CHAPTER THREE

ECONOMIC ACTIVITY AND POVERTY

Introduction

The first Millennium Development Goal is to eradicate poverty and hunger by reducing by one-half the proportion of people whose income is less than one dollar a day and also to reduce by one-half the proportion of people who suffer from hunger. The time frame is between 1990 and 2015. Lack of information at district level makes direct assessment of the district's progress towards this goal quite difficult. This report gauges progress towards this goal by analysing general changes in the structure of economic activities and changes in other indirect indicators of poverty using information mainly drawn from the 2000 Population and Housing Census and the 2007 ISSER socio-economic survey conducted in the district for this report.

Employment

In line with GPRS I, the district development plan[10] for the first half of the decade put some emphasis on getting the private sector to increase production and generate more employment. Employment is one of the pillars on which poverty reduction strategies are built. However, the realisation of its expected benefits depends on productivity, remuneration and other conditions attached to employment.

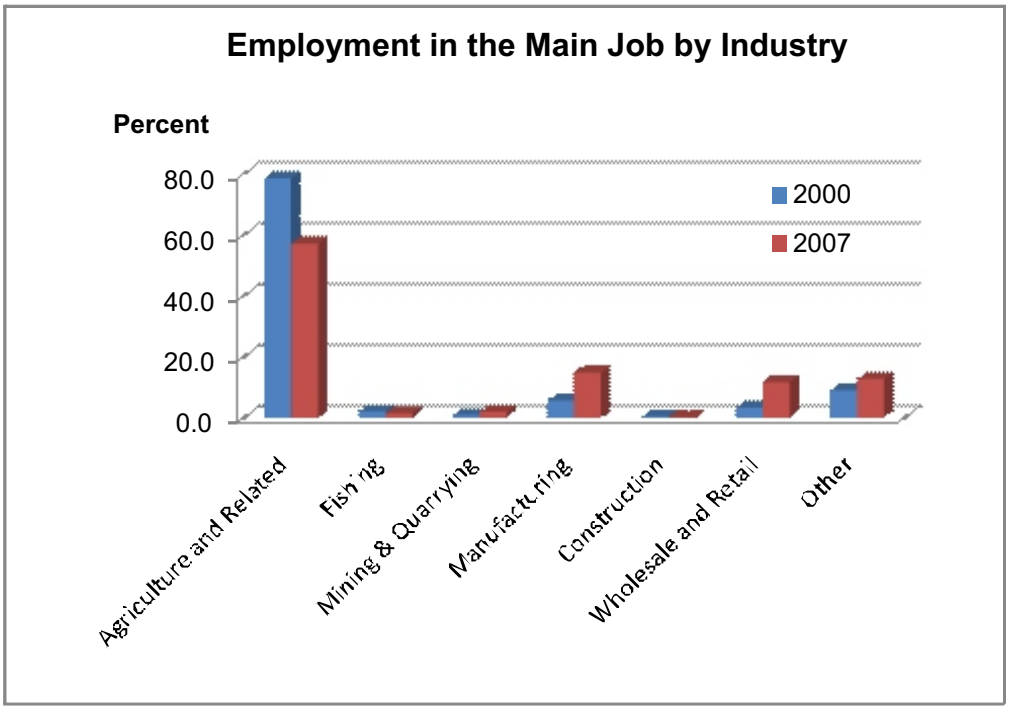
At national level, the GPRS II re-emphasized the objective of promoting gainful employment. The plan seeks to "pursue an employment-centred cross-sectoral development strategy..."[11] The district's focus on employment is expressed in the 2006-2009 development plan through a number of objectives: improve agricultural productivity, equip the youth and vulnerable groups with skills to make decent living, promote tourism and support development of small-scale industries[12].

West Gonja is predominantly rural and its economy is built on the natural resource base. The district is an agriculture-based economy. Agriculture, including fishing, employs close to 60 percent of the economically active population. Figure 3.1 shows that industry (including mining, quarrying, manufacturing and construction) is the second biggest employer, followed closely by services.

Compared to 2000, it is clear that there are signs of gradual structural change. Agriculture's importance in terms of employment has declined considerably from employing about 80 percent of the economically active population to the current 60 percent. This decline appears to have been absorbed by industry (particularly manufacturing) and the services sector. The proportion of the workforce employed in the services sector is expanding very fast in the West Gonja District. The proportion engaged in the services sector (excluding wholesale and retail trade) has almost tripled over the period from 2000 to 2007 (Figure 3.1). A similar trend can be observed for manufacturing activities.

[10] West Gonja District Medium-Term Development Plan, 2002-2004
[11] Republic of Ghana (2005) Growth and Poverty Reduction Strategy (GPRS II) (2006-2009), Vol. 1: Policy Framework, National Development Planning Commission, Accra. p. 39
[12] West Gonja District Assembly Medium-Term District Development Plan,(2006-2009

Figure 3.1: Industry of Employment

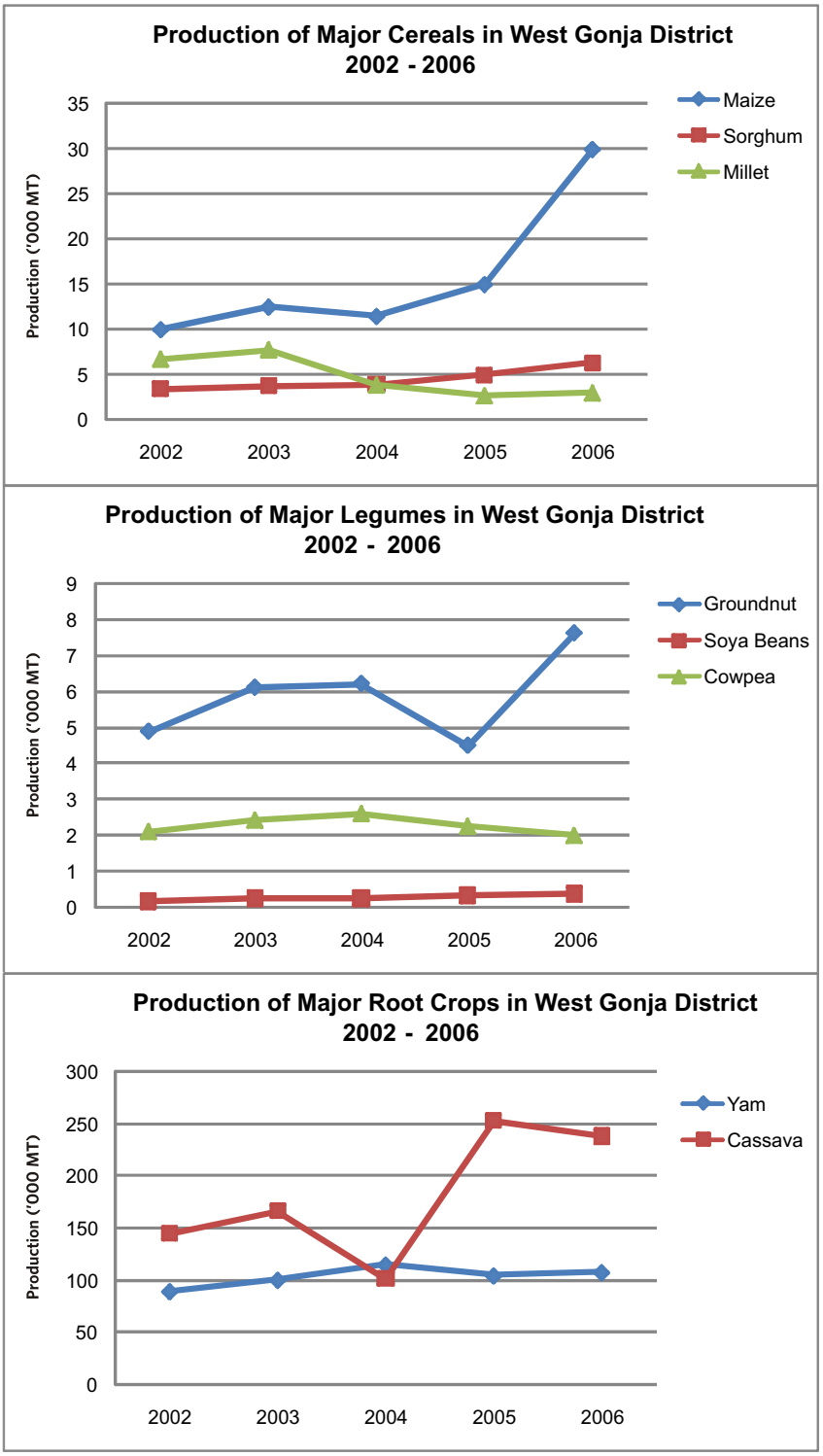


Source: 2000 Population and Housing Census and ISSER Household Survey, 2007

Figure 3.2 presents agricultural production and yields for West Gonja. Maize production in the district has remained above 10,000 tonnes since 2002. It has been on a rising trend, increasing from 10,000 tonnes in 2002 to 30,000 tonnes in 2006. This rising trend in maize output began from 2004. In contrast, output of sorghum has not increased substantially, but has nevertheless risen between 2002 and 2006. Output of millet declined from a little over 5,000 tonnes to less than 4,000 tonnes.

Among the legumes, groundnut is the dominant crop in West Gonja. Whereas the total output of groundnuts was above 7,000 tonnes in 2006, production of other legumes was less than 3,000 tonnes. Production of groundnuts rose slightly from 2002 but became stable at 6,000 tonnes in 2003 and 2004. By 2005, groundnut production had declined to about 4,000 tonnes. Groundnut production rose again in 2007 above the 2004 level to almost 8,000 tonnes. Production of cowpeas and soya beans hardly changed between 2002 and 2006.

Figure 3.2: Production of Major Crops in West Gonja District



Source: Created with data from Ministry of Food and Agriculture, West Gonja

Regarding root and tubers, output of yam was 100,000 tonnes in 2006, showing little change since 2002. By 2003, yam production in the district had gone beyond 100,000 tonnes. Production has not gone below 100,000 tonnes since. Production of cassava, however, showed quite a different pattern. In 2006, cassava production stood at about 250,000 tonnes. This represents almost a 67 percent increase. Between 2002 and 2006, cassava displayed an undulating trend. From 150,000 tonnes in 2005, cassava production declined to the lowest level over the five-year period (100,000 tonnes). By 2005, however, production rose sharply to 250,000 tonnes and stayed there (Figure 3.2).

The district also rears a number of domestic animals, both on subsistence and commercial basis. Poultry dominates the livestock sector with over 140,000 birds in 2005. There were about 2,883 pigs, 17,900 goats, 16,155 sheep and 16,600 cattle in 2005.

Problems in the Agricultural Sector

Like many other areas in Ghana, agriculture continues to be rain-fed with limited irrigation. The cropping pattern follows the land fertility pattern and farmers use either inorganic and organic manure or fertiliser. Many farmers use simple tools like hoes, cutlass, and animal traction. Tractors services are limited; the number of tractors is estimated to be 73 and the tractor-farmer ratio is 1:172.

The district's draft Medium-Term Development Plan (2006-2009) highlights the following as major issues confronting the agricultural sector:

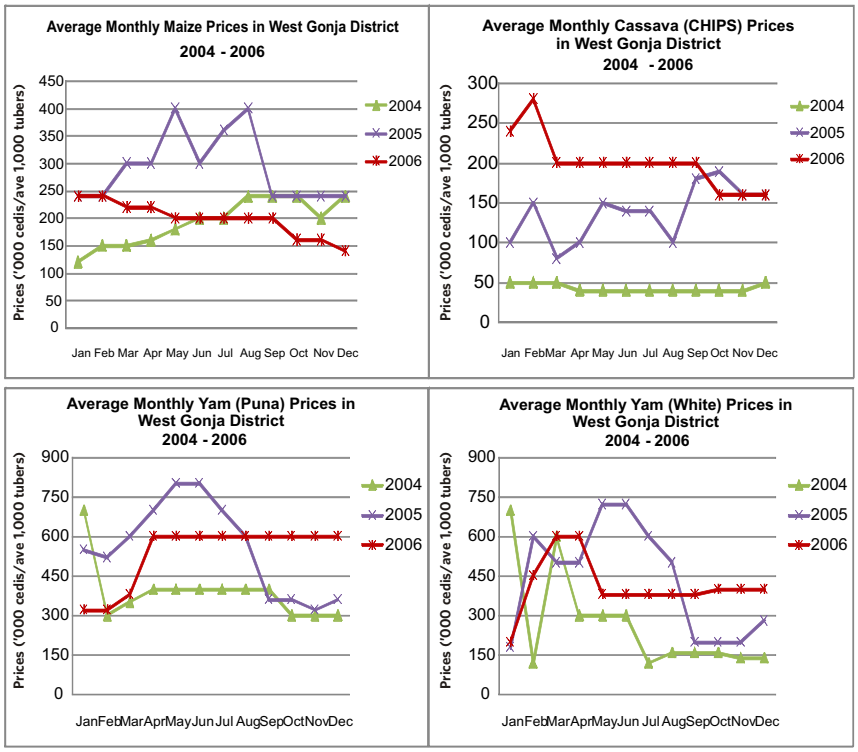
- Population pressure on land[13]
- Declining soil fertility and erosion
- Inadequate marketing systems
- Weak/inadequate extension services[14]
- High cost of inputs
- Inadequate credit facilities
- Erratic rainfall and over-dependence On nature
- High incidence of pests and diseases
- Inappropriate farming methods; and
- High post-harvest losses

The problem of inadequate marketing systems has serious implications for the pricing of major food items. Prices serve as an incentive for production. Agriculture prices have the propensity to vary from month to month and from year to year and could have serious implications for farmers' incomes. Within the West Gonja District, maize prices were higher in 2005 than other years but also with more significant variations than in any year. In 2006, however, maize prices declined from January to December, probably due to the unexpected increase in production (Figure 3.3).

In contrast, cassava prices were highest in 2006 compared to 2004 and 2005, and remained fairly stable in most parts of the year. This also coincided with sustained and high production figures for cassava in 2006, pointing to the differential relative advantages the district has in terms of marketing agricultural produce. Generally, yam prices and output were very stable between 2004 and 2006.

[13] Community interviews in Kabampe confirm this to be the case for communities close to the forest reserves.
[14] There are 14 extension officers in the district for 12,565 farmer population (i.e. the extension officer-farmer ratio is 1:898).

Figure 3.3: Price Trends, 2005, 2006



Source: Created with data from MOFA, West Gonja District

Women's participation in the labour force

Even though agriculture employs the majority of the workforce in the West Gonja District, there is a clear reduction in the proportion of both women and men employed in agriculture. Women continue to dominate the wholesale, retail and manufacturing sectors. The proportion of women employed by these sectors has more than doubled between 2000 and 2007 (Figure 3.4).

There has not been a significant change in the employment status of the working population of the district since 2000. Self-employment in the district continues to be high in the district. The majority of the workforce are self-employed without employees. The proportion of wage employees in the district has also more than doubled over the period 2000 to 2007. In the same vein, the proportion of self-employed with employees has doubled. Although the proportion of unpaid family workers has reduced, the change is not significant. Many more economically active people in West Gonja are engaged in unpaid family work.

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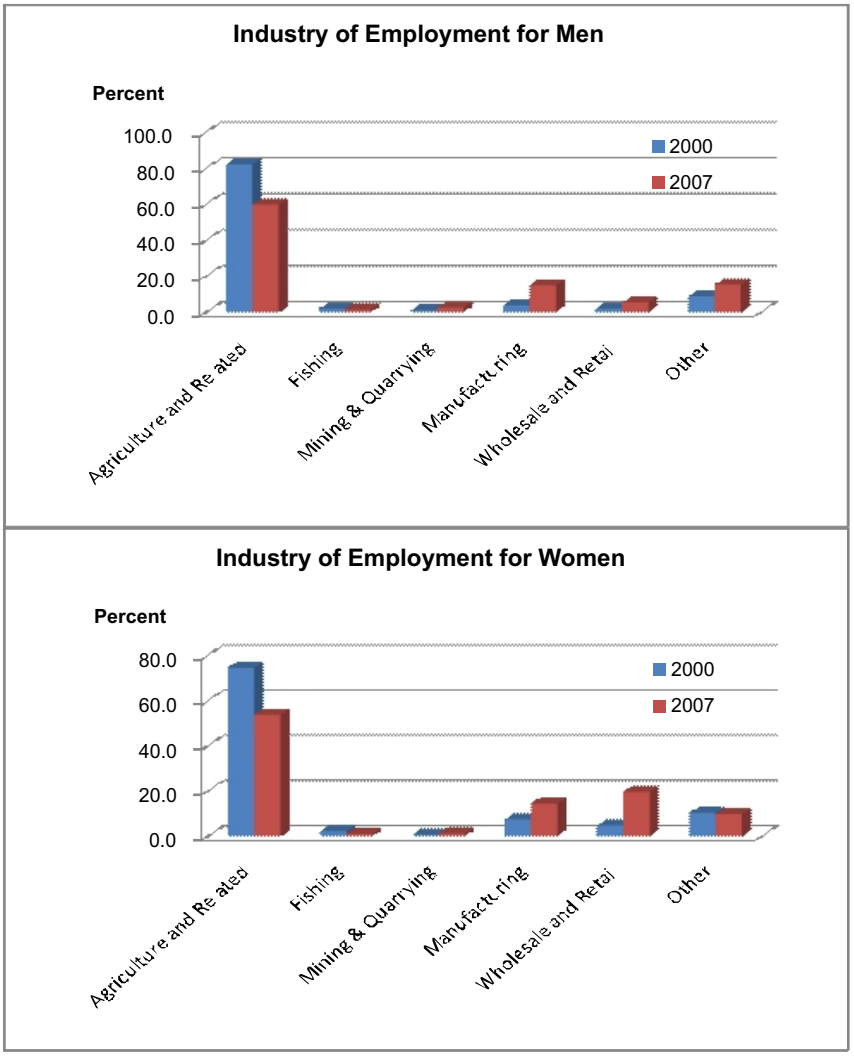
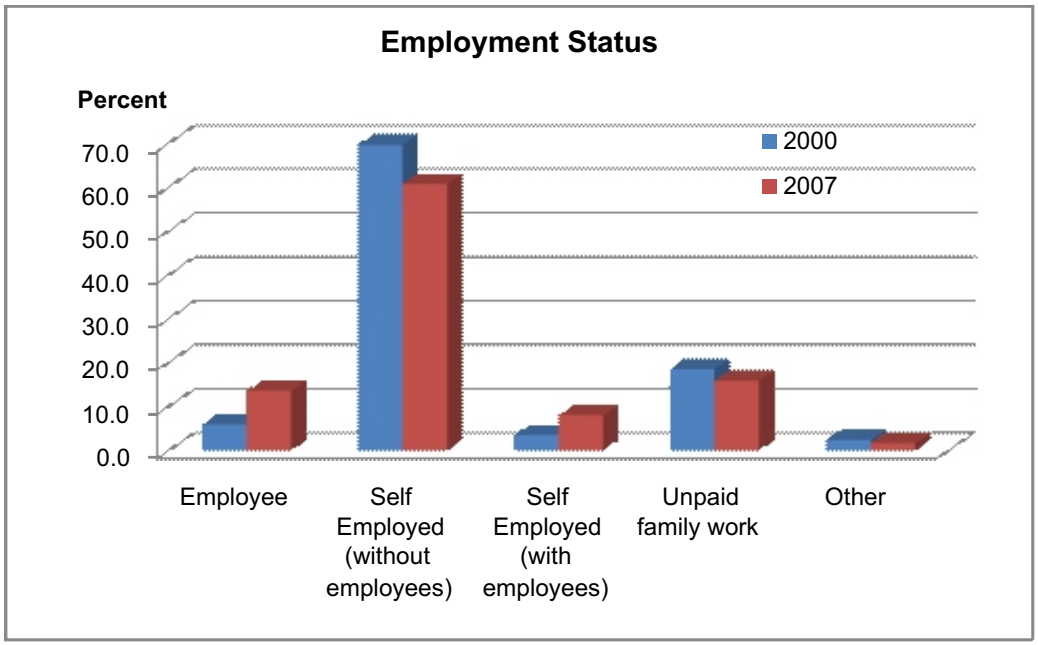
Figure 3.4:Distribution of Employment, by Sex



Source: 2000 Population and Housing Census and ISSER Survey, 2007

Clearly, the biggest employer in the West Gonja District is the private informal sector. In 2007, 80 percent of the working population was in the private informal sector, giving a good indication of the size of the informal sector in the district. The size of the informal sector has not changed significantly between 2000 and 2007. Figure 3.6a further reveals a reduction in the proportion of the working population employed by private formal institutions. This reduction appears to have been absorbed by public institutions. Analyzed from the point of view of the residence of employees, it appears that more of the population in urban areas have formal employment. However, from the trends, the proportion of the urban population employed in the formal sectors is on the decline while more rural workers are gaining employment with formal sector employers.

