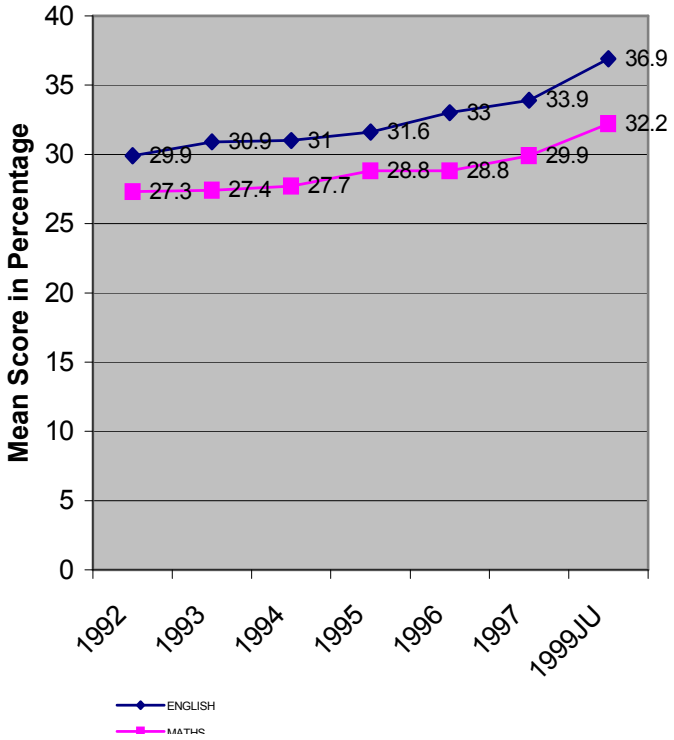
**Table 5.14: English books per pupil at JSS level**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| English Books per Student | Percent | N | Percent | N |
| Less than one book for two | 42.1 | 98 | 22.1 | 64 |
| At least one book for two | 37.3 | 87 | 42.6 | 123 |
| At least one book per student | 20.6 | 48 | 35.3 | 102 |
| Total | 100.0 | 233 | 100.0 | 289 |

## Availability of Mathematics books

Mathematics books are also very major resource materials for learning and as such, must be each student's companion especially since in Ghana the criterion referenced test shows a comparatively low performance in mathematics as against English between 1992 and 1999 (Fig. 5.4)

**Fig.5.4 NATIONAL CRITERION MEAN SCORES FOR ENGLISH AND MATHEMATICS**



In 1988 however 33.9 percent of pupils had at least one book between two students and in 2003 11.0 percent. The proportion of junior secondary schools with students having a book each increased from 31.5 percent in 1988 to 53.2 percent in 2003. But contrarily to expectation this study found out that only 31.5percent of children in the schools surveyed had a book per student in 1988 as shown in Table 5.15. In 2003 however the situation has changed a little for the better registering 53.1 percent of children now proud of a Mathematics textbook each.

**Table 5.15: Availability of mathematics books at the primary school level**

| | Number | | Percent | |
|---|---|---|---|---|
| Mathematics books available | 1988 | 2003 | 1988 | 2003 |
| None | 5 | 0 | 1.7 | 0.0 |
| Less than one between two | 97 | 46 | 33.9 | 11.0 |
| Less than one for one | 94 | 149 | 32.9 | 35.7 |
| One per student or more | 90 | 222 | 31.5 | 53.2 |
| Total | 286 | 417 | 100.0 | 100.0 |

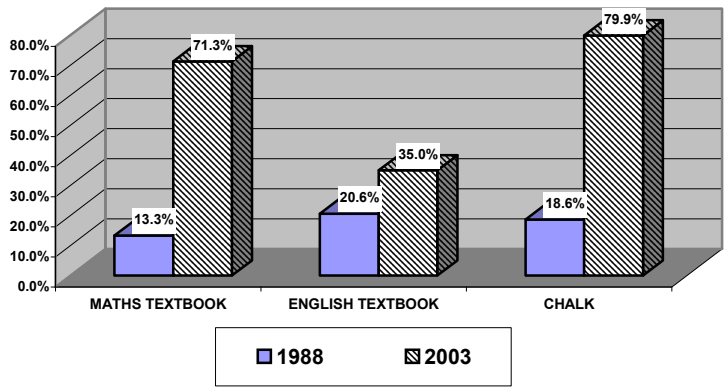
Table 5.16 shows the tremendous rise in the proportion of Junior Secondary Schools from (13.3% to 71.3%), which now have a Mathematics book per a student. The proportion of schools where at least two children share one book has reduced correspondingly from 52.4 percent in 1988 to 23.2 percent in 2003

**Table 5.16: Provision of mathematics books at middle/JSS school level**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Mathematics books available | Percent | Number | Percent | Number |
| Less than one book for two | 34.3 | 80 | 5.5 | 16 |
| At least one book for two | 52.4 | 122 | 23.2 | 67 |
| At least one book per student | 13.3 | 31 | 71.3 | 206 |
| Total | 100.0 | 233 | 100.0 | 289 |

Figure 5.5 shows that there has been a remarkable improvement in educational inputs such as mathematics textbooks, English textbooks and chalk just to mention a few. This is due to structures put in place to make sure the reform works

**Figure 5.5: Provision of Selected Education Inputs at Optimum Levels In JSS, 1988 and 2003**




## Teacher Quality

The proportion of teachers at the basic school level holding senior secondary school certificate or better was 81.7 percent in 1988 with only 6.9 percent having tertiary (Table 5.17). In 2003 however, all teachers had senior secondary school certificate or higher with 37.7 percent possessing tertiary qualifications. This represents 30.7 percentage points increase of tertiary qualified teachers in basic schools since 1988.

**Table 5.17: Educational levels of teachers**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Educational levels | Percent | Number | Percent | Number |
| Primary | 1.7 | 5 | 0.0 | 0 |
| Middle/JSS | 9.7 | 28 | 0.0 | 0 |
| SSS | 81.7 | 236 | 62.3 | 258 |
| Tertiary | 6.9 | 20 | 37.7 | 156 |
| Total | 100.0 | 289 | 100.0 | 414 |

Table 5.18 shows that in 2003 schools with the full complement of teachers reduced from 91.3 percent in 1988 to 82.7 percent. This is very undesirable in terms of availability of teachers and consequently the quality of teaching students will receive. Greater efforts should be made to recruit and post teachers to all schools

**Table 5.18: Adequacy of teachers**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Adequacy levels | Percent | Number | Percent | Number |
| Less than required | 8.7 | 25 | 17.3 | 72 |
| Full complement | 91.3 | 261 | 82.7 | 345 |
| Total | 100.0 | 286 | 100.0 | 417 |

Notwithstanding the decline in schools with full complement of teachers in the period, 1988-2003, it is gratifying to note that for the same period, there was a marked increase in proportion of schools having more than two thirds of their teachers being trained teachers (38.8% in 1988 to 66.2% in 2003) as shown in Table 5.19. This suggests that the system has acquired much more competent and skilful teachers than it was in 1988.

**Table 5.19: Percentage of teachers trained**

| | 1988 | | 2003 | |
|---|---|---|---|---|
| Level of training | Percent | Number | Percent | Number |
| None trained | 2.1 | 6 | 17.4 | 72 |
| Less than a third | 12.2 | 35 | 5.6 | 23 |
| Between one and two-thirds | 25.2 | 72 | 10.8 | 45 |
| More than two-thirds | 38.8 | 111 | 66.2 | 274 |
| All trained | 21.7 | 62 | 0.0 | 0 |
| Total | 100.0 | 286 | 100.0 | 414 |

## 5.2 Management Issues in Basic Schools

An important step in the government's decentralization move for education has been to give communities more responsibility in the management of their local schools.

In the 1988 follow-up survey to the 1987/1988 Ghana Living Standards Survey, no information was collected on management issues in schools. However, during the implementation of the reforms, the concept of community ownership of basic schools and community participation in school management have gained so much currency that they cannot be left out of any survey of schools.

The two main bodies through which community participation in management in schools is exercised are the Parent Teacher Associations (PTAs) and the School Management Committees (SMCs). The 2003 School Facility Survey therefore collected information on activities of PTAs and SMCs as components of school management. This could serve as baseline for future impact surveys.

The information collected on school management were about the existence of PTAs, SMCs and the conduct of School Performance Appraisal Meetings (SPAM). Information was also collected on the concomitant School Performance Improvement Plan (SPIP), which spells out actions to be taken to achieve agreed targets set for the next round of Performance Monitoring Test (PMT).

### Parent-Teacher Associations

Head-teachers or other responsible officers of the schools were asked whether their schools had a Parent-Teacher Associations (PTA). The distribution of the responses are shown in Table 5.20.

**Table 5.20: Schools with parent-teacher association**

| | 2003 | |
|---|---|---|
| Responses | Percent | N |
| Does Exist | 97.8 | 408 |
| None Exist | 2.2 | 9 |
| Total | 100.0 | 417 |

The Table shows that, of the 417 primary schools, 408 or 97.8 per cent have PTA. This shows that, the PTA as an old educational concept is very widespread. Table 5.21 presents information on number and proportion of PTAs and their activity status. Of the 408 primary schools with PTA, 81.9 percent described their associations as being active. The PTAs play a very useful advocacy and watchdog role in the educational system for which pupils and students are billed a fee. It is therefore unacceptable that almost a fifth (18.5%) of PTAs exist only in name.

When the responses are disaggregated by urban-rural locations, indications are that PTAs in Urban areas (85.6%) are more active than those in rural areas (75.5%) as shown in Table 5.21.

**Table 5.21: Status of parent-teacher associations by locality**

| | Urban | | Rural | | Total | |
|---|---|---|---|---|---|---|
| Status | Percent | N | Percent | N | Percent | N |
| Active | 85.6 | 220 | 75.5 | 114 | 81.9 | 334 |
| Not Active | 14.4 | 37 | 24.5 | 37 | 18.1 | 74 |
| Total | 100.0 | 257 | 100.0 | 151 | 100.0 | 408 |

The tendency of PTAs of urban schools to be more active than those of rural schools may be due to the fact that a higher proportion of urban parents, being literate and more likely to attach greater value to the education of their children, will be more interested in the affairs of the schools their children attend and therefore put pressure on the PTAs to function. There is a significant difference in the status of PTAs in terms of ecological zones, as shown in Table 5.22. The Table shows that the highest proportion (88.7%) of active PTAs for primary schools is in the coastal zone, followed by the savannah zone with 80 percent, the forest zone schools recorded the lowest proportion of 79 percent.

**Table 5.22: Status of parent-teacher associations by ecological zone**

| | Coastal | | Forest | | Savannah | | All | |
|---|---|---|---|---|---|---|---|---|
| Status | Percent | N | Percent | N | Percent | N | Percent | N |
| Active | 88.7 | 102 | 79.0 | 184 | 80.0 | 48 | 81.9 | 334 |
| Not Active | 11.3 | 13 | 21.0 | 49 | 20.0 | 12 | 18.1 | 74 |
| Total | 100.0 | 115 | 100.0 | 233 | 100.0 | 60 | 100.0 | 408 |

The same reason why a higher percentage of PTAs seemed to be active in the urban setting than those in the rural setting could apply to the ecological zones. The coastal

zone has the highest concentration of urban settlements. The hypothesis that, the higher the percentage of literate parents, the more likely they are to attach importance to the education of their children and therefore show more interest in the affairs of the school, may be true. The coastal zone has the highest concentration of urban settlements followed by that of the forest zone, while the savannah zone is the least urbanized. Following the hypothesis, one would expect the percentage of PTAs described as active would be higher in the forest zone than the savannah zone; but this had not been the case. This apparent contradiction of the hypothesis could be explained by the fact that the forest zone is more endowed with forest and mineral resources than the savannah zone. Children in school in the forest zone are more likely to engage in economic activities with parents' approval. Although lower enrolment rates prevail in the savannah zone, the harsh ecological conditions may not encourage parents to push their wards into economic activities that have lower yield rates. Parents in the savannah zone might therefore be interested in the affairs of the schools of their children.

Table 5.23 shows that, of the 408 primary schools, 218 PTAs or 53.4 percent had met, while 46.6 percent had not met.

In terms of rural-urban location of the schools, the Table shows that there is no significant difference in the proportion of PTAs that had met the previous month (52.4% urban and 54.3% rural).

**Table 5.23: Meeting schedule of parent-teacher associations the previous month by locality**

| | Urban | | Rural | | Total | |
|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N |
| Yes had met | 52.9 | 136 | 54.3 | 82 | 53.4 | 218 |
| No had not met | 47.1 | 121 | 45.7 | 69 | 46.6 | 190 |
| Total | 100.0 | 257 | 100.0 | 151 | 100.0 | 408 |

Table 5.24 shows that significant differences in the proportion of PTAs that that met the previous month exist between ecological zones.

As high as 70.0 percent of PTAs in the savannah zone were reported to have met in the previous month, while a comparatively lower proportion (53.6%) of PTAs in the forest zone met. An intermediate percentage of 59.1 was reported for the forest zone.

**Table 5.24: Meeting schedule of parent-teacher associations the previous month by ecological zones**

| | Coastal | | Forest | | Savannah | | All | |
|---|---|---|---|---|---|---|---|---|
| Status | Percent | N | Percent | N | Percent | N | Percent | N |
| Yes | 59.1 | 68 | 46.4 | 108 | 70.0 | 42 | 53.4 | 218 |
| No | 40.9 | 47 | 53.6 | 125 | 30.0 | 18 | 46.6 | 190 |
| Total | 100.0 | 115 | 100.0 | 233 | 100.0 | 60 | 100.0 | 408 |

Perhaps, a more realistic indicator of how active Parent Teacher Associations could be related to the support they are able to offer their schools is indicated in Table 5.25. The table shows that 63.7 per cent of the PTAs were reported to have been of assistance to the schools by way of provision of inputs like furniture and equipment in the previous year.

**Table 5.25: Assistance of parent-teacher associations to school by locality**

| | Urban | | Rural | | Total | |
|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N |
| Yes, assistance given | 68.1 | 175 | 56.3 | 85 | 63.7 | 260 |
| No, assistance not given | 31.9 | 82 | 43.7 | 66 | 36.3 | 148 |
| Total | 100.0 | 257 | 100.0 | 151 | 100.0 | 408 |

The Table5.25 also shows that, 68.1 per cent of PTAs in urban areas offered assistance in the previous year, while 56.3 percent of those in rural areas did so. In terms of ecological zones, the highest proportion (68.7%) of PTAs offering support is in the forest zone, followed by the savannah zone with 63.7 percent, while the coastal zone has 55.7 percent (Table 5.26).

This reversal of trend when viewed against how 'active' the PTAs were reported to be, is difficult to explain. It may be explained by the fact that, while parents in the forest zone were perceived by the respondents (head teachers) as more interested in the affairs of the school, they might collectively not be offering much tangible help. Conversely, schools in the forest and savannah zones might be less endowed and more needy so they demand and obtain support from the PTAsThe true situation might be that, the head teachers were responding to the questions without reference to any records. There might therefore be some inconsistencies in their responses.

**Table 5.26: Assistance of parent-teacher association to school by ecological zone**

| | Coastal | | Forest | | Savannah | | All | |
|---|---|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N | Percent | N |
| Yes | 55.7 | 64 | 68.7 | 160 | 60.0 | 36 | 63.7 | 260 |
| No | 44.3 | 51 | 31.3 | 73 | 40.0 | 24 | 36.3 | 148 |
| Total | 100.0 | 115 | 100.0 | 233 | 100.0 | 60 | 100.0 | 408 |

## School Management Committees

The concept of School Management Committee (SMC) is more recent than that of the Parent-Teacher Association. The concept is also not as widespread at the basic level of education the School Board at the senior secondary level. The direct practical involvement of the SMC in the activities in the school may therefore not be so apparent. Information collected on the School Management Committee is the same as the Parent-Teacher Associations.

