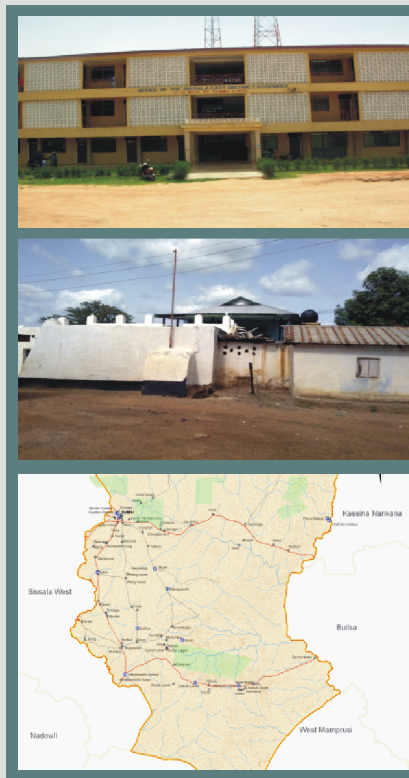
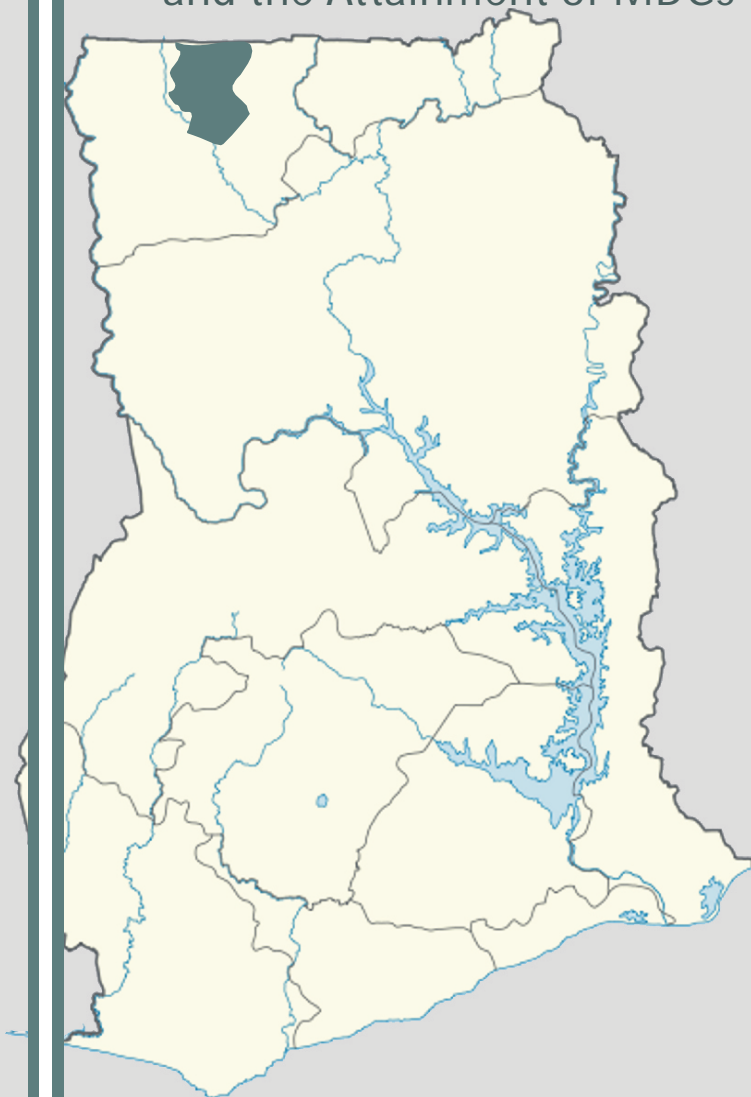


SISSALA EAST DISTRICT HUMAN DEVELOPMENT REPORT 2011

Resource Endowment, Investment Opportunities
and the Attainment of MDGs



Government of Ghana



United Nations Development
Programme Ghana Office
Accra

January 2011

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Foreword

Within the general framework of ensuring equity and overall development, the current set of the District Human Development Reports (DHDRs) cover a sample of 12 Metropolitan, Municipal and District Assemblies (MMDAs) in the three Northern Regions. This part of the country was selected as part of the grand strategy and intervention for the North, which feeds into the Government's Better Ghana Agenda and Savannah Accelerated Development Authority (SADA) framework. The selection of the MMDAs, which was done in consultation with the Regional Coordinating Councils, was based on equity for regional distribution and district characteristics.

The DHRs over the years serve as a catalyst through which MMDAs interpret their development agenda and focus. The reports tell the story of key human development indicators and MDGs status at the local levels. The impact and relevance of the District HDRs are evident in the shaping of the Medium-Term Development Plan of the districts and providing the districts with reliable and useful data, as well as providing information for policy making and further research. These set of twelve reports are no exception.

The main thrust of the report is to identify the resource endowments and investment opportunities of the selected MMDAs, and assess respective MDGs gaps to serve as basis for the preparation of Community Action Plans, informing the District Planning Process, and to serve as a baseline information for the evaluation of the policies and programs for the attainment of human development and the MDGs at the local levels.

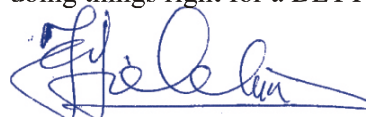
The Local Government and Rural Development Ministry sees the reports as a means to achieving equity and balanced growth in the country. It our hope and aspiration that UNDP would continue to

allocate more resources to the preparation of DHDRs, which to our minds and aspirations would be a rallying and/or focal point for MMDAs and the Central Government to focus development agendas.

Since resources are limited to cover all MMDAs at a go, with the support of UNDP, we cover very few selected MMDAs in the country. The likelihood is that we may not come back to the covered MMDAs. It is, therefore, imperative for the covered MMDAs to take it up from here and ensure continued data gathering and preparation of the reports on their own. It is in this direction that UNDP again provides equipment to support these twelve MMDAs including the Regional Economic Planning Units of the three Northern Regions to create the capacity to manage the process.

It is refreshing to also note that within the general framework, UNDP is to support the National Development Planning Commission (NDPC) to prepare training manuals for training in data management, planning and budgeting for all MMDAs in Ghana. I fully support this forward looking phenomenon because it hands over tools to our MMDAs to continuously use in addressing their development challenges and needs.

I recommend to all MMDAs to take a reading tour of the reports, to familiarize with it and on their own initiative, start working on how best to replicate this laudable idea of data collection and management to inform planning processes in their own domain. Evidence-based planning is the way to go. Let us do the useful by doing things right for a BETTER GHANA.



HON. JOSEPH YIELEH CHIREH (MP)

*Hon. Minister, Ministry of Local Government
and Rural Development*

Preface

The UNDP Ghana Country Office, in collaboration with stakeholders and other partners, has been facilitating the production and dissemination of Human Development Reports (HDRs) in Ghana since 1997. These reports aim to enrich policy and provide analytical basis to the Government of Ghana (GoG) and a wide range of development stakeholders in the analysis of and response to key development issues. This cooperative effort has significantly enriched development dialogue and helped to shape policy action at all levels. The HDRs have so far been produced at two levels, national and district levels and currently a pilot regional report has been initiated.

The current set of the District HDRs cover 12 districts, namely, Karaga, Tamale Metro, Bole, East Mamprusi, Nanumba North, Zabzugu Tatale (in the Northern Region); Bolgatanga, Bawku West, Lawra (in the Upper East Region); and Sissala East, Wa Municipal, Kassena Nankana (in the Upper West) on the theme “*Resource Endowment, Investment Opportunities and the Attainment of the MDGs*”. In the context of regional disparity, the choice of these districts is deliberate in order to analyze the human development situations and assess the progress of the district towards the realization of the MDGs. With barely five years to the deadline set to meet the MDG targets, the reports provide a unique opportunity to examine possible resource gaps that challenge local level efforts to meet and improve performance on the MDGs. The reports further discuss the resource endowments and investment opportunities in the districts and how these impinge on the

attainment of MDGs and improvement of human development at the local level.