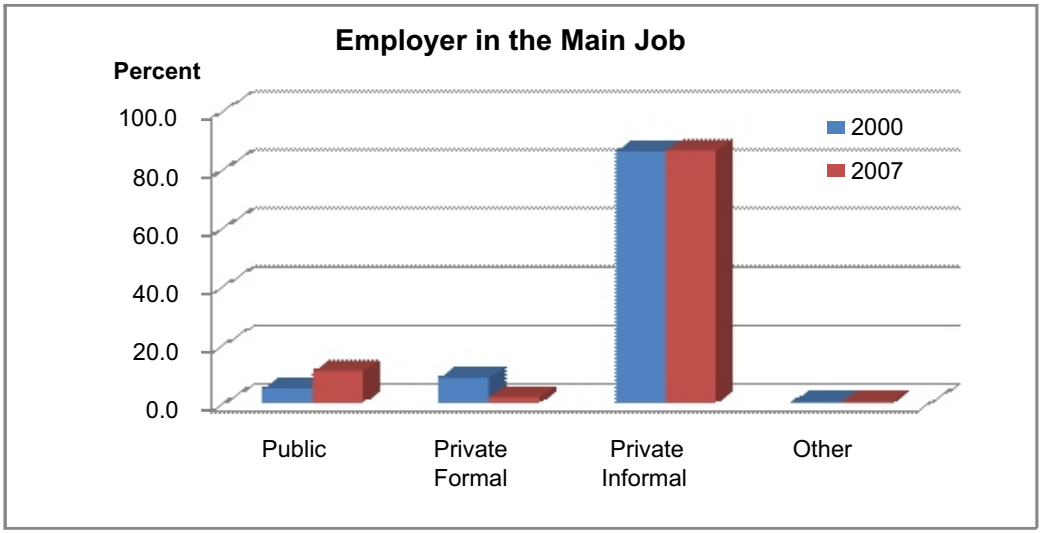
Figure 3.5: Employment Status of Working Populatio



Source: 2000 Population and Housing Census and ISSER Household Survey, 2007

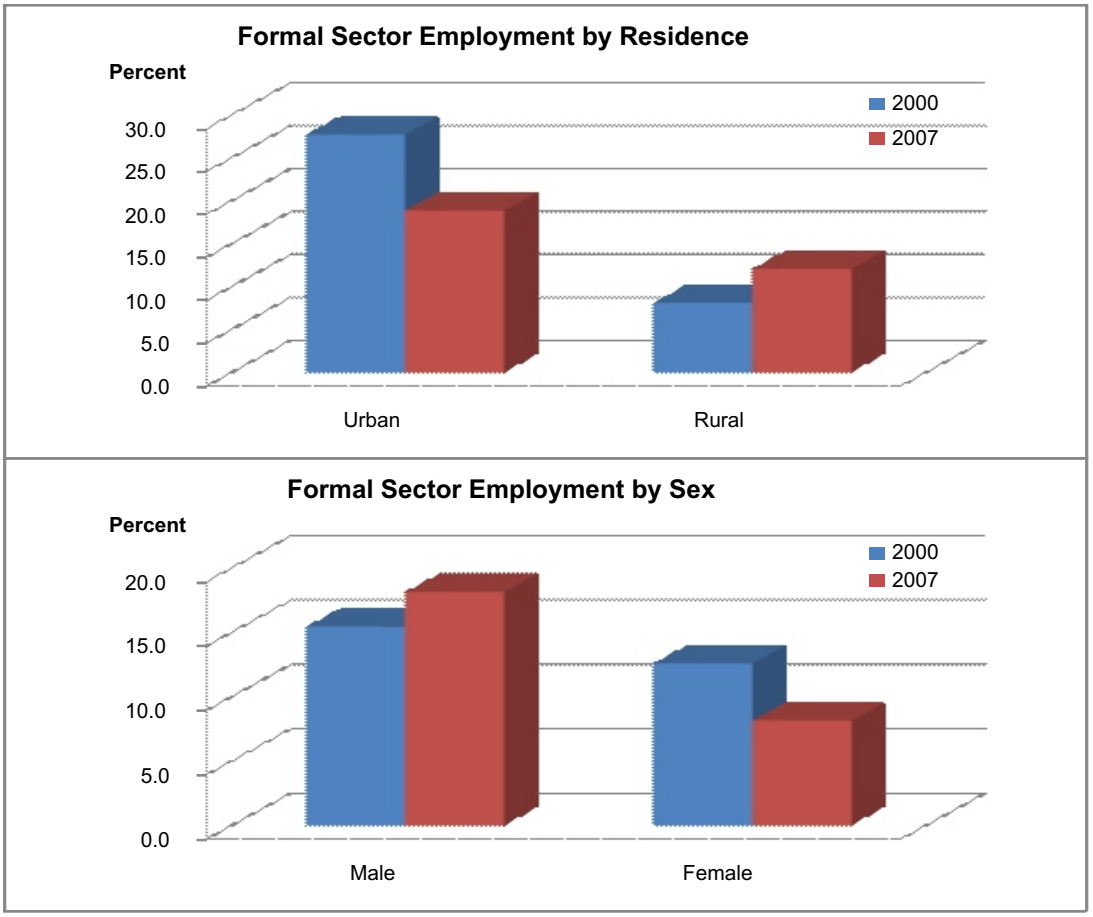
While the proportion of men employed in the formal sector increased since 2000, there has been a considerable decline in the proportion of women employed in the formal sector (Figure 3.6b). This is clearly far from expected and does not signify progress towards the third MDG goal promotion of gender equality and empowerment of women which has as one of its indicators the share of women in wage employment in the non-agriculture sector.

Figure 3.6a:Formal Sector Employment in West Gonja Districtn



Source: 2000 Population and Housing Census and ISSER Household Survey, 2007

Figure 3.6b: Formal Sector Employment in West Gonja District (Cont'd)



Source: 2000 Population and Housing Census and ISSER Survey, 2007

Unemployment, Underemployment and Child Labour

Unemployment[15]

Overall, the unemployed in West Gonja are estimated at 14.5 percent of the economically active population in 2007 (Table 3.1). This represents an increase from the 8.5 percent observed in 2000. Adult unemployment among rural adult females has increased to 19.4 percent in 2007 from 7.9 percent in 2000. Unemployment among the youth was worse. The eighth MDG hopes to Implement strategies for decent and productive work for the youth. Table 3.1 shows that no progress has been made towards achieving this goal in the district. The proportion of unemployed youth increased from 5.2 percent in 2000 to 27.4 percent in 2007. While rural male unemployment appears to have been eradicated in the district, unemployment among rural and urban women as well as urban men has worsened (Table 3.1).

[15] The unemployment rate is estimated as the ratio of the number of unemployed persons to the economically active population. The economically active population is made up of persons aged 15 years and above of the employed and unemployed but does not include students and old age pensioners or people who cannot work because of a mental or physical impairment. In both 2000 and 2007 datasets, the reference period for this definition is the last seven days.

Table 3.1: Adult and Youth Unemployment in West Gonja District, by Year (%)

	Adult (15+)		Youth (15-24)	
Unemployed	2000	2007	2000	2007
Rural				
Male	1.9	3.9	5.3	0.0
Female	7.9	19.4	7.0	37.4
Total	4.8	11.7	6.1	20.0
Urban				
Male	11.2	14.7	5.4	46.7
Female	31.9	29.7	4.3	41.8
Total	22.1	22.0	4.9	44.4
All	8.5	14.5	5.2	27.4

Source: 2000 Population and Housing Census and ISSER Survey, 2007

Underemployment[16]

The incidence of underemployment is high in the West Gonja District (46.1%). Looked at from the gender stand point, underemployment is higher among men than among women (Table 3.2). More rural people (48%) are underemployed compared to urban people (42%). The underemployment rate was highest among workers in agriculture and related sectors (52%). This is mainly due to the fact that the sector is highly dependent on erratic weather.

Table 3.2: Percent of the Labour Force that is Underemployed in West Gonja District, 2007

Underemployed	Percent
All	46.1
Sex	
Male	50.7
Female	41.6
Sector	
Agriculture and Related	52.2
Fishing	1.4
Mining & Quarrying	3.1
Manufacturing	22.5
Wholesale and Retail trade	11.5
Community services	4.6
Other	4.6
Residence	
Urban	41.9
Rural	47.8
Age (15-24 years)	
All	33.6
Male	42.7
Female	25.1

Source: ISSER Household Survey, 2007

[16] The underemployment ratio is estimated as the economically active population who were employed, were willing to do Extra work but could not get additional work in the last seven days.

Child Labour

There is some child labour used in the district. To capture child labour, the proportion of the population aged 7-14 years old who either worked or had jobs but did not work or considered themselves to be unemployed was analyzed[17]. The results indicate that 4.7% of children between those ages were in the labour market. This is very low compared to child labour figures recorded in 2000 (Table 3.3) and it signals the positive effects of recent interventions in the education sector that seek to keep children of school-going age in school. The situation for girls in rural areas is slightly higher in 2007 than what was observed in 2000.

Table 3.3: Child Labour

	2000	2007
Rural		
Male	11.9	2.7
Female	9.7	10.9
Total	10.8	6.1
Urban		
Male	60.4	0.0
Female	58.5	2.4
Total	59.5	1.3
All	48.5	4.7

Source:CWIQ 2003 and ISSER Household Survey, 2007

Poverty

The overall aim of the Millennium Development Goals is more or less captured in the first goal which seeks to eradicate extreme poverty and hunger. The first target aims at halving between 1990 and 2015 the proportion of the population whose income is less than a dollar a day. The second target aims at halving the proportion of the people living in hunger over the same period.

Due to difficulties in getting specific base year poverty rates for the district, the district Medium-Term Development Plan does not contain specific targets for the reduction of poverty or the elimination of hunger. However, the desire to achieve this goal is expressed quite clearly in the plan through other goals such as "to ensure food security and improve farm incomes", "promote development of small-scale industries" and "mainstream vulnerability and exclusion issues in the plan" among others.

[17] There is disagreement on the appropriate definition of child labour for policy purposes. Some notions reflect Western perspectives, which lead to a condemnation of all child work. The UN Convention on the Rights of the Child (1989) and ILO Convention 182 on the worst forms of child labour (1999), promote a clearer distinction between child work, a general term including work which is unlikely to damage educational opportunities, and child labour, which refers to harmful forms of work which deny children opportunities to fulfil their other rights, such as education. The 'worst forms of labour' as defined in ILO Convention 182 include prostitution, all forms of slavery, sale and trafficking of children, debt bondage and forced labour, as well as work likely to harm their 'health, safety and morals'. The estimates in this report do not take into account this difference in definition.

Incidence of poverty

The only district-specific information on objective poverty can be obtained from the poverty data generated by the National Development Planning Commission (NDPC) and the Ghana Statistical Service (GSS), which is used to provide district-wide poverty mapping. These poverty rates are derived from correlates of poverty as captured in the 2000 Population and Housing Census and are based on coefficients derived from the 1991/1992 and 1998/99 Ghana Living Standards Surveys (GLSS 3 & GLSS 4). In the absence of any district-level data on poverty, the poverty rates from this source serve as good composite index to rank the districts.

Using this index, the Northern Region was ranked the third poorest among the 10 regions of Ghana and is among the three which experienced an increase in poverty between 1991/1992 and 1998/1999. The incidence of poverty rose from 63 percent in 1991/1992 to 69 percent in 1998/1999 in the Northern Region. Recent estimates from the initial results of the 2005/2006 GLSS suggest that the previous rise in the incidence of poverty in the region turned into a decline to about 52.3 percent in 2005/2006. The extent to which poverty in West Gonja is rising or declining cannot unfortunately be determined by this approach. The urban and rural areas of the West Gonja District were ranked as 27th and 12th poorest among the 110 districts in 2000 respectively. Their respective head count poverty rates were 43 percent and 94 percent and the overall head count poverty for the district was estimated to be 89 percent and ranked it as the 11th poorest among the 110 districts of Ghana.

The other approach to determine indirectly the level of poverty is through an estimation of the human poverty index (HPI). The UNDP human poverty index is an attempt to capture the multidimensionality of poverty in a single index. The index focuses on three aspects of deprivation, namely, the proportion of the population that will die before the age of 40 years, the proportion of the adult population that is illiterate, and the ability to have a decent standard of living. This ability to have a decent standard of living is measured using three variables. The first is the proportion of the population without access to safe or improved drinking water, the proportion of underweight children aged 5 years or less and the proportion of the population without access to health services. In estimating the human poverty index, this study substitutes the regional under-5 mortality rate for the proportion of the population that will die before 40 years of age (see Appendix Box 1 for an explanation of the steps used to calculate the HPI for the DHDRs, termed HPI-G).

The human poverty index for West Gonja District in 2003 is significantly different from the national average (Table 3.4). An assessment reveals that the district performs worse than the national average in almost all the components of the human poverty index except access to health in urban areas and the proportion of underweight girls in the district.

Table 3.4Human Poverty Index, 2003

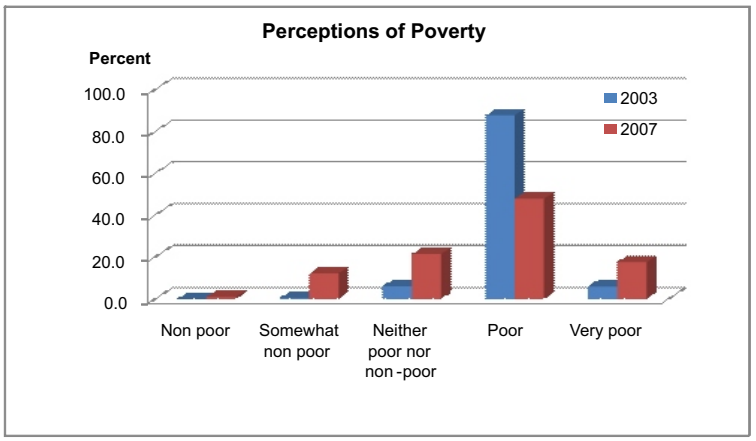
Human Poverty Index, 2003	West Gonja	Ghana
All	72.1	41.8
Rural	75.4	
Urban	56.4	
% Adult Illiterate, 2003		
All	87.2	46.6
Male	83.4	34.2
Female	91.0	57.7
% without access to health care services		
All	59.4	42.4
Rural	65.5	57.7
Urban	6.4	21.5
% without access to safe water		
All	74.1	25.9
Rural	78.3	37.0
Urban	37.1	12.7
% underweight children		
All	25.4	25.8
Boys	32.3	24.4
Girls	16.0	28.4

Source: Ghana Statistical Service, CWIQ 2003, Accra

Subjective poverty

Subjective poverty measures the perception of households regarding their levels of poverty. Figure 3.7 outlines the outcome of measurements of subjective poverty in West Gonja District. In general, the majority of the sampled households perceive themselves to be either poor or very poor. However, the proportion of households that perceived an improvement in their wealth status has increased; the perception of poverty (i.e. either poor or very poor) declined from 93.5 percent in 2003 to 65.4 percent in 2007. Compared to 2003, fewer people perceived themselves to be poor in 2007 while there was an increase in the proportion that perceived that they were very poor.

igure 3.7: Subjective Poverty



Source: CWIQ 2003 and ISSER Survey, 2007

The Incidence of Extreme Poverty

Unfortunately, data are not available to measure directly the proportion of the population in the district that lives in extreme poverty. The indicators to measure progress made under target 2 of the first MDG are the prevalence of underweight children and the proportion of the population below the minimum required level of dietary energy consumption.

Just as the national average, a quarter of the children in West Gonja District in 2003 were underweight. The proportion of underweight girls was rather lower than the proportion of boys, which was estimated to be about a third of all boys in the district. The incidence of underweight children was lower among girls, particularly in urban households where the incidence among female children in urban areas was negligible. About 32 percent of boys in rural households were underweight compared to 16 percent of girls (Table 3.5).

Stunting among children is an indication of long-term nutritional deficits and, therefore, can be an indicator of chronic poverty. The incidence of stunted children in West Gonja was higher than the national average because of the worse situation of rural boys (Table 3.5).

The proportion of wasted children in rural areas of West Gonja was not significantly higher than the national average but the proportion of boys showing signs of wasting in urban communities was more than twice the national average for boys in urban areas. As is the pattern for the other measures of child nutrition, girls have a lower incidence of wasting than do boys (Table 3.5).

Given the high attendance at ante- and post-natal clinics in the district (Table 5.6), the high recorded incidence of underweight and stunted children in the district in 2003 raises questions about whether mothers understand the information that is provided them and about the capacity of the household to make effective use of the information that has been received.

Food insecurity

One of the ways of measuring poverty among households is to look at the ease with which they satisfy food needs. Compared to 2003, there is an increase in 2007 in the proportion of households that found it sometimes or often difficult to satisfy food needs (Figure 3.8 and Table 3.6).