Table 5.27 shows that 81.1 per cent of primary schools had management committees. The Table also shows that as high as 94.7 percent of public primary schools had SMCs as against only 36.1 percent of private primary schools. That a low proportion of private primary schools have SMCs should be expected. While it is mandatory for public schools to form SMCs in their communities, the private schools, most of which have sole proprietorship may not feel obliged to share the management of the schools with members of their communities.

**Table 5.27: Schools with SMCs by ownership of schools**

| | Public | | Private | | Total | |
|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N |
| Yes, SMC | 94.7 | 303 | 36.1 | 35 | 81.1 | 338 |
| No, SMC | 5.3 | 17 | 63.9 | 62 | 18.9 | 79 |
| Total | 100.0 | 320 | 100.0 | 97 | 100.0 | 417 |

Table 5.28 provides information on whether the SMCs were active or not. As shown in the Table, 75.7 percent of the 338 SMC are reported as active, with not much differences between urban and rural schools (76.6% urban and 74.4% rural).

**Table 5.28: Status of school management committees by locality**

| | Urban | | Rural | | Total | |
|---|---|---|---|---|---|---|
| Status | Percent | N | Percent | N | Percent | N |
| Active | 76.6 | 160 | 74.4 | 96 | 75.7 | 256 |
| Not Active | 23.4 | 49 | 25.6 | 33 | 24.3 | 82 |
| Total | 100.0 | 209 | 100.0 | 129 | 100.0 | 338 |

In terms of ecological zones the proportion of SMCs reported as active decreased slightly from the coastal (83.7%) through forest (72.8%) to the savannah zone (71.4%) as depicted in Table 5.29

**Table 5.29: Status of school management committees by zone**

| | Coastal | | Forest | | Savannah | | All | |
|---|---|---|---|---|---|---|---|---|
| Status | Percent | N | Percent | N | Percent | N | Percent | N |
| Active | 83.7 | 82 | 72.8 | 134 | 71.4 | 40 | 75.7 | 256 |
| Not Active | 16.3 | 16 | 27.2 | 50 | 28.6 | 16 | 24.3 | 82 |
| Total | 100.0 | 98 | 100.0 | 184 | 100.0 | 56 | 100.0 | 338 |

On SMCs meetings, about one half (50.3%) had met in the previous month, as shown in Table 5.30 with rural schools (55.0%) doing better than urban schools (47.4%) in this regard.

**Table 5.30: Meeting schedule of school management committees the previous month by locality**

| | Urban | | Rural | | Total | |
|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N |
| Yes | 47.4 | 99 | 55.0 | 71 | 50.3 | 170 |
| No | 52.6 | 110 | 45.0 | 58 | 49.7 | 168 |
| Total | 100.0 | 209 | 100.0 | 129 | 100.0 | 338 |

Although the idea of SMCs has been more appreciated in the urban areas, the anonymous nature and overlapping boundaries of catchments areas of schools in the urban setting, made it more difficult to organise SMC. It is also important to note that most private institutions are in the urban areas and many of these may be reluctant to call meetings even if the SMCs exist. When meeting of SMCs is examined according to ecological zones, the coastal (59.2%) and savannah (60.7%) zones turn out to do better than the forest zone (42.4%) as shown in Table 5.31

**Table 5.31: Meeting Schedule of School Management Committee in Previous Month by Ecological Zone**

| | Coastal | | Forest | | Savannah | | All | |
|---|---|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N | Percent | N |
| Yes, met | 59.2 | 58 | 42.4 | 78 | 60.7 | 34 | 50.3 | 170 |
| No, did not meet | 40.8 | 40 | 57.6 | 106 | 39.3 | 22 | 49.7 | 168 |
| Total | 100.0 | 98 | 100.0 | 184 | 100.0 | 56 | 100.0 | 338 |

Just as with Parent-Teacher Associations, a more realistic proxy to being active could be the support the SMCs were able to offer the schools. This is shown in Table 5.32.

Table 5.32 shows that half (50.0%) of the number of SMCs have been of some assistance to the schools, with slight advantage of rural schools (51.9%) over urban schools (48.8%).

**Table 5.32: Assistance of school management committees to schools by locality**

| | Urban | | Rural | | Total | |
|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N |
| Yes | 48.8 | 102 | 55.0 | 71 | 50.3 | 170 |
| No | 51.2 | 107 | 45.0 | 58 | 49.7 | 168 |
| Total | 100.0 | 209 | 100.0 | 129 | 100.0 | 338 |

Table 5.33 shows that the highest proportion (60.7%) of SMCs offering support is in the savannah zone, followed by the forest zone (52.2%) and coastal (39.8%). Although the concept of SMCs caught on well with the coastal zone which might have more of better endowed basic schools, the SMCs in the forest and savannah zones might have felt the

need to offer material assistance in order to measure up to the standards of the better endowed schools in the coastal zone.

**Table 5.33: Assistance of school management committees to schools by zone**

| | Coastal | | Forest | | Savannah | | All | |
|---|---|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N | Percent | N |
| Yes | 39.8 | 39 | 52.2 | 96 | 60.7 | 34 | 50.0 | 169 |
| No | 60.2 | 59 | 47.8 | 88 | 39.3 | 22 | 50.0 | 169 |
| Total | 100.0 | 98 | 100.0 | 184 | 100.0 | 56 | 100.0 | 338 |

## School Performance Appraisal Meeting (SPAM)

The School Performance Appraisal Meeting (SPAM) is a forum of school teachers and the entire school community convened annually by the District Education Office to discuss the performance of their schools in a district/nationwide test organised by the Ghana Education Service and to design strategies for improving school performance in subsequent years. It is at such SPAM sessions that stakeholders/shareholders in education, both providers and beneficiaries discuss the academic achievements of their schools as evidenced by their most recent Performance Monitoring Test, and agree on strategies to improve future performance. The outcome of the meeting is expected to be a School Performance Improvement Plan with targets and agreed actions to be implemented for subsequent years.

The 2003 Ghana Education Impact Survey collected information on the organization of SPAMs in the previous year and performance plans with targets for the ensuing year.

Table 5.34 shows that of the 417 Primary schools, 305 or 73.1 per cent had held a SPAM in the previous year, 91.6 per cent for public Primary schools and only 12.4 per cent for private schools.

**Table 5.34: SPAM status of schools by type of ownership**

| | Public | | Private | | All Schools | |
|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N |
| Had Spam | 91.6 | 293 | 12.4 | 12 | 73.1 | 305 |
| No Spam | 8.4 | 27 | 87.6 | 85 | 26.9 | 112 |
| Total | 100.0 | 320 | 100.0 | 97 | 100.0 | 417 |

When the public schools are disaggregated on urban/ rural location, it is observed that a bigger proportion of urban public schools (93.2%) than rural public schools (89.1%) participate in SPAMs, as shown in Table 5.35a.

**Table 5.35a: SPAM status of public schools by locality**

| | Urban | | Rural | | Total | |
|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N |
| Had Spam | 93.2 | 178 | 89.1 | 115 | 91.6 | 293 |
| No Spam | 6.8 | 13 | 10.9 | 14 | 8.4 | 27 |
| Total | 100.0 | 191 | 100.0 | 129 | 100.0 | 320 |

The slight urge of the urban schools over the rural ones could be explained by the fact that, since the SPAM is organised by personnel from the District Education Office, and probably in the district capitals, many rural schools may not be as involved as the urban ones.

By ecological zones, the forest (94.0%) and coastal (92.9%) zones seem to have fared better than the Savannah zone (81.1) by way of SPAM being held (Table 5.35b).

**Table 5.35b: SPAM status of public schools by ecological zone**

| | Coastal | | Forest | | Savannah | | All Zones | |
|---|---|---|---|---|---|---|---|---|
| Response | Percent | N | Percent | N | Percent | N | Percent | N |
| Had Spam | 92.9 | 78 | 94.0 | 172 | 81.1 | 43 | 91.6 | 293 |
| No Spam | 7.1 | 6 | 6.0 | 11 | 18.9 | 10 | 8.4 | 27 |
| Total | 100.0 | 84 | 100.0 | 183 | 100.0 | 53 | 100.0 | 320 |

Of the 305 schools (public and private) that had SPAM, 300 or 98.4 percent had performance plans with agreed targets for the ensuing year. The main actions to be implemented as a result of the SPAM are presented in Table 5.36 as follows. More than half (51.5%) of the action plans involved parents while about a fifth (22.6%) involve teachers. Plans involving others besides parents and teachers constitute 24.3 percent of agreed plan.

**Table 5.36: Schools participating in SPAM by agreed actions**

| Agreed Actions | N | Percent |
|---|---|---|
| None | 5 | 1.6 |
| Parents to ensure children attend school | 81 | 26.6 |
| Parents to provide pencils and exercise books | 65 | 21.3 |
| Parents to ensure children are properly dressed | 1 | 0.3 |
| Parents to raise more money for school | 10 | 3.3 |
| Teachers to reduce absenteeism | 7 | 2.3 |
| Teachers to be more punctual | 15 | 4.9 |
| Teachers to provide extra classes | 47 | 15.4 |
| Others | 74 | 24.3 |
| Total | 305 | 100.0 |

Parents to ensure children attend school (26.6%), provide learning materials such as pencils and exercise books (21.3%) and teachers to provide extra classes (15.4%) ranked high in the agreed actions to be implemented.

It is one thing planning and another carrying out the plans. It was therefore necessary to collect information on the extent to which earlier planned actions were being carried out.

As shown in Table 5.37, 42.3 percent of the schools with planned actions implemented these completely while 52.0 percent reported partial implementation of planned actions. A negligible percentage of 5.7 per cent of schools said no emphatically to their planned actions being carried out.

**Table 5.37: Extent planned actions implemented by location**

| | Urban | | Rural | | Total | |
|---|---|---|---|---|---|---|
| Extent | Percent | N | Percent | N | Percent | N |
| Completely implemented | 42.4 | 78 | 42.2 | 49 | 42.3 | 127 |
| Partially implemented | 54.3 | 100 | 48.3 | 56 | 52.0 | 156 |
| Not implemented | 3.3 | 6 | 9.5 | 11 | 5.7 | 17 |
| Total | 100.0 | 184 | 100.0 | 116 | 100.0 | 300 |

Table 5.37 shows that there is no significant difference between urban (42.4%) and rural (42.2%) in terms of proportion having implemented plans completely. On the other hand, there is a much higher proportion (9.5%) of rural schools that have not implemented their planned actions than it is with urban schools (3.3%)

When analysed by ecological zones, Table 5.38 below shows that schools in the forest zone performed better others, recording 46.3percent of primary schools having carried out completely their planned actions as against 39.2 percent for coastal and 31.8 percent for savannah. The majority of schools in the coastal (58.2%) and savannah (56.8%) have partially completed implementation of their planned actions, while the largest proportion of non implementation is in savannah (11.4%)

**Table 5.38: Level of implementation of planned actions by zone**

| | Coastal | | Forest | | Savannah | | All Zones | |
|---|---|---|---|---|---|---|---|---|
| Extent | Percent | N | Percent | N | Percent | N | Percent | N |
| Completely implemented | 39.2 | 31 | 46.3 | 82 | 31.8 | 14 | 42.3 | 127 |
| Partially implemented | 58.2 | 46 | 48.0 | 85 | 56.8 | 25 | 52.0 | 156 |
| Not implemented | 2.6 | 2 | 5.7 | 10 | 11.4 | 5 | 5.7 | 17 |
| Total | 100.0 | 79 | 100.0 | 177 | 100.0 | 44 | 100.0 | 300 |

# CHAPTER 6

# TEACHER WORKING CONDITIONS

## 6.1 Introduction

The development of a learner's potential is largely dependent on teachers. They are a critical component of every educational system, and, therefore, there is the need for them to have high morale.

Teachers are being stretched to the limit. Expectations placed on them seem to be expanding exponentially. Increasingly, their role encompasses not only teaching specific content and mentoring students in the love of learning, but also functioning as frontline social workers.

Teachers' morale can be either high or low depending on school climate and conditions of service. There is a saying that "teachers' rewards are in heaven". Teachers need not wait to get to heaven before receiving their rewards for not all teachers may go to heaven.

The terms and conditions of teachers' employment are important because they largely determine the quality of candidates attracted to the profession. It is possible that not offering attractive salaries does not provide job security to teachers. As a result, schools are often forced to recruit teachers who are poorly qualified, or not qualified at all and who are inexperienced in order to fill the need for teachers. It is also possible that private schools offer incentives to teachers in their schools to improve the quality of their performance.

This section will address teacher morale, measures of morale, if teachers enjoy teaching, if teachers are satisfied with their salaries and other allowances, if teachers enjoy their profession, if teachers receive enough supervision, what other facilities can help to motivate teachers such as living conditions, or working conditions, if parental support of teachers help them to enjoy their profession and the determinants of teacher morale.

### Definition of Teacher Morale

We make bold to state that teachers enjoy their profession, that teachers in both rural and urban areas have no access to free accommodation resulting in low morale, teachers do not receive their salaries on time and that Morale is conceptualized in various ways as a feeling, a state of mind, a mental attitude, and an emotional attitude. Another conceptualization of morale is the amount of confidence, enthusiasm, and determination that a person or group has at a particular time. For our purposes we will refer to teacher morale as "feeling good about each other and, at the same time, feeling a sense of accomplishment from their jobs".

**Measures of Teacher Moral**

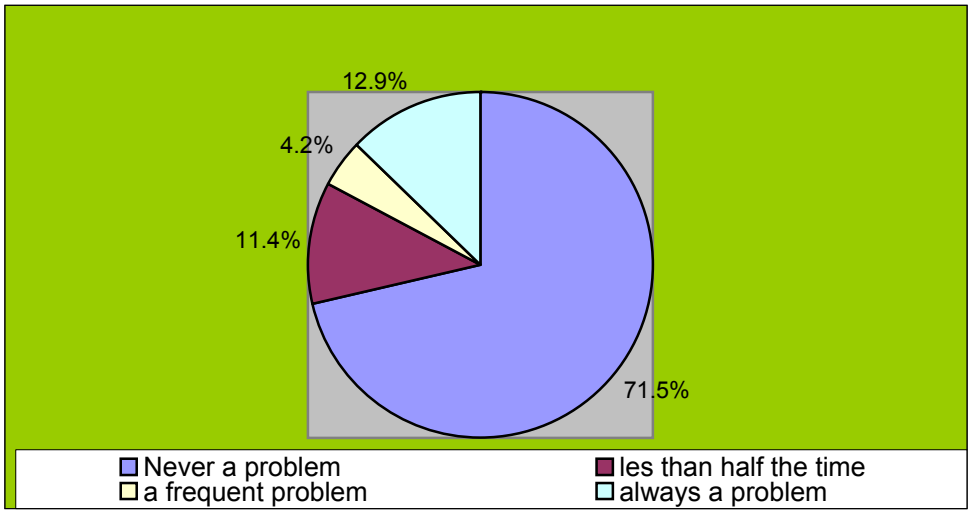
The survey collected information on whether teachers enjoy teaching and the possibility of remaining as a teacher. Information is also collected on living conditions, working conditions, location, age, sex and experience, as functions of teacher morale.

Table 6.1shows that 71.5 percent of teachers indicated that low teacher morale was never a problem, while, 12.9 percent said that it was always a problem. This may imply that the morale of the Ghanaian teachers is very high.