The reports provide baseline district level data, information for policy making, and opportunity for further research for formulation and implementation of District Medium-Term Development Plans. It is the fervent aspiration and hope of UNDP that the findings of these reports would go a long way not only to inform the UNDP’s Local Economic Development Programme in some selected districts in Northern Ghana but also provide insight to Government and other partners in their support at the decentralized level in these districts. These Human Development Reports should therefore lead to building of synergies and further improve programming to serve the needs of the people.

It is my hope that the District Human Development Reports (DHDRs) would serve as entry points for policy dialogue by serving as analytical tools for the Government of Ghana and other development stakeholders including investors in their responses to key development issues and investment opportunities at the grassroots level.

These reports are clear reference points for the development agenda of the Metropolitan, Municipal, and District Assemblies (MMDAs) covered and serve as building blocks as they formulate strategies of intervention to make an improvement in people’s lives.



RUBY SANDHU-ROJON
UNDP Resident Representative

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Initiation, Sponsorship and Report Writing:

This is the third set of the District Human Development Reports but a maiden one for Sissala East District initiated and funded by the United Nations Development Programme (UNDP). Many people contributed to the realization of this report. We acknowledge the efforts of Dr. Charles Amoateng of GIMPA Consultancy Services, the consultant for the field work and the writing of this report.

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We thank the *Technical Committee members* for their inputs and validation of the report. The report was finalized with active participation and in consultation with members of the Economic Policy Unit of the UNDP, particularly and Daouda Toure (former Resident Coordinator of the UN System and Resident Representative of UNDP of Ghana Country Office), Prof. Amoah Baah-Nuakoh (former Senior Policy Advisor — Strategy

and Policy Unit): Paul Derigubaa (former Programme Specialist — Strategy and Policy Unit), Ruby Sandhu-Rojon (the Resident Coordinator of the UN System and Resident Representative of UNDP of Ghana Country Office); K. K. Kamaluddeen (Country Director, UNDP), Pa Lamin Beyai (Economic Advisor, UNDP); Shigeki Komatsubara (Deputy Country Director — Programs, UNDP); Coretta Jonah (Economic Analyst — Strategy and Policy Unit, UNDP); Kordzo Sedegah (Economic Specialist and the Report Coordinator — Strategy and Policy Unit, UNDP); and Magnus Ebo Duncan (Head, Economic and Industry Statistics Division, Ghana Statistical Service).

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Abbreviations

ADB	Agricultural Development Bank
AIDS	Acquired Immune Deficiency Syndrome
BECE	Basic Education Certificate Examination
BNI	Bureau of National Investigation
CBRDP	Community Based Rural Development Project
CEPS	Customs Excise and Preventive Services
CFR	Case Fatality Rate
CHPS	Community Health Planning Service
CWIQ	Core Welfare Indicators Questionnaire
DA	District Assembly
DACF	District Assembly Common Fund
DHDR	District Human Development Report
DWHIS	District Wide Health Insurance Scheme
DHIMS	District Health Information management System
FGER	Female Gross Enrolment Rate
GCS	GIMPA Consultancy Services
GER	Gross Enrolment Ratio
GOG	Government of Ghana
GPI	Gender Parity Index
HD	Human Development
HIV	Human Immune Virus
IPT	Intermittent Preventive Therapy
ITN	Insecticide Treated Nets
JHS	Junior High School
MDG	Millennium Development Goal
MGER	Male Gross Enrolment Rate
MOFA	Ministry of Food and Agriculture
NGOs	Non-Governmental Organizations
OPD	Out Patient Department
PLWHA	People Living With HIV/Aids
PMR	Proportional Morbidity/Mortality Rate
TBA	Traditional Birth Attendants
UNDP	United Nations Development Programme
UNICEF	United Nations Children Education Fund
UWADEP	Upper West Agricultural Development Programme

Contents

<i>Foreword</i>	iii
<i>Preface</i>	iv
<i>Acknowledgements</i>	v
<i>Abbreviations</i>	vi
<i>List of Tables</i>	x
<i>List of Illustrations</i>	xi
<i>Executive Summary</i>	xii
1 INTRODUCTION	1
Background	1
Objectives and Scope of the Assignment	1
Understanding of the Assignment	1
Approach and Methodology	3
General Approach	3
Specific Methods	3
Field Organization and Data Collection	3
Organization of Report	4
2 PROFILE OF SISSALA EAST DISTRICT	5
Location and Size	5
Feature	6
Relief and Drainage	6
Geology and Soils	6
Land Use and Land Cover	9
Land Suitability for Selected Crops (Major Crops)	12
Climate and Vegetation	16
Human Settlement	16
Background	16
Housing Situation	17
Demographic Characteristics	18
Population Size and Growth Rate	18
Household Characteristics	18
Occupational Distribution of the Population	19
Ethnicity and Religion	19
Governance (traditional and state)	20
Structure of the District Administration	20
Traditional Setup	21
Contribution of Traditional Authority to District Development	22
Problems of Traditional Authority	22
Security	22

	Sissala East District's Status of the MDGs	23
	The Millennium Development Goals	23
	Status of MDGs in Sissala East	23
3	ECONOMIC ACTIVITIES AND POVERTY	25
	Introduction	25
	Major Economic Activities	25
	Agriculture	25
	Industry	26
	Commerce and Service	27
	Financial Sector (Banking)	27
	Employment, Unemployment and Underemployment Situation in the District	28
	Unemployment Situation in Sissala East District	28
	Underemployment	29
	Poverty Situation in the District	29
4	EDUCATION AND LITERACY	30
	Introduction	30
	Education Infrastructure	30
	Number of Schools	30
	Distribution of School in the District	30
	Number of Schools – Physical Conditions	32
	School Enrolment and Access	33
	Access to School	33
	Limitations to School Access	35
5	HEALTH, WATER AND SANITATION	37
	Human Development	37
	Health Services Delivery	37
	Health Infrastructure and Personnel	38
	Health Care Access and Quality of Health Services	40
	Disease Control/Surveillance	40
	Epidemic-prone Diseases	41
	Top Diseases of OPD Attendance	42
	Malaria	42
	Integrated Management of Childhood Illnesses (IMCI)	44
	Water and Sanitation	44
	Water Situation: Opportunities and Challenge.....	44
	Management of Tumu Town Water Supply System	48
	Sanitation	48
6	RESOURCE ENDOWMENT AND INVESTMENT OPPORTUNITIES	50
	Physical Resources	50
	Transportation Infrastructures	50
	Communication	50
	Markets	53
	Hazards and Environment Impacts	53

Sissala East District Human Development Report 2011

Poor Physical Access	53
Droughts, Bushfires and Rainstorms	53
Investment Opportunities	55
Summary of Key Developments Issues	56
APPENDICES	58
Appendix 1: Household Survey Questionnaire	58
Appendix 2: Guidelines for Focus Group Discussions	83
REFERENCES	85

List of Tables

2.1	Matrix of Geology Distribution in the District	9
2.2	Matrix of Soil Distribution in the District	9
2.3	Matrix of Land Cover/Land Use Distribution in the District	9
2.4	Attributes of Land Utilization Types	12
2.5	Number of houses in the District	17
2.6	Material Used for House Walls	17
2.7	Material Used for House Roofs	18
2.8	Population Sizes of the First 10 Settlements	18
2.9	List of Development Partners and NGOs	21
2.10	MDGs Status of Sissala East District	24
3.1	Trends in the Incidence of Poverty in Ghana (%)	29
3.2	Number of Times People Eat in a Day	29
4.1	Matrix of Educational Facilities in the Sissala East District	30
4.2	List Distribution of Educational Institutions in the Sissala East District 2007	32
4.3	Physical Condition of School Infrastructure	32
4.4	School Enrolment and Pupil Teacher Ratio	33
4.5	Access Trends in Kindergarten Education — Sissala East District	34
4.6	Access Trends in Primary Education — Sissala East District	34
4.7	Access Trends in JHS Education — Sissala East District	35
4.8	Performance Increase (Aggregate 6–30) from 61.6 to 70%	35
5.1	Matrix of Health Facilities in the Sissala East District	38
5.2	Summary of Health Services staff Situation	40
5.3	Report on CBDSV (2005 to 2007)	41
5.4	Trend in Epidemic Prone Diseases	41
5.5	ITNs Received and Distributed Between 2005 and 2007	43
5.6	Malaria Cases by Groups and Treatment with Artesunate Amodiaquine	43
5.7	Recorded Malaria Deaths	43
5.8	Matrix of Water Facilities in the Sissala East District	45
5.9	List of Communities with Bore Holes	45
5.10	Communities with Hand-dug wells	45
5.11	List of Communities with Dams	48
5.12	Matrix of Sanitation Facilities in the Sissala East District	48
5.13	Type and Condition of Toilet Facilities in the Sissala East District	48
6.1	Road Network and Road Condition Mix in the Sissala East District	50
6.2	Number of People Affected by Natural Disasters	53
6.3	Summary of Investment Potential and Opportunities in the Sissala East District	56