Table 3.5: Proportion of Stunted, Wasted and Underweight Children, 2003

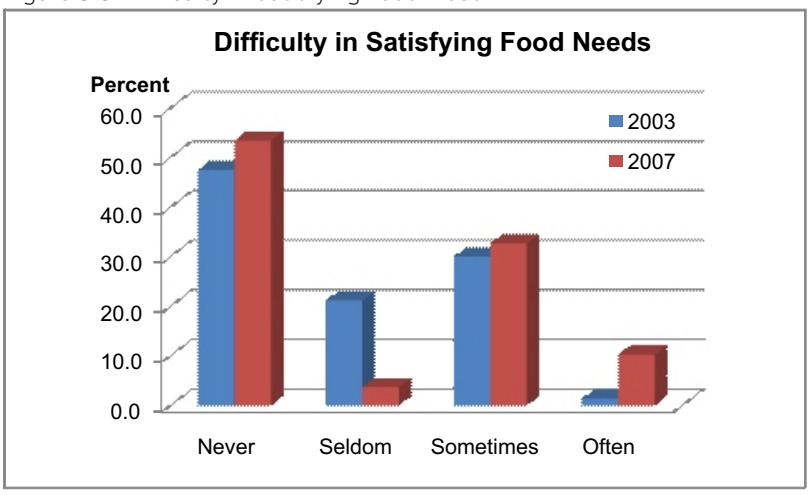
Measure/Locality	Boys	Girls	Total	National
Stunted				
Rural	45.8	29.4	38.7	33.7
Urban	16.2	0.0	11.1	30.0
Total	43.2	27.8	36.7	32.4
Wasted				
Rural	14.9	13.8	14.4	12.9
Urban	50.3	0.0	34.3	20.2
Total	18.0	13.0	15.9	15.5
Underweight				
Rural	32.1	16.9	25.6	24.4
Urban	34.1	0.0	23.3	28.4
Total	32.3	16.0	25.4	25.8

Source: Ghana Statistical Service, CWIQ 2003, Accra

For instance in 2003 less that 2 percent of the sampled households often found it difficult to satisfy food needs. By 2007 however, an estimated 10 percent could not meet food needs. It is refreshing to note that most households never had any such period where food needs were met with difficulty (50%).

The situation of often not being able to meet food needs was worse for rural areas. However, there has been a considerable jump in this proportion from near 0.0 percent in 2003 to almost 10 percent of the households in urban areas in 2007. This finding is surprising since rural communities are predominantly agriculture-based and most farmers grow food at subsistence level. More male-headed households found it difficult to meet their food needs.

Figure 3.8: Difficulty in Satisfying Food Need



Source: ISSER Household Survey, 2007

Table 3.6: Households that had Difficulty Satisfying Food Needs in the Preceding 12 months (%)s

	Year	Never	Seldom	Sometimes	Often	Total
Location						
Urban	2003	31.1	31.1	37.8	0.0	100
	2007	56.1	5.3	28.9	9.7	100
Rural	2003	49.4	20.0	29.1	1.5	100
	2007	52.1	3.0	34.4	10.5	100
Sex of household head						
Male	2003	50.0	19.8	29.1	1.2	100
	2007	54.6	1.9	36.5	6.9	100
Female	2003	15.7	39.0	41.5	3.7	100
	2007	49.6	9.1	20.8	20.6	100
Total	2003	47.5	21.2	30.0	1.4	100
	2007	53.4	3.7	32.7	10.3	100

Source: CWIQ 2003 and ISSER Household Survey, 2007

A number of reasons were cited for difficulty in meeting food needs. Chief among them was a poor harvest (21.7%). This could explain why more rural households found it difficult to meet their food needs. Food price hikes were also mentioned among the critical reasons why most households could not meet their food needs as often as would have been expected (Table 3.7). Most households in Ghana receive one form of remittance or the other from family members living in other towns in Ghana or abroad to supplement household expenditure. Less than a tenth (8.3%) of the respondents mentioned a reduction in their remittances as being the main reasons why they found it difficult to meet their food needs.

A poor harvest was the reason about 43 percent of the rural households faced food difficulties. Next in importance was increases in food prices, reduction in remittances and changes in the size of the household due to the death or the departure of a household member or an increase in the size of the household (Table 3.7). The death of a household member was cited by about a fifth of households as a reason for the difficulties in meeting food needs. The illness of an income-earning member of the household and the loss of a job were also important reasons for difficulty in satisfying food needs. They were particular problems for urban households. Other reasons included loss of job, illness or sudden death of an income- earning member of the household.

Table 3.7: Reason why Household Experienced Food Difficulties in the Preceding 12 months

Reason	No. of households affected	% of affected households	% of total households
Income earning member of the household died	6	5.6	2.5
Household left/additional member	10	9.3	4.2
Income earning member of the household lost job	5	4.6	2.1
Income earning member became ill	7	6.5	2.9
Reduction in remittances	20	18.5	8.3
Poor harvest	52	48.2	21.7
Storage problems	13	12.0	5.4
Food prices became too high	28	25.9	11.7
Other reasons	19	17.6	7.9
Total	108	100.0	45.0

Source: ISSER Household Survey, 2007

CHAPTER FOUR

EDUCATION AND LITERACY

Introduction

Two out of the eight MDGs are education-specific. The focus of the second MDG is the attainment of universal primary education (Box 4.1). The third goal is the promotion of gender equality and the empowerment of women. The target under this goal is the elimination of gender disparity in primary and secondary education by 2005, and in all levels no later than 2015. Two of the indicators to monitor progress made towards attaining the third MDG are education-specific and thus highlight the importance of education as a means of empowering women.

There is some overlap between the MDG indicators and the knowledge indicators of the human development index (Box 4.1). The knowledge component of the index is made up of adult literacy and the gross primary, secondary and tertiary enrolment rates.

A review of the 2002-2005 development plan for the district highlighted a number of constraints on both the supply and demand sides such as the following: limited geographical access to education, inadequate number of qualified staff,

inadequate teaching and learning materials

At various levels, inefficient administration and management especially at basic education levels. Parents' interest has also been identified as poor due to several reasons mainly arising from high adult illiteracy and lack of employment opportunities in the district for the youth after completing school. The objective for education in the draft 2006-2009 development plan is therefore to reduce illiteracy through measures such as:

- Improving access to basic education;
- Improving quality of teaching and learning;
- Supporting organization of STME clinics in the district;
- Supporting functional literacy education programmes; and
- Constructing a library complex in the district

Both the MDG indicators and the knowledge indicators of the HDI are output and/or outcome indicators. The process of attaining these outputs or outcomes is fundamental to progress in achieving the MDGs or improving upon the HDI. The next section provides information on some of the inputs that are important in influencing progress towards achieving the MDGs and in improving the human development indicators of the population.

Box 4.1: The MDGs and Human Development Indicators for Educatio

Millennium Development Goals	Human Development
Goal 2: Achieve Universal Primary Education	Knowledge
Net enrolment in primary education	Adult Literacy Rate
Proportion of Pupils Starting Grade 1 who reach grade 5	Gross Primary Enrolment Rate
Literacy Rate of 15-24 year olds	Gross Secondary Enrolment Rate
	Gross Tertiary Enrolment
Goal 3: Promote Gender Equality and Empower Women	
Ratios of girls to boys in primary, secondary and tertiary education	
Ratio of literate women to men, 15-24 year olds	

Education Infrastructure

Number of Schools

The district is endowed with schools that provide pre-school, basic and senior secondary education. Both the private and public sector are active in the provision of education services in the district, although the contribution of the private sector is much smaller than that of the public sector (Table 4.1).

An additional 19 public primary schools and one junior secondary school were established between 2004 and 2006. Primary schools far outnumber junior secondary schools. This suggests that an upsurge in the number of children that transit from primary to junior secondary school will result in overcrowding in classrooms. Indeed, this disparity in the numbers of primary and junior secondary schools can discourage children proceeding to post-primary education since most children will have to travel longer distances to reach junior secondary schools.

Table 4.1: Number of Schools

Type of School	Public		Private		Total	
	2004	2006	2004	2006	2004	2006
Pre-School	36	37	4	4	40	41
Primary	53	72	3	3	56	75
Junior Secondary	17	18	0	0	17	18
Senior Secondary	2	2	1	1	3	3

Source: Ghana Education Service, West Gonja District

Table 4.2Travel Time to the Nearest Schools in West Gonja District, 2007

School/Travel Time	Urban	Rural	Total
Primary School			
Less than 14 minutes	44.2	80.7	69.4
15-29 minutes	33.6	11.3	18.2
30-44 minutes	20.5	3.3	8.7
45-59 minutes	0	0.3	0.2
60 minutes or more	1.7	4.4	3.5
Junior Secondary			
Less than 14 minutes	50.3	50.2	50.2
15-29 minutes	25.3	7.4	13
30-44 minutes	22.8	4.9	10.5
45-59 minutes	0	6.9	4.8
60 minutes or more	1.7	30.5	21.5
Senior Secondary			
Less than 14 minutes	35.6	0	11.1
15-29 minutes	37.7	0.8	12.3
30-44 minutes	17	13.4	14.5
45-59 minutes	8	4.9	5.9
60 minutes or more	1.7	80.9	56.2

Note: Figures represent % of households that live within the travel time stated
Source: ISSER Household Survey, 2007

Table 4.2 shows that over 92 percent of households in rural areas are within 30 minutes of travel to primary schools, about 57.6 percent of households are within 30 minutes of travel to junior secondary schools and just about 1 percent of households are within 30 minutes to senior secondary schools.

Quality of Education

Less than 10 percent of teachers in private pre- and primary schools in the district are trained. The situation is only slightly better in public schools, where in 2006 less than a quarter of teachers in pre- and primary schools were trained (Table 4.3). The situation with trained teachers is better in junior secondary schools.

Indeed, at all three education levels, the expansion in the number of teachers in public schools from 2004 to 2006 occurred largely through an increase in the number of untrained teachers. The proportion of trained teachers in primary schools is far below the GPRS target of 81.3 percent. A major related problem in this regard is how to retain sponsored trained teachers. The district (as well as individuals) has been devoting more resources to training the youth in post secondary education but they prefer to work in southern Ghana because of the deplorable conditions in remote areas of West Gonja District. The other issue raised by stakeholders in the sector is the number of years untrained teachers work without any means of upgrading themselves. Some of them have been working for the past 10 to 15 years and the situation can raise a number of quality issues if they do not pursue formal training or participate in in service upgrading programmes.

Table 4.3Teaching Staff in West Gonja District (2004-2006)

Pre-school - Public					
Year	Trained	Untrained	Total	%Trained	Pupil/Teacher
2004	0.0	34.0	34.0	0.0	88.3
2005	23.0	11.0	34.0	67.6	81.9
2006	14.0	49.0	63.0	22.2	52.5
Primary-Public					
Year	Trained	Untrained	Total	%Trained	Pupil/Teacher
2004	93.0	106.0	199.0	46.7	43.0
2005	74.0	202.0	276.0	26.8	34.7
2006	92.0	302.0	394.0	23.4	29.8
JSS-Public					
Year	Trained	Untrained	Total	%Trained	Pupil/Teacher
2004	58.0	19.0	77.0	75.3	28.2
2005	69.0	37.0	106.0	65.1	22.8
2006	75.0	77.0	152.0	49.3	17.9
Pre-School - Private					
Year	Trained	Untrained	Total	%Trained	Pupil/Teacher
2004	0.0	11.0	11.0	0.0	39.4
2005	1.0	11.0	12.0	8.3	51.3
2006	1.0	11.0	12.0	8.3	45.5
Primary - Private					
Year	Trained	Untrained	Total	%Trained	Pupil/Teacher
2004	1.0	11.0	12.0	8.3	25.5
2005	1.0	15.0	16.0	6.3	22.5
2006	0.0	16.0	16.0	0.0	25.9

Source: Ghana Education Service, West Gonja District

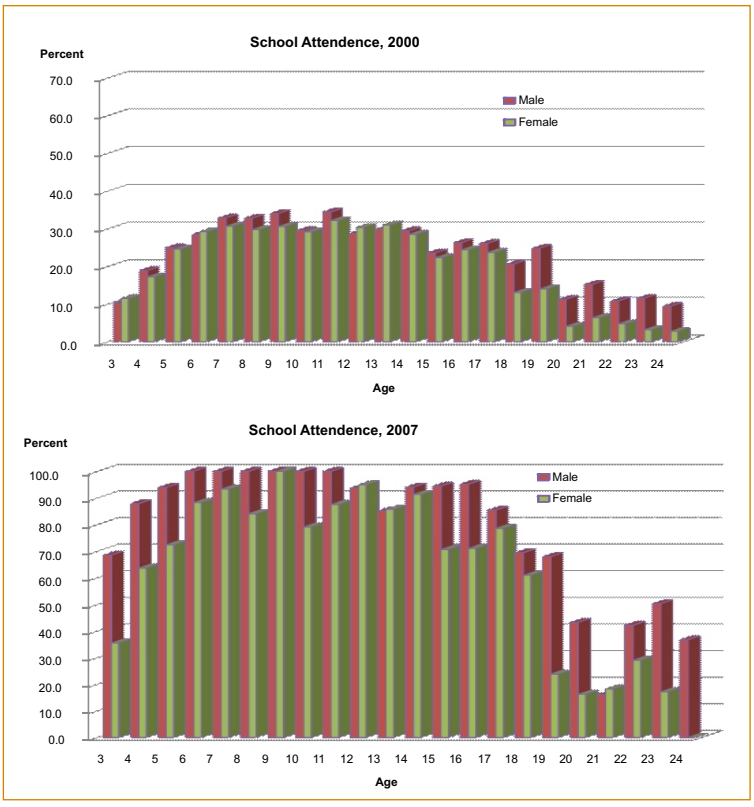
The near doubling of the number of teachers in public primary schools reduced the pupil-teacher ratio between 2004 and 2006. The ratio in private primary schools was much lower than the ratio in public schools. In 2006, the pupil teacher ratio was lower than the 2004/5 GPRS target for the Northern Region of 35:1 in both public and private schools.

Enrolment in Schools

School attendance in the district has improved considerably since 2000 when less than 40 percent of any age group from 3 to 24 years was in school. Boys were no more likely to be in school than girls (Figure 4.1). In 2007, over 80 percent of children aged 6 to 12 years are in school. The likelihood of being in school diminishes with age for people aged between 17 and 24 years (Figure 4.1). The increase in school attendance in 2007 compared to 2000 was not the same for boys and girls. Even though there was an increase in the proportion of boys and girls in all age groups that attended school, a gender gap is evident in 2007 compared to 2000. In 2007, among almost all the age groups, the proportion of boys in school is significantly higher than the proportion of girls (Figure 4.1).

Increases in school attendance came about for several reasons. Between 2002 and 2005, the district strengthened oversight bodies in 71 primary schools and 18 junior secondary schools and organised enrolment drives in 89 communities. Other programmes include support for 300 needy students and supplementary feeding programmes in 29 schools. Implementation

Figure 4.1: School Attendance by Age Group



Source: Computed from 2000 Population and Housing Census and ISSER Household Survey, 2007

of the capitation grant in 2006 and 2007 has also contributed significantly to improved enrolment, particularly in primary schools.

Pre-School

There was an increase in the numbers enrolled in pre-school from 2004 to 2006. Enrolment of girls in pre-school registered a slight dip in 2005 but increased in 2006. Gross enrolment rates in pre-school increased for both girls and boys between 2000 and 2007. However, the gender parity index declined because of the faster increase in the enrolment rate of boys (Table 4.4).

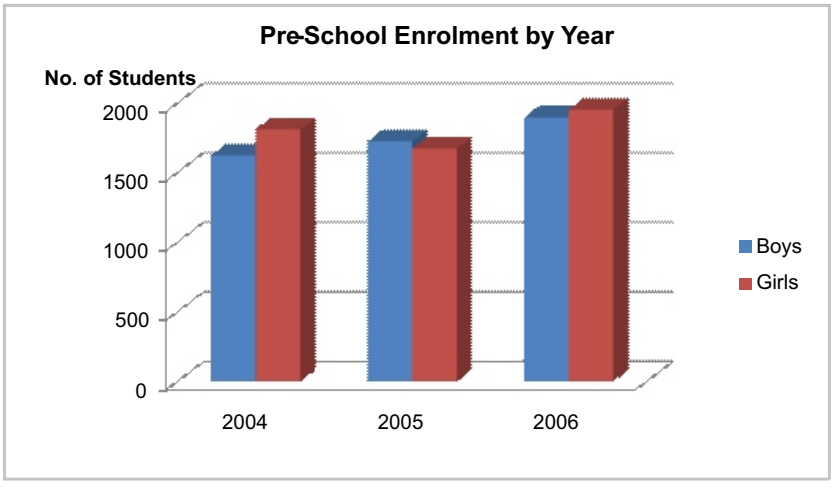
Net enrolment rates are significantly lower than gross enrolment rates (Table 4.5). This suggests that there are a lot of over-aged children in pre-school because children start school late.

Primary School

There was a faster rate of increase in primary school enrolment from 2004 to 2006 than in pre-school enrolment (Figure 4.3). The number of boys enrolled in primary school increased faster than the number of girls. This is reflected in the significantly higher gross enrolment rate for boys compared to girls and the decline in the gender parity index in 2007 compared to 2000 (Table 4.4). The gross enrolment exceeds 100 percent, indicating that there are over-aged children in primary school, particularly in rural communities. The mean age of children in primary school is almost 11 years. The district's gross enrolment rate exceeds the GPRS 2004/2005 target of 70 percent. The gender parity index for the district in 2006 was far below the GPRS 2004/2005 target of unity.

Primary net enrolment rates in 2007 are more than double their level in 2000 (Table 4.5). There was an improvement in the net enrolment rate of both boys and girls. The district has therefore made considerable progress towards the second MDG of universal primary enrolment.

Figure 4.2: Numbers Enrolled in Pre-School



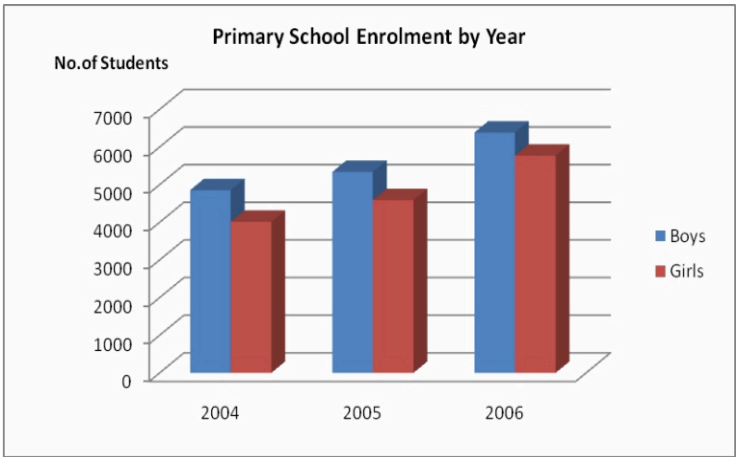
Source: Ghana Education Service, West Gonja District

Junior Secondary

Enrolment in junior secondary schools rose faster for boys than for girls from 2004 to 2006 (Figure 4.4). Gross enrolment rates more than doubled in 2007 compared to 2000 but there was a decline in the gender parity index (Table 4.4). Gross enrolment rates are much lower among rural children. The decline in junior secondary gross enrolment rates compared to primary gross enrolment rates may be explained by children dropping out of school, particularly in rural communities.

Net enrolment rates are considerably lower than gross enrolment rates, again indicating enrolment of over-aged children in junior secondary. The average age of children in junior secondary in 2007 is 17 years, which is much higher than the recommended age of 12-14 years if the child started primary school at 6 years. Most of the children enrolled in rural junior secondary schools are over 14 years old. Interestingly, the net enrolment rate of boys declined in 2007 compared to 2000 and is lower than the net enrolment rate for girls. There was, therefore, no change in the net enrolment ratio between the two years (Table 4.5).