**Table 6.1: Problem of teacher morale**

| Problem of teacher morale | Number | Percent |
|---|---|---|
| Never a problem | 2,237 | 71.5 |
| Only an occasional problem (less than half the time) | 357 | 11.4 |
| A frequent problem (more than half the time) | 131 | 4.2 |
| Always a problem | 404 | 12.9 |
| Total | 3,129 | 100.0 |

**Figure 6.1: Moral of teachers as a problem**




**Teacher Salaries and Other Allowances**

As workers, salaries and other allowances for teachers are very essential in determining job security. The teaching profession competes very well with other jobs in the country. Most of the teachers are well educated; they have upgraded themselves and can work in other organizations, so they need to be paid well.

As seen from Table 6.2, 52.2 percent of teachers receive their salaries always on time, followed by 19.8 percent of teachers who for most months receive their salaries on time. Over a tenth (13.5%) of teacher do not receive their salaries on time while 14.5 percent

only occasionally receive their salaries on time. This situation is peculiar to teachers because when they are posted, some of them refuse posting to a particular region or district and this causes delay in processing their salary, when they finally settle.

**Table 6.2: Regularity of payment of teachers salaries**

| Whether teacher receives salary on time | Number | Percent |
|---|---|---|
| Always | 1,632 | 52.2 |
| Most months | 620 | 19.8 |
| Occasionally (three or less months a year) | 454 | 14.5 |
| Never | 423 | 13.5 |
| Total | 3,129 | 100.0 |

As given in Table 6.3 below, 44.8 percent of teachers did extra classes for pay while 55.2% of the teachers did not do extra classes for additional payment. It is also observed from Table 6.4 that 21.8 percent of teachers received presents from parents, while 78.2 percent did not receive any presents from parents during the previous academic year. This may imply that more teachers depend on their salaries only. It is also possible that more teachers prefer to do other jobs like trading, farming and other small business activities than organizing extra classes for money.

**Table 6.3: Sources of other payments (cash and in-kind)**

| Receipt of Payment | Number | Percent |
|---|---|---|
| Yes | 1,403 | 44.8 |
| No | 1,726 | 55.2 |
| Total | 3,129 | 100.0 |

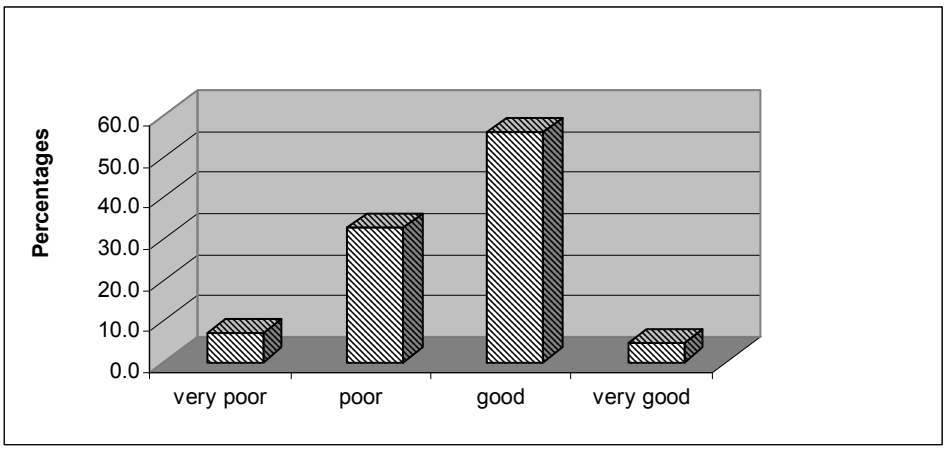
**Table 6.4: Sources of other payment (cash and in-kind)**

| Receipt of Payment | Frequency | Percent |
|---|---|---|
| Yes, Payment Received | 682 | 21.8 |
| None Received | 2,447 | 78.2 |
| Total | 3,129 | 100.0 |

## Working Conditions

On working conditions every 6 out of 10 (60.3%) teachers are satisfied as figure 6.2 indicates (55.8% said that it was good and 4.5% very good). The fact that nearly two-fifths (39.7%) are dissatisfied with their working conditions (32.7% poor and 7.0% very poor) is very worrying and efforts need to be made to address the issue, given the very essential role teachers and education play in the development of the individual and society.

**Figure 6.2: The distribution of working conditions of teachers**




## Professional Career and Satisfaction

Of the 3,130 teachers, 2,713 or 86.7 percent indicated that they enjoy being a teacher. Table 6.5 presents information on working conditions as it relates to satisfaction with professional career. The table indicates that satisfaction with profession correlates strongly with satisfaction with working conditions. Of the 2,713 teachers who have professional satisfaction, 64.5 percent are satisfied with their working conditions (59.6% good and 4.9% very good). On the other hand, 66.9 percent of the 416 teachers who are unhappy with the teaching profession are also not satisfied with their working conditions (49.8% poor and17.1% very poor).

It is worth noting that 35.5 percent of teachers who enjoy teaching do so in spite of the fact that their working conditions are perceived to be unsatisfactory. The proportion is quite substantial and it is necessary to improve the conditions in order not to push them into the ranks of the dissatisfied.

The 33.1 percent of teachers who find working conditions satisfactory but do not enjoy teaching may represent those who enter the profession because of difficulty in finding work and will leave as soon as they find the kind of job they are looking for. They are likely to be either untrained or trained in other areas more suited for outside the classroom.

**Table 6.5: Distribution of teachers by whether teacher enjoys being a teacher and by how teacher describes his/her working condition**

| Perception of Working Condition | Enjoy Teaching | | Not Happy with Teaching | | Total | |
|---|---|---|---|---|---|---|
| | Number | Percent | Number | Percent | Number | Percent |
| Very Poor | 148 | 5.5 | 71 | 17.1 | 219 | 7.0 |
| Poor | 815 | 30.0 | 207 | 49.8 | 1,022 | 32.7 |
| Good | 1,617 | 59.6 | 130 | 31.3 | 1,747 | 55.8 |
| Very Good | 133 | 4.9 | 8 | 1.9 | 141 | 4.5 |
| Total | 2,713 | 100.0 | 416 | 100.0 | 3,129 | 100.0 |

Figure 6.3 shows that the proportion of teachers who perceive working conditions to be unsatisfactory are higher among teachers who are unhappy with the teaching profession, while among those who are satisfied with working conditions, the proportions are higher for teachers who enjoy the teaching profession

**Figure 6.3: Percentage of teachers who do and don't enjoy being a teacher and what they say about their working conditions**

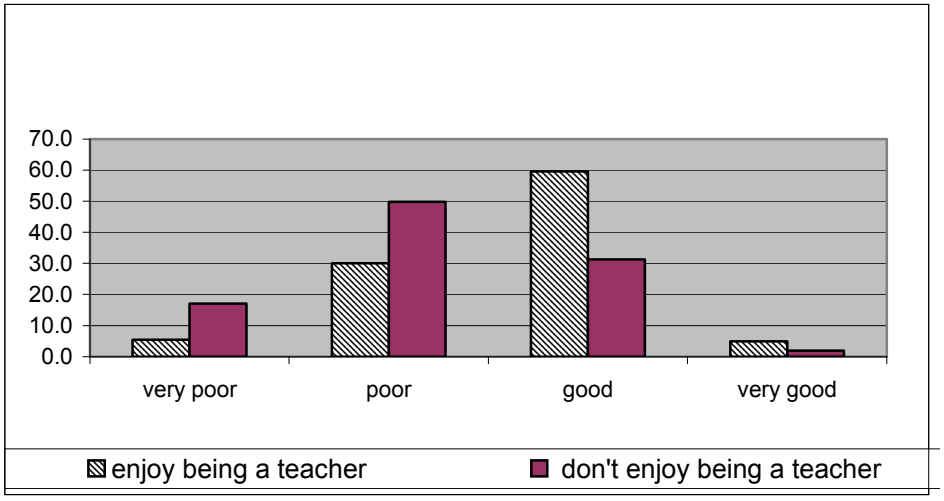



Table 6.6 shows that less than a tenth (8.6%) of teachers have ever been on study leave, probably to undertake degree courses. This means that most teachers are either professional teacher training graduates or professional university graduates straight from secondary school without prior teaching experience. This may be evidence in the fact that a higher proportion (12.08%) of teachers who did not enjoy the teaching profession, than those satisfied with teaching (8.1%) have been on study leave.

**Table 6.6: Previous experiences with study leave by satisfaction with profession**

| Whether Teacher has been on Study Leave | Whether Teacher Enjoys being a Teacher | | | | | |
|---|---|---|---|---|---|---|
| | Yes | | No | | Total | |
| | Number | Percent | Number | Percent | Number | Percent |
| Yes | 220 | 8.1 | 50 | 12.0 | 270 | 8.6 |
| No | 2,493 | 91.9 | 366 | 88.0 | 2,859 | 91.4 |
| Total | 2,713 | 100.0 | 416 | 100.0 | 3,129 | 100.0 |

Three – quarters (75.6%) of teachers have plans to proceed on study leave in future. The proportion is higher among teachers not satisfied with teaching (78.7%) than those who enjoy teaching (75.1%).

**Table 6.7: Future plans for study leave by satisfaction with profession**

| Whether Teacher has plan to go on Study Leave in future | Satisfaction with Teaching Profession | | | | | |
|---|---|---|---|---|---|---|
| | Satisfied with Teaching | | Not Satisfied with Teaching | | Total | |
| | Number | Percent | Number | Percent | Number | Percent |
| Yes | 1,873 | 75.1 | 288 | 78.7 | 2,161 | 75.6 |
| No | 620 | 24.9 | 78 | 21.3 | 698 | 24.4 |
| Total | 2,493 | 100.0 | 366 | 100.0 | 2,859 | 100.0 |

Seven out of 10 (69.0%) teachers plan to make a career out of teaching. This confirms the earlier statement that a substantial proportion (31.0%) of teachers are in the profession as a temporary measure.

Out of the teachers who enjoy teaching 76 percent plan to remain as teachers and build a career, while almost the same proportion (76.4%) of those who do not enjoy the teaching profession will not remain as teachers for their working life.

**Table 6.8: Distribution of teachers by whether teacher enjoys being a teacher and by whether teacher has plan to remain a teacher for whole life career**

| Whether Teacher has plan to remain a Teacher for whole Life career | Whether Teacher enjoys being a Teacher | | | | | |
|---|---|---|---|---|---|---|
| | Yes | | No | | Total | |
| | Number | Percent | Number | Percent | Number | Percent |
| Yes | 2,061 | 76.0 | 98 | 23.6 | 2,159 | 69.0 |
| No | 652 | 24.0 | 318 | 76.4 | 970 | 31.0 |
| Total | 2,713 | 100.0 | 416 | 100.0 | 3,129 | 100.0 |

## School Management

For any organization to function efficiently, there is the need for a sound management system. Management is a process which uses resources to achieve pre-determined outcomes.

At the Basic level, the education process is carried out in schools under the management of the head teachers.

The school is thus, the primary unit of management in the educational system. Within that unit, there are two levels of management-the class/subject teacher who focuses on the pupils and the head who focuses on the whole school.

The circuit level is the second tier in the management system. The Circuit Supervisor is the officer in charge of the circuit. Circuit supervisors are appointed from professional teachers not below the rank OF principal Superintendent. A Circuit Supervisor is expected to visit each school, at least, three times per term.

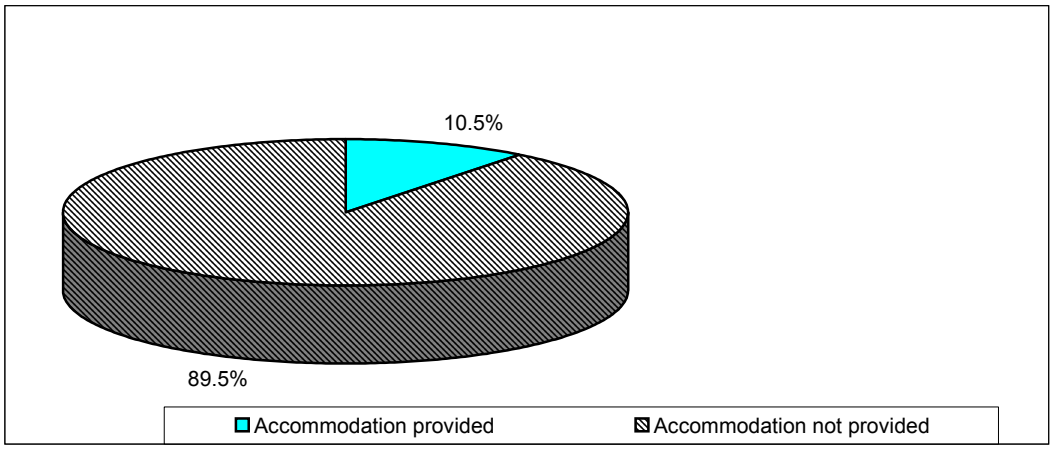
### Facilities as Additional Motivation to Teachers

Teaching as a profession and a job should attract some facilities such as accommodation, electricity, water and transport to enhance their work. In most formal private jobs in Ghana these facilities are given to employees and this may probably account for the formal private sector good performance. Information was collected on the extent to which teachers are provided these facilities.

### Teacher's Accommodation Provided

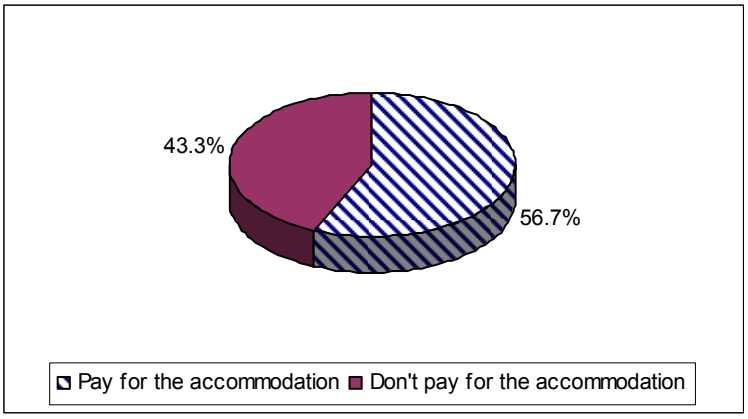
Figure 6.4below shows that only a tenth (328 or10.5%) of the teachers have been provided with accommodation while 89.5% are living in their own/family houses or rented houses.

**Figure 6.4: Percentage of teachers with or without accommodation provided**



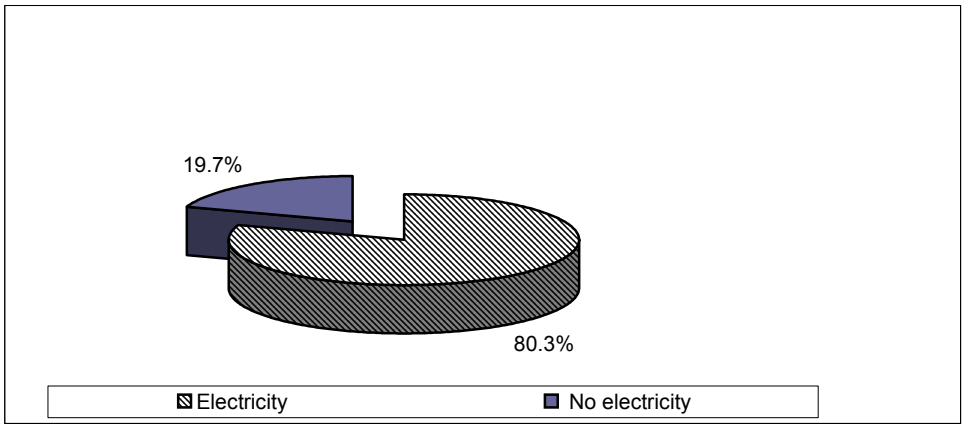

Out of the 328 teachers who have accommodation provided, 142 or 43.3 percent of them do not pay for the facility (Figure 6.5). This means that only 4.5 percent of all teachers (3,130) have free accommodation. This proportion may represent head teachers and other personnel whose appointments go with the facility.