List of Illustrations

FIGURES

3.1	Production Levels of Some Major Crops (in tones)	25
3.2	Production Levels of Livestock and Poultry in the District	25
3.3	Constraints to Work Productivity	28
3.4	Reasons for Unemployment	28
4.1	Education Facility Distribution in the District	35
4.2	Percentage Performance at BECE (2005–2007)	36
5.1	Health Facility Visited When Ill	38
5.2	Travel Time to Nearest Health Facility	40
5.3	Travel Mode to Nearest Health Facility	41
5.4	Main Causes of OPD Attendance in the District	42
5.5	Immunization Performance in 2005–2007	43

MAPS

2.1	The Sissala East District	5
2.2	Topography and Drainage Distribution in the District	7
2.3	Geology Distribution in the District	8
2.4	Soil Distribution in the District	10
2.5	Land Use/Land Cover Distribution in the District	11
2.6	Land Suitability for Cowpea (60 days at high farm input)	13
2.7	Land Suitability for Groundnut (90 days at intermediate farm inputs)	14
2.8	Land Suitability for Sorghum (90 days at low level farm input)	15
4.1	Education Facility Distribution in the District	35
5.1	Health Facility Distribution in the District	39
5.2	Distribution of Water Facilities: Boreholes	46
5.3	Distribution of Water Facilities: Hand-Dug Well	47
5.4	Sanitation Facilities Distribution in the District	49
6.1	Transportation Network Distribution in the District	52
6.2	Distribution of Markets in the District	54

PICTURES

2.1	Mud House in Tumu Town	18
2.2	Sissala East District Assembly Block	20
2.3	Chief's Palace in Tumu	21
3.1	The Ghana Cotton Company Ltd, Tumu	26
3.2	Pile of Cotton at Factory in Tumu	26
3.3	Tumu Women in Batik Production	27
3.4	Traders from Burkina Faso Coming to Tumu on a Market Day	27
3.5	Sissala Rural Bank Ltd, Tumu	27
6.1	Untarred Road to Tumu Township	50
6.2	The Entrance to Radford Radio Station	51
6.3	Community Information Centre — Sissala East District Assembly, Tumu (Ministry of Communication	51

Executive Summary

Background

Human development has often been equated with improvements in people's incomes. Although income constitutes a very important determinant of people's access to food, clothing and other basic necessities of life, the correlation between well-being and income levels is not perfect since an increase in incomes does not necessarily lead to improvements in people's well-being. It is in line with this that UNDP has extended the definition of the concept of human development beyond the narrow view of income to incorporate other dimensions of living or well-being. According to the UNDP, human development is a process of enlarging people's choices. The most critical of these choices are: the option to live a long and healthy life, to be knowledgeable and to enjoy a decent standard of living.

Over the years, UNDP has been working with government and other development agencies and stakeholders in promoting human development in Ghana. In line with this initiative, UNDP since 1990 has been providing a quantitative measure of human development through the production of the National Human Development Reports. The main objective of these reports are to offer guidance and policies required at various levels by different actors to keep development interventions within the country focused, coordinated and effective.

In line with the overall government development policy framework and decentralization objectives, UNDP Ghana, since 2004 has been preparing the Human Development Report at the district level. The

District Human Development Reports (DHDRs) are mainly geared towards capturing developmental issues at the grassroots level in order to provide a detailed diagnostic analysis on key human development issues inform planning and resource allocation at the district level; and strengthen the link between national and district development planning frameworks (UNDP, 2007).

The first round of DHDRs was prepared in 2004 in the districts of Tema, Atwima and Builsa in the Greater Accra, Ashanti and Upper East regions respectively on the theme "Vulnerability". The second set of DHDRs was prepared in 2007 in the districts of Ahanta West, Offinso, and West Gonja in the Western, Ashanti and Northern Regions respectively on the theme "Vulnerability and the Attainment of the MDGs at the Local Level". The 2010 DHDRs, which constitutes the third set of DHDRs, has been prepared in the districts of Bole, Nanumba North, Zabzugu Tatale, Tamale, Karaga and East Mamprusi all in the Northern region; Bolgatanga, Bawku West and Kassena Nankana in the Upper East region; and Wa, Lawra and Sissala East in the Upper West region. The theme for these reports is Resource Endowment, Investment Opportunities and the Attainment of the MDGs.

Objectives of the Report

The Sissala East District report aims at achieving, among others, the following:

- Provide reliable data and information on the status of human development by

investigating trends in the different components of human development.

- Provide detailed analytical situation analysis of the resource endowment and investment opportunities of the district and how they impinge upon the attainment of the MDG.
- Identify the different types of resources available to individuals, communities and group of persons for investment and human development.
- Identify and analyze the different ways that different entities use the resources to enhance their lots.
- Assess the impact of the resource endowment of the district on individuals, communities and the nation at large for investment opportunities.
- Assist decision makers in identifying priority issues and formulating strategies for the attainment of the MDGs, and
- Build the capacity of the district assembly to prepare its own subsequent plans.

Approach and Methods of Analysis

The team applied both quantitative and qualitative methods to gather data from three different sources for the preparation of this report. We obtained secondary data from various censuses conducted in Ghana, and extracted data from the district-based Core Welfare Indicators Questionnaire survey that was conducted in 2003. The team also conducted a socio-economic survey in the chosen districts in December 2008 and consulted various stakeholders to ensure that their interests were addressed and technical omissions minimized. Some aspects of the districts' profile were obtained from documents that had been prepared by the district assembly for its programmes; the Medium Term District Development Plan prepared for the implementation of the

Ghana's Medium-Term Development Plans. In addition, various departments of the district assemblies provided information on their activities over the last five years. This gave the team insights into the economic and social conditions in the districts and the strategies that have been adopted and implemented regarding issues of human development.

Data from the 2000 Population and Housing Census was extensively used to obtain district level information on population dynamics, housing characteristics, employment and education. We also sought assistance from the Ghana Statistical Service to get summary tables from CWIQ 2003.

A two-stage probability sampling procedure was used, stratified based on urban and rural communities. The updated list of the Enumeration Areas (EAs) that was used for the 2000 Ghana population census constituted the sampling frame. The primary sampling units were EAs in the district and the households within the selected EAs constituted the secondary sampling units.

In all, 15 EAs were selected randomly from the district. The second stage of sampling involved the systematic and random selection of 15 households from each of the selected EAs. In addition eight supplementary households were selected for possible replacement for missing households. Consequently, the number of households that was selected for study in the district was 225 plus an additional 25 to cater for missing households.

Interviews conducted in the district involved qualitative and quantitative techniques, principally to gather information on various dimensions of the MDGs and also for the assessment of the resource endowment and investment opportunities component of the report. Two main questionnaires were used for this purpose; community (a check list of services and infrastructure available in addition to detail discussion on development issues) and

household questionnaires. The community questionnaire was completed during group discussions with traditional leaders of the communities, members of the district assembly resident in a community and opinion leaders. The objective of the questionnaire was to obtain information about the socio-economic development of the communities we visited, land tenure arrangements, resources and investments within communities.

The household questionnaire is separated into different modules that are answered by different members of the household and was also done in such a way to address issues concerning different targets of the measurable MDGs at the district level. The questionnaire also covered information on the different types of resources available within the districts, investments opportunities and how these variables are impacting on the well-being of households.

Key Findings

From the 2008 GIMPA Household Survey on economic activities, poverty, education, health, water and sanitation; as well as annual performance reports from the decentralized agencies, some conclusions can be drawn on the status of the relevant MDGs in the Sissala East District.