Figure 4.3: Numbers Enrolled in Primary School



Source: Ghana Education Service, West Gonja District

Table 4.4: Gross Enrolment Ratios, by Sex (%)

Level and Year	Boys	Girls	Gender parity	Urban	Semi-Urban	Rural	Total
Pre-school							
Census 2000	21.0	19.2	91.4	36.2	21.9	13.0	20.1
ISSER 2007	86.4	61.9	71.7	79.5	69.7	67.8	72.6
Primary							
Census 2000	45.1	42.4	94.1	83.1	41.9	27.7	43.8
ISSER 2007	158.3	124.5	78.6	129.7	141.0	154.0	142.7
Junior Secondary							
Census 2000	39.3	36.6	93.1	78.6	34.3	16.9	38.1
ISSER 2007	114.4	88.5	77.4	147.7	111.0	45.2	101.8
Senior Secondary							
Census 2000	28.1	22.4	79.8	54.7	24.0	10.5	25.7
ISSER 2007	22.6	26.0	114.9	40.9	4.8	13.2	24.1
Tertiary							
ISSER 2007	15.8	11.5	72.9	16.9	22.9	2.5	13.8

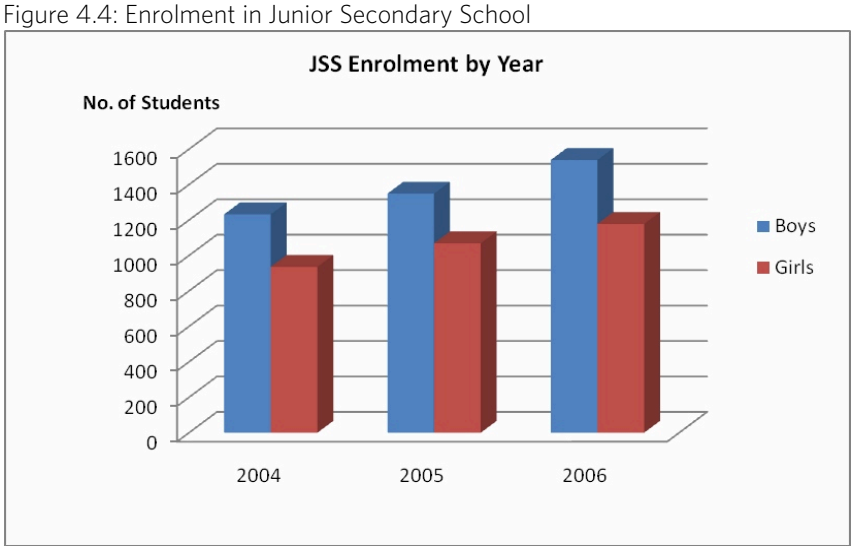
Source:2000 Population and Housing Census and ISSER Household Survey, 2007

Table 4.5: Net Enrolment Ratios, by Sex of Students (%)

Level and Year	Boys	Girls	Urban	Semi-Urban	Rural	Total
Pre-school						
Census 2000	5.2	5.5	8.0	6.3	3.7	5.3
ISSER 2007	57.1	37.4	32.8	55.0	40.6	46.0
Primary						
Census 2000	33.8	31.8	61.1	32.0	20.8	32.8
ISSER 2007	84.1	70.4	64.8	87.2	78.0	77.8
Junior Secondary						
Census 2000	13.7	15.4	30.9	13.1	5.8	14.5
ISSER 2007	9.8	19.5	19.8	23.2	0.0	14.5
Senior Secondary						
Census 2000	9.3	8.8	19.7	8.0	3.9	9.1
ISSER 2007	4.0	7.2	13.3	3.9	0.0	5.4
Tertiary						
ISSER 2007	0.0	2.8	3.3	0.0	0.0	1.3

Source: 2000 Population and Housing Census and ISSER Household Survey, 2007

Figure 4.4: Enrolment in Junior Secondary School



Source: Ghana Education Service, West Gonja District

Senior Secondary

Enrolment in senior secondary has faltered. The gross enrolment rate did not change much between 2000 and 2007. This is largely because of a decline in gross enrolment rates of boys. The gender parity index increased because the enrolment rate of girls increased over the period while that of boys declined (Table 4.4). The sharp decline in gross enrolment rates at this level compared to junior secondary gross enrolment rates is because many students do not continue their education after junior secondary school. This is not unexpected because of the average age of children in junior secondary. Most children who complete junior secondary school will be at the age when they are ready to enter the world of work or the world of marriage for girls. Late entry into school increases the probability of not continuing to higher levels of education.

Net enrolment rates in 2007 are very low at 5.4 percent and lower than in 2000 (Table 4.5). Most rural children in senior secondary school are over 17 years, thus resulting in a negligible rural net senior secondary enrolment rate.

Tertiary

The gross tertiary enrolment rate in the district is quite high at almost 14 percent (Table 4.4). The location of an agricultural college in the district may partly explain this. Participation of rural youth in tertiary education is low. This is largely because of the high dropout rate among rural children, particularly after junior secondary school. Net enrolment rates are negligible (Table 4.5).

Educational Attainment and Literacy

With the upsurge in school attendance since 2000, less than 8 percent of men and 14 percent of women aged 15-19 years had never attended school by 2007. The proportion of people that had never attended school increases with age. About 65 percent of men and 87 percent of women aged 30 years and over had never attended school by 2007 (Table 4.6). A higher proportion of rural men and women had not completed primary education compared to urban residents. There was very little variation in educational attainment across wealth quintiles among either women or men.

Literacy

The district's adult literacy rate is low. This is not unexpected, given the high proportion of the adult population that has either never attended school or only completed primary education. The proportion of the population that is literate declines as age increases for both women and men (Figures 4.5 and 4.6).

The substantially higher literacy rate among the youth is evidence of the surge in school enrolment that has occurred in recent years. Literacy rates are higher among the urban population. Rural women are particularly disadvantaged compared to men and urban women. This makes progress towards the MDG target of reducing the gender gap in youth literacy quite difficult unless efforts to enrol more girls in secondary schools succeed.

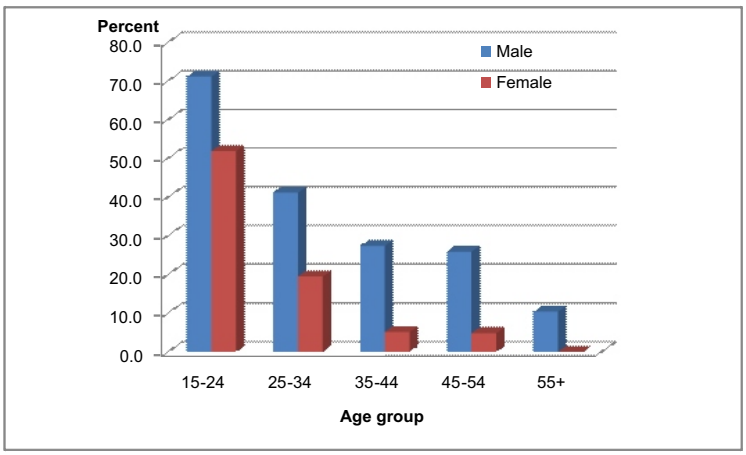
The district is making efforts to make adults functionally literate. Between 2004 and 2006, 6,644 adult learners were trained to acquire skills in income-generating activities, formation of cooperative societies, tree planting, family planning as well as HIV/AIDS control. About 46 percent of them were women.

Table 4.6: Educational Attainment, by Socio-Economic Characteristics of Adults (15 years and above)

	None	Some Primary	Primary	JSS/MLSC	Higher	Total
Men						
Age						
15-19	7.7	44.8	37.5	8.8	1.2	100
20-24	27.9	12.5	26.9	12.8	19.9	100
25-29	23.5	23.9	15.9	0.0	36.7	100
30+	65.5	5.6	7.3	9.3	12.2	100
Residence						
Urban	32.3	23.7	17.2	9.5	17.3	100
Semi-Urban	33.5	43.2	11.1	2.7	9.5	100
Rural	44.0	38.1	9.5	4.5	3.9	100
Wealth Quintile						
Lowest	49.5	23.3	1.4	9.5	16.2	100
2nd	36.3	40.3	12.6	5.2	5.7	100
3rd	32.5	36.7	19.2	4.3	7.4	100
4th	36.8	37.4	10.1	5.7	10.0	100
Highest	35.8	32.3	12.6	4.0	15.5	100
Total	36.9	35.4	12.4	5.4	9.9	100
Women						
Age						
15-19	13.6	31.7	40.9	10.6	3.1	100
20-24	40.1	21.1	13.4	12.0	13.5	100
25-29	57.2	17.1	2.3	11.0	12.3	100
30+	87.3	6.4	1.8	3.1	1.4	100
Residence						
Urban	53.1	21.7	11.0	8.4	5.8	100
Semi-Urban	50.5	31.6	9.7	3.6	4.5	100
Rural	58.8	31.8	5.7	1.4	2.3	100
Wealth Quintile						
Lowest	57.9	22.2	10.3	2.9	6.6	100
2nd	49.8	32.9	7.7	3.5	6.1	100
3rd	58.5	27.1	6.7	4.8	3.0	100
4th	53.0	27.8	10.4	6.1	2.6	100
Highest	53.6	28.8	10.1	4.5	3.0	100
Total	54.2	28.4	8.8	4.5	4.2	100

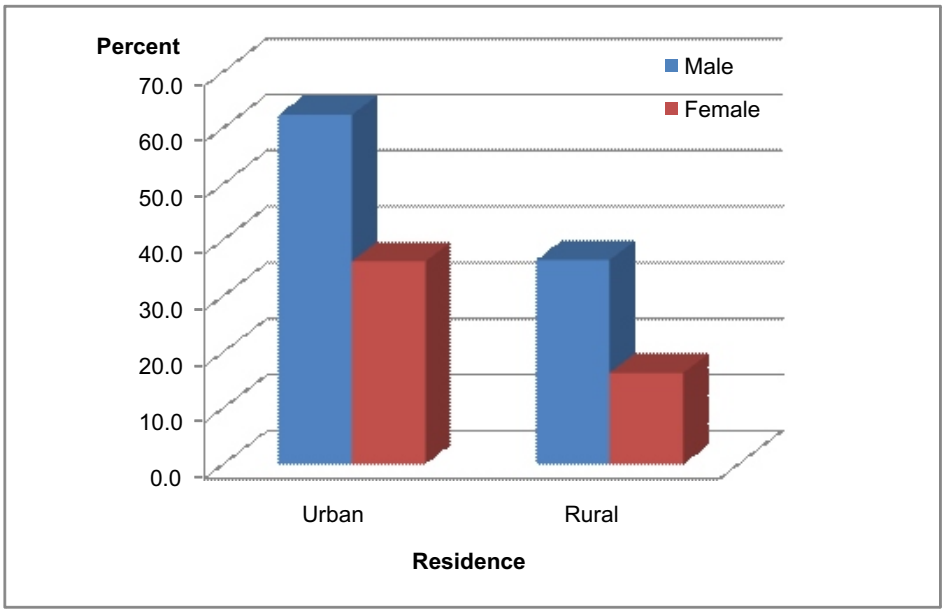
Source: ISSER Household Survey, 2007

Figure 4.5: Percent of Adults Literate in Either English or a Local Language, by Age Group



Source: ISSER Household Survey, 2007

Figure 4.6: Percent of Adults Literate in Either English or a Local Language, by Location



Source: ISSER Household Survey, 2007

Vulnerability and Education

Interruptions in school attendance can disrupt the child's ability to understand his or her lessons and can increase the likelihood of a child dropping out of school. In West Gonja District about 28 percent of pupils aged between 3 and 24 years missed school at least once during the 2006/2007 academic year. Rural children were more likely to have missed a day of school than did urban children and boys were more likely to miss school compared to girls (Table 4.7).

Table 4.7: Percent of Children that Missed School Days and Number of Days Missed

	Percent that missed	1- 3 times	More than 3 times
Age group			
3 to 5 years	30.9	10.3	89.7
6 to 11 years	30.5	33.8	66.2
12 to 14 years	17.6	50.0	50.0
15 to 7 years	28.9	54.1	45.9
18 to 24 years	30.0	21.0	79.0
Residence			
Urban	17.1	40.9	59.1
Rural	32.8	30.9	69.1
Sex			
male	31.3	32.1	67.9
female	22.9	34.8	65.2
Total	28.3	32.7	67.3

Source: ISSER Household Survey, 2007

Most children who missed school tended to do so frequently. About two-thirds who had missed at least a day at school had done so more than three times. Thus, a not insignificant proportion of children in the district may be described as having a high risk of not completing school because of the disincentive effect that irregular school attendance can create.

attended school irregularly did so for this reason compared to 17 percent of girls (Table 4.8). A phenomenon that was reported only by rural children as a reason for missing some days at school was strikes by teachers. Very few parents reported that the child missed school because of difficulty paying school fees. This is a positive effect of the capitation grant introduced in the

Table 4.8: Reasons for Missing Schools Days (First Term of 2006/2007 Academic Year)

	Sex		Residence		
Reasons for missing school	Male	Female	Urban	Rural	Total
Illness	40.9	50.5	53.4	41.7	44.5
Needed on farm/shop/home	11.0	6.0	7.0	9.8	9.2
No money	4.3	7.2	3.5	5.9	5.4
Child not interested	31.3	17.1	30.4	24.7	26.1
Strikes by teachers	12.5	13.9	0.0	17.0	13.0
Other	0.0	5.2	5.7	0.8	1.9

Source: ISSER Household Survey, 2007

Most children missed school because of illness. The second most frequent reason given for irregular attendance at school was lack of interest. This was a particular problem for boys. Over 30 percent of boys who

2005/2006 academic year. The demand for children to provide services on the farm, in the family business or at home was the reason why about 9 percent of children lost some days of school.

CHAPTER FIVE

HEALTH, WATER AND SANITATION

Introduction

Ghana's focus for the health sector has been on attaining the goals of the five-year health sector programme of work which, overall, are to improve the quality of life of the people. Policy emphasis for the current programme of work is on expanding coverage of the National Health Insurance Scheme (NHIS); producing, retaining and distributing health personnel equitably; improving on the delivery of high-impact health interventions; and broadening access to emergency and ambulance services. These objectives, if achieved, would go a long way to improve the country's chances of meeting a number of the targets under the health MDGs.

Specific priorities in West Gonja District to help realise these objectives include Programmes to improve access to quality health care and intensify health education on the control of preventable diseases such as malaria, guinea worm, TB and HIV/AIDS. The district has also earmarked activities to control population growth, improve infrastructure for health care facilities, sustain improvements in provision of safe water and beef up activities to improve environmental sanitation.

Health Care Infrastructure

The district has nine health institutions made up of one hospital located at Canteen, Damongo, one clinic, six health centres and one CHIPS zone (Table 5.1). There are a number of private pharmacies/drug stores that are patronised by many patients in the district.

Box 5.1: The Health Component of the MDGs and Human Development

Millennium Development Goals	Human Development
❖ Reduce child mortality by two-thirds between 1990-2015 ❖ Improve maternal mortality ❖ Combat HIV/AIDS, malaria and other major diseases	Longevity – improving upon the life expectancy at birth

Table 5.1: Number of Health Care Facilities in West Gonja District

Type of Facility	Number
Hospitals	1
Clinics	1
Health Centres	6
CHIPS Zone	1
Total Number of Beds	
2004	142
2005	100
2006	100

Source: Ghana Health Service, West Gonja District

The number of beds in these health institutions was 100 in 2006, a drop from 142 beds in 2004. In addition to these facilities that are located in five out of six Area Councils, the district has about 30 outreach points to cater for primary health care and other activities under the national immunisation day programmes.

Estimates for access to health facilities measured by distance or travel time taken to reach the nearest health facility show that health care facilities in the district are not adequate and they are unevenly distributed. One of the important reasons for low physical access is the highly dispersed population of the district. Whereas about 60 percent of urban households use less than half an hour to reach a clinic or hospital, over 80 percent (83.4%) of rural households have to use one hour or more to reach a modern health care facility (Table 5.2).

There is also considerable pressure on available personnel and facilities. The attainment of Ghana's health care goals will be accelerated if there is a critical mass of well-trained personnel. However, in West Gonja District the health facilities are manned by three (3) doctors, three (3) medical assistants, two (2) pharmacists and one hundred and two (102) nurses, 19 of whom are community resident nurses (Table 5.3).

Judging by the number of health workers in the district, 26,394 individuals are looked after by one doctor with one medical assistant also taking care of the same number of people. The 19 community resident nurses are responsible for 4,168 people while 83 other nurses each take care of 954 people in the district. There were five specialist visits to health institutions in the district in 2005, four in 2006, and the number of patients seen increased from 894 in 2004 to 1,024 in 2006.

Table 5.2:Travel Time and Means of Travel to Hospital or Clinic (%)

	Urban	Semi-Urban	Rural	Total
Travel Time				
Less than 14 minutes	40.0	45.2	2.5	27.6
15-29 minutes	20.6	13.3	0.0	10.6
30-59 minutes	33.6	26.5	14.1	24.1
60 minutes or more	5.8	14.9	83.4	37.7
Means of Travel				
Vehicle	2.5	34.4	57.6	33.0
On-foot	92.5	51.2	41.0	60.4
Other	5.0	14.4	1.5	6.6

Source: ISSER Household Survey, 2007

Table 5.3Number of Health Workers in West Gonja District

Type of Facility	Number	Population-Worker Ratio
Doctors	3	26,394
Medical Assistants	3	26,394
Pharmacists	2	39,592
Nurses	83	954
Community Resident Nurses	19	4,168
Number of Specialist Visits	Number	Patients Seen
2004	4	900
2005	5	894
2006	4	1,024

Source: Ghana Health Service, West Gonja District

19 community resident nurses are responsible for 4,168 people while 83 other nurses each take care of 954 people in the district. There were five specialist visits to health institutions in the district in 2005, four in 2006, and the number of patients seen increased from 894 in 2004 to 1,024 in 2006.

Health Status of Mothers and Children

Infant and Child Mortality

The incidence of child and infant mortality is a critical determinant of life expectancy at birth. The fourth MDG also seeks to reduce child mortality by two-thirds between 1990 and 2015. The reported mortality situation has deteriorated considerably since 2004, as reported in Table 5.4. The total number of reported deaths rose consistently from 64 in 2004 to 89 and 98 in 2005 and 2006 respectively. The number of reported infant deaths almost doubled between 2004 and 2006, after a significant drop in 2005. The institutional estimate for infant mortality is about 122 per 1,000 live births, much higher than both the regional and national ratios of 71/1,000 and 83/1,000 respectively.

The number of reported under-5 deaths also more than doubled over the same period. Maternal deaths also increased from two to four within the two years ending 2006. It is encouraging, however, to note the consistent decline in the under-5 malaria fatality rates from 2004 to 2006. The 2007 ISSER Household Survey results reported two child deaths which occurred before or during childbirth among 38 live births which occurred during the 12 months preceding the survey.

Besides mortality rates, one other indicator used to track progress towards reducing child mortality is the proportion of 1 year-old children immunised against measles. Immunisation coverage for all the six killer diseases improved continuously between 2004 and 2006. In 2006, the immunisation coverage for five of the killer diseases exceeded 100 percent while the coverage of TT2 which failed to hit the 100 percent mark nonetheless increased from 61 percent in 2004 to 83 percent in 2006 (Table 5.5). The increased number of child deaths in the district appears to suggest that the improvement in immunisation coverage has not had a significant impact on the health of children in the district.