**Figure 6.5: Percentage of teachers paying or not paying for their accommodation provided them**




Lighting is very important to the teaching profession because teachers need to read and prepare for the next day's work. The supply of electricity, which is the safest source of lighting in terms of the effect on the eyes, therefore becomes a crucial facility to the teacher. Figure 6.6 shows that 80.3 percent of teachers have electricity where they live with the remaining 19.7 percent possibly using other sources of light.

**Figure 6.6: Percentage of teachers with or without electricity in the place where they live**




Water is very essential to mankind since our health depends on it. It was therefore necessary to collect information on the type of water available to teachers. Table 6.9 indicates that almost four–fifths (79.1%) of teachers have access to portable water, made up of 61.0 percent treated water (pipe borne and tanker supply) and 18.1 percent borehole. The picture suggests that the accommodation facilities or type of housing for teachers are fairly satisfactory.

**Table 6.9: Type of water supply available to teachers**

| Type of water supply | Frequency | Percent |
|---|---|---|
| Pipe-borne inside | 1,086 | 34.7 |
| Pipe-borne outside | 801 | 25.6 |
| Tanker supply | 23 | 0.7 |
| Well | 428 | 13.7 |
| Bore-hole | 567 | 18.1 |
| Natural source (spring/rain water/river/stream) | 211 | 6.7 |
| Other | 13 | 0.4 |
| Total | 3,129 | 100.0 |

The observation that housing condition of teachers appears satisfactory is supported by the teachers themselves. Three quarters (74.3%) of the teachers describe the conditions of their housing as adequate or satisfactory (28.0%), good (38.55%) or very good (7.8%). The 25.7 percent with unsatisfactory housing conditions may be those in rural or newly developing urban areas where water and electricity facilities may not be available.

**Table 6.10: Perception of Teachers of their Housing Condition**

| Housing Condition | Number | Percent |
|---|---|---|
| Very poor | 190 | 6.1 |
| Poor | 614 | 19.6 |
| Adequate/Satisfactory/Average | 876 | 28.0 |
| Good | 1,204 | 38.5 |
| Very good | 245 | 7.8 |
| Total | 3,129 | 100.0 |

People are happy and motivated to work when they are appreciated and integrated into the community. Since teachers may not necessarily work in their own communities, this becomes even more crucial. Teachers in the discharge of their duties are in close touch with the generality of people in the community because he/she is seen as someone the community has entrusted their children for the training that should be theirs. Very cordial relationship between teachers and parents in the community is therefore necessary.

The study attempted to collect information on how teachers spend their leisure time.

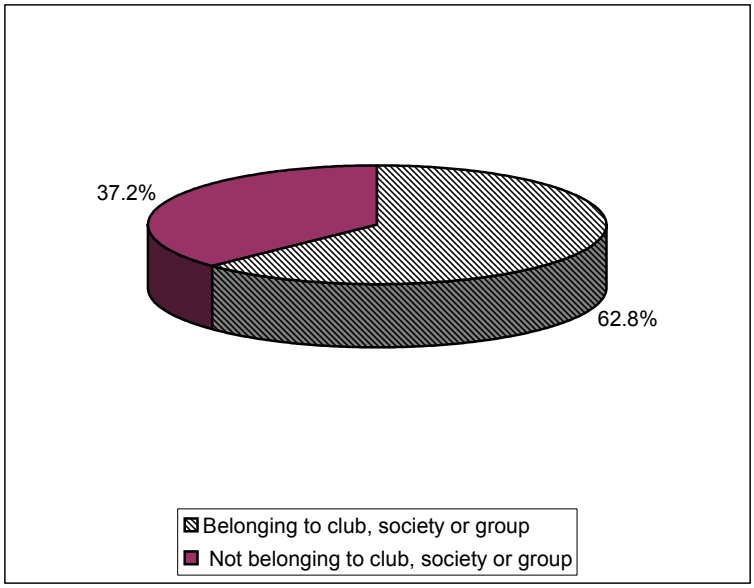
During the weekends and the evenings over half (55.8%) of teachers spend their time with their own families followed by 20.1 percent mainly with other teachers and 14.3 percent also with members of the community. A tenth (9.8%) either do not socialize or spend time doing other things.

**Table.6.11: Who teacher mostly socialize with**

| Who teacher mostly socialize with | Number | Percent |
|---|---|---|
| Own family | 1,745 | 55.8 |
| Only other teachers | 232 | 7.4 |
| Mostly other teachers | 398 | 12.7 |
| Mostly members of the community | 374 | 12.0 |
| Only members of the community | 73 | 2.3 |
| Doesn't or rarely socializes | 135 | 4.3 |
| Other | 172 | 5.5 |
| Total | 3,129 | 100.0 |

Another aspect of community integration is membership of social or religious groups in the community. Results of the study indicate that three-fifths (62.8%) of teachers belong to a club, society or group in the community (Figure 6.7).

**Figure 6.7: Membership of clubs, societies or groups**




On the relationship of teachers with parents and other members of the community, 71.6% of the teachers have a cordial relationship with parents and other members in the community, followed by 24.3% who have very cordial relationship with parents. Thus the overwhelming majority of teachers (95.9%) are on very good terms with the people of the community in which they live. This is a demonstration of the respect and appreciation people have generally for teachers.

**Table 6.12: Relationship with Parents and Other Members of the Community**

| Relations with Parents and Community | Number | Percent |
|---|---|---|
| Very cordial | 759 | 24.3 |
| Cordial | 2,240 | 71.6 |
| Uncordial | 83 | 2.7 |
| Very uncordial | 47 | 1.5 |
| Total | 3,129 | 100.0 |

## Determinants of Morale

Determinants of morale generally refers to those factors that raise one's spirit and make one willing to do more than one normally would. Thus, living conditions, working conditions, location and facilities, confidence that comes from experience, show of appreciation, gifts and show of love can all lead to raising or lowering one's morale.

For living conditions, facilities such as electricity, condition of accommodation, provision of housing, availability of water, rural/urban location and accompanying facilities and social relations may be considered.

In terms of working conditions, level of remuneration, receiving salary on time, head teacher or circuit supervisor support, additional remuneration generated from extra classes and gifts are some of the variables that are considered.

To identify the determinants of morale a logistic regression analysis is run. There were two models.

1. Enjoy teaching will be run against all the variables of living condition, working condition, location age, sex and experience to see the outcome.
2. Model two will be remaining as a teacher against all the variables of determinants to see also the outcome.

From the discussion on the measures and determinants of morale we propose the use of a logistic regression in measuring the morale of teachers.

Two models are specified below.

1. Enjoy teaching = f (living condition, working conditions, location, age, sex and experience)

2. Remain teacher = f (living condition, working conditions, location, age, sex and experience)

The estimates of the model parameters are explained below.

**Logistic regression for morale of teachers (Enjoy teaching)**

| | B | Sig. | Exp(B) |
|---|---|---|---|
| Females vs Males | .856 | .000 | 2.353 |
| Age group | | .150 | |
| Young vs Mid-age | .753 | .053 | 2.123 |
| Young vs Old | .389 | .154 | 1.475 |
| Working conditions | | .000 | |
| Very poor vs poor | 1.891 | .001 | 6.628 |
| Very poor vs good | 1.248 | .019 | 3.482 |
| Very poor vs very good | -.069 | .899 | .934 |
| Availability of electricity Vs no-availability | .646 | .008 | 1.907 |
| Type of water available | | .457 | |
| Pipe-born inside vs pipe-borne outside | 4.243 | .530 | 69.619 |
| Pipe-born inside vs Tanker supply | 3.848 | .569 | 46.904 |
| Pipe-born inside vs Well | 3.142 | .646 | 23.143 |
| Pipe-born inside vs Borehole | 4.190 | .535 | 66.048 |
| Pipe-born inside vs Natura sources | 4.204 | .534 | 66.937 |
| Pipe-born inside vs Other | 4.404 | .515 | 81.758 |
| Condition of accommodation | | .153 | |
| Very poor vs poor | .233 | .557 | 1.262 |
| Very poor vs average | -.204 | .548 | .816 |
| Very poor vs good | -.460 | .163 | .631 |
| Very poor vs very good | -.376 | .240 | .687 |
| Accommodation provided vs accommodation not provided | .071 | .797 | 1.074 |
| Urban vs Rural | .074 | .718 | 1.076 |
| Gifts from parents vs no gifts from parents | -.045 | .835 | .956 |
| Living with spouse vs not living with spouse | -.329 | .106 | .720 |
| Constant | -2.702 | .008 | .067 |

Using " remaining as a teacher" as a measure of morale.
The logistic regression below explains the determinants.

Sex, age group, working conditions, water, provision of accommodation, location, experience, gifts from parents, membership of clubs, & societies are all significant determinants of morale in the model.

Even though availability of electricity, condition of accommodation, presence of spouse, socialization, relationship with parents, salary time, contact with circuit supervisor and INSET are determinants of morale they are not significant in the model. These can be explained by several factors. Salary time is not significant in the model because teachers are paid on time.

Looking at the output, the morale of females is about two times higher than that of the male teachers.

The morale of mid-age teachers is about 2x higher than that of the young and also the same for the old.

The morale of those who said their working condition is poor is 3x that of those who say it's very poor. Similar results outcomes are seen in the rest.

The morale of teachers who receive gifts from parents and those who don't receive gifts is the same.

**Logistic regression for morale of teachers (Remaining a teacher)**

| | B | Sig. | Exp(B) |
|---|---|---|---|
| Females vs Males | .420 | .002 | 1.522 |
| Age group | | .015 | |
| Young vs Mid-age | .817 | .006 | 2.264 |
| Young vs Old | .594 | .005 | 1.812 |
| Working conditions | | .000 | |
| Very poor vs poor | 1.102 | .006 | 3.011 |
| Very poor vs good | .831 | .023 | 2.296 |
| Very poor vs very good | .155 | .669 | 1.167 |
| Availability of electricity Vs no-availability | .234 | .203 | 1.264 |
| Type of water available | | .176 | |
| Pipe-born inside vs pipe-borne outside | 5.121 | .447 | 167.443 |
| Pipe-born inside vs Tanker supply | 4.887 | .468 | 132.596 |
| Pipe-born inside vs Well | 4.806 | .477 | 122.297 |
| Pipe-born inside vs Borehole | 4.662 | .488 | 105.811 |
| Pipe-born inside vs Natura sources | 4.557 | .498 | 95.287 |
| Pipe-born inside vs Other | 4.728 | .482 | 113.021 |
| Condition of accommodation | | .294 | |
| Very poor vs poor | -.193 | .549 | .824 |
| Very poor vs average | -.246 | .335 | .782 |
| Very poor vs good | -.494 | .044 | .610 |
| Very poor vs very good | -.305 | .190 | .737 |
| Accommodation provided vs accommodation not provided | .360 | .090 | 1.433 |
| Urban vs Rural | .321 | .046 | 1.379 |
| Gifts from parents vs no gifts from parents | -.043 | .000 | .958 |
| Living with spouse vs not living with spouse | .332 | .029 | 1.393 |
| Constant | -.176 | .270 | .839 |
| Constant | -1.334 | .177 | .263 |

Looking at the second model in which we use enjoyment of teaching as a measure of morale, the following factors are significant determinants of enjoyment of teaching

(morale) – sex, age, working conditions, electricity, clubs and salary time. The rest are not significant in this model.

Looking at the output below the morale of females is about two times higher than that of male teachers.

The morale of mid-age teachers is about two times higher than that of the young teachers and also the same for the old is two times higher than the young.

The morale of those who said their working conditions are poor is seven times that of those who say it's very poor. Similar outcomes are seen in the rest.

# CHAPTER 7

# CHANGES IN EDUCATIONAL ACHIEVEMENT LEVELS

## 7.1 Brief Description of Tests

In order to investigate change in levels of intelligence and acquisition of knowledge, a number of tests were conducted among members of the 1,740 households, similar to those used in the 1988/89 survey. In all, seven tests were conducted as follows:

1. Raven's Coloured Progressive Matrices test
2. Short Local Language test
3. Short English Language test
4. Short Math test
5. Advanced Local Language test
6. Advanced English Language test
7. Advanced Math test

It should be mentioned that some selected teachers participated in the Raven's and Advanced tests on English Language, Math and Local Language.

### 7.1.1 The Raven's Coloured Progressive Matrices Test

Individual household members aged between 9 and 55 years were tested in Raven's Coloured Progressive Matrices test to ascertain the individual's level intelligence, irrespective of the individual's level education. The test consists of a puzzle with a missing piece that the person taking the test has to find among a choice of 6 possible pieces. The test is made of 36 questions divided into three parts of 12 questions each. Each question carried one mark and so the highest mark one could get was 36.

### 7.1.2 The Short Tests

The Short Tests, designed to test the knowledge levels of household members, are made up of Short Local Language Test, Short English Test and Short Math Test. Each of the test is made up of 8 questions with each carrying one mark. Thus the highest mark one could get in each of the short test was 8. The test served as screening device to prevent people with low skills from attempting the more advanced tests.

### 7.1.3 The Advanced Tests

The Advanced Tests, designed to test the extent to which the knowledge levels of household members are advanced, are made up of Advanced Local Language Test, Advanced English Test and Advanced Math Test. The Advanced Local Language Test consists of 29 questions with each question carrying one mark and therefore bearing the highest mark of 29. The Advanced English Language Test consists of 29 multiple-choice questions with each question carrying one mark and therefore bearing the highest mark of 29. The Advanced Math Test consists of 36 questions with each question carrying one mark and therefore bearing the highest mark of 36.

It should be mentioned that, unlike the 2003 survey database which has individual teacher scores, the 1988 survey database has school-level mean scores for teachers who took the test. In the absence of individual teacher scores, the mean of the mean scores for schools are being used as an estimate of the mean of individual teachers for 1988.

## 7.2 Results of the Raven's Tests

The results of the various tests are discussed below.

### 7.2.1 Raven's Test Among Household Members

**Table 7.1: Raven's scores among household members by region, 1988 and 2003**

| Region | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Western | 52.4 | 395 | 19.0 | 49.4 | 413 | 18.6 | (3.0) |
| Central | 55.2 | 372 | 19.1 | 51.9 | 245 | 18.8 | (3.3) |
| Greater Accra | 64.9 | 422 | 20.3 | 64.8 | 357 | 24.9 | (0.0) |
| Volta | 55.2 | 467 | 18.5 | 61.2 | 402 | 20.0 | 6.0 |
| Eastern | 53.1 | 393 | 17.2 | 49.7 | 349 | 21.3 | (3.4) |
| Ashanti | 53.0 | 388 | 18.4 | 55.7 | 751 | 22.0 | 2.8 |
| Brong Ahafo | 52.1 | 739 | 18.2 | 52.9 | 512 | 21.1 | 0.7 |
| Northern | 49.4 | 217 | 15.5 | 44.2 | 243 | 14.4 | (5.2) |
| Upper East | 47.6 | 183 | 15.3 | 49.2 | 177 | 17.0 | 1.6 |
| Upper West | 47.3 | 142 | 11.4 | 50.2 | 133 | 16.7 | 2.9 |
| Total | 53.9 | 3,718 | 18.6 | 54.0 | 3,582 | 21.2 | 0.1 |

It is observed from the results of the Raven's test that the mean score of the national sample rose from 53.9 percent in 1988 to 54.0 percent in 2003 show1ng an increase of 0.1%. At the regional level, the Volta Region had the highest increase in mean score (6.0%) whilst the Northern Region had the largest decrease in mean score of 5.2 percent.