1. On eradication of extreme poverty and hunger over 80 per cent of those interviewed could afford 3 meals during the long dry season. Per capita income at time of survey is, however, less than one dollar.
2. Considerable improvement has been recorded in the education sector. Estimated gross enrolment rate in the district is 74 and 50 per cent for primary school and Junior High School (JHS) respectively. Secondary data shows that Gross Enrolment Ratio (GER) is significantly high for girls. It reveals an increasing GER for girls transiting from primary to JHS while boys GER declines indicating increasing gender equality in education and hence empowerment of women in the district. However, most rural communities lacked the required number of educational facilities to cater for the ever increasing numbers of children of school-going age. All second-cycle institutions in the district, for instance, are located in the district capital, Tumu.
3. The health status of the population in the district is found to be among the worse in the country. Malaria continues to be the number one cause of morbidity and mortality for all age groups in the district. Under-five (absolute) mortality decreased from 42 in 2006 to 22 in 2008. If current trend is maintained, the MDG for infant mortality could be achieved. With increasing awareness, the incidence of HIV declined slightly from 61 in 2007 to 58 in 2008. The report also shows that access to health-care facilities is difficult. Only 14.7 per cent of households take less than 30 minutes to reach the nearest health facility, while over 69 per cent of them are 60 minutes away from the nearest facility.
4. Potable water supply in the district is quite adequate. From the 2008 GIMPA survey, about 80 per cent of the people use boreholes as source of drinking water although most of these are low yielding during the dry season. About 95 per cent are without sustainable access to basic sanitation making the residents of the district more prone to environmental and other sanitary-related diseases.
5. Natural and human-made hazards of bush fires, rainstorms, floods, wind-storms and drought continue to wreck

havoc, particularly among the vulnerable in the society.

6. Investment opportunities in the district are vast. Our study shows the district abounds in vast land suitable for all kinds of cereals and legumes, livestock rearing, cotton cultivation in particular and the potential for the establishment of a large textile industry. The existing labour force has potential for further training in skills required for investment in new areas.
7. In terms of good governance at the district level, a number of challenges were observed. There appears to be weak collaboration between the District Assembly and other stakeholders, low staffing capacity of the District Administration, inadequate office and residential facilities for staff, and weak

district and sub-district institutions for local governance. Internal revenue collection mechanism in the district is poor leading to over dependence on external source of funds to support development (DACF and development partners).

The Way Forward

On the basis of the above the way forward for the district's development is the adoption of measures to mitigate all the shortcomings outlined above. The DA alone would not have the human, financial and technical capabilities to tackle all these challenges. Central government support with collaboration of NGOs and other development partners would be required to stem the tide of under-development in the District.

CHAPTER 1

Introduction

Background

To enrich decentralized planning and resource allocation, the Ghana Country Office of the UNDP facilitated the development of District Human Development Reports (DHDRs) for some districts on a pilot basis. These reports were found to be very useful for the analysis of and response to key development issues at the grassroots level, which can contribute towards the attainment of the Millennium Development Goals. Consequently, UNDP finds it appropriate to upscale this pilot phase by facilitating the preparation of Human Development Reports for twelve Districts in the northern part of Ghana, where poverty is most severe.

Objectives and Scope of the Assignment

The main objective of the assignment is to collect and analyze pertinent data & prepare Human Development Reports that will not only inform resource allocation decisions at the district level but also serve as advocacy tools as well as baseline to help track performance of various development interventions.

The specific objectives of the Sissala East District report, *inter alia*, include the following:

- Provide reliable data and information on the status of human development in the

districts by investigating trends in the different components of human development.

- Provide a detailed analytical situation analysis of the resource endowment and investment opportunities of the areas and how they impinge upon the attainment of the MDGs at the local level
- Identify the different types of resources available to the individuals, communities and group of persons for investment and human development.
- Identify and analyze the different ways that different entities used the resourcing to enhance their lots.
- Assess the impact of the resources endowment of the area on the individual, communities and the nation at large for investment opportunities.
- Serve as baseline information for the evaluation of the programme and policies of the Long-Term Multi-Sectoral Northern Growth Strategy.

Understanding of the Assignment

The Report seeks to improve the understanding as to what the targeted districts have, in terms of resources, and how those resources could be effectively and equitably harnessed to accelerate their development process. Specifically, the report tries to:

- Establish the status and trends in various components of Human Development;
- Examine and analyze the resource endowment and investment opportunities of the targeted districts;
- Explore link between resource endowment and Human Development; and
- Assess how these resources could be equitably harnessed in a sustainable manner for the accelerated development of the districts.

The understanding of some key words related to this report, that guided the process preparation of the report is elaborated below:

1. *Human Development*: We take a more embracing view of Human Development to be the process of enlarging people's capabilities and choices. The most important indicators of human development, which guided this study include the following:
 - *Child Mortality Rate*: Percentage of those who die before five years.
 - *Maternal Mortality Ratio*: Percentage of women who die as a result of child birth.
 - *Adult Literacy*: Percentage of adults who can read and write.
 - *Gross Primary Enrolment*: Percentage of children between the ages of 5 and 14 who are actually in school which is a composite of adult literacy and gross primary, secondary and tertiary enrolment rates.
2. *Resource Endowment*: The forms of capital or potentials that people could utilize to earn a living. These include:
 - *Natural resources*: They include forest, soils, rivers and tourism potentials.
 - *Human resources*: represented by the quantity and quality of labour available as reflected in the human skills, knowledge and health status which people can deploy to earn a living.
 - *Physical resources*: These include infrastructure like road network, electricity, telephone etc as well as equipment and tools at the disposal of the community members that can be used to enhance production.
 - *Access to social services*: These include services like education, health and water.
 - *Social capital or resources*: These include social networks or connectedness of community members as well as prevailing level of relationship of trust and reciprocity in the community which people can tap into for a livelihood.
 - *Financial capital or resources*: Represented by available stocks like cash, bank account and liquid assets such as livestock.

The overwhelming relevance of resource endowment in the DHDRs lies in the question of how effectively and judiciously districts are utilizing their resource endowment for the development of

their people and their districts. It is now well established that building development on the existing resource strengths, while adding more from external sources to fill gaps engenders more sustainable development than relying on only externally injected resources and inputs.

Approach and Methodology

General Approach

Our general approach in undertaking this assignment was participatory, with active involvement of various stakeholders at all stages of the assignment execution, so as to build consensus and ownership of the process and outcomes. The field assessment was done with the active participation of some staff of the respective district assemblies so as to build local capacity for reviewing and updating the various dimensions of Human Development in future.

The study employed both quantitative and qualitative methods in the collection and analysis of data. The data was obtained from both secondary and primary sources. Secondary data sources included the Medium-Term Development Plans of the District, the 2000 Population and Housing Census and records from various health and educational institutions.

After the field assessment and data analysis, a draft report was prepared and presented at a stakeholders' workshop for discussion, validation and filling in any gaps before the final report was prepared.

Specific Methods

Within the participatory framework, specific methods and techniques employed to

accomplish the objectives of this study are highlighted below:

Sampling Design

A two-stage probability sampling procedure was used, based on urban and rural communities. The updated list of the Enumeration Areas (EAs) that was used for the 2000 Ghana population census constituted the sampling frame. The primary sampling units were EAs in the district and the households within the selected EAs constituted the secondary sampling units.

Sample Selection Process

The sample was selected in two stages. At the first stage of sampling, 15 EAs were selected randomly from each district. The second stage of sampling involved the systematic and random selection of 15 households from each of the selected EAs. In addition, eight supplementary households were selected for possible replacement for missing households. Consequently, the number of households that was selected for study in each of the districts was 225 plus an additional 25 to cater for missing households.

The Survey Instrument

Two types of questionnaire were used, one for households and the other for the community, samples of which are provided in Appendices 1 and 2. The household questionnaire was designed guided by two key considerations: First, the instrument had to be as explicit as possible, while covering all the relevant issues of interest. Secondly, questions related to similar issues in the 2003 Core Welfare Indicators Questionnaire (CWIQ) were structured along similar lines so as to ensure comparability.