The participation of children in nutrition programmes is low, particularly in urban areas. As the results of the ISSER Household Survey suggest, only 27 percent of children below 5 years of age participated in nutrition programmes (Figure 5.1). The rate of participation is higher among rural children compared with urban and semi-urban children.

Table 5.4: Health Status in West Gonja District, 2004-2006

Indicators - Institutional	2004	2005	2006
Total number of deaths	64	89	98
Number of infants deaths	9	3	17
Number of under-5 deaths	12	11	25
Number of maternal deaths	2	2	4
Under-5 deaths due to malaria	8	10	12
Under-5 malaria case fatality rate (%)	2.6	1.7	0.5

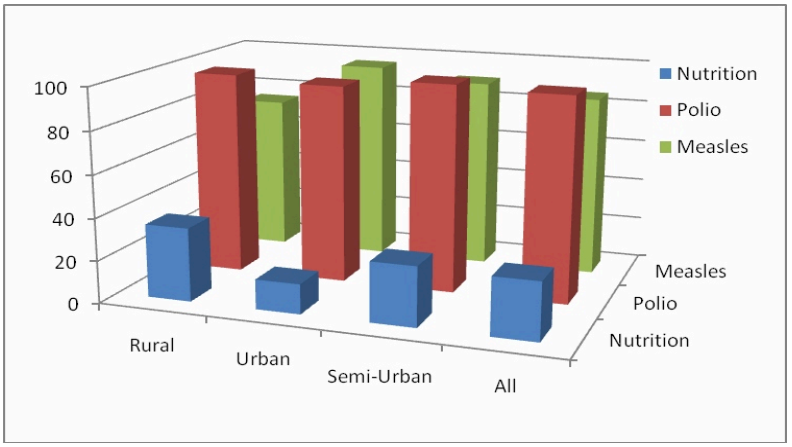
Source: Ghana Health Service, West Gonja District

Table 5.5: Immunization of Children against Killer Diseases

	2004		2005		2006	
Disease	Number	Coverage (%)	Number	Coverage (%)	Number	Coverage (%)
BCG	3,401	109	3,457	108	4,110	130
Measles	2,791	89	3,132	98	3,687	116
Penta 3	2,887	93	3,296	103	3,618	114
O P V3	2,848	91	3,335	104	3,627	114
Yellow Fever	2,514	89	3,094	97	3,673	116
TT2	1,885	61	2,712	84	2,943	83

Source: Ghana Health Service, West Gonja District

Figure 5.1: Participation of Under-5 year Children in Immunization and Nutrition Programmes



Source: ISSER Household Survey. 2007

In terms of immunisation of children against polio and measles, the ISSER 2007 Household Survey reveals that coverage was high. This is based on the evidence that about 97 percent and 86 percent of children were vaccinated against polio and measles respectively (Figure 5.1). A greater proportion of semi-urban children than rural and urban children received the polio vaccination whereas a greater proportion of urban children benefited from vaccination against measles compared with rural and semi-urban children.

Attendance at Ante- and Post-Natal Clinics

The health of the mother and access to medical care during pregnancy and child birth are important determinants of the incidence of infant and maternal mortality. In West Gonja District, attendance of mothers at ante-natal clinics has declined between 2004 and 2007 and as a result, ANC coverage dropped from 86 percent to 70 percent (Table 5.6). Attendance of mothers at post-natal clinics however improved from 2,684 to 3,144 over the same period, yielding an increase in PNC coverage from 85 percent to 91 percent over the period. Evidence from the 2007 ISSER Household Survey shows high attendance of mothers at pre-natal clinics (Table 5.7). About 92 percent of women receive pre-natal care during pregnancy. A greater proportion of rural women receive prenatal care than women in semi-urban areas. Attendance of women at post-natal clinics is, however, low at 76 percent. Relatively low attendance at post-natal clinics could be explained by the

local cultural practice of nursing mothers leaving their usual residence and staying with their parents in different locations outside the district after delivery.

Maternal Mortality

The maternal mortality ratio is an indicator of progress towards achieving the fifth MDG of improving maternal health. Reported maternal deaths increased from 2 in 2004 to 4 in 2006. During the ISSER 2007 Household Survey, only one death each was recorded in rural and urban areas during the 12 months preceding the survey, representing 0.6 percent and 1.1 percent of deliveries respectively. A second indicator for the assessment of maternal health is the proportion of births supervised by skilled health personnel. The district witnessed a marginal decline in the proportion of mothers attended to by skilled health professionals (doctors, nurses, or midwives) during childbirth from 61 percent to 59 percent between 2004 and 2006 (Table 5.6). The 2007 ISSER Household Survey reveals that only 20 percent of deliveries occur at the hospital or clinic and 32 percent of mothers are attended to by doctors and nurses (Table 5.7).

Table 5.6: Some Reproductive Indicators in West Gonja District, 2004-2006

Safe Motherhood Indicators	2004	2005	2006
Total number of deliveries	1,328	1,103	1,371
Number of supervised deliveries	811	690	810
Number of ANC* registrants	2,717	2,468	2,195
% ANC coverage	85.6	77.2	70.0
Number of PNC** registrants	2,684	3,091	3,144
% PNC coverage	84.7	96.7	90.5

ANC = ante-natal clinicPNC = post-natal clinic*
Source: Ghana Health Service, West Gonja District

Table 5.7 Maternal and Child Health Indicators 2007 (% of Women, 13-49 years Who Were Pregnant during the Last Months Preceding the Survey)

	Rural	Urban	Semi-urban	All
Pre-natal care	94.8	---	86.1	92.4
Post-natal care	80.3	---	61.9	76.0
Live birth	75.9	55.2	65.1	67.7
Baby born dead	---	---	11.9	4.6
Who supervised delivery?				
Doctor	3.1	21.6	7.9	8.6
Nurse	21.5	35.8	19.3	23.4
TBA	69.2	42.6	52.0	57.1
Mother	---	---	20.8	8.4
Self	6.3	---	---	2.5
% of death during childbirth	0.6	1.1	---	0.6
Place of delivery				
Hospital	16.7	31.0	15.8	20.0
Home	83.3	69.0	84.2	80.0

Source: ISSER Survey, 2007

Traditional birth attendants, some of whom are trained, take care of about 57.1 percent of deliveries. The observed difference between estimates from the survey and those obtained from institutional records could be due to wider coverage of the St Dominic Hospital and other factors the report could not investigate.

Incidence of Diseases

One of the cardinal goals of the MDGs is to combat HIV/AIDS, malaria and other major diseases. The target in this regard is to halt and reverse the spread of HIV/AIDS and incidence of malaria and other major diseases. The leading cause of morbidity in West Gonja District is malaria, which accounted for over half of all out-patient cases in 2006, followed by diarrhoea, acute respiratory infections (ARI) and skin and ulcer (Table 5.8). Although, the proportion of malaria cases reported at hospitals and clinics dropped from 63 percent in 2005 to 58 percent in 2006, it still remains high and a major challenge to health delivery in the district.

Apabidity, malaria constitutes the major cause of death in the district followed by pneumonia. In 2005, HIV/AIDS was the fourth leading cause of death in the district whereas anaemia was third on the list of leading causes of death in 2006 (Table 5.9). Malaria-related deaths of under-5 children rose from 8 in 2004 to 10 and 12 in 2005 and 2006 respectively (Table 5.4). Both the morbidity and mortality statistics suggest that the district has not made significant progress in the last five years to halt and/or reduce the incidence of malaria. This raises concerns about environmental sanitation and the effectiveness of methods adopted in preventing malaria infection.

Table 5.8: Top Causes of Morbidity in West Gonja District

	2004		2005		2006	
Cause	**Number**	**%**	**Number**	**%**	**Number**	**%**
Malaria	15,376	62.8	15,261	56.9	15,941	57.8
Diarrhoea	2,154	8.8	2,093	7.8	1,869	6.8
UTI	1,434	5.9	389	1.4	-	-
Intestinal Worms	978	4.0	944	3.5	859	3.1
Skin and Ulcers	932	3.8	1,316	4.9	1,748	6.3
ARI		0.0	1,090	4.1	1,781	6.5
Pneumonia	603	2.5	571	2.1	708	2.6
Hypertension	578	2.4	508	1.9	529	1.9
Acute Eye Infection	456	1.9	511	1.9	-	-
Rheumatism and Joint Pains	411	1.7	-	-	461	1.7
Gynaecological Conditions	324	1.3	-	-	-	-
RTI	-	-	681	2.5	-	-
Anaemia	-	-	-	-	872	3.2
Other Diseases	1,226	5.0	3,478	13.0	2,791	10.1
All OPD Cases	24,472	100.0	26,842	100.0	27,559	100.0

Source: Ghana Health Service, West Gonja District

Table 5.9: Leading Causes of Death in West Gonja (Number of Deaths: 2005-2006)

Cause	2005	2006
Malaria	16	27
Pneumonia	9	12
CVA	8	
AIDS	7	4
Abcess/Cellulites	4	
Anaemia	4	6
Septicaemia	4	2
Hepatitis	3	
Kidney/Renal Conditions	3	
Tetanus	2	
Others	29	27
Total	89	78

Source: Ghana Health Service, West Gonja District

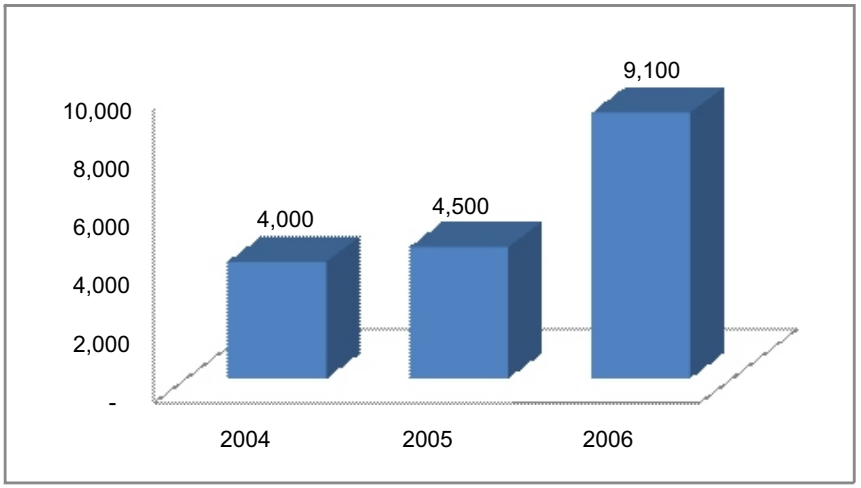
Strategies for Combating Malaria

Various mechanisms are often adopted by households to prevent malaria. The ISSER Household Survey reveals that about 90 percent of households take measures to protect themselves against mosquitoes. The most popular strategies employed to prevent malaria are adults and children sleeping in treated bed nets, regular clearing of weeds on compounds and the regular use of mosquito coil (Table 5.10). These strategies are common in rural, urban and semi-urban areas but a significant number of households in semi-urban and urban areas used the methods more often than rural households. A considerable number of households, particularly in rural and urban areas as against semi-urban areas do nothing to prevent malaria.

The popular use of treated bed nets by households reflects the increase in the number of insecticide-treated nets purchased. Between 2005 and 2006, the number of purchased insecticides treated bed nets more than doubled (Figure 5.2) but this did not help reduce the incidence of malaria significantly in the district as the number of malaria cases reported at the hospitals increased by nearly 800 cases over the period. There is still need to encourage their use, particularly for children, because nearly half the households in the district continue to apply less effective methods to combat this disease among children.

	Urban	Semi-Urban	Rural	Total
Children sleep in treated bed nets	40.3	53.7	56.0	50.3
Adults sleep in treated bed nets	49.9	63.0	65.2	59.6
The house is sprayed regularly	11.4	9.9	5.8	8.9
The compound is weeded regularly	56.4	67.1	46.5	56.1
Use mosquito coil regularly	51.3	48.3	44.7	47.9
The windows in house have mosquito nets	4.2	10.4	0.0	4.6
The gutters are cleaned regularly	3.9	2.8	1.3	2.6
Take anti-malaria tablets regularly	2.8	6.2	0.7	3.1
Nothing	13.9	7.7	11.4	11.1
Special leaves (repellent)	0.0	4.7	1.5	2.0

Figure 5.2: Number of Purchased Insecticide-Treated Bed Nets (ITNs) in West Gonja



Source: Ghana Health Service, West Gonja District

HIV/AIDS

While the district is making some progress in reducing the incidence of guinea worm infestation and tuberculosis, the HIV/AIDS situation seems to be worsening (Table 5.11). The district witnessed a consistent reduction in the reported number of guinea worm cases from 32 new cases in 2004 to 8 new cases by the end of 2006. With respect to HIV/AIDS, the number of cases diagnosed, which dropped marginally from 41 in 2004 to 39 in 2005, rose to 46 in 2006. The disease is more prevalent among the youth aged 20-24 to the extent that over half of the cases reported were among this age group. HIV sero-prevalence among the youth aged 20-24 increased from 22 in 2004 to 23 and 26 in 2005 and 2006 respectively. These statistics send a worrying signal with regard to attaining the MDG goal of halting and reversing HIV/AIDS infection rates.

Access to Safe Water and Sanitation

Access to safe drinking water and basic sanitation is one of the targets of the seventh MDG of ensuring environmental sustainability. Under this goal, countries are required to ensure an increase in the proportion of the population with sustainable access to an improved water source and sanitation. Improving household access to safe drinking water and basic sanitation reduces the level of

Table 5.11Reported Cases of Guinea Worm, TB and HIV/AIDS

	2004	2005	2006
No. of Guinea worm cases seen	32	25	8
No. of TB patients detected	35	24	19
No. of HIV positive cases diagnosed	41	39	46
HIV Sero-prevalence among			
15-19 years	0	1	2
20-24 years	22	23	26

Source: Ghana Health Service, West Gonja District

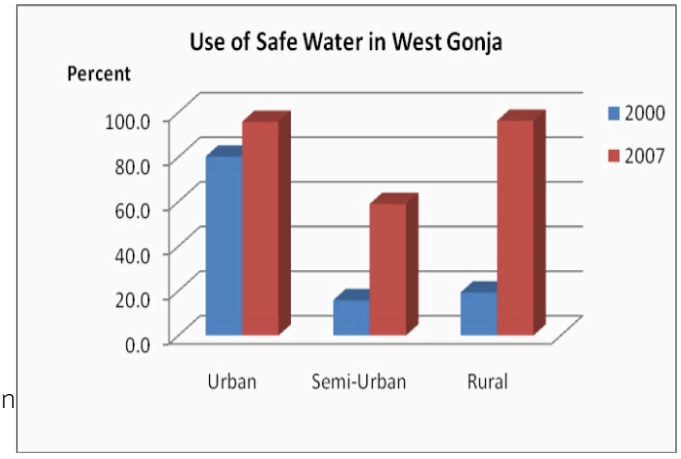
vulnerability to health hazards. Indeed, the best way of preventing the outbreak of diseases such as malaria, diarrhoea and other related diseases is to enhance access to safe drinking water and safe sanitation.

Improved access to safe drinking water refers to the increased proportion of households that draw water from pipes in dwellings or in compounds, and from boreholes and protected wells. By this definition, about 90 percent of rural and urban households have access to safe water in 2007 (Figure 5.3). Access to safe water for semi-urban households was, however, low at about 57 percent, mainly because of the scarcity of safe water in Larabanga. The district saw a remarkable improvement in access to safe drinking water between 2000 and 2007 particularly in rural areas where access to safe drinking water improved from about 25 percent to over 90 percent. In urban and semi-urban areas, access to safe drinking water improved from under 80 percent and 25 percent respectively to over 90 percent and 55 percent between 2000 and 2007. The construction of boreholes in a number of communities contributed to the remarkable improvement in access to safe drinking water an accounted for the reduction in the reported cases of guinea worm in the district.

Clearly, the availability of safe toilet facilities and safe disposal of refuse has a direct bearing on the health of citizens. Access to safe sanitation in the district is very low especially among the rural population. This may compel households to resort to unorthodox means of human waste disposal such as defecating in the bush without regard to its adverse environmental and health consequences. As shown in Figure 5.4, over 95 percent of rural households are without access to safe toilet facilities in 2007. The situation was relatively better in semi-urban and urban households where about 25 percent and 40 percent respectively have access to safe toilet facilities.

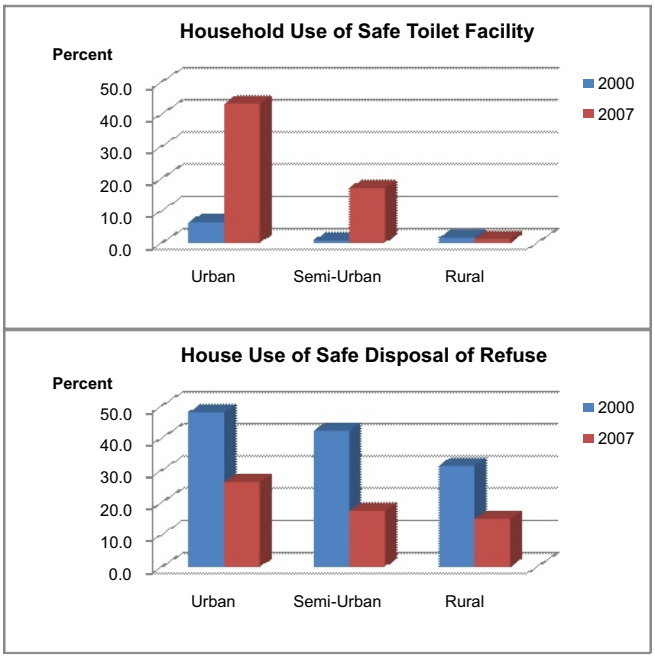
The low access to a safe toilet facility in 2007 was nonetheless an improvement on the situation in 2000. For instance, access to a safe toilet facility improved remarkably from less than 5 percent to about 40 percent in urban areas and from about 1 percent to approximately 15 percent among semi-urban households.

Figure 5.3:Use of Safe Water Sources in West Gonja District, by Residence



Source: ISSER Survey, 2007

Figure 5.4: Use of Safe Sanitation Facilities at West Gonja District, by Residence



Source: 2000 Population and Housing Census and ISSER Household Survey, 2007

The adoption of safe means of refuse disposal is also low and has declined since 2000. Less than 25 percent of urban households and 15 percent of semi-urban and rural households have employed safe means of refuse disposal in 2007 (Figure 5.4). In 2000, about 45 percent of urban households and 40 percent and 30 percent of semi-urban and rural households respectively adopted safe means of refuse disposal. The limited use of safe disposal of refuse suggests that the means of solid waste disposal by most households in the district could be deemed as environmentally unfriendly. This could lead to the breeding of mosquitoes and other dangerous insects that cause malaria and other parasitic diseases. In all, access to basic sanitation in many communities needs to improve so as to minimise the risk of outbreak of diseases.