**Table 7.2: Raven's score among household members by locality, 1988 and 2003**

| Locality | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Urban | 60.1 | 1,223 | 20.2 | 59.9 | 1,843 | 22.0 | (0.3) |
| Rural | 50.9 | 2,495 | 17.0 | 47.7 | 1,739 | 18.3 | (3.2) |
| Total | 53.9 | 3,718 | 18.6 | 54.0 | 3,582 | 21.2 | 0.1 |

At the locality level, it is observed that the urban areas had a smaller decrease in mean score (–0.3%) than the rural areas (-3.2%) as shown in Table 7.2 above.

**Table 7.3: Raven's scores among household members by ecological zone, 1988 and 2003**

| Ecological Zone | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Coastal | 58.2 | 1,259 | 19.9 | 57.5 | 991 | 22.6 | (0.7) |
| Forest | 52.6 | 1,522 | 18.0 | 54.8 | 1,673 | 21.5 | 2.2 |
| Savannah | 50.4 | 937 | 16.5 | 48.7 | 918 | 17.7 | (1.7) |
| Total | 53.9 | 3,718 | 18.6 | 54.0 | 3,582 | 21.2 | 0.1 |

The Raven's test results at the ecological zone level in Table 7.3 shows that the forest zone had the highest increase in percentage mean score (2.2%) whilst the savannah zone had the lowest (–1.7%) between 1988 and 2003.

### 7.2.2 Raven's Test Among Teachers

As already mentioned, unlike the 2003 survey database which has individual teacher scores, the 1988 survey database has school-level mean scores for teachers who took the test. In the absence of individual teacher scores, the mean of the mean scores for schools are being used as an estimate of the mean of individual teacher's scores.

**Table 7.4: Raven's scores among teachers by region, 1988 and 2003**

| Region | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Western | 82.8 | 57 | 9.1 | 79.9 | 297 | 16.9 | (2.9) |
| Central | 81.6 | 28 | 9.6 | 81.4 | 245 | 19.8 | (0.2) |
| Greater Accra | 83.9 | 62 | 6.8 | 82.1 | 381 | 18.0 | (1.8) |
| Volta | 81.1 | 53 | 7.9 | 79.9 | 562 | 20.8 | (1.2) |
| Eastern | 82.2 | 71 | 9.9 | 81.0 | 495 | 18.3 | (1.2) |
| Ashanti | 82.8 | 83 | 7.9 | 77.3 | 590 | 18.9 | (5.5) |
| Brong Ahafo | 79.0 | 47 | 9.7 | 79.9 | 353 | 18.0 | 0.9 |
| Northern | 79.0 | 11 | 7.9 | 77.1 | 65 | 18.5 | (1.9) |
| Upper East | 88.1 | 13 | 8.5 | 82.0 | 74 | 18.3 | (6.1) |
| Upper West | 76.8 | 5 | 10.2 | 85.2 | 22 | 15.9 | 8.4 |
| Total | 82.1 | 430 | 8.8 | 80.0 | 3,084 | 18.9 | (2.1) |

As shown in Table 7.4, the Raven's mean score for teachers at the national level reduced from 82.1 percent in 1988 to 80.0 percent in 2003 showing a decrease of 2.1 percent over the period. At the regional level, teachers in the Upper West Region exhibit the highest increase in Raven's mean score of 8.4 percent. The Upper East Region shows the highest reduction of -6.1 percent over the same period.

**Table 7.5: Raven's scores among teachers by locality, 1988 and 2003**

| Locality | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number (Schools) | Standard Deviation | Mean | Number (Teachers) | Standard Deviation | |
| Urban | 83.1 | 193 | 7.0 | 80.0 | 2,054 | 18.6 | (2.3) |
| Rural | 81.4 | 237 | 9.9 | 78.4 | 1,030 | 19.3 | (3.0) |
| Total | 82.1 | 430 | 8.8 | 80.0 | 3,084 | 18.9 | (2.1) |

The Raven's mean score for teachers by locality is given in Table 7.5. It is seen in the table that Raven's mean score for teachers reduced more in rural areas (-3.0%) than in urban areas (-2.3%)

**Table 7.6: Raven's scores among teachers by ecological zone, 1988 and 2003**

| Ecological Zone | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number (Schools) | Standard Deviation | Mean | Number (Teachers) | Standard Deviation | |
| Coastal | 83.1 | 157 | 8.1 | 81.6 | 903 | 18.6 | (1.5) |
| Forest | 81.6 | 213 | 8.7 | 79.0 | 1,825 | 19.3 | (2.6) |
| Savannah | 81.8 | 60 | 10.5 | 81.2 | 356 | 17.3 | (0.6) |
| Total | 82.1 | 430 | 8.8 | 80.0 | 3,084 | 18.9 | (2.1) |

Table 7.6 gives Raven's scores for teachers by ecological zone. It observed that teachers in forest zone had the highest reduction in Raven's mean score of –2.6 percent whilst the savannah zone had the lowest reduction of –0.6 percent during the period under discussion.

## 7.3 Results of English Language Tests

Results of English Language Test Among Household Members

### *Short English Language Test scores among household members*

The results of the Short English Language test among household members are given in Table 7.7 below. It is observed in the table that the mean score in English Language at the national level increased from 67.1 percent in 1988 to 75.3 percent in 2003 representing an increase in mean score of 8.2 percent over the period. This shows an improvement of mastery of basic English Language within the period under discussion.

**Table 7.7: Short English language test scores among household members by region, 1988 and 2003**

| Region | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Western | 72.8 | 167 | 30.7 | 69.7 | 182 | 25.6 | (3.1) |
| Central | 76.9 | 147 | 27.2 | 71.6 | 134 | 30.3 | (5.2) |
| Greater Accra | 85.2 | 281 | 21.5 | 83.0 | 308 | 23.4 | (2.2) |
| Volta | 68.0 | 244 | 36.4 | 74.7 | 265 | 27.6 | 6.7 |
| Eastern | 54.4 | 217 | 39.4 | 71.0 | 231 | 30.6 | 16.7 |
| Ashanti | 57.0 | 199 | 39.8 | 76.5 | 429 | 27.9 | 19.6 |
| Brong Ahafo | 57.7 | 339 | 41.4 | 73.7 | 250 | 28.3 | 15.9 |
| Northern | 77.8 | 22 | 22.5 | 84.8 | 32 | 24.7 | 6.9 |
| Upper East | 60.9 | 23 | 44.8 | 72.4 | 44 | 30.8 | 11.6 |
| Upper West | 76.0 | 12 | 24.7 | 72.5 | 35 | 26.9 | (3.5) |
| Total | 67.1 | 1,651 | 36.6 | 75.3 | 1,910 | 27.8 | 8.2 |

At the regional level, it noted that the Ashanti Region exhibits the highest increase of 19.6 percent in mean score in basic English Language, followed by the Eastern Region (16.7%). The region with the highest decrease is the Central Region (-5.2%).

**Table 7.8: Short English language test scores among household members by locality, 1988 and 2003**

| Locality | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Urban | 75.3 | 712 | 31.4 | 79.1 | 1,197 | 25.8 | 3.8 |
| Rural | 60.8 | 939 | 38.9 | 68.8 | 713 | 29.8 | 8.0 |
| Total | 67.1 | 1,651 | 36.6 | 75.3 | 1,910 | 27.8 | 8.2 |

The results of the Short English Test at the locality level is presented in Table 7.8 above. It is clear that members of households in rural areas exhibit a higher increase in mean score of 8.0 percent in the Short English Test than those in the urban areas (3.8%).

At the ecological zone level, household members in the forest zone exhibit the highest increase in mean score (16.8%) in short English Language Test, while the coastal zone respondents has the largest decrease of 2.9 percent as shown in Table 7.9 below.

**Table 7.9: Short English language test scores among household members by ecological zone, 1988 and 2003**

| Ecological Zone | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Coastal | 80.3 | 621 | 25.5 | 77.5 | 641 | 25.7 | (2.9) |
| Forests | 58.3 | 759 | 40.0 | 75.1 | 998 | 28.4 | 16.8 |
| Savannahl | 61.3 | 271 | 39.3 | 70.8 | 271 | 30.0 | 9.5 |
| Total | 67.1 | 1,651 | 36.6 | 75.3 | 1,910 | 27.8 | 8.2 |

### 7.3.1 Advanced English Language Test scores among household members

The results of the Advanced English Test among household members by region are given in Table 7.10 below. As seen in the table, the mean score of the Advanced English Test among household members at the national level rose from 53.8 percent in 1988 to 56.6 percent in 2003 representing an increase of 2.7 percent.

**Table 7.10: Advanced English language test scores among household members by region, 1988 and 2003**

| Region | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Western | 53.2 | 143 | 22.2 | 53.9 | 124 | 17.1 | 0.8 |
| Central | 50.7 | 105 | 22.4 | 53.3 | 97 | 18.8 | 2.6 |
| Greater Accra | 60.0 | 211 | 19.7 | 63.7 | 167 | 20.2 | 3.7 |
| Volta | 51.8 | 160 | 19.0 | 55.1 | 160 | 20.6 | 3.4 |
| Eastern | 51.0 | 143 | 19.2 | 54.3 | 135 | 21.1 | 3.3 |
| Ashanti | 55.4 | 132 | 21.5 | 56.2 | 180 | 21.4 | 0.8 |
| Brong Ahafo | 52.4 | 77 | 18.0 | 59.6 | 106 | 18.9 | 7.2 |
| Northern | 40.8 | 18 | 17.0 | 51.2 | 28 | 17.6 | 10.4 |
| Upper East | 56.4 | 14 | 20.0 | 51.3 | 34 | 21.0 | (5.1) |
| Upper West | 46.4 | 9 | 24.3 | 59.9 | 19 | 16.8 | 13.5 |
| Total | 53.8 | 1,012 | 20.6 | 56.6 | 1,050 | 20.2 | 2.7 |

At the regional level, the Upper West Region exhibits the highest increase in mean score of the Advanced English Test (13.5%), followed by the Northern Region (10.4%). The highest decrease in mean score of the Advanced English Test is exhibited by the Upper East Region (-5.1%).

**Table 7.11: Advance English language test scores among household members by locality, 1988 and 2003**

| Locality | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Urban | 57.7 | 485 | 20.8 | 59.0 | 697 | 19.9 | 1.3 |
| Rural | 50.3 | 527 | 19.8 | 51.8 | 353 | 19.7 | 1.5 |
| Total | 53.8 | 1,012 | 20.6 | 56.6 | 1,050 | 20.2 | 2.7 |

Table 7.11 gives a presentation of the mean score in Advanced English Language by locality. It is observed in the table that respondents in the rural areas exhibit a higher increase in mean score in the Advanced English Test (1.5%) than their counterparts in the urban areas (1.3%).

In Table 7.12 below, we see a presentation of the mean score in Advanced English Language by ecological zone. It is clear that members of households in coastal areas exhibit the highest increase in mean score in Advanced English Language Test (3.9%). The forest zone had the lowest increase in mean score 2.5%).

**Table 7.12: Advanced English language test Scores among household members by ecological zone, 1988 and 2003**

| Ecological Zone | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Coastal | 56.4 | 462 | 21.6 | 60.3 | 385 | 19.1 | 3.9 |
| Forest | 52.0 | 388 | 19.7 | 54.4 | 541 | 20.8 | 2.5 |
| Savannah | 50.8 | 162 | 18.8 | 54.3 | 124 | 18.8 | 3.5 |
| Total | 53.8 | 1,012 | 20.6 | 56.6 | 1,050 | 20.2 | 2.7 |

### 7.3.2 Results of English Language Test Among Teachers

As already mentioned, unlike the 2003 survey database which has individual teacher scores, the 1988 survey database has school-level mean scores for teachers who took the test. In the absence of individual teacher scores, the mean of the mean scores for schools are being used as an estimate of the mean of individual teachers.

It should be mentioned that the teachers were only tested in the Advanced English Test but not the Short English Test. The results of the test among the teachers are presented below.

Table 7.13 gives the Advanced English Test scores among teachers by region for 1988 and 2003. At the national level, the mean score reduced from 77.8 percent in 1988 to 77.4 percent in 2003 representing a decrease of 0.3 percent.

**Table 7.13: Advanced English test scores among teachers by region, 1988 and 2003**

| Region | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number (Schools) | Standard Deviation | Mean | Number (Teachers) | Standard Deviation | |
| Western | 78.9 | 56 | 8.7 | 74.9 | 290 | 13.8 | (4.0) |
| Central | 75.5 | 35 | 10.7 | 77.3 | 245 | 13.0 | 1.8 |
| Greater Accra | 80.7 | 61 | 7.2 | 79.5 | 382 | 13.0 | (1.2) |
| Volta | 78.9 | 53 | 8.2 | 79.6 | 561 | 13.7 | 0.7 |
| Eastern | 77.8 | 71 | 7.4 | 79.4 | 496 | 12.1 | 1.6 |
| Ashanti | 78.2 | 84 | 8.4 | 75.1 | 590 | 15.0 | (3.2) |
| Brong Ahafo | 73.3 | 47 | 7.7 | 76.1 | 351 | 14.3 | 2.8 |
| Northern | 72.6 | 11 | 11.0 | 71.7 | 64 | 18.3 | (0.9) |
| Upper East | 77.8 | 13 | 6.8 | 77.4 | 73 | 14.7 | (0.3) |
| Upper West | 80.2 | 5 | 4.5 | 77.7 | 22 | 16.7 | (2.7) |
| Total | 77.8 | 436 | 8.5 | 77.4 | 3,074 | 14.0 | (0.3) |

At the regional level, teachers in the Brong Ahafo Region exhibit the highest increase of 2.8 percent. The Western Region has the largest decrease of –4.0 percent.

Table 7.14 gives the Advanced English Test scores among teachers by locality for 1988 and 2003. The decrease in the Advanced English Test mean score for urban areas (–1.7%) is more than that of the rural areas (-0.4%) depicting a better picture in rural areas than urban areas.

**Table 7.14: Advanced English test scores among teachers by locality, 1988 and 2003**

| Locality | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number (Schools) | Standard Deviation | Mean | Number (Teachers) | Standard Deviation | |
| Urban | 80.0 | 191 | 6.9 | 78.3 | 2,044 | 13.3 | (1.7) |
| Rural | 76.1 | 245 | 9.1 | 75.7 | 1,030 | 15.1 | (0.4) |
| Total | 77.8 | 436 | 8.5 | 77.4 | 3,074 | 14.0 | (0.3) |

The Advanced English Test scores for teachers by ecological zone is given in Table 7.15. It is observed in the table that whereas the coastal and forest zones experienced a reduction in mean test scores (0.5% and 0.1% respectively), the savannah zone mean test score remained the same (0.0%) within the period of 1988 and 2003.

**Table 7.15: Advanced English Test Scores among Teachers by Ecological Zone 1988 and 2003**

| Ecological Zone | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number (Schools) | Standard Deviation | Mean | Number (Teachers) | Standard Deviation | |
| Coastal | 79.2 | 163 | 8.7 | 78.7 | 897 | 13.0 | (0.5) |
| Forest | 77.2 | 213 | 8.1 | 77.1 | 1,825 | 14.0 | (0.1) |
| Savannah | 75.8 | 60 | 8.4 | 75.8 | 352 | 15.4 | 0.0 |
| Total | 77.8 | 436 | 8.5 | 77.4 | 3,074 | 14.0 | (0.3) |

## 7.4 Results of Math Tests

As already mentioned, unlike the 2003 survey database which has individual teacher scores, the 1988 survey database has school-level mean scores for teachers who took the test. In the absence of individual teacher scores, the mean of the mean scores for schools are being used as an estimate of the mean of individual teachers.