Field Organization and Data Collection

Research assistants, who are staff of the District Assembly, were identified and trained on the instrument and interviewing techniques before being sent out to collect the data. These research assistants were supervised in the field data gathering by a lead consultant. The lead consultant reviewed the filled questionnaire with the research assistants every evening so as to ensure completeness, accuracy and consistency of responses.

Data Analysis

After checking the data for possible errors, it was analyzed using the Statistical Package for Social Sciences (SPSS) computer software. Basic descriptive analysis was conducted to depict trends and patterns in the main indicators. Thematic coding techniques were employed to group various issues under similar themes so as to establish intensity and trends.

Organization of Report

The Sissala East District Report is made up of seven chapters. Chapter 1 briefly highlights the background, relevant references to literature and the work done for the development of the report. Chapter 2 presents the general profile of the Sissala East District and covers the administrative, physical features, climate and vegetation, settlements and housing, demography, and governance characteristics; as well as its progress in attainment of the Millennium Development Goals. Education and Literacy are discussed in Chapter 3. Chapter 4 deals with health, water and sanitation. Chapter Five looks at economic activities in the district, including primary production activities, rural industrialization, commerce, tourism, etc. Employment and poverty are also covered in Chapter 5. This chapter also discusses the poverty status of the district, employment, unemployment, under-employment, poverty patterns, and causes of poverty. Chapter 6 discusses resource endowment as a holistic approach and various types of resources as well as investment opportunities and actual investments in the district. The summary of the report, recommendations and the way forward are presented in Chapter 7.

Profile of Sissala East District

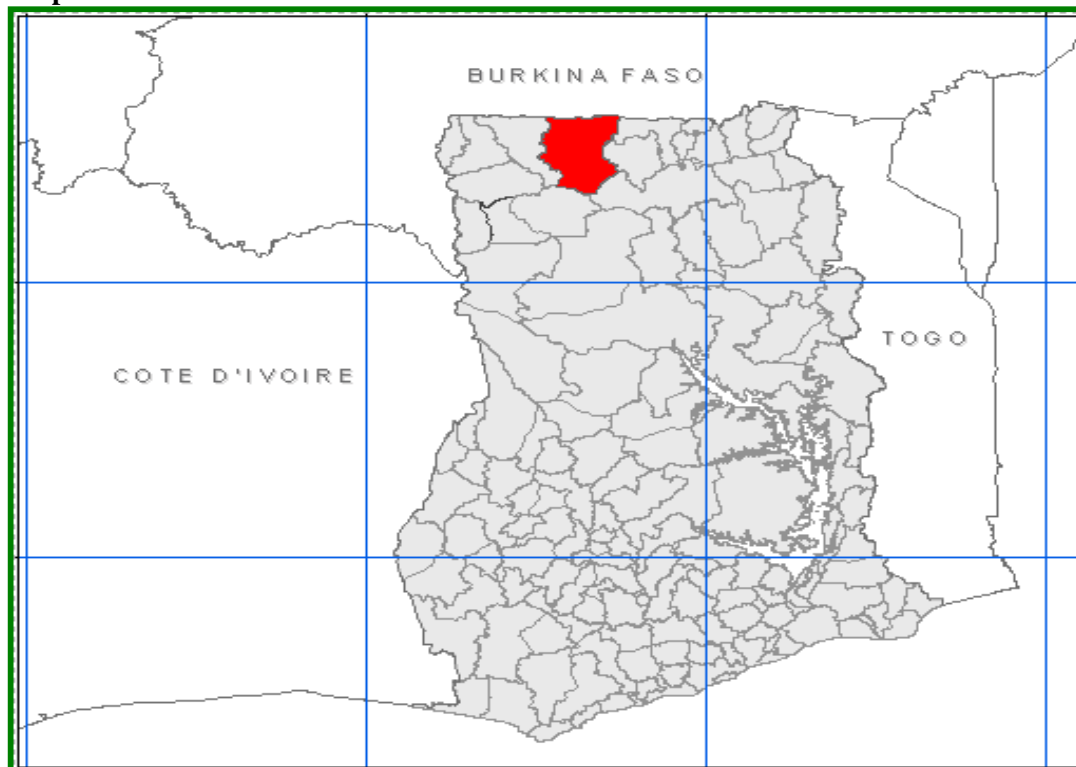
Location and Size

The Sissala East District is located in the north-eastern part of the Upper West Region of Ghana. It falls between longitude 1.30° to 2.40° W and latitude 10.00° to 11.00° N. The district has a total land size of 4,744 sq km, representing 26 per cent of the total landmass of the region. It shares boundary on the north with Burkina Faso, on the east with Kassena Nankana and Builsa Districts in the Upper East Region, and to the south-east with West Mamprusi District, in the Northern Region.

Its neighbours in the Upper West Region are Wa East, Nadowli, Sissala West and Jirapa Lambussie Districts to the west.

The district, due to its position, has an advantage for trade and other cross border activities. This locational advantage is a potential for the development of the local economy. This notwithstanding, the district by its location, also faces the threat of illegal immigrants from neighbouring countries. An example is the insecurity posed by the intransigence of Fulani herdsmen in the district, which has become a yearly ritual.

Map 2.1: The Sissala East District



On the whole, however, the Sissala East district, by its location, is well positioned for enhanced socio-economic, cultural and political interaction with the neighbouring districts as well as Burkina Faso.

Feature

Relief and Drainage

The topography is gently undulating and generally characterized by altitudes of between 330 m and 365 m in the northern part descending to 220 m and 290 m in the Sissili River valley (see Map 2.2). The district is mainly drained by the Sissili River and its tributaries flowing in the south-eastern direction to join the White Volta. This is coupled with several tributaries and other unnamed streams. A significant characteristic feature of most of these rivers and streams is their perennial nature of their flows. The flow of the Sissili River itself reduces to intermittent pools in the dry season. The constant drying of the rivers necessitate the drilling of boreholes to supplement the seasonal shortage of water in the district which in one way might have accounted for the out-migration of the population during the dry season. The numerous tributaries of the Sissili River provide an advantage for the construction of more dams in addition to the already existing ones. The rich valleys of the Sissili River maintain a vegetative cover that provide an abode for wildlife and further protect the land from erosion.

Geology and Soils

With a gently undulating topography, the district is bound with fresh granitic and bromine rock outcrop which gives the district a whale-back landscape appearance. The

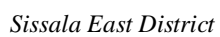
granitic and bromine rocks weather fast as a result of low rainfall, high evaporation and sparse vegetative cover to form soils of lesser depths rich in minerals for potential farming. The bromine and granitic geological formations in the district are characterized by meta-sediments and meta-volcanic rock formation. The bromine formation has a 65 per cent of yielding underground water, while the granite has 55 per cent chances of yielding water. Though the success rate of the granitic formation is lower, a successful borehole drilling in this terrain could yield over 600 litres of water per minute. The geology of the district thus provides potential for underground water development.

The geological distributions of the district are shown in Table 2.1 and Map 2.3.

The type of soils in the district include savannah ochrosols, tropical brown earths and terrace or alluvial soils. These soils are better suited for the cultivation of cereals and root tuber crops, including millet, maize, sorghum, yam and a cash crop like cotton. They respond well to the application of organic manure and commercial fertilizers to give high yield. Details of the various soil types are presented seriatim.

Savanna Ochrosols

Savanna ochrosols contain nutrients that are concentrated in the topsoil with organic matter. Phosphorus and nitrogen are particularly deficient, calling for the use of appropriate fertilizers and organic manure to sustain cultivation. These soils are easy to fill except where sheet iron-pan or granitic boulders lie near the surface. The soils are extensively farmed. The predominant crops here include millet, beans, maize, sorghum, yams, cotton, bambara beans, groundnuts and soya-beans.