Use of the National Health Insurance Scheme

The National Health Insurance Scheme (NHIS) is a mechanism to increase access to quality health care services. The scheme is designed to reduce the cost of access to quality health services, particularly for the poor and deprived. Registration with health insurance schemes in the district is well above the national coverage rate mainly because the scheme in the district was one of the pilot schemes and has been operating since 1995. Even though over 50 percent of the population is not registered or covered, the scheme has seen significant improvement in uptake by the citizens. About 25 percent of the population is registered and 23 percent is covered by the implicit built-in exemption (Table 5.12). About 48.4 percent of men and boys are registered compared with 47.9 percent of women and girls. A larger proportion of the urban population is registered or covered compared to the semi-urban and rural population (Table 5.12). About 58 percent of farmers are not registered or covered as against 48 percent of the non-agriculture workforce.

This increase could largely be attributable to the support the scheme now derives from its decision to join the NHIS. It used to be solely managed by the Catholic Hospital at Canteen and was receiving irregular assistance from NGOs after it was initially set up with funding from a German NGO in 1995. In February 2002, the scheme was covering less than 15 percent of the population in the district; with poor and rural households being severely disadvantaged (Osei-Akoto, 2004).

The exception to this observation on recent increases in subscription is the sub-population of people aged over 70 years and those below 18 years. The elderly, people under 18 years of age, fully registered parents and the indigent are exempt from paying the premium to register for health insurance under the district scheme. It is surprising, therefore, that only 40 percent of the elderly and 48 percent of people below 18 years are registered or covered. A discussion with the scheme manager revealed that the phenomenon could be due to incomplete registration by some households. This nature of adverse selection could lead to serious sustainability problems if it is not addressed.

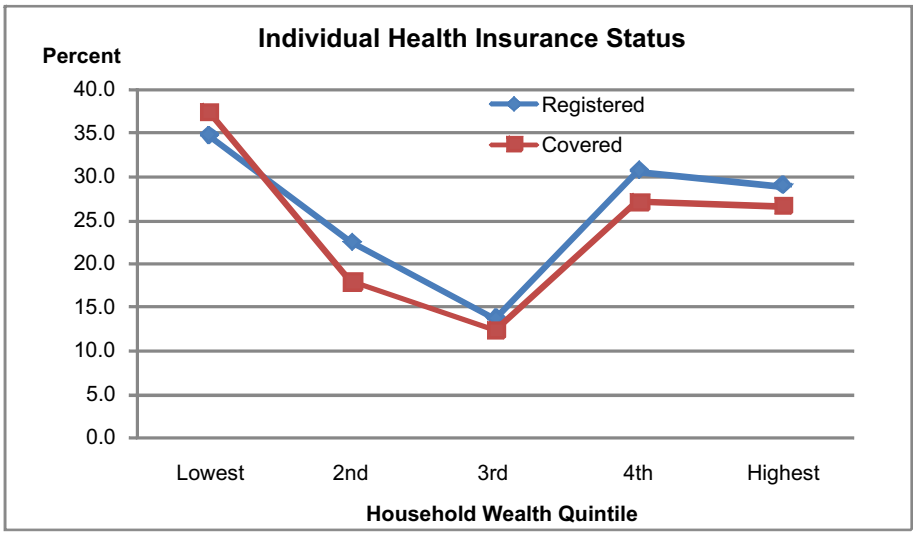
It is quite clear from Figure 5.5 that the pro-poor objective underlying the NHIS is been achieved in the district. A larger proportion of households in the lowest wealth quintile register compared with those in other quintiles. The proportion of households registered or covered by the scheme declines with increased wealth up to the third quintile, after which it rises again. This suggests that middle-income households are less likely to enrol in the scheme compared with the lower and higher income households.

Table 5.12: Health Insurance Status of Individuals in West Gonja, 2007

Characteristics of Individuals	Registered	Covered	Non-member	Total
All	25.2	22.9	51.8	100
Sex				
Male	24.9	23.5	51.6	100
Female	25.5	22.4	52.1	100
Age				
Under 18 yrs	7.4	41.1	51.5	100
18-69 yrs	44.9	1.4	53.8	100
70 and above yrs	24.6	15.4	60.0	100
Residence				
Urban	37.5	32.8	29.8	100
Semi-Urban	17.7	14.1	68.2	100
Rural	20.5	21.4	58.1	100
Main Occupation (HH)				
Agriculture	22.7	19.6	57.7	100
Non-Agric	26.6	25.3	48.1	100
Wealth Quintile (HH)				
Lowest	34.7	37.5	27.8	100
2nd	22.4	17.9	59.8	100
3rd	13.6	12.3	74.1	100
4th	30.6	27.0	42.3	100
Highest	28.9	26.6	44.5	100

Source: ISSER Household Survey, 2007

Figure 5.5Individual Health Insurance Status in West Gonja District, 2007



Source: ISSER Household Survey, 2007

Table 5.13 reports on the proportion of households that have all or some members registered with or covered by the scheme. Only 13 percent of households have all members registered or covered by the scheme compared with 46 percent which have some members enrolled in the scheme. A larger proportion of female-headed than male-headed households have all or some members enrolled in the scheme. Similarly, a larger proportion of urban than semi-urban and rural households have all or some members registered or covered by the scheme.

Table 5.13: Health Insurance Status of Households in West Gonja, 2007

Characteristics of Households	All are Members	Some are Members	All are Non-Members	Total
All	12.9	45.6	41.5	100
Sex				
Male	12.8	45.3	41.9	100
Female	13.5	46.3	40.1	100
Educational Status				
Ever been to School	22.9	36.1	41.0	100
Never been to School	7.2	51.1	41.8	100
Residence				
Urban	16.7	59.7	23.7	100
Semi-Urban	12.1	32.5	55.4	100
Rural	10.6	44.9	44.6	100
Main Occupation				
Agriculture	11.2	42.0	46.9	100
Non-Agric	14.3	48.4	37.3	100
Wealth Quintile				
Lowest	25.0	50.0	25.0	100
2nd	9.8	38.9	51.3	100
3rd	4.6	29.5	65.9	100
4th	11.6	58.3	30.1	100
Highest	19.0	56.6	24.4	100

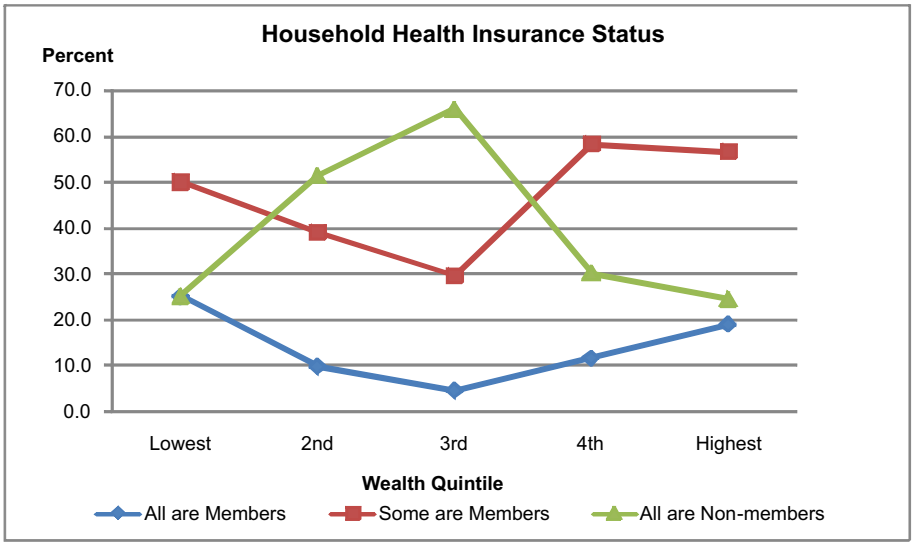
Source: ISSER Household Survey, 2007

With regard to education of the household head, while a larger proportion of households headed by educated people have all members registered or covered, the reverse is true in terms of households with some members enrolled in the scheme. The differences in these socio-economic grouping are partly due to design effects built into the NHIS. Households in urban areas or the educated are more likely to be engaged in the formal sector which has "compulsory" membership status in the scheme.

It is rather surprising to note that there is a higher degree of selection of household members for registration among the higher wealth quintiles. A larger proportion of households in the lowest wealth quintile have all members registered compared with households in other wealth quintiles. In terms of households that have some members enrolled, 58 percent and 57 percent of households in the 4th and highest quintile have done so compared with 50 percent in the lowest quintile (Figure 5.6).

Sustainability of the scheme depends on several factors, but the most important is the ability of the scheme managers to sustain the interest of subscribers and keep them registering year after year. The status on this aspect of the scheme in the district is not encouraging. Since first registration, about 23 percent have registered once while 16 percent and 10 percent have registered twice and three times respectively (Table 5.14). Less than 5 percent have registered five or more times since the scheme started operating in the district. With over 10 years of operation, one would have expected many households to have renewed their membership a number of times. To address this issue and proper targeting of subsidies for children, the management team of the district NHIS has tabled a suggestion to redirect subsidies to children in schools so that the inability or refusal of parents to join may not affect their wards. This suggestion should be given serious thought.

Figure 5.6: Health Insurance Status of Household



Source: ISSER Household Survey, 2007

Table 5.14: Number of Times Registered with the Insurance Scheme

Characteristics of Individuals	Number of Times				
	None	One	Two	3 to 5	More than 5
All	47.1	22.7	16.1	10.3	3.8
Sex					
Male	47.7	20.4	18.3	10.3	3.3
Female	46.5	25.0	13.9	10.3	4.3
Age					
Under 18 yrs	46.4	23.6	16.1	11.1	2.7
18-69 yrs	49.3	21.3	15.5	9.2	4.7
70 and above yrs	58.8	16.9	12.8	6.9	4.6
Residence					
Urban	23.4	36.2	23.4	10.0	7.0
Semi-Urban	62.2	8.7	12.8	13.4	3.0
Rural	56.3	23.1	12.0	7.1	1.6
Main Occupation (HH)					
Agriculture	51.5	18.3	13.7	13.8	2.7
Non-Agric	45.2	26.1	17.7	6.2	4.7
Wealth Quintile (HH)					
Lowest	17.0	47.1	14.0	11.8	10.1
2nd	59.2	11.6	20.6	6.0	2.6
3rd	66.2	10.3	9.5	12.8	1.3
4th	42.1	23.2	20.5	9.0	5.1
Highest	37.2	36.1	12.2	12.2	2.3

Source: ISSER Household Survey, 2007

Use of Iodated Salt

The use of iodated salt for cooking helps reduce the incidence of iodine deficiency, which can in turn result in the enlargement of the thyroid. It can affect the development of the foetal brain and subsequent cognitive development. Where the incidence of iodine deficiency is high in a population, it has been found to reduce the average IQ by 10-15 percent, which can have an adverse effect on national development.

The practice of using iodated salt by households in the district is low. Only 29 percent of households claim to use iodated salt in their cooking. It is used by a greater proportion of urban than rural households. About 48 percent of urban households use iodated salt in their cooking compared with 24 percent and 18 percent of semi-urban and rural households respectively. The use of iodated salt is higher among female-headed than among male headed households (Table 5.15). Similarly, households headed by someone who has had some education are more likely to use iodated salt in cooking than households headed by an uneducated person.

Table 5.15Household Use of Iodated Salt in West Gonja District, 2007

	Urban	Semi-Urban	Rural	Total
All	47.5	23.5	17.5	28.8
Sex				
Male	47.9	23.1	17.9	27.8
Female	46.6	24.6	14.6	31.6
Educational Status				
Ever been to School	59.1	30.2	15.2	35.6
Never been to School	39.4	19.0	18.5	24.7

Source: ISSER Household Survey, 2007

Source: www.ghanaweb.com (18.09.07)

CHAPTER SIX

VULNERABILITY AND THE MDGs

Introduction

The West Gonja District Assembly, in its medium-term plan for the period 2006-2009, identified five main groups as vulnerable and excluded. These are women, children, people with disability, and people living with HIV/AIDS. From the groups identified by the District Assembly, it would appear that virtually everybody except able-bodied men in the district is vulnerable. The vulnerability of these groups arises because of socio-cultural practices and the perception of the rest of the community. In the case of women, the other reasons attributed to their vulnerability are lack of education and assignment of roles.

In general, vulnerability may be defined as the likelihood that an individual or a group of people will have some stress in their livelihood which will have negative consequences on their well-being in future. The understanding is that households currently considered as non-poor might face negative shocks that lower their level of well-being. This is a very broad conceptualisation of vulnerability because it is a multi-dimensional phenomenon that affects several aspects of livelihood in terms of illness, unemployment, changes in family structure or negative social events such as sexual abuse. Although there is a close link between vulnerability and poverty, vulnerability is independent of the current poverty status of an individual or community.

This conceptualisation is in line with Alwang and Sigel (2000) who define vulnerability as the propensity to suffer a significant welfare shock, bringing the household below a socially defined minimum level. It is also consistent with the understanding of vulnerability in the GPRS II, which defines vulnerability as "a state of deprivation based on poverty or lack of enjoyment of other rights and entitlements ..."[18] According to GPRS II, vulnerability leads to the exclusion of disadvantaged groups of men, women and children and people with disability from active participation in different aspects of society's activities and results in them being unable to protect themselves against exploitation and risks.

The analysis of vulnerability in West Gonja District therefore considers the nature of shocks in the district, the frequency of shocks and the groups vulnerable to these shocks. The assessment also describes coping mechanisms used by households to counteract these shocks. This discussion of vulnerability seeks to understand the capacity or otherwise of households in the district to cope with shocks and their resilience against these shocks.

Frequency of Shocks

The number of reported shocks was assessed at three levels by sex of household heads, by location and by occupation. More

[18] Republic of Ghana (2005), p.1

female-headed households (50%) reported no shocks than male-headed households (40%). This means at least 50 percent of households in the district experienced one or more shocks over the 12 months which preceded the survey. The highest occurring number of shocks was one (about 20% of households), 15 percent of female-headed households and 20 percent of male-headed households experienced two shocks in the year, while 10 percent of female-headed households and 12 percent of male-headed households experienced three shocks in the year.

households. Semi-urban households in communities such as Daboya and Larabanga also experienced more multiple shocks than households in other locations. Almost 30 percent of semi-urban households faced three shocks within the year compared to less than 10 percent of households in both urban and rural communities. This is to be expected, given the changing livelihood contexts in semi-urban communities as a result of the use of electricity, to which they had access only recently.

Figure 6.1:Number of Shocks Reported by Households over a 12-Month Period

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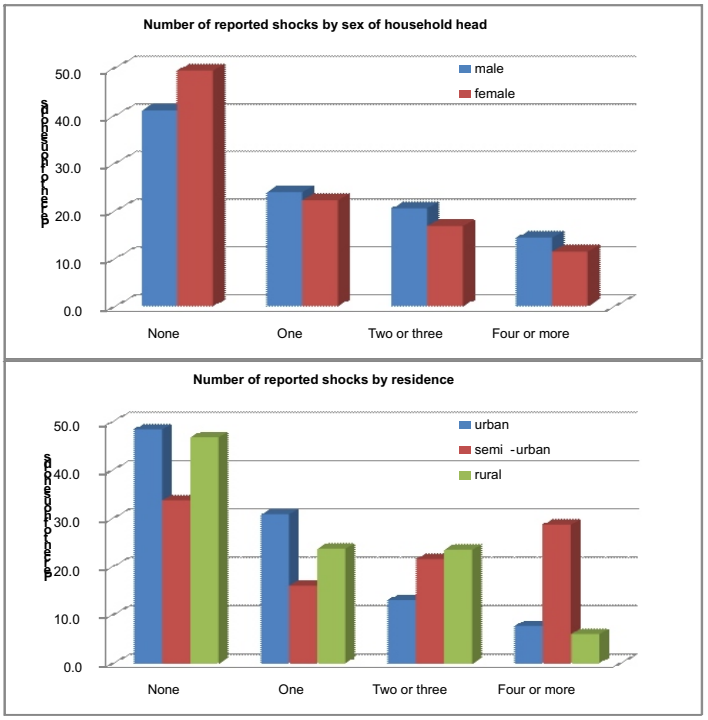
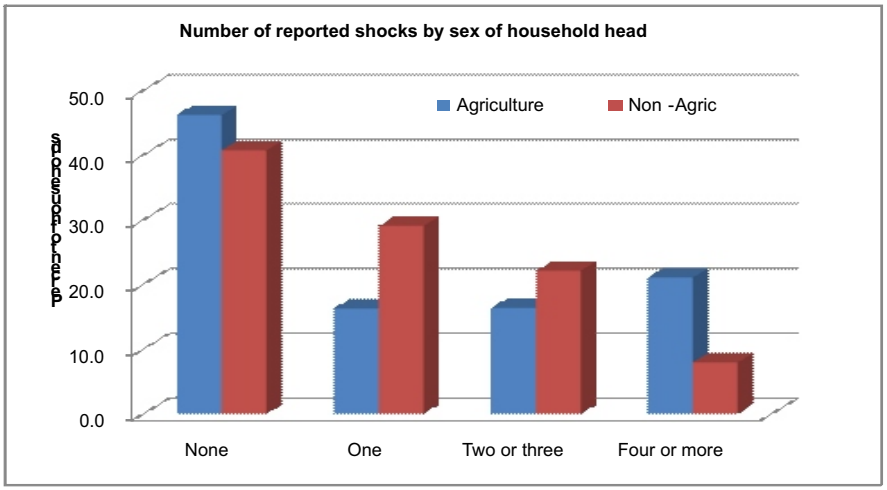


Source: ISSER Household Survey, 2007

From the point of view of residence, it can be observed that vulnerability is highest in semi-urban and rural communities. The differences may arise from the fact that urban households have a more diversified occupational base while households in rural areas are concentrated on agriculture, which records the largest number of shocks for

Households which depend on agriculture are theoretically expected to face more livelihood shocks in a year because of the seasonality of their occupation and their exposure to the vagaries of the weather. More agricultural households experienced four or more shocks compared with non-agricultural households (Figure 6.2).

Figure 6.2:Number of Reported Shocks by Main Occupation of Head of Household



Source: ISSER Household Survey, 2007

Nature of Shocks

Shocks were classified in different ways. First, shocks were identified on the basis of the causes or how they affect households. Shocks may be caused either by human activities or by nature (for example, conflict, policy changes, terms of trade shocks, illness and death) and their effects on people could afflict several households in a community or only a few of them at a time (see Box 6.1 for details). The results outlined in Table 6.1 show clearly that the majority of households reported that the shocks they faced were human-related (47%) compared to the 23 percent of households that reported natural shocks.

Natural causes include poor rains. Discussions with opinion leaders confirmed this problem and revealed that the issue in recent years is their difficulty in predicting rainfall for effective farming. The rains either come too early or too late and in such cases, food crops such as maize could be completely destroyed. The impact is reported to be severe because of the near complete dependence on nature for farming in the district. Human-related shocks include theft of crops, cash, and harvest and others (see Figure 6.3).