Results of Math Test Among Household Members

### *Short Math Test scores among household members*

Table 7.16 gives Short Math Test scores among household members by region for 1988 and 2003. At the national level, the Short Math Test mean score rose from 66.3 percent in 1988 to 71.8 percent in 2003 representing an increase of 5.5 percent over the period.

**Table 7.16: Short Math test scores among household members by region, 1988 and 2003**

| Region | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Western | 67.1 | 242 | 27.0 | 68.0 | 171 | 18.0 | 0.9 |
| Central | 70.7 | 225 | 25.4 | 68.4 | 158 | 20.1 | (2.3) |
| Greater Accra | 76.2 | 346 | 23.4 | 79.4 | 328 | 18.2 | 2.8 |
| Volta | 65.6 | 345 | 24.3 | 72.2 | 293 | 22.6 | 6.6 |
| Eastern | 62.2 | 284 | 27.7 | 68.4 | 302 | 24.0 | 6.2 |
| Ashanti | 63.4 | 265 | 27.1 | 71.6 | 555 | 24.7 | 8.1 |
| Brong Ahafo | 61.6 | 461 | 29.0 | 71.7 | 316 | 21.7 | 10.1 |
| Northern | 65.9 | 40 | 21.7 | 66.0 | 43 | 24.0 | 0.1 |
| Upper East | 60.0 | 30 | 31.7 | 71.2 | 63 | 23.7 | 11.2 |
| Upper West | 62.5 | 23 | 25.6 | 75.3 | 41 | 19.9 | 12.8 |
| Total | 66.3 | 2,261 | 26.8 | 71.8 | 2,270 | 22.4 | 5.5 |

At the regional level, the Upper West Region exhibits the highest increase in Short Math Test mean score (12.8%), followed by the Upper East Region (11.2). Of all the regions, only the Central Region had a reduction in Short Math Test mean score (-2.3%).

The Short Math Test scores by locality level are presented in Table 7.17 below. It is noted that the increase in Short Math Test mean scores for members of households in rural areas (4.3%) is higher than the corresponding figure for members of households in urban areas.

**Table 7.17: Short Math test scores among household members by locality, 1988 and 2003**

| Locality | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Urban | 70.7 | 907 | 26.5 | 74.8 | 1,319 | 20.9 | 4.1 |
| Rural | 63.3 | 1,354 | 26.7 | 67.6 | 951 | 23.8 | 4.3 |
| Total | 66.3 | 2,261 | 26.8 | 71.8 | 2,270 | 22.4 | 5.5 |

In Table 7.18 we have Short Math Test scores among household members by ecological zone for 1988 and 2003. It is seen that members of households in forest zone exhibit the highest increase in Short Math Test mean score (7.8%) while the coastal zone has the least increase of 3.3 percent.

**Table 7.18: Short Math test scores among household members by ecological zone, 1988 and 2003**

| Ecological Zone | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Coastal | 72.2 | 859 | 24.9 | 75.5 | 659 | 19.5 | 3.3 |
| Forest | 62.5 | 1,037 | 27.6 | 70.3 | 1,242 | 23.6 | 7.8 |
| Savannah | 63.2 | 365 | 26.6 | 70.3 | 369 | 22.3 | 7.0 |
| Total | 66.3 | 2,261 | 26.8 | 71.8 | 2,270 | 22.4 | 5.5 |

### 7.4.1 Advanced Math Test Scores Among Household Members

Table 7.19 presents Advanced Math Test scores among household members by region for 1988 and 2003. It is seen at the national level that, the Advanced Math Test mean score rose from 28.2 percent in 1988 to 37.0 percent in 2003 representing an increase of 8.9 percent over the period.

**Table 7.19: Advanced Math Test scores among household members by region, 1988 and 2003**

| Region | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Western | 28.1 | 187 | 17.1 | 37.8 | 107 | 14.2 | 9.6 |
| Central | 26.1 | 133 | 17.1 | 34.7 | 87 | 19.8 | 8.5 |
| Greater Accra | 33.6 | 232 | 20.2 | 42.9 | 133 | 22.8 | 9.2 |
| Volta | 25.9 | 216 | 14.0 | 41.3 | 147 | 21.1 | 15.3 |
| Eastern | 25.8 | 209 | 16.1 | 32.1 | 141 | 18.9 | 6.2 |
| Ashanti | 28.0 | 189 | 17.1 | 35.5 | 173 | 21.5 | 7.5 |
| Brong Ahafo | 30.2 | 101 | 13.7 | 38.1 | 95 | 22.0 | 7.9 |
| Northern | 24.8 | 27 | 13.1 | 32.6 | 22 | 18.0 | 7.8 |
| Upper East | 24.8 | 16 | 18.0 | 28.1 | 39 | 17.4 | 3.2 |
| Upper West | 25.0 | 12 | 16.4 | 40.5 | 14 | 12.0 | 15.5 |
| Total | 28.2 | 1,322 | 17.0 | 37.0 | 958 | 20.4 | 8.9 |

At the regional level, the Upper West Region exhibits the highest increase in Advanced Math Test mean score (15.5%), followed by the Volta Region (15.3). The Upper East Region has the least increase in Advanced Math Test mean score (3.2%).

Results of the Advanced Math Test scores by locality level are presented in Table 7.20 below. It is observed that household members in urban areas have higher increase in Advanced Math Test mean score (9.8%) than their counterparts in rural areas (4.6%).

**Table 7.20: Advanced Math Test scores among household members by locality, 1988 and 2003**

| Locality | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Urban | 30.4 | 562 | 18.5 | 40.2 | 626 | 21.0 | 9.8 |
| Rural | 26.5 | 760 | 15.6 | 31.1 | 332 | 17.8 | 4.6 |
| Total | 28.2 | 1,322 | 17.0 | 37.0 | 958 | 20.4 | 8.9 |

In Table 7.21, Advanced Math Test scores among household members by ecological zone for 1988 and 2003 are presented. It is seen that members of households in coastal zone exhibit the highest increase in Advanced Math Test mean score (12.2%) while the savannah zone has the least increase of 5.2 percent.

**Table 7.21: Advanced Math test scores among household members by ecological zone, 1988 and 2003**

| Ecological Zone | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number | Standard Deviation | Mean | Number | Standard Deviation | |
| Coastal | 30.0 | 544 | 19.0 | 42.2 | 322 | 20.3 | 12.2 |
| Forest | 26.9 | 564 | 15.8 | 35.0 | 512 | 20.3 | 8.1 |
| Savannah | 27.0 | 214 | 13.9 | 32.2 | 124 | 18.6 | 5.2 |
| Total | 28.2 | 1,322 | 17.0 | 37.0 | 958 | 20.4 | 8.9 |

### 7.4.2 Results of Math Test Among Teachers

It should be mentioned that teachers only participated in Advanced Math Test and not the Short Math Test. Table 7.22 presents Advanced Math Test scores among teachers by region for 1988 and 2003. It is seen at the national level that, the Advanced Math Test mean score rose from 55.2 percent in 1988 to 59.3 percent in 2003 representing an increase of 4.1 percent over the period.

**Table 7.22: Advanced Math Test scores among teachers by region, 1988 and 2003**

| Region | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number (Schools) | Standard Deviation | Mean | Number (Teachers) | Standard Deviation | |
| Western | 54.7 | 56 | 9.5 | 58.3 | 296 | 14.5 | 3.7 |
| Central | 55.5 | 35 | 11.0 | 56.8 | 245 | 14.7 | 1.3 |
| Greater Accra | 55.7 | 61 | 9.7 | 58.1 | 376 | 15.5 | 2.3 |
| Volta | 57.5 | 53 | 8.4 | 60.8 | 561 | 14.8 | 3.3 |
| Eastern | 57.7 | 71 | 10.0 | 62.3 | 496 | 15.0 | 4.5 |
| Ashanti | 55.5 | 84 | 9.0 | 58.5 | 590 | 15.8 | 3.1 |
| Brong Ahafo | 50.9 | 46 | 8.4 | 58.8 | 350 | 16.6 | 7.9 |
| Northern | 48.2 | 11 | 8.2 | 54.8 | 65 | 16.9 | 6.6 |
| Upper East | 48.7 | 13 | 8.3 | 58.9 | 73 | 14.3 | 10.2 |
| Upper West | 56.3 | 5 | 5.7 | 59.5 | 21 | 14.6 | 3.2 |
| Total | 55.2 | 435 | 9.6 | 59.3 | 3,073 | 15.4 | 4.1 |

At the regional level, it is noted that the Upper East Region has the highest increase in Advanced Math Test mean score (10.2%), followed by the Brong Ahafo Region (7.9%) and the Northern Region (6.6%). The Central Region has the least increase in mean score for the test (1.3%).

Table 7.23 presents the Advanced Math Test score among teachers by locality for 1988 and 2003. It is clear that teachers in rural areas exhibit a higher increase in Advanced Math Test mean score (5.0%) than their counterparts in the urban areas (2.8%) within the period under discussion.

**Table 7.23: Advanced Math test scores among teachers by locality, 1988 and 2003**

| Locality | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number (Schools) | Standard Deviation | Mean | Number (Teachers) | Standard Deviation | |
| Urban | 56.8 | 191 | 9.1 | 59.5 | 2,044 | 15.3 | 2.8 |
| Rural | 53.9 | 244 | 9.7 | 58.9 | 1,029 | 15.6 | 5.0 |
| Total | 55.2 | 435 | 9.6 | 59.3 | 3,073 | 15.4 | 4.1 |

In Table 7.24, we have Advanced Math Test scores among teachers by ecological zone for 1988 and 2003. It is observed that teachers in savannah zone exhibit the highest increase in Advanced Math Test mean score (6.2%), followed by teachers in forest zone (4.8%) and coastal zone (2.8%). This picture seems to demonstrate that Government interventions to reduce disparities in achievement levels between the various zones in the country are yielding results.

**Table 7.24: Advanced Math Test scores among teachers by ecological zone, 1988 and 2003**

| Ecological Zone | 1988 | | | 2003 | | | Change in Mean Score |
|---|---|---|---|---|---|---|---|
| | Mean | Number (Schools) | Standard Deviation | Mean | Number (Teachers) | Standard Deviation | |
| Coastal | 56.4 | 163 | 9.8 | 58.5 | 897 | 15.1 | 2.0 |
| Forest | 55.2 | 213 | 9.5 | 60.0 | 1,823 | 15.4 | 4.8 |
| Savannah | 51.5 | 59 | 8.4 | 57.8 | 353 | 16.1 | 6.2 |
| Total | 55.2 | 435 | 9.6 | 59.3 | 3,073 | 15.4 | 4.1 |

## 7.5 Results of Local Language Tests

### 7.5.1 Results of Local Language Test Among Household Members

It should be mentioned that the local language test was conducted only in 2003 and not in 1998. Since there is no basis to establish a change in the test results, a cross-sectional analysis of the test results for local language will be carried out.

***Short Local Language Test scores among household members***

Table 7.25 presents Short Local Language Test scores among household members by region for 2003. The national level mean score is 72.1 percent. At the regional level, the Greater Accra Region has the highest mean score (82.4%) while the Western Region has the lowest mean score (65.7%).

**Table 7.25: Short Local Language Test Scores among Household Members by Region, 2003**

| Region | Mean | Number | Standard Deviation |
|---|---|---|---|
| Western | 65.7 | 27 | 18.9 |
| Central | 66.9 | 62 | 27.2 |
| Greater Accra | 82.4 | 49 | 23.1 |
| Volta | 67.0 | 225 | 28.4 |
| Eastern | 75.8 | 63 | 26.1 |
| Ashanti | 73.9 | 238 | 28.8 |
| Brong Ahafo | 75.1 | 124 | 26.2 |
| Northern | 75.8 | 16 | 19.1 |
| Upper East | 71.4 | 14 | 35.8 |
| Upper West | 75.0 | 21 | 22.4 |
| Total | 72.1 | 839 | 27.5 |

At the locality level, household members in urban areas exhibit a higher Short Local Language Test mean score (74.2%) than their counterparts in rural areas (68.5%) as shown in Table 7.26 below.

**Table 7.26: Short Local Language Test Scores among Household Members by Locality, 2003**

| Locality | Mean | Number | Standard Deviation |
|---|---|---|---|
| Urban | 74.2 | 531 | 26.3 |
| Rural | 68.5 | 308 | 29.1 |
| Total | 72.1 | 839 | 27.5 |

Table 7.27 presents Short Local Language Test scores among household members by ecological zone. It is seen in the table that members of household in coastal zone has the highest mean score (75.0%), followed by those in savannah zone (72.2%) and forest zone (71.4%).

**Table 7.27: Short Local Language Test Scores among Household Members by Ecological Zone, 2003**

| Ecological Zone | Mean | Number | Standard Deviation |
|---|---|---|---|
| Coastal | 75.0 | 144 | 26.1 |
| Forest | 71.4 | 561 | 28.0 |
| Savannah | 72.2 | 134 | 26.8 |
| Total | 72.1 | 839 | 27.5 |

### *Advanced Local Language Test scores among household members*

Table 7.28 presents Advanced Local Language Test scores among household members by region for 2003. The national level mean score is 64.8 percent. At the regional level, the Eastern Region has the highest mean score (72.7%) while the Western Region has the lowest mean score (55.8%).

**Table 7.28: Advanced Local Language Test Scores among Household Members by Region, 2003**

| Region | Mean | Number | Standard Deviation |
|---|---|---|---|
| Western | 55.8 | 26 | 16.2 |
| Central | 69.5 | 40 | 16.5 |
| Greater Accra | 63.5 | 28 | 27.4 |
| Volta | 61.0 | 108 | 24.8 |
| Eastern | 72.7 | 47 | 21.1 |
| Ashanti | 65.3 | 103 | 27.3 |
| Brong Ahafo | 68.1 | 63 | 23.2 |
| Northern | 58.6 | 6 | 13.1 |
| Upper East | 56.7 | 9 | 27.6 |
| Upper West | 59.8 | 3 | 17.4 |
| Total | 64.8 | 433 | 24.1 |

Table 7.29 presents Advanced Local Language Test scores among household members by locality. It is seen in the table that members of household in urban areas has a higher mean score (66.3%) than their counterparts in rural areas (61.7).

**Table 7.29: Advanced Local Language Test Scores among Household Members by Locality, 2003**

| Locality | Mean | Number | Standard Deviation |
|---|---|---|---|
| Urban | 66.3 | 293 | 23.7 |
| Rural | 61.7 | 140 | 24.5 |
| Total | 64.8 | 433 | 24.1 |

Table 7.30 gives Advanced Local Language Test scores among household members by ecological zone. It is observed in the table that members of household in coastal zone has the highest mean score (69.5%), followed by those in savannah zone (65.9%) and forest zone (63.3%).

**Table 7.30: Advanced Local Language Test Scores among Household Members by Ecological Zone, 2003**

| Ecological Zone | Mean | Number | Standard Deviation |
|---|---|---|---|
| Coastal | 69.5 | 87 | 20.8 |
| Forest | 63.3 | 300 | 25.2 |
| Savannah | 65.9 | 46 | 21.0 |
| Total | 64.8 | 433 | 24.1 |

### 7.5.2 Results of Local Language Test Among Teachers

It should be mentioned that teachers only participated in Advanced Local Language Test and not the Short Language Test. Table 7.31 gives Advanced Local Language Test scores by region for 2003. At the national level, the Advanced Local Language mean score is 85.6 percent.