Map 2.3: Geology Distribution in the District

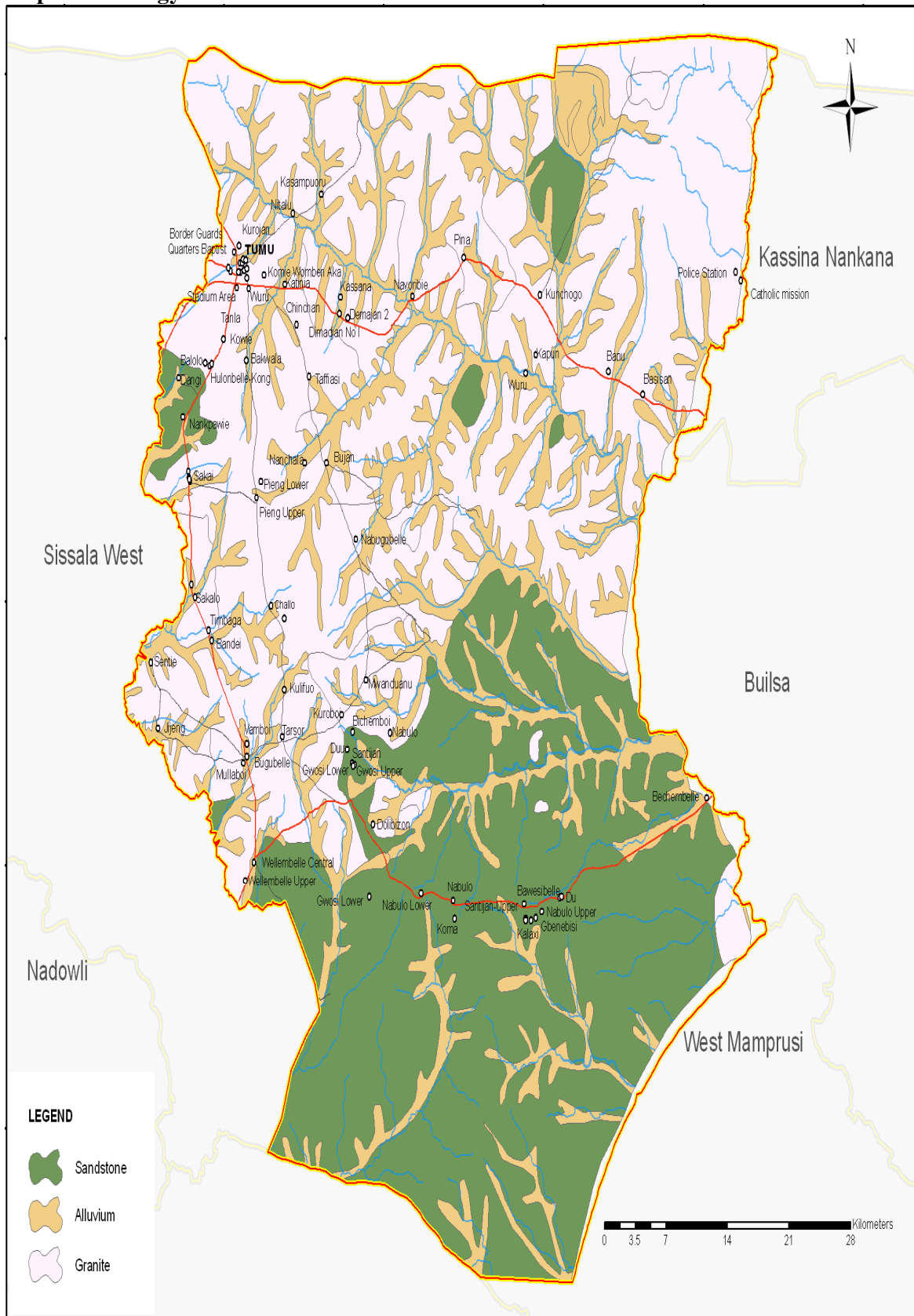


Table 2.1: Matrix of Geology Distribution in the District

Geology Type	% Area (Hectares)
Alluvium	22.84
Granite	44.75
Sandstone	32.41

Tropical Brown Earth

Tropical brown earth soils are good agricultural soils, though the addition of fertilizers containing nitrogen and phosphorus give higher crop yields than with any other major soils in the interior savannah zone. The tropical brown earths are more suitable for mechanized or plough farming than for hand cultivation; and the increasing use of bullock ploughing should facilitate their use.

Terrace Soils

Terrace soils occur along rivers and have been heavily farmed with grain crops and tobacco. Presently, these soils of alluvial tracts are little used, mainly because of the river blindness factor, which forced people away from the rivers. The control of the simulium fly along the Sissili-Kulpawn river systems would make the land with its rich soils available for cultivation. The existence of savannah ochrosols and tropical brown earths, the provision of organic matter both to supply nutrients and to improve the physical condition of the top soil should boost agricultural productivity.

Where cattle are kept, kraal manure should be collected and applied. Artificial

fertilizers should be added to these to give the best results. The proportions of areas covered by each of these soil types are shown in detail in Table 2.2 with an accompanying graphical representation in Map 2.4.

Table 2.2: Matrix of Soil Distribution in the District

Soil Type	% Area(Hectares)
Calcic Vertisols	22.53
Dystric Planosols	0.31
Ferric Lixisols	44.26
Haplic Lixisols	0.03
Lithic Leptosols	32.87

Land Use and Land Cover

The land use/land cover types found in Sissala East include cropland, grassland, settlement/degraded, shrubland, water bodies (dams) and Woodland. These land use/land cover types occur in different proportions with grassland, woodland and shrubland occupying 88.89 per cent of the district. Map 2.6 presents the spatial distribution while, the tabular distribution is displayed in Table 2.3.

Table 2.3: Matrix of Land Cover/Land Use Distribution in the District

Land Cover/Land Use Type	% Area(Hectares)
Cropland	8.88
Grassland	31.35
Settlement/Degraded	2.2
Shrubland	26.24
Water Bodies (Dams)	0.02
Woodland	31.3





Land Suitability for Selected Crops (Major Crops)

Land in the Sissala East Area is suitable for both domestic and industrial crops. The major traditional crops cultivated in the district include maize, sorghum, millet, soya, groundnuts, cowpeas, sweet potatoes and rice.

The land suitability maps depict suitability classes for crop production relevant to a set of agricultural and socio-

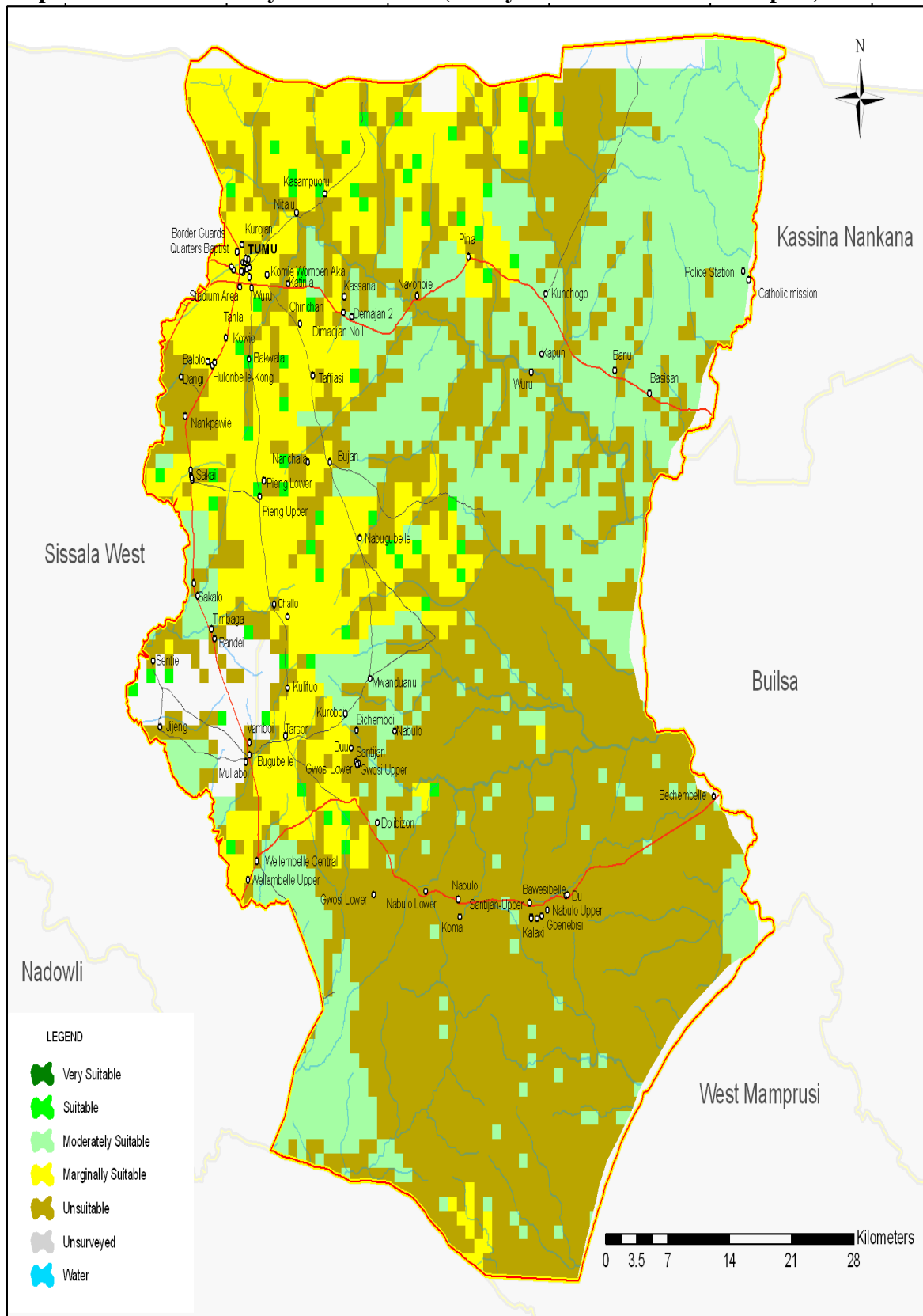
economic conditions prevailing in the district, which were defined in terms of Land Utilization Types based on rainfall cropping at three levels of inputs and farm operations — low, intermediate and high. Three classes of suitability based on Land Utilization Types (LUTs) are set out in Table 2.4. For details refer to Map 2.6 (*Cowpea (60 days at high farm input)*), Map 2.7 (*Groundnut (90 days at intermediate farm inputs)*), and Map 2.8 (*Sorghum (90 days at low level farm input)*).