Box 6.1 Classification of Shocks

Natural Shocks Poor rains that caused harvest failure Pest invasion that caused harvest failure Pest that caused storage losses Plant disease that caused harvest failure Loss of property due to flooding	**Human-Related Shocks** Death of working member of the household Death of someone who sent remittances Illness of income-earning member of the household Departure of income-earning member from the household Theft of assets, fire, price shocks and riots
Covariate Shocks Poor rains that caused harvest failure Pest invasion that caused harvest failure Pest that caused storage losses Plant disease that caused harvest failure Loss of property due to flooding Loss of property due to riots Price shocks Riots	**Idiosyncratic Shocks** Death of working member of the household Death of someone who sent remittances Illness of income-earning member of the household Departure of income-earning member from the household Theft of assets

Alternatively, shocks were classified on the basis of whether they are price changes, changes in household composition or impact on production, assets, or income of households. Asset loss is an important shock in West Gonja District that affects more than a third (35%) of households. This event is largely due to the loss of livestock, which could occur either through death as a result of disease or lack of water or through theft. Stakeholders' discussions pointed out difficulties the communities face with regard to the activities of Fulani herdsmen. They complained of environmental destruction, destruction of farms and organised stealing of livestock. These problems have to be tackled to avoid deadly encounters with the Fulani herdsmen and their collaborators. The loss of livestock not only reduces the family's wealth and source of income, it also impinges on the household's ability to cope with or adjust to other shocks.

suffered from increases in utility prices, while 14.5% complained about increases in major food prices and a further 4.1 percent complained about increases in input prices. Logically, it would appear that rising food prices would increase the incomes of food farmers. On the contrary, however, affected households indicated that rising food prices reduced their real incomes. Part of the explanation lies in the tendency of farmers to sell their produce to meet urgent social obligations immediately after harvests when prices are low. They then buy back the produce during the lean season when prices are highest. It is reported that about 50 percent of farmers' produce may be sold off to meet social obligations. Thus, high food prices tend to adversely affect farmers' real incomes, their ability to cope with food shortages during the lean season, and the extent of assets loss as they sell livestock and other assets to purchase food.

Table 6.1:Types of Shocks that Affected Households over a 12-Month Period

Type of Shock	Percent of households
Covariate	38.7
Idiosyncratic	30.1
Human-related	47.0
Natural Event	23.5
Price Shock	23.1
Production-related	23.5
Asset Loss	35.0
Changes in Household Structure	3.2
Income Loss	4.4
Other	2.4
No Shock	43.1

Source: ISSER Household Survey, 2007

Policy-induced shocks resulting from price changes also affected households in several ways. More than 20 percent of the households in the district reported that they were adversely affected by price changes. Utility price increases were the most frequent price shock reported; about 15 percent of households reported that they

A decline in output prices also affects some households (just about 3.8%, but the impact could be very severe especially when not anticipated). Discussion with community leaders, mostly in rural areas, revealed that this could happen from the influence of "middlemen" because of limited access to food markets and/or because of bumper

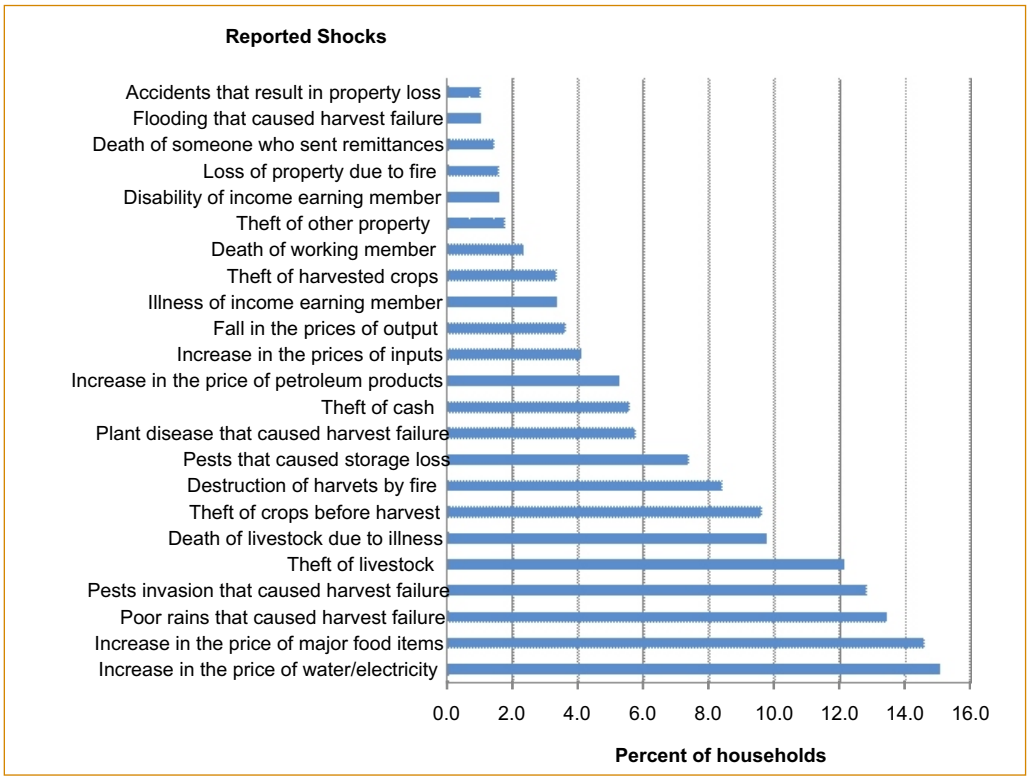
harvests that could not be stored and/or when there is a slow down in demand.

Risk may also be classified on the basis of whether it is idiosyncratic or covariate. Idiosyncratic risks are those events that are specific to an individual or a household. Covariate risks tend to affect the community. Some shocks or risks are difficult to classify in this way. One such example is the death of livestock. Whether it is a covariate shock or idiosyncratic shock depends on the cause of death. Covariate (38.7%) shocks, including poor rains, were experienced by more households in the district than were idiosyncratic shocks (30.1%) such as illness, death or disability.

Identifying Vulnerable Groups

As explained earlier, more male-headed households reported experiencing shocks than households headed by women. Asset loss is the main shock which adversely affects male-headed households while female-headed households are more likely to be affected by price shocks. Female-headed households are more likely to be in livelihood activities which are trade related while male-headed households are likely to engage in production-related livelihoods (Table 6.2). This explains why more male-headed households are adversely affected by production-related shocks (25.8%) while more households headed by women are affected by price-related shocks (16.5%).

Figure 6.3:Reported Shocks of Households



Source: ISSER Household Survey, 2007

Asset loss is a dominant shock for rural, urban and semi-urban households. Semi-urban households are more likely to face price shocks than urban and rural households. Naturally, households that are mainly engaged in agriculture are more likely to be adversely affected by losses in assets and production-related problems such as low rainfall, poor harvest, fires, death of livestock and others.

Although more male-headed households were more likely to have shocks in the district, they were also more likely to recover from shocks than households headed by women; 72.4 percent of male-headed households were able to recover from shocks within the year compared to 53.8 percent of female-headed households.

Table 6.2: Reported Shocks by Household Characteristics (%)

Characteristic of Head of household	No shock	Price shock	Production-related	Asset Loss	Household Structure	Income Loss
Sex						
Male	58.9	22.1	25.8	40.1	2.3	3.0
Female	50.5	26.2	16.5	19.5	5.8	8.8
Residence						
Urban	51.6	22.5	12.2	30.2	2.8	0.0
Semi-Urban	66.3	40.8	29.4	43.3	1.8	7.7
Rural	53.3	8.7	27.9	32.1	4.6	5.2
Main Occupation						
Agriculture	53.8	18.5	36.0	38.9	3.1	3.6
Non-Agric	59.2	26.6	13.8	32.0	3.2	5.0
Wealth Quintile						
Lowest	44.1	11.1	13.9	28.8	0.0	1.4
2nd	68.6	29.5	27.2	47.0	2.2	2.4
3rd	66.8	32.8	31.7	44.0	5.9	9.1
4th	49.2	13.5	26.1	32.2	4.4	4.4
Highest	48.7	24.9	12.5	14.8	2.2	3.8

Source: ISSER Household Survey, 2007

Recovery from Shocks

Some households are able to overcome shocks within the year. The ability to overcome these shocks depends on the nature of the shock and household characteristics. Up to 68.4 percent of households in West Gonja District reported that they have overcome shocks (Table 6.3). This is a positive development since recovery from shock implies that households have adequate coping mechanisms. The other interpretation to this finding is that these events could be cyclical or anticipated because they happen almost every year.

Rural households had a higher propensity to recover from shocks (76.2% of households) compared to urban households (68.8%) and semi-urban households (60.5%). This outcome puts semi-urban households in the district among the most vulnerable groups which require immediate attention. This is because apart from experiencing severe multiple shocks, they have a relatively low level of recovery.

Tab le 6.3: Percent of Households that Recovered from at least One Shock

Characteristic of Head of household	Percent
All	68.4
Sex	
Male	72.4
Female	53.8
Residence	
Urban	68.8
Semi-Urban	60.5
Rural	76.2
Main Occupation	
Agriculture	74
Non-Agric	64.4
Wealth Quintile	
Lowest	66
2nd	82.3
3rd	52.4
4th	74.8
Highest	63.6

Source: ISSER Household Survey, 2007

Non-agricultural households have less likelihood of recovering from shocks than agricultural households. This may be because non-agricultural households have shocks related to prices and asset loss. Whereas asset losses can be prevented to an extent, price changes cannot be controlled. Agricultural households however have asset loss and production-related problems which can be controlled to an extent.

Coping Strategies

Various interventions to cope with shocks exist in the district, mostly at household level. Discussions on social protection in developing countries indicate that the capacities of individuals, households, and communities to handle risks and their choice of risk-management instruments depend on the characteristics of those risks (their sources, correlation, intensity, and frequency) and the portfolio of assets that the individuals, households, and communities control (Tesliuc and Lindert, 2004). De Ferranti et al. (2000) explain that efficient risk management involves a combination of strategies for: (i) risk prevention; (ii) risk mitigation by pooling uncorrelated risks or sources of income or by making use of formal and informal insurance; and (iii) coping strategies designed to relieve the impact of the risk once it has occurred. Finally, risk-management instruments fall into three main categories: (i) informal arrangements; (ii) market-based arrangements; and (iii) public arrangements within or outside the scope of social protection. We included 21 different strategies in pre-coded form in the household survey and recorded those that were mentioned by households. We allowed the households to report a maximum of four strategies per shock. In the interests of brevity and ease of interpretation, the 18 responses were grouped into six categories: self-help or self-insurance, informal insurance, market-based insurance, reduced consumption, other strategies such as help from government and NGOs (see Table 6.4 for details of specific strategies) and those who did nothing.

Table 6.4: Coping Strategies used by Households in West Gonja District

Strategy	Proportion of affected households that applied strategy (%)
Self-Help or Self-Insurance	**29.9**
Sale of Livestock	8.3
Sale of Land	4.6
Sale of other Property	16.7
Engage in additional income-earning activity	6.1
Members of Household Migrate for work	0.8
Informal Insurance	**26.3**
Sent children to live with friends/relatives	0.8
Assistance from friends and relative (not expected to pay back)	16.7
Borrowed from friends and relatives	6.1
Delayed payment obligations	6.8
Market Insurance or use of credit	**16.3**
Loan from a financial institution	0.8
Credited purchases	2.3
Sold harvest in advance	1.8
Relied on savings	9.9
Consumption Reduction	**15.0**
Reduced food consumption	13.6
Reduced non-food consumption	1.4
Other	**0.8**
Did Nothing	**46.6**

Source: ISSER Household Survey, 2007

The last category, "did nothing", was a peculiar option that is difficult to interpret. When a shock affects the material welfare of households, some actions are necessary, either to adjust the standard of living downwards or to use other arrangements (assets, informal, formal or social) to mitigate the fall. The 21 remaining options were comprehensive enough for it to seem unlikely that this answer would be chosen very often. Surprisingly, a large share of households reported that they "did nothing" as their main coping strategy; on average 46.6 percent of affected household said that they did nothing. This means that even though the events occurred, those households did not see them as shocks, implying that they are more resilient to common problems than other households. Table 6.5 confirms that male-headed households or households in non-urban areas in the district tended to report doing nothing.

Table 6.4 shows that when a disaster strikes, households' main strategy is to rely on self-help or self-insurance and the least common strategy is to receive help from the government or other forms of institutionalised help. Among the self-insurance strategies, selling livestock (poultry, sheep, goats and pigs and cattle) and other assets is dominant (29.6%), followed by engaging in additional

income-earning activity (6.1%). None of the households out of the 240 interviewed withdrew their children from school as a coping strategy. Informal insurance is the second most important group of strategies and it involved borrowing and receiving assistance from friends and relatives and a delay of payment obligations.

Coping mechanisms for shocks differed according to the characteristics of respondents. In general, however, most households preferred to do nothing. Male-headed households resort to self-help strategies such as the sale of personal effects. Female-headed households resort to informal insurance strategies such as susu, borrowing from friends, and sending children to live with other relatives. They also reduce intake of food in order to cope with shocks experienced in the year.

Major coping strategies did not differ for agricultural and non-agricultural households. However, one can raise a question about the role of the extended family and collective provision, particularly in rural areas where the ties are expected to be stronger. Findings from the ISSER survey show that this type of strategy is used more often in urban and semi-urban areas than in rural areas, where less than 20 percent of affected household use these informal insurance strategies for coping with shocks (Table 6.5). The most important of these are obtaining assistance from friends and relatives, and also borrowing from friends and relatives. Sending children to live with friends and relatives is used by less than 1 percent of households.

Table 6.5: Strategies Adopted by Households to Cope with Shocks

Strategy	Male	Female
Informal insurance strategies	23.5	36.3
Market insurance	13.9	24.8
Self help	30.4	28.2
Reduced food consumption	9.7	34.2
Other	0.0	3.8
Did nothing	50.2	33.9

Strategy	Agriculture	Non-Agriculture
Informal insurance strategies	26.2	26.4
Market insurance	13.9	18.0
Self help	27.2	31.8
Reduced food consumption	17.4	13.3
Other	0.0	1.4
Did nothing	54.1	41.4

Strategy	Urban	Semi-urban	Rural
Informal insurance strategies	27.4	32.5	18.9
Market insurance	18.2	15.1	16.1
Self help	27.4	26.9	35.0
Reduced food consumption	16.7	18.3	10.1
Other	0.0	0.0	2.4
Did nothing	36.5	50.6	50.6

Source: ISSER Household Survey, 2007

CHAPTER SEVEN

SUMMARY AND POLICY RECOMMENDATIONS

Progress in Human Development

In the absence of timely quantitative measures at district level, District Human Development Reports (DHDRs) can be useful tools to assist district administrations in tracking progress. The first of set DHDRs, facilitated by the UNDP Office in Accra, has shown that useful inferences can be made and planning at the local level could be made a little easier if the components and factors driving the indicators of human development are thoroughly analysed.

The first set of DHDRs was prepared in 2004 for three districts, the then Atwima District, Builsa District and Tema Municipality. The West Gonja District Human Development Report is one of three similar reports prepared as the second set of DHDRs in three different ecological zones of Ghana. These serve as pilot development reports initiated by UNDP to assess human development at district level. The information and analysis contained in them will assist in the design and targeting of interventions aimed at improving the human development indicators of the population.

The approach used for the preparation of the report was participatory and incorporated both qualitative and quantitative methods of information gathering and analysis. This report does not calculate a human development index for the district because of time constraints to obtaining reasonable data on district-level income. However, a proxy human poverty index for Ghana, which is based on but is slightly different from the construct of the UNDP HPI-1 index was set up for the district. This is compared to the overall index for ghana. the report also tracks progress the district is making towards achieving the Millennium Development Goals (MDGs) at local level, highlighting how vulnerability limits individual choices. Box 7.1 presents a summary of the analysis on the status of progress towards the goals.

The overall aim of the MDGs is more or less captured in the first goal which seeks to eradicate extreme poverty and hunger. Precise information on the extent to which poverty in West Gonja is rising or declining cannot unfortunately be determined with existing data. Analysis using the human poverty index for Ghana shows that poverty in the district in 2003 was significantly higher than the national average. The report reveals that the district performs worse than the national average on almost all the components of the human poverty index except access to health care services in urban areas and the proportion of underweight girls. The incidence of underweight children was lower among girls, particularly in urban households, where the incidence among girls was negligible. Even though the perceived level of poverty is high in the district, the ISSER Household Survey suggests that there has been an improvement in the overall poverty situation between 2003 and 2007. The proportion of households which perceive that they are poor fell from 87.6 in 2003 percent to 47.8 percent in 2007 but the proportion which see themselves as very poor rose from 5.9 percent to 17.6 percent in the same period. This clearly reveals major challenges to the attainment of the MDG targets on reduction of extreme poverty and hunger.

The analysis has shown that mass poverty is the result largely of low agricultural productivity and production, and the lack of other income-earning opportunities. Addressing poverty must, therefore, involve policies and programmes to increase the levels of agricultural productivity and production among small-scale, largely subsistence farmers, while at the same time creating opportunities for non-farm income-generating activities and employment. Low agricultural productivity, as indicated in earlier parts of this report, arises from low rates of adoption of improved agricultural technologies, whether biological, chemical or mechanical. This is due, to a large extent, to the high costs of adopting these technologies. While the adoption of improved agricultural practices (such as row planting and spacing) is increasing, their levels of adoption are low and the methods are most rudimentary and laborious. The situation is compounded by uncertainty in rainfall, a long dry period in which farmers are idle and the lack of irrigation facilities, dams and wells for dry-season gardening or farming. High post-harvest losses compound the problem of low production by denying farmers a substantial part of their output. There is also a high incidence of pests and diseases and inadequate extension services to address the problems.

The district's record on improving enrolment at the lower levels of education and youth literacy is quite impressive. However, the district faces a daunting challenge as to how to ensure that children start primary school at 6 years of age and complete at least nine years of quality basic education.

Box 7.1:Status at a Glance: Progress towards the MGDs, West Gonja District in 2007

Goal/Target	Will Goal be Reached?				State of Supportive Environment			
Eradicate Extreme Poverty and Hunger								
Halve between 1990 and 2015, the proportion of people whose income is less than the national extreme poverty line	Probably	**Potentially**	Unlikely	**Lack of Data**	Strong	Fair	Weak but Improving	**Weak**
Halve the proportion of people who suffer from hunger	Probably	**Potentially**	Unlikely	Lack of Data	Strong	Fair	Weak but Improving	**Weak**
Achieve Universal Primary Education								
Ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	**Probably**	Potentially	Unlikely	Lack of Data	**Strong**	Fair	Weak but Improving	Weak
Promote Gender Equality and Empower Women								
Eliminate gender disparity in primary eduaction, preferably by 2005 and no later than 2015	Probably	Potentially	**Unlikely**	Lack of Data	Strong	**Fair**	Weak but Improving	Weak
Eliminate gender disparity in secondary eduaction, preferably by 2005, and in all levels of education no later than 2015	Probably	**Potentially**	Unlikely	Lack of Data	Strong	**Fair**	Weak but Improving	Weak
Reduce Child Mortality								
Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	Probably	**Potentially**	Unlikely	Lack of Data	Strong	Fair	**Weak but Improving**	Weak
Improve Maternal Health								
Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	Probably	**Potentially**	Unlikely	**Lack of Data**	Strong	Fair	**Weak but Improving**	Weak
Combat HIV/AIDS, Malaria and Other Diseases								
Have halted by 2015 and begun to reverse the spread of HIV/AIDS	Probably	**Potentially**	Unlikely	**Lack of Data**	Strong	**Fair**	Weak but Improving	Weak
Have halted by 2015 and begun to reverse the spread of Malaria and other major diseases	Probably	**Potentially**	Unlikely	Lack of Data	Strong	**Fair**	Weak but Improving	Weak
Ensure Environmental Sustainability								
Integrate the principles of sustainable development into country ploicies and programmes and reverse the loss of environmental resources	Probably	**Potentially**	Unlikely	Lack of Data	Strong	Fair	**Weak but Improving**	Weak
Halve by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	**Probably**	Potentially	Unlikely	Lack of Data	**Strong**	Fair	Weak but Improving	Weak
By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	Probably	Potentially	Unlikely	**Lack of Data**	Strong	Fair	**Weak but Improving**	Weak
Develop a Global Partnership for Development								
Develop further an open, rule-based predictable, non-discriminatory trading and financial system	Probably	**Potentially**	Unlikely	Lack of Data	Strong	Fair	**Weak but Improving**	Weak
In cooperation with developing countries, develop and implement strategies for decent work and productive work for the youth	Probably	**Potentially**	Unlikely	Lack of Data	Strong	Fair	Weak but Improving	**Weak**
In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	**Probably**	Potentially	Unlikely	Lack of Data	**Strong**	Fair	Weak but Improving	Weak
In cooperation with the private sector, make available the benefits of new technologies, especially information and communication	Probably	**Potentially**	Unlikely	Lack of Data	Strong	**Fair**	Weak but Improving	Weak

Progress towards attaining the education-specific MDGs is mixed. The district has made substantial progress towards universal primary education since 2000. In 2000, less than 40 percent of any of the age groups between 3 and 24 years were attending school. The situation in 2007 has improved considerably; for example, over 80 percent of children aged between 6 and 12 years were attending school in 2007. If the rate of increase in school enrolment is maintained, the MDG target of universal primary education by 2015 can be realised. A threat to the attainment of universal primary education in the district is late entry into primary school, which, for a variety of reasons, tends to increase the inability of children to complete school when they start late.