**Table 7.31: Advanced Local Language Test Scores among Teachers by Region, 2003**

| Region | Mean | Number | Standard Deviation |
|---|---|---|---|
| Western | 82.5 | 144 | 16.4 |
| Central | 86.2 | 128 | 14.3 |
| Greater Accra | 86.1 | 30 | 12.1 |
| Volta | 87.9 | 511 | 13.7 |
| Eastern | 87.3 | 301 | 10.0 |
| Ashanti | 85.3 | 473 | 14.0 |
| Brong Ahafo | 82.5 | 171 | 14.0 |
| Northern | 60.7 | 18 | 21.4 |
| Upper East | 84.6 | 11 | 16.0 |
| Upper West | 73.0 | 11 | 28.3 |
| Total | 85.6 | 1,798 | 14.1 |

At regional level, it is observed that teachers in the Volta Region had the highest Advanced Local Language Test mean score (87.9%). The Northern Region had the lowest score (60.7%).

At the locality level, it is noted that teachers in urban areas has higher mean score in Advanced Local Language Test (86.6%) than their counterparts in the rural areas (84.0%) as shown in Table 7.32.

**Table 7.32: Advanced Local Language Test Scores among Teachers by Locality, 2003**

| Locality | Mean | Number | Standard Deviation |
|---|---|---|---|
| Urban | 86.6 | 1,148 | 13.3 |
| Rural | 84.0 | 650 | 15.2 |
| Total | 85.6 | 1,798 | 14.1 |

Advanced Local Language test scores for teachers by ecological zone have been given in Table 7.33. It is observed that teachers in forest zone has the highest mean score (86.0%), followed by teachers in coastal zone (85.7%) and those in savannah zone (81.4%).

**Table 7.33: Advanced Local Language Test Scores among Teachers by Ecological Zone, 2003**

| Ecological Zone | Mean | Number | Standard Deviation |
|---|---|---|---|
| Coastal | 85.7 | 340 | 13.9 |
| Forest | 86.0 | 1,337 | 13.7 |
| Savannah | 81.4 | 121 | 18.3 |
| Total | 85.6 | 1,798 | 14.1 |

## 7.6 Summary of Analysis of Tests Results

### 7.6.1 Summary of Analysis of Test on Raven's, English Language and Math

The summary of the analysis of the tests in Raven's, English and Math are presented in Tables 7.34 and 7.35.

**Table 7.34: Summary of Test Results on Raven's, English Language and Math for Household Members**

| Type of Test | Level of Test | | | | |
|---|---|---|---|---|---|
| | National | Sub-National Level Rating of Change | | | |
| | Rating of Change In Score | Rating of Change in Score | Regional | Locality | Ecological Zone |
| Raven's | Positive | Highest | Volta | Urban | Forest |
| | | Lowest | Northern | Rural | Savannah |
| Short English Language | Positive | Highest | Ashanti | Rural | Forest |
| | | Lowest | Central | Urban | Coastal |
| Advanced English Language | Positive | Highest | Upper West | Rural | Coastal |
| | | Lowest | Upper East | Urban | Forest |
| Short Math | Positive | Highest | Upper West | Rural | Forest |
| | | Lowest | Central | Urban | Coastal |
| Advanced Math | Positive | Highest | Upper West | Urban | Coastal |
| | | Lowest | Upper East | Rural | Savannah |

1. Among the household members tested, it was found that there has been an increase in Raven's mean score at the national level between 1988 and 2003. At the regional level, members of households in the Volta Region exhibit the highest increase in mean score while those in the Northern Region have the lowest increase during the same period. At the locality level, members of household in urban areas have higher increase in mean score than their counterparts in rural areas. At the ecological zone level, members of households in forest zone exhibit the highest increase in Raven's mean score while those in savannah zone have the lowest increase.

2. In the case of teachers, there is a decrease in Raven's mean score between 1988 and 2003 at the national level as shown in Table 7.35. At the regional level, teachers in the Upper West Region have the highest increase in Raven's mean score while those in the Upper East have the lowest increase. At the locality level, teachers in urban areas have higher increase in mean score than their counterparts in the rural areas within the period under discussion. At the ecological zone level, teachers in Savannah zone has the highest increase in Raven mean score while those in the forest zone have the lowest increase.

**Table 7.35: Summary of Test Results on Raven's, English Language and Math for Teachers**

| Type of Test | Level of Test | | | | |
|---|---|---|---|---|---|
| | National | Sub-National Level Rating of Change | | | |
| | Rating of Change In Score | Rating of Change in Score | Regional | Locality | Ecological Zone |
| Raven's | Negative | Highest | Upper West | Urban | Savannah |
| | | Lowest | Upper East | Rural | Forest |
| Advanced English Language | Negative | Highest | Brong Ahafo | Rural | Savannah |
| | | Lowest | Western | Urban | Coastal |
| Advanced Math | Positive | Highest | Upper East | Rural | Savannah |
| | | Lowest | Central | Urban | Coastal |

3. Results of the household members tested shows that there has been an increase in Short English Language mean score at the national level between 1988 and 2003. At the regional level, members of households in the Ashanti Region exhibit the highest increase in mean score while those in the Volta Region have the lowest increase during the same period. At the locality level, members of household in rural areas have higher increase in mean score than their counterparts in urban areas. At the ecological zone level, members of households in forest zone exhibit the highest increase in Raven's mean score while those in coastal zone have the lowest increase.

4. The Advanced English Test among the household members indicated that there has been an increase in Advanced English Test mean score at the national level between 1988 and 2003. At the regional level, members of households in the Upper West Region exhibit the highest increase in mean score while those in the Upper East Region have the lowest increase during the same period. At the locality level, members of household in rural areas have higher increase in mean score than their counterparts in urban areas. At the ecological zone level, members of households in coastal zone exhibit the highest increase in Advanced English Test mean score while those in forest zone has the lowest increase.

5. With regards to teachers, there is a decrease in Advanced English Language mean score between 1988 and 2003 at the national level as shown in Table 7.35. At the regional level, teachers in the Brong Ahafo Region have the highest increase in Advanced English Language mean score while those in the Western Region have the lowest increase. At the locality level, teachers in rural areas have higher increase in mean score for the subject than their counterparts in the urban areas within the period under discussion. At the ecological zone level, teachers in savannah zone have the highest increase in Advanced English Language mean score while those in the coastal zone have the lowest increase.

6. Among the household members tested, there has been an increase in Short Math Test mean score at the national level between 1988 and 2003. At the regional level, members of households in the Upper West Region exhibit the highest increase in mean score while those in the Central Region have the lowest increase during the same period. At the locality level, members of household in rural areas have higher increase in mean score than their counterparts in urban areas. At the ecological zone level, members of households in forest zone exhibit the highest increase in Raven's mean score while those in coastal zone have the lowest increase.

7. The Advanced Math Test among the household members indicates that there has been an increase in Advanced Math Test mean score at the national level between 1988 and 2003. At the regional level, members of households in the Upper West Region exhibit the highest increase in mean score while the Upper East Region have the lowest increase during the same period. At the locality level, members of households in urban areas have higher increase in mean score than their counterparts in rural areas. At the ecological zone level, members of households in coastal zone exhibit the highest increase in Advanced Math Test mean score while those in savannah zone have the lowest increase.

8. In the case of teachers, there is an increase in Advanced Math mean score between 1988 and 2003 at the national level as shown in Table 7.35. At the regional level, teachers in the Upper East Region have the highest increase in

Advanced Math mean score while those in the Central Region have the lowest increase. At the locality level, teachers in rural areas have higher increase in mean score for the subject than their counterparts in the urban areas within the period under discussion. At the ecological zone level, teachers in savannah zone have the highest increase in Advanced Math mean score while those in the coastal zone have the lowest increase.

### 7.6.2 Summary of Analysis of Test on Local Language

As we stated in the main text, the test was only conducted in 2003 and not in 1998. Therefore cross-sectional analysis has been carried out.

**Table 7.36: Summary of Test Results on Local Language for Household Members**

| Type of Test | Level of Test | | | | |
|---|---|---|---|---|---|
| | National | Sub-National Level Rating of Mean Score | | | |
| | Rating of Mean Score | Rating of Mean Score | Regional | Locality | Ecological Zone |
| Short Local Language | High (72.1%) | Highest<br>Lowest | Greater Accra<br>Western | Urban<br>Rural | Coastal<br>Forest |
| Advanced Local Language | High (64.8%) | Highest<br>Lowest | Eastern<br>Western | Urban<br>Rural | Coastal<br>Forest |

1. The Short Local Language Test among the household members indicated that the national level mean score for the subject is 72.1 percent for 2003 as shown in Table 7.36. At the regional level, members of households in the Greater Accra Region exhibit the highest mean score while those in the Western Region have the lowest mean score. At the locality level, members of household in urban areas have a higher mean score than their counterparts in rural areas. At the ecological zone level, members of households in coastal zone exhibit the highest mean score while those in forest zone has the lowest figure.

2. With the Advanced Local Language Test, the members of household have a national mean score of 64.8 percent in 2003 as shown in Table 7.36. At the regional level, members of household in the Eastern Region have the highest mean score in the subject while those in the Western Region have the lowest figure. At the locality level, members of households in urban areas have higher mean score in the subject than their counterparts in the rural areas. At the ecological zone level, members of households in savannah zone have the highest mean score in the subject while those in the forest zone have the lowest figure.

3. In the case of teachers, the mean score for Advanced Local Language Test is 85.6 percent in 2003 at the national level as shown in Table 7.37. At the

regional level, teachers in the Volta Region have the highest mean score in Advanced Local Language while those in the Northern Region have the lowest figure. At the locality level, teachers in urban areas have higher mean score for the subject than their counterparts in the rural areas. At the ecological zone level, teachers in forest zone have the highest mean score for Advanced Local Language Test while those in the savannah zone have the lowest figure.

**Table 7.37: Summary of Test Results on Local Language for Teachers**

| Type of Test | Level of Test | | | | |
|---|---|---|---|---|---|
| | National | Sub-National Level Rating of Mean Score | | | |
| | Rating of Mean Score | Rating of Mean Score | Regional | Locality | Ecological Zone |
| Advanced Local Language | High (85.6%) | Highest<br>Lowest | Volta<br>Northern | Urban<br>Rural | Forest<br>Savannah |

# GHANA EDUCATION IMPACT EVALUATION, 2003

## Short Maths Test

1. 1 + 2 =

2. 5 - 2 =

3. 2 x 3 =

4. 10 ÷ 5 =

5. 24 + 17 =

6. 33 - 19 =

7. 17 x 3 =

8. 41 ÷ 7 =

## GHANA EDUCATION IMPACT EVALUATION, 2003

### Short English Reading Test

John is a small boy. He lives in a village with his brothers and sisters. He goes to school every week. In his school there are five teachers. John is learning to read at school. He likes to read very much. His father is a teacher, and his parents want him to become a school teacher too.

1. Who is John?

(A) An old man
(B) A small boy
(C) A school teacher
(D) A school

2. Where does John live?

(A) In a village
(B) In a city
(C) In a school
(D) In a forest

3. What does John do every week?

(A) Works with his father
(B) Plays with his friends
(C) Helps his brothers and sisters
(D) Goes to school

4. How many teachers are there at John's school?

(A) One
(B) Three
(C) Five
(D) Six

5. What is John doing at school?

(A) Helping the teacher
(B) Talking with his friends
(C) Learning to read
(D) Teaching the class

6. Who is a school teacher?

(A) John
(B) John's father
(C) John's brother
(D) John's mother

7. What do John's parents want him to do?

(A) Go to school
(B) Learn to read
(C) Obey his teachers
(D) Become a teacher

8. The best title for this story is?

(A) John Learns to Read
(B) Why Reading is Important
(C) John's Village
(D) Schools in Ghana

# GHANA STATISTICAL SERVICE

**Advanced Maths Test**

**Ghana Education Impact Evaluation**

**INSTRUCTIONS**

This test consists of 36 multiple-choice questions. For each question there is only one correct answer. You write the letter (A, B, C or D) corresponding to the correct answer for each question on your answer sheet. The maximum time allowed for this test is 30 minutes.

**January-March 2003**

1. $\begin{array}{r} 105 \\ -\ 16 \\ \hline \end{array}$

(A) 89

(B) 91

(C) 99

(D) 111

---

2. $4\overline{)2836}$

(A) 79

(B) 201 r 2

(C) 701 r 2

(D) 709

---

3. There are 4 rows of chairs and 12 chairs in each row. How do you find out the total number of chairs?

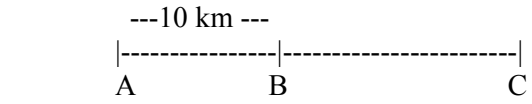
(A) 12 + 4

(B) 12 - 4

(C) 12 x 4

(D) 12 ÷ 4

---




4. In the figure above, if the distance from A to C is 30 kilometres, what is the distance in kilometres from B to C?

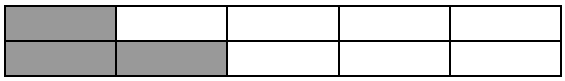
(A) 30 + 10

(B) 30 - 10

(C) 30 x 10

(D) 30 ÷ 10

---



5. What part of the figure above is dark?

(A) $\frac{1}{3}$

(B) $\frac{3}{5}$

(C) $\frac{3}{7}$

(D) $\frac{3}{10}$

---

6. Which is NOT equal to $\frac{4}{10}$

(A) $\frac{1}{4}$

(B) $\frac{2}{5}$

(C) $\frac{10}{25}$

(D) $\frac{20}{50}$

7. Which is between $\frac{3}{4}$ and $\frac{4}{3}$

(A) 1

(B) 3

(C) $\frac{1}{2}$

(D) $\frac{3}{2}$

8.