Table 2.4: Attributes of Land Utilization Types

Attributes	Low Inputs	Intermediate Inputs	High Inputs
Produce and production	<i>Rain-fed cultivation</i> of maize, pearl millet, wetland rice, sorghum, cowpea, green grain, groundnut, phaseolus bean, pigeon pea, soybean, cassava, sweet potato, cocoyam, white yam, greater yam, yellow yam, cotton, tobacco, avocado, cashew, banana, citrus (sweet orange), cocoa, coconut, robusta coffee, mango, oil palm, pineapple, plantain, rubber, shea butter, sugarcane, rangeland (natural pasture) and forage legumes. Sole cropping, according to general crop calendars.		
Market Orientation	Subsistence production	Subsistence production plus commercial sale of surplus	Commercial production
Capital Intensity	Low	Intermediate with credit on accessible terms	High
Labour Intensity	High including uncosted family labour	Medium including uncosted family labour	Low family labour cost if used
Power Source	Manual labour with hand tools	Manual labour with hand tools and/or animal traction with improved implements; some mechanization	Complete mechanization including harvesting (where applicable)
Technology	Traditional cultivars. No fertilizer or chemical pest, disease and weed control. Fallow periods. Minimum conservation measures	Improved cultivars as available; appropriate extension packages. Including some fertilizer application and some chemical pest, disease and weed control. Adequate fallow periods and some conservation measures	High yielding cultivars including hybrids. Optimum fertilizer application. Chemical pest, disease and weed control. Full conservation measures
Infrastructure	Market accessibility not necessary. Inadequate advisory services	Some market accessibility necessary. Access to demonstration plots and advisory services	Market accessibility essential. High level of advisory services and application of research findings
Land Holding	Small, fragmented	Small, sometimes fragmented	Large consolidated
Income Level	Low	Moderate	High

Note: No production involving irrigation or other techniques using additional water.

Map 2.10: Land Suitability for Groundnut (90 days at intermediate farm inputs)





Climate and Vegetation

Sissala East District is located in the Guinea Savannah vegetation belt. The vegetation consists of grasses with scattered fire resistant trees such as the sheanut, the baobab and *dawadawa* trees. Acacia is also a common tree of this vegetation belt. The heterogeneous collections of these trees meet domestic requirements for firewood and charcoal, construction of houses, cattle kraals and fencing of gardens. The shorter shrubs and grasses provide fodder for livestock. These activities need to be enhanced by providing the appropriate means of transport for them. But they have to be appropriately controlled and managed if the environment is to be sustained. The sheanut tree is one of the great economic asset of the district and head portage has been the most common means of transporting the fruits from the farm to the house.

The climate of the Sissala East District is tropical continental as experienced in the northern regions of Ghana. Throughout the year, temperatures are high with a minimum of 23°C at night and a maximum of 42°C during the day and this favours plant growth.

The mean monthly temperature ranges between 21°C and 32°C. The highest monthly maximum temperature rises up to 40°C before the rainy season in May with lowest minimum temperature falling to about 12°C in December when the Harmattan winds from the Sahara dries up the vegetation.

The rainfall type which is conventional in nature is characterized by a single rainy season from May to September/October. That is five to six months with the total number of rain ranging between 70 to 80 days with a mean annual rainfall of about 121 mm as recorded in Tumu station in 1999, with extreme annual rainfall ranging between 397 mm and 635 mm.

As a result of the single maximum rainfall prevailing in the district all year

round, crop production is mostly done during the rainy season (May to September/October). However, since farming is the major occupation of the people, it means that their major sources of livelihood and income are limited during the dry season, apparently resulting in the migration of the youth to the south in search of greener pastures. There is thus, the need to have adequate irrigation facilities to promote and enhance agricultural activities in the dry season. In addition, it is imperative to identify and provide alternative source of livelihood to the people to complement their occupation and improve their income generating capacity.

The greatest climatic influence on the vegetation in the district is the long dry season from November to March when the relative humidity is very low and the vegetation dries up under the influence of the dry harmattan winds. The forest reserves cover a total area of about 267 sq km and encourage a rich stock of mammalian wildlife. This includes the following:

1. Primates — Baboons and monkeys
2. Rodents — Various species of rats and mice, grass-cutters and rabbits
3. Carnivora — Civets
4. Edentates — Aardvark or ant-deer
5. Elephant — Savannah elephants (*loxodonta african*)
6. Artiodactyls — e.g. Wild pigs, dwarf buffalo, roan antelope and other species of the antelope family.

Human Settlement

Background

The primary problems of the built environment are those of poor housing,

unplanned building construction, and poor waste disposal system. The unplanned building construction, especially in Tumu, the district capital gives an indication of an ineffective development control. This has made the district capital unattractive and could have adverse implications for tourism, which is a potential that the District Assembly intends to develop. Waste management is highly in-efficient. Open dumping is the mode of refuse disposal and these sites are not properly managed. Refuse heaps therefore abound and are health hazards to the people, particularly in the relatively urban settlements.

At the district level, however, the decentralized departments in charge of the management of the environment are: the Town and Country Planning Department, Environmental Health and Sanitation Depart-

ment, and District Water and Sanitation Team. Some NGOs such as FOMWAG and Green Sahara are also involved in the management of the built environment.

There is therefore the urgent need for these institutions to put some mechanisms in place by which land disposition and development would be rationalized and facilitated to avoid the problems of unplanned development and its implications for the district development.

Housing Situation

Currently, the district has a total of 4,403 houses. Table 2.5 shows the number of house disaggregated into settlements.