On the basis of the standards recommended for the education sector, there is a considerable shortfall in the required number of classrooms, especially at junior secondary school level, in the district. Net enrolment rates are extremely low, particularly at secondary school level. And the gap between these rates and the MDGs for education is wide. Special effort must be made to bridge the gap. The report has indicated the greater numbers of pupil teachers relative to trained teachers at all levels of the educational system.

Irregular school attendance due to illness also introduces the risk of children dropping out of school. The environment in the district may be described as creating health hazards emanating from the unsafe methods of waste disposal, particularly among rural households. It is not surprising, therefore, that ill-health is the most frequently reason children miss some days of school. Thus, failure to make progress on other MDGs can create conditions to compromise the attainment of the MDGs on education.

The MDG target for the attainment of gender parity in primary and secondary education in 2005 has not been achieved. Gender parity indices at primary and junior secondary levels declined in 2007 compared to 2000 despite the rise in enrolment rates for both boys and girls. Gender parity for senior secondary school has been achieved but being over unity in this case does not imply an improvement in gender empowerment because of the very low enrolment rates at this level of education in the district. Also, progress towards the target of reducing the gender gap in youth literacy is slow. This makes the associated target seemingly unattainable unless efforts to enrol more girls in secondary schools succeed.

The findings on the share of women engaged in wage employment in the district are also not encouraging. While the proportion of men employed in the formal sector increased since 2000, there was a considerable decline in the proportion of women employed in the formal sector. This is clearly far from expected and does not signify progress towards the MDG goal of promoting gender equality and empowerment of women. It is, however, interesting to see significant involvement of women in political governance at local level. The district has the highest proportion in Ghana of female District Assembly members: 8 of the 20 elected members (or 40 per cent) of the West Gonja District Assembly are women.

Improving the poor quality of health delivery is another challenge confronting the district. Health care delivery is inadequate. This arises to a large extent from the lack of human resources and poor supervision. There is a need for the provision of more health infrastructure to help improve health status in the district, which does not seem to show any significant progress.

The mortality situation in the district does not show any sign of improvement; the total number of deaths rose consistently from 64 in 2004 to 89 and 98 in 2005 and 2006

respectively. The number of infant deaths almost doubled between 2004 and 2006, after a significant drop in 2005 leading to an institutional estimate for infant mortality of about 122 per 1,000 live births. This is much higher than both the regional and national ratios of 71/1,000 and 83/1,000 respectively. The number of under-5 deaths also more than doubled over the same period.

The encouraging finding was that the under-5 malaria case fatality rate saw consistent decline from 2004 to 2006 and institutional coverage for immunisation against the childhood killer diseases is very impressive despite obvious infrastructural difficulties in the district.

On the spread of diseases, the analysis using both morbidity and mortality statistics suggests that the district has not made significant progress in the last five years in halting and/or reducing the incidence of malaria. This raises concerns about the level of environmental sanitation and the effectiveness of methods adopted in preventing malaria infection. Again, while the district is making progress in reducing the incidence of guinea worm infestation and tuberculosis, the HIV/AIDS situation seems to be worsening. The disease is more prevalent among the youth aged 20-24 and available statistics send a worrying signal about the district's chances of realising the MDG goal of halting and reversing the HIV/AIDS infection rate. More education is needed to address this situation.

On environmental sanitation, the report shows that the bulk of the population has no access to safe toilet facilities and over 60 percent of the population uses uncontrolled dumping for solid waste and household sewage. This exposes many individuals to high risk of getting parasitic diseases that are otherwise avoidable.

The district could reap substantial benefits from its tourism potential if it is properly harnessed. However, the growing reliance of families on charcoal production, organised theft of livestock and the apparent rise in tension between villages and officials of the Forestry Department over the use of forest products pose a threat to the rich endowment of natural resources in the district. This situation represents a serious challenge to the livelihood of the people as well as to the sustainability of biodiversity, and needs immediate and pragmatic policy attention.

The district is very likely to achieve the MDG target on water mainly because of the role of development partners in the provision of boreholes. The district saw a remarkable improvement in access to safe drinking water between 2000 and 2007, particularly in rural areas where access improved from about 25 percent to over 90 percent. The construction of boreholes in a number of communities may have largely accounted for the reduction in the reported cases of guinea worm in the district. However, there are still pockets of 'water-poor' households in the semi-urban and urban communities that need service.

Other areas where the influence of global interventions is felt in the district are the growth in the use of insurance for health care and increased use of cellular telephones. With regard to insurance, the major problems to be solved are the selection of high-risk individuals into the scheme by households and the threat to the sustainability of the health insurance scheme because of low number of times subscribers renew their membership. In terms of telecommunications, farmers located off the trunk road need to have some access to modern communication devices, given that they have major problems of transportation to major towns.

While there are some positive effects from global development partnership, there is still an urgent need to tackle fundamental problems of human development in the district. Residents of West Gonja District lament the deplorable state of the road network, especially during the rainy season when very few roads are motorable, thereby seriously reducing vehicular movement in the district. Reasons for this include the sparse population distribution and the long delays in constructing two important bridges to the north-eastern parts of the district. With the exception of roads within the town that serves as the district capital, the area does not have a single kilometre of tarred road and most of the roads become almost completely impassable during the peak of the rainy season.

Creating non-farm employment opportunities and income-generating activities is perhaps the most difficult challenge confronting the district. These opportunities and activities are required in order to reduce the extreme vulnerability of the population to weather-related shocks. The challenge lies in the combination of the facts that the labour force is largely unskilled, the investment environment is unattractive, and there are limited avenues for harnessing the natural resource endowment. The result is the dominance of petty trading and increasing migration of the youth to big towns outside the district. Youth unemployment rose from 5.2 percent in 2000 to 27.4 percent in 2007. Increasing opportunities for growth of small-scale industries such as smock weaving, processing of farm produce and honey production is commendable but unless they are combined with viable marketing arrangements outside the district, they will not be sustainable.

Recommendations

Among the issues to be addressed in connection with low productivity is the need to reverse the decline of soil fertility and erosion. Inappropriate farming methods that persist in part because of inadequate and ineffective extension services also need to be addressed. The costs of chemical supplements preclude widespread use by farmers.

Experiences from other districts within the same region suggest that dry-season gardening or farming involving non-traditional crops such as tomatoes, onions, and potatoes can generate financial returns about 10 times higher than can be obtained from rain-fed traditional crop farming. Moreover, these activities tend to reduce out-migration from the district. The provision of irrigation facilities, dams and wells for dry-season gardening and farming will be one way to increase agricultural productivity and production and also reduce the long, idle period that farmers go through every year. The district has prioritised cultivation of cashew nuts as one of the main non-traditional crops for export but there are lingering marketing problems that beset the sub-sector and they need to be addressed in order to make this initiative successful.

Encouraging tree crops such as mangoes and cashew could provide a certain minimum income irrespective of the weather, thereby reducing households' vulnerability to weather-related shocks. The experience of southern Burkina Faso suggests that this can be an extremely rewarding public investment. This will, however, require support in terms of seed or seedlings in view of the costs involved. It may also require wells or dams for water to avoid

stunting in the first three years, depending on whether a plantation system is set up or there are individual farms. It also requires arrangements for private marketing and export of the produce.

In terms of non-farm income-generating activities, there is potential for at least one medium- to large-scale factory producing shea butter or buying from women's groups and reprocessing for export. Also, West Gonja District stands to benefit a lot from its tourism potential. To avoid unplanned destruction of natural resources in the district, woodlot plantations should be established for firewood and charcoal, controls to counter organised stealing of livestock should be implemented and community-based eco-tourism should be encouraged for the communities to benefit directly from tourism. The activities identified through the Medium-Term Development Plan need public and donor support to make them attractive to the private sector. Marketing arrangements and the road infrastructure are critical for the sustainability of these activities.

The economic and physical infrastructure of West Gonja District is at the moment not attractive for private investment. Efforts must be made to improve revenue generation to finance infrastructure development in the district. Public sector and donor support are also needed to develop infrastructure facilities to attract investment.

Financing identified priorities in the development plan is crucial to the implementation of the programmes over the four-year period. Financial inflows to the district form less than 10 percent of what is required to finance the budget for the various activities. Apart from the District Assemblies Common Fund (DACF) and other central government inflows, which are statutory and must be transferred, inflows into the district are externally influenced and could be highly unpredictable. Ingenious ways of mobilising local revenue need to be found if the district is to make faster progress towards the realisation of its stated goals.

Related issues concern problems with transfers from the DACF to the district and must be addressed. There is considerable central government control in terms of the areas and sectors where the DACF must be applied. Centrally identified sectors may not reflect the most important areas according to local development challenges and priorities. The issue of arrears in the disbursement of the DACF and the escalation in project costs as a result is increasingly being addressed and is no longer a major impediment to district development. The emerging issue relates to proper allocation of the fund and efficiency in resource use. Districts need to have greater control of the allocation and utilization of the resources available to them in order to address the identified development needs of their people.

On participation, citizens are not well integrated into the planning process. The dormant Area Councils should be revived so that through them, the citizenry can be involved, particularly in the monitoring of expenditure allocations and the implementation of projects at local level.

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APPENDICES

Appendix Table 1.1Details about Enumeration Areas (EA) Selected in West Gonja

EA	Location of EA	Population 2000	Number of Houses, 2000	Number of Households	% of Households Selected
1	DAMONGO-MGBAREPE	440	40	56	42.9
2	DAMONGO-ZONGO	697	85	166	14.5
3	DAMONGO-ZONGO	906	125	223	10.8
4	FRAFRA NO. 3 SETTLEMENT	567	100	70	34.3
5	KABAMPE	416	73	110	21.8
6	KOPOTO	337	43	75	32.0
7	LANGATRE	385	34	58	41.4
8	DABOYA	1,091	86	230	10.4
9	LARABANGA	753	103	191	12.6
10	BUSUNU	704	85	103	23.3
Total Number of EAs = 108	Total Number of Localities in West Gonja = 183	63,737	6,164	9,638	2.5

Source: Computed using data from Ghana Statistical Service, 2000 Population and Housing Census

Appendix Box 1:Calculating the Human Poverty Index-Ghana

The constructed human poverty index for the preparation of the District Human Development Reports (HPI-G) is similar to the UNDP's HPI-1 for developing countries in terms of two components, the aspects of knowledge and decent standard of living. However, the component that measures vulnerability to death at a relatively early age, the probability at birth of not surviving to age 40 is replaced with an index measuring regional under-5 mortality. In addition to this modification, HPI-G includes an indicator of access to health care services in the measure of decent standard of living. A household has access to health care services if it is within 30 minutes of travel time to a modern health care provider (CWIQ, 2003).

1. Measuring the regional under-5 mortality index

The index measures the gap between a region's under-5 mortality rate and the national target for under-5 mortality under the Millennium Development Goals, relative to the largest regional gap in the country. A regional index is used for the district because of lack of reliable data at the district level. The under-5 mortality rate for Ghana in 1993 was 119 deaths per 1,000 live births and the MDG goal of reducing this by two-thirds translates to a target of about 40 deaths per 1,000 live births (GDHS, 2003). The regional under-5 mortality index is thus calculated as follows:

Regional under-5 mortality index

$$= \frac{\text{region's current value} - \text{MDG target}}{\text{current maximum value for all regions} - \text{MDG target}}$$

$$= \frac{\text{region's current value} - 40}{208 - 40}$$

2. Measuring deprivation in a decent standard of living

An unweighted average of two indicators is used to measure deprivation in a decent standard of living:

Unweighted average = 1/3 (population without sustainable access to an improved water source)
+ 1/3 (children under weight for age)
+ 1/3 (population without access to health services)

3. Calculating the HPI-G

The formula for calculating the HPI-G is as follows:

$$HPI - G = [1/3(P_1^{\alpha} + P_2^{\alpha} + P_3^{\alpha})]^{\alpha}$$

Where

P_1 = Probability at birth of not surviving to age 5, proxied by a normalized regional under-5 mortality index (times 100)

P_2 = Unweighted average of population without sustainable access to an improved water source, without access to modern health care service and children underweight for age

P_3 = Adult illiteracy rate; and $\alpha = 3$

Appendix Box 1.1 Millennium Goals, Targets and Indicators

Millennium Development Goals (MDGs)	
Goals and Targets (from the Millennium Declaration)	**Indicators for monitoring progress**
Goal 1: Eradicate extreme poverty and hunger	
Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	1. Proportion of population below $1 (PPP) per day[a] 2. Poverty gap ratio [incidence x depth of poverty] 3. Share of poorest quintile in national consumption
Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger	4. Prevalence of underweight children under-five years of age 5. Proportion of population below minimum level of dietary energy consumption
Goal 2: Achieve universal primary education	
Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	6. Net enrolment ratio in primary education 7. Proportion of pupils starting grade 1 who reach grade 5[b] 8. Literacy rate of 15-24 year-olds
Goal 3: Promote gender equality and empower women	
Target 4: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	9. Ratios of girls to boys in primary, secondary and tertiary education 10. Ratio of literate women to men, 15-24 years old 11. Share of women in wage employment in the non-agricultural sector 12. Proportion of seats held by women in national parliament
Goal 4: Reduce child mortality	
Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	13. Under-five mortality rate 14. Infant mortality rate 15. Proportion of 1 year-old children immunised against measles
Goal 5: Improve maternal health	
Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	16. Maternal mortality ratio 17. Proportion of births attended by skilled health personnel
Goal 6: Combat HIV/AIDS, malaria and other diseases	
Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS	18. HIV prevalence among pregnant women aged 5-24 years 19. Condom use rate of the contraceptive prevalence rate[c] 19a. Condom use at last high-risk sex 19b. Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS[d] 19c. Contraceptive prevalence rate 20. Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years
Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	21. Prevalence and death rates associated with malaria 22. Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures[e] 23. Prevalence and death rates associated with tuberculosis 24. Proportion of tuberculosis cases detected and cured under directly observed treatment short course DOTS (Internationally recommended TB control strategy)
Goal 7: Ensure environmental sustainability	
Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	25. Proportion of land area covered by forest 26. Ratio of area protected to maintain biological diversity to surface area 27. Energy use (kg oil equivalent) per $1 GDP (PPP) 28. Carbon dioxide emissions per capita and consumption of ozone-depleting CFCs (ODP tons) 29. Proportion of population using solid fuels
Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	30. Proportion of population with sustainable access to an improved water source, urban and rural 31. Proportion of population with access to improved sanitation, urban and rural
Target 11: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	32. Proportion of households with access to secure tenure

Goal 8: Develop a global partnership for development	
Target 12: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system Includes a commitment to good governance, development and poverty reduction – both nationally and internationally Target 13: Address the special needs of the least developed countries Includes: tariff and quota free access for the least developed countries' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction Target 14: Address the special needs of landlocked developing countries and small island developing States (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly) Target 15: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	*Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small island developing States.* Official development assistance (ODA) 33. Net ODA, total and to the least developed countries, as percentage of OECD/DAC donors' gross national income 34. Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation) 35. Proportion of bilateral official development assistance of OECD/DAC donors that is untied 36. ODA received in landlocked developing countries as a proportion of their gross national incomes 37. ODA received in small island developing States as a proportion of their gross national incomes Market access 38. Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty 39. Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries 40. Agricultural support estimate for OECD countries as a percentage of their gross domestic product 41. Proportion of ODA provided to help build trade capacity Debt sustainability 42. Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative) 43. Debt relief committed under HIPC Initiative 44. Debt service as a percentage of exports of goods and services
Target 16: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth	45. Unemployment rate of young people aged 15-24 years, each sex and total[f]
Target 17: In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	46. Proportion of population with access to affordable essential drugs on a sustainable basis
Target 18: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	47. Telephone lines and cellular subscribers per 100 population 48. Personal computers in use per 100 population Internet users per 100 population

The Millennium Development Goals and targets come from the Millennium Declaration, signed by 189 countries, including 147 heads of State and Government, in September 2000 (http://www.un.org/millennium/declaration/ares552e.htm). The goals and targets are interrelated and should be seen as a whole. They represent a partnership between the developed countries and the developing countries "to create an environment – at the national and global levels alike – which is conducive to development and the elimination of poverty".

Note: Goals, targets and indicators effective 8 September 2003.

[a] For monitoring country poverty trends, indicators based on national poverty lines should be used, where available.

[b] An alternative indicator under development is "primary completion rate".

[c] Amongst contraceptive methods, only condoms are effective in preventing HIV transmission. Since the condom use rate is only measured among women in union, it is supplemented by an indicator on condom use in high-risk situations (indicator 19a) and an indicator on HIV/AIDS knowledge (indicator 19b). Indicator 19c (contraceptive prevalence rate) is also useful in tracking progress in other health, gender and poverty goals.

[d] This indicator is defined as the percentage of population aged 15-24 who correctly identify the two major ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner), who reject the two most common local misconceptions about HIV transmission, and who know that a healthy-looking person can transmit HIV. However, since there are currently not a sufficient number of surveys to be able to calculate the indicator as defined above, UNICEF, in collaboration with UNAIDS and WHO, produced two proxy indicators that represent two components of the actual indicator. They are the following: a) percentage of women and men 15-24 who know that a person can protect herself/herself from HIV infection by "consistent use of condom"; b) percentage of women and men 15-24 who know a healthy-looking person can transmit HIV.

[e] Prevention to be measured by the percentage of children under 5 sleeping under insecticide-treated bednets; treatment to be measured by percentage of children under 5 who are appropriately treated.

[f] An improved measure of the target for future years is under development by the International Labour Organization.

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