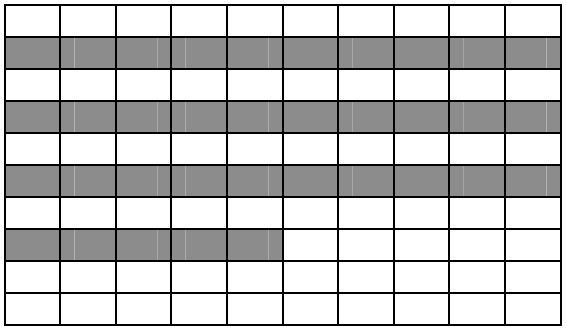
$\frac{1}{2} + \frac{1}{3} =$

(A) $\frac{1}{5}$

(B) $\frac{2}{6}$

(C) $\frac{2}{5}$

(D) $\frac{5}{6}$



9. If the large square above represents one unit, which decimal shows the amount that is dark?

(A) 0.35

(B) 3.5

(C) 30.5

(D) 35.100

10. 0.25 =

A) $2\frac{1}{2}$

(B) $\frac{2}{5}$

(C) $\frac{1}{2}$

(D) $\frac{1}{4}$

11. $2 - 0.1 =$

(A) 1

(B) 1.9

(C) 2.1

(D) 2.9

---

12. $0.6 \times 10 =$

(A) 0.06

(B) 0.60

(C) 6

(D) 60

---

13. Which of the following numbers is the LARGEST?

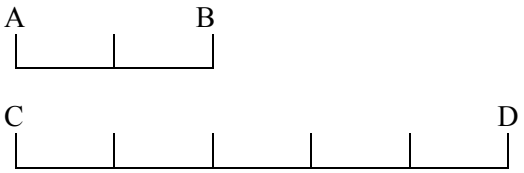
(A) 0.1

(B) 0.01

(C) 0.111

(D) 0.1101

---




14. In the drawing above, if the distance from A to B is 6 metres, then the distance from C to D in metres is

(A) 5

(B) 12

(C) 15

(D) 30

---

15. 1% of 400 is

(A) 1

(B) 4

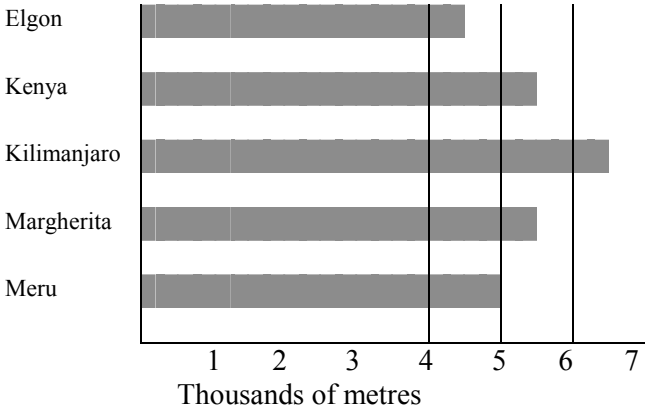
(C) 40

(D) 400

---

Items 16-17 refer to the following graph:

Heights of Five East African Mountain Peaks in Metres




16. According to the graph, the height of Mt. Kilimanjaro, in meters, is about

(A) 6,000

(B) 6,005

(C) 6,050

(D) 6,500

---

17. Which of the two peaks are most nearly the same height?

(A) Kilimanjaro and Kenya

(B) Kenya and Margherita

(C) Meru and Elgon

(D) Margherita and Meru

---

18. The height of a man is closest to 2

(A) Millimetres

(B) Metres

(C) Kilometres

(D) Centimetres

---

19. There are twelve inches in one foot. How many square inches are there in a square foot?

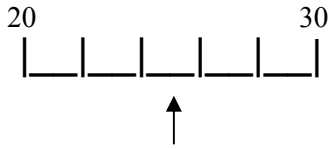
(A) 12

(B) 36

(C) 48

(D) 144

---




20. In the figure above the arrow points to

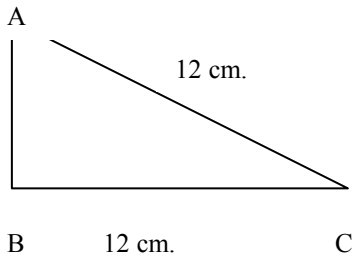
(A) $20\ \frac{4}{5}$

(B) $20\ \frac{5}{6}$

(C) 24

(D) 28

---




Note: figure not drawn to scale

21. If the perimeter of the triangle ABC is 30 centimetres, what is the length, in centimetres of side AB?

(A) $2\frac{1}{2}$

(B) 3

(C) 6

(D) 18

---

22. Two cities are 12 kilometres apart. Each day, a bus makes 3 round trips between these cities. How many kilometres does the bus travel each day?

(A) 72

(B) 36

(C) 1

(D) 4

---

23. A meal costs 1500 Cedis. If a 10% service charge is to be added to the bill, what would the total charge be?

(A) 1510 Cedis

(B) 1600 Cedis

(C) 1650 Cedis

(D) 2500 Cedis

---

24. An island has an area of about 300 square miles. The government reports that one third of the island is not suitable for cultivation. About how many square miles of this island are suitable for cultivation?

(A) 50

(B) 100

(C) 150

(D) 200

---

| | Highest | Lowest |
|---|---|---|
| Elderet | 23.6 ° | 9.5 ° |
| Magadi | 34.9 ° | 23.1 ° |
| Nakura | 26.4 ° | 10.1 ° |
| Narok | 24.4 ° | 8.3 ° |

25. The chart above shows the average (mean) high and low temperatures for four cities in a certain year. In which of the cities was there the greatest difference between the average high and the average low?

(A) Eldoret

(B) Magadi

(C) Nakura

(D) Narok

26. In an office building, each office has about 22 square metres of floor space. In this building, a square office would measure about how many metres on each side?

(A) 4.7

(B) 5.5

(C) 11

(D) 484

27. One number is 3 more than twice another. If x represents the smaller number which of the following represents the larger number?

(A) 2x + 3

(B) 5x

(C) 3(2x)

(D) 2x-3

28. If a = -3 and b = 3, then $2a + b^2$ =

(A) 7

(B) 3

(C) 9

(D) 12

29. If 2x – 3 = 17, then x =

(A) 7

(B) 10

(C) 14

(D) 20

30. $x + \frac{1}{2}$

(A) $\frac{1}{x+2}$

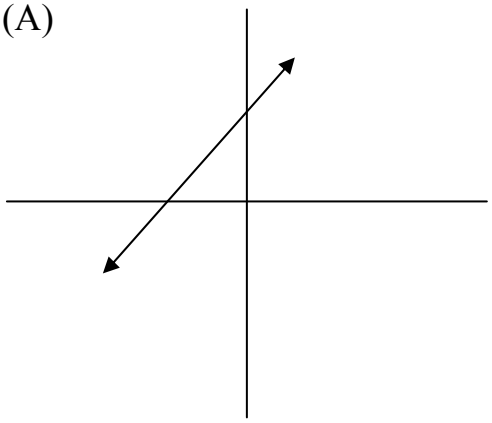
(B) $\frac{x+1}{x+2}$

(C) $\frac{2x+1}{2}$

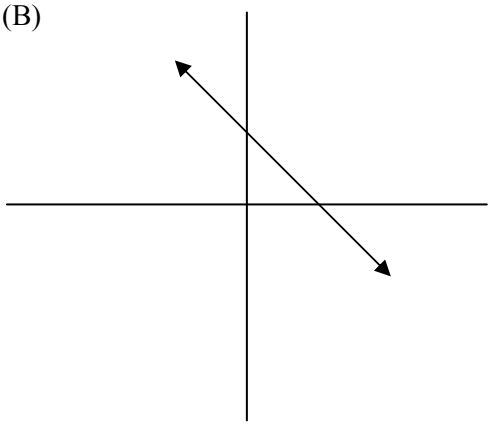
(D) $\frac{x+1}{2}$

31. Which of the following shows the graph of $x - y = 2$ ?

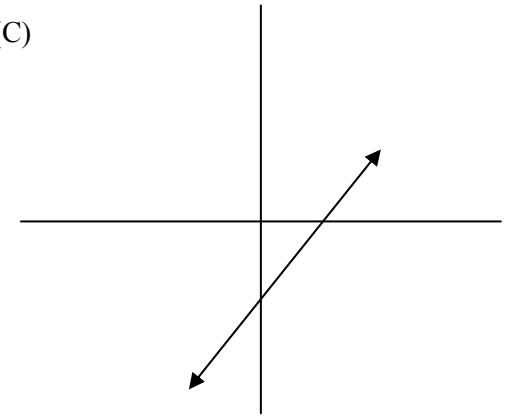
(A)



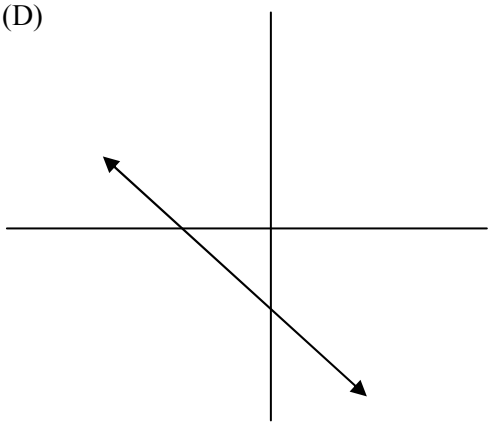
(B)

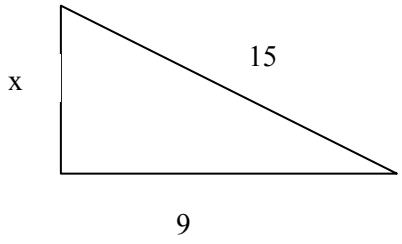


(C)



(D)






Note: Figure not drawn to scale

32. In the triangle above, x =

(A) 6

(B) 12

(C) 24

(D) $\sqrt{306}$

---

33. In quadrilateral ABCD, angle A = 60°, and the other three angles are equal. What is the degree measure of angle B?

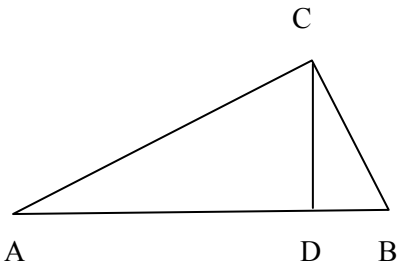
(A) 220°

(B) 100°

(C) 60°

(D) 40

---




34. In triangle ABC above, CD is an altitude to AB, and angle ACB is a right angle. Which of the triangles shown must be similar?

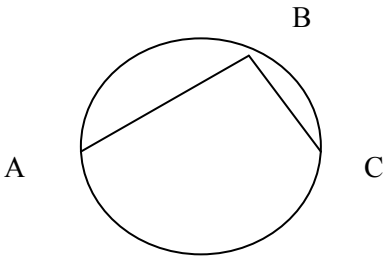
(A) none

(B) triangle ACD and triangle CBD only

(C) triangle ABC and triangle ACD only

(D) triangle ABC, triangle ACD, and triangle CBD

---




35. In the figure above, the angle ABC is a right angle. If the centre of the circle is called Q, what can be said about the location of Q?

(A) Q is inside triangle ABC

(B) Q is outside triangle ABC

(C) Q is on $\overline{AC}$

(D) The location of Q depends on the lengths of $\overline{AB}$ and $\overline{BC}$

---

36. Which CANNOT be the intersection of 3 planes?

(A) 1 point

(B) 1 line

(C) 3 concurrent lines

(D) 3 parallel lines

# GHANA STATISTICAL SERVICE

## Advanced English Test

## Ghana Education Impact Evaluation

**INSTRUCTIONS**

This test consists of 29 multiple-choice questions. For each question there is only one correct answer. You write the letter (A, B, C or D) corresponding to the correct answer for each question on your answer sheet. The maximum time allowed for this test is 20 minutes.

**January-March 2003**

Directions: For questions 1-9, read the passages below. Each passage is followed by questions. Choose the correct answer to each question and mark the letter of that answer on your answer sheet.

The Herring Gull is especially good at seizing food from other birds. It is about twenty-four inches long, and it is the gull that you most often see at the beach. It will often chase a bird that is carrying a fish or a stolen egg home to eat. The Herring Gull keeps attacking the other bird until it drops the egg or the fish. Of course the egg will break if it hits the ground. But Herring Gulls are so fast and agile they can sometimes catch an egg in mid-air.

1. What is a Herring Gull?

   (A) A bird

   (B) A fish

   (C) An egg

   (D) A beach

2. Which of the following is the best title for this passage?

   (A) How Herring Gulls Get Food

   (B) Catching Eggs

   (C) How Herring Gulls Fly Faster than Other Birds

   (D) Eating Habits of Birds

3. How long is a Herring Gull?

   (A) 12 inches

   (B) 18 inches

   (C) 24 inches

   (D) 32 inches

You could smell the fish market long before you could see it. As you came closer you could hear merchants calling out about fresh catches or housewives arguing about prices. Soon you could see the market itself, brightly lit and colourful. You could see fishing boats coming in, their decks covered with silver-grey fish.

4. What kind of a market is described above?

(A) A vegetable market

(B) A meat market

(C) A fish market

(D) A fruit market

5. What could you see coming in?

(A) Tug boats

(B) Rowboats

(C) Fishing boats

(D) Sailboats

6. What covered the decks of the boats?

(A) Rope

(B) People

(C) Boxes

(D) Fish

The cat brushed against the old man. He did not move. He only stood, staring in the window of the house. The party inside looked warm and friendly, but no one noticed him. The old man walked sadly on, followed by the cat.

7. What kind of animal was with the old man?

(A) Mouse

(B) Dog

(C) Cat

(D) Bird

8. What was inside the house?

(A) A party

(B) Some dogs

(C) An old lady

(D) A meeting

9. The man is described as being

(A) Old

(B) Young

(C) Thin

(D) Small

Directions: For questions 10-15, read the passage below. Each line of the passage has a number. In each line, there is a box with four possible choices. Pick the choice that best completes the sentence in each numbered line. Mark the letter (A,B,C, or D) of the choice on your answer sheet.

10. Sound is something we

| | |
|---|---|
| (A) | hears. |
| (B) | hearing. |
| (C) | heard. |
| (D) | hear. |

It comes to your

11.

| | |
|---|---|
| (A) | Eyes |
| (B) | nose |
| (C) | ears |
| (D) | mouth |

in different ways. It might be pleasant,

12. like the voice of a friend,

| | |
|---|---|
| (A) | when |
| (B) | as |
| (C) | or |
| (D) | since |

unpleasant, like the <u>yelp</u> of a

13. dog that has been struck by a

| | |
|---|---|
| (A) | horn. |
| (B) | car. |
| (C) | road. |
| (D) | bridge. |

Some sounds are loud,

14. and some are soft; some are high, and some are

| | |
|---|---|
| (A) | full. |
| (B) | low. |
| (C) | quite. |
| (D) | big. |

Sound is

15. very

| | |
|---|---|
| (A) | importance |
| (B) | importantly |
| (C) | important |
| (D) | import |

to us because it is the basic means of

communication.

Questions 16-18 are also about the group of sentences on the previous page. Choose the best answer for each of these questions and mark it on your answer sheet.

16. What does yelp in line 12 means?

(A) noise

(B) motion

(C) place

(D) piece

17. Which of the phrases below is another example of a pleasant sound, similar to the phrase in the sentence that begins in line 12, 'like the voice of a friend'?

(A) Like the hiss of a snake

(B) Like the honk of a horn

(C) Like the rumble of thunder

(D) Like the song of a bird

18. Which sentence below has almost the same meaning as the sentence that begins in line 14?

(A) It is meaningful to communicate with sounds

(B) The main way we communicate is with sounds

(C) The meaning of sound is basic to communication

(D) In order to communicate, we need basic sounds

Directions: For question 19-29, read the passage below. Each line of the passage has a number. In each line, there is a box with four possible choices. Pick the choice that best completes the sentence in each numbered line. Mark the letter (A, B, C, or D) of the choice on your answer sheet.

19. In the late eighteen century England had all the things necessary for the growth of

| |
|---|
| (A) industry. |
| (B) industrial. |
| (C) industrially |
| (D) industrialize. |

20. She possessed money to invest, an ample labor supply

| |
|---|
| (A) too |
| (B) and |
| (C) however |
| (D) although |

essential natural resources.

21. Since the sixteenth century, wealth had been pouring into England from colonies in America and

| |
|---|
| (A) trade |
| (B) traded |
| (C) trades |
| (D) trading |

22. posts in Asia. Her large merchant fleet brought her

| |
|---|
| (A) an example |
| (B) an abundance |
| (C) a contribution |
| (D) a distinction |

of raw materials more than could

23. be used

| |
|---|
| (A) on |
| (B) by |
| (C) over |
| (D) against |

the old system of manufacture. This surplus and the growing demand for goods encouraged

24. the development of new and faster methods of manufacture. Another favorable factor in England

(A) is
(B) was
(C) has been
(D) has to be

25. the supply of cheap labor

(A) Sailors
(B) Diplomats
(C) Beggars
(D) Workers

could move about freely and employers had greater liberty in

26. deciding what to make and how to make it. Finally the presence of large amounts of coal

(A) made
(B) are made
(C) is making
(D) will make

possible

27.

(A) predictable
(B) illustrative
(C) extensive
(D) individual

use of steam power, and the plentiful supply of iron encouraged the manufacture of tools and machinery.

28. No other country in Europe had

(A) so
(B) too
(C) such
(D) much

favorable conditions for a vast increase in production.

29.

(A) As a result
(B) Likewise
(C) In addition
(D) On the other hand

the Industrial Revolution had its beginning in England.

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