Table 2.5: Number of Houses in the District

Settlements	No. hses.	Settlements	No. hses.	Settlements	No. hses.	Settlements	No. hses.	Settlements	No. hses.	Settlements	No. hses.
Tumu	1,339	Sakai	219	Bandei	53	Sumboro	13	Wuru	43	Gbenesi	53
Wellebele	311	Dangi	31	Sakalu	67	Basisan	23	Chinchang	71	Santijan	16
Wahabu	42	Nankpawie	47	Bakwala	18	Kwapun	18	Nabugubelle	86	Kalaxi	9
Kuroboi	73	Jijein	4	Kowie	45	Kasana	14	Pina	26	Du	54
Bugubelle	144	Sentie	56	Kong	101	Kasanpori	12	Bunu	34	Bawiesibelle	96
Nwanduanu	96	Lilixia	66	Bujan	48	Dimajan	46	Tanvielle	6	Gwosi	51
Bichimboi	87	Busile	9	Nutorlu	9	Navorowie	21	Challu	144	Fachoboi	56
Vamboi	106	Nahadakui	9	Talaa	10	Kunsolo	5	Pieng	86	Komo	41
Kulfuo	68	Nankpawie-Bul	10	Dolibizon	30	Kunchogu	20	Taffiasi	47		
Tasor	92	Timbaka	22	Yugantu	12	Katina	4	Nabulo	84		
Total	2,358		473		393		176		627		376

Source: DSDA, 2006.

From the survey, 67 per cent of the houses are built with mud bricks with few of them plastered with cement mortar. Even in the district capital these types of houses are found in many places. The houses are either roofed with aluminium or grass thatches. The thatched houses are more prevalent in the rural settlements and are more susceptible to fire during the dry season. The unplastered

houses are also prone to collapse during the rainy season (see Tables 2.6 and 2.7, and Picture 2.1).

Table 2.6: Material Used for House Walls

Main Material	Frequency	%
Mud/mud bricks	162	67.2%
Stone	3	1.2%
Burnt bricks	13	5.4%
Cement/concrete	61	25.3%
Cardboard	1	0.4%
Other	1	0.4%
Total	241	100%

Table 2.7: Material Used for House Roofs

Material for roof	Frequency	%
Mud	8	3.3%
Thatch	47	19.5%
Wood	11	4.6%
Metal sheets	165	68.5%
Cement/concrete	8	3.3%
Roofing tiles	2	0.8%
Total	241	100%



Picture 2.1: Mud House in Tumu town.

Table 2.8: Population Sizes of the First 10 Settlements

Settlement	2004			2000		
	Total	Female	Male	Total	Female	Male
Tumu	10,878	5,593	5,285	8,858	4,270	4,588
Sakai	3,104	1,632	1,472	1,926	1,005	921
Wellembelle	2,077	1,034	1,043	3,397	1,804	1,593
Nmanduanu	1,408	725	683	1,209	659	550
Nabulo	1,365	704	661	1,985	1,070	915
Nabugubelle	1,263	630	633	1,015	540	475
Bugubelle	1,238	647	591	1,859	974	885
Kulfuo	1,007	544	463	900	493	407
Sakalo	702	367	335	627	351	276
Bujan	698	361	337	612	327	295
Total	23,730	12,237	11,476	22,388	11,493	10,905

Source: Sissala East district survey (DSDA II) July 2006.

Demographic Characteristics

Population Size and Growth Rate

The district population is currently estimated at 53,836 (2009) with an annual growth rate of 1.7 per cent and a population density of 12 persons per sq km which is lower than the regional and national averages of 24 and 77 respectively. Patches of high density are found in the relatively urban settlement such as Tumu, Wellembelle, Sakai, Nabugubelle, Nabulo and Bujan.

The settlement pattern is so highly dispersed that, it takes one not less than 10 km to travel to the next community. Majority of these settlements are rural by nature. The male/female ratio of the population is 96 males to 100 females. At the moment it is only Tumu that qualifies as a town by virtue of its population. There are, however, other settlements that are growing in size. Table 2.8 presents the population of the first top ten settlements in the district.

Household Characteristics

In the 2000 population and housing census, a household is defined as a person or group of persons related or unrelated who live together in a house or compound, share the same housekeeping arrangements and are catered for as one unit.

The Sissala East District has a projected total households of 8,570 (DSDA II 2006) living in about 5,852 houses. The household size in the district is about 8.4 with 46.5 per cent of

them very large, with 9 or more people per household. The mean household size in rural areas is larger than the urban areas. The age structure is typical of a young population, and basically, more than 85 % of the people living in the rural settlements.

The amenities and assets available to the households is an indicator of its socio-economic status. In the Sissala East District, about 11% of the households have access to electricity. The main source of drinking water is protected wells, boreholes, rivers and streams with the only pipe system in Tumu. Majority of these households share toilet facilities with one or more households.

The only urban settlement in the district is Tumu which has population of 11,442. The Tumu township lack proper physical planning and non-compliance with building regulation. Mud and thatch are the major building materials used, especially in the rural communities with few buildings built with cement blocks and aluminium roofs which are mostly predominant in the Tumu township. The main fuel for cooking in most of the household is firewood (80%) and charcoal (19%) with the remaining 1 per cent using LPG. More than 70 per cent of the households own basic items such as radios. The common means of transport among households are motorcycles and bicycles. Most of the individuals and households living in this district have farming as their main occupation. The over-dependence on rainfall for agriculture render most families unemployed during the long dry spell which directly hamper growth in family income.

The level of formal education among adult is very low where about 92 per cent of the total population have not had any formal education. Judging from these challenges, household income and expenditure is difficult to estimate for the district because it is not possible for many families to keep records. However, it could be generalized that household expenditure is on basic needs

such as food, shelter and clothing. The subsistence nature of the economic activities means that many households merely make ends meet. A large percentage (84%) of the population live below the poverty line, earning far less than GH¢90 per month.

Occupational Distribution of the Population

The Sissala East district has between 35 per cent and 40 per cent of its population constituting the active labour force. A greater proportion of this population are engaged in agricultural production and its related activities. The 2000 population and housing census showed that 76 per cent of the population of the Sissala East District are engaged in agricultural production such as the cultivation of cereals, tubers, and vegetables for home consumption and some surplus for the market. Cash crops such as sheanut and *dawadawa* also contribute greatly to income generation.

Livestock rearing also plays a key role in the agricultural development in the district since many families produce them for both home consumption and the market. The manufacturing and processing sector is fast gaining grounds in the district by employing about 12 per cent of the work force. The industrial activities in the district include sheabutter processing, groundnut oil extraction, weaving and dress making, pottery and basket weaving, blacksmithing, pito brewing, carpentry, masonry and vehicle repairs.

The commerce and distributive trading sector takes 10 per cent of the work force while the remaining 5 per cent are engaged in sectors such as finance, social services, construction, restaurants/hotels and transport operation.

Ethnicity and Religion

The district has five main ethnic groups comprising the Sissala's (88%), Kasenas (5%), Dagabas (3%), Moshies (2%) and 2 per cent of other ethnic groups. Despite these ethnic compositions in the district, the people co-exist without being disturbed in any way by their differences in disposition and background. On the other hand, the religious composition in the district includes Moslems — 80 per cent, Catholics — 10 per cent, Traditionalists — 5 per cent, and other accounting for about 5 per cent. The variance in religious composition notwithstanding, cordial relations exist among these religious groups. The cordiality serves as a catalyst for developmental programmes and projects in the district.

Governance (Traditional and State)

Structure of the District Administration

In pursuance of section 3 of the Local Government Act (Act 462) of 1993, the Sissala East District Assembly is the highest political and administrative authority at the district level that has been charged with the responsibility of formulating and executing plans, programmes and strategies for effective mobilization of resources to ensure the overall development of the district as enshrined in its mission statement.

The Sissala East District Assembly exists to improve the livelihood of its people by initiating the necessary socio-economic programmes and projects, and creating the enabling environment for

community and private sector participation in the development of the district.

To facilitate the discharge of these important responsibilities, the District Development Planning Coordinating Unit (DPCU) was put in place and made operational. To ensure that effective planning and coordinating activities are carried out in the district, a Core Planning Group was constituted from the expanded DPCU to assist the DA carry out development activities. This group liaises with the relevant decentralized departments and development agencies, Community Based Organizations (CBOs) and sub-committees of the District Assembly to carry out effective planning and promote district development.

The decentralization principle in the new local government system emphasizes on planning to start from the local level and go up rather than the reverse. The planning process therefore starts at the community level and is coordinated first at the area/town council and secondly at the district level by the district core planning group composed of the key personnel of the decentralized departments. The District Assembly structure is made up of Unit Committees at the community level, followed by the Area Councils and the District Assembly at the apex.



Picture 2.2: Sissala East District Assembly Block.

The effort of the District Assembly is being complemented by other Development Agencies. They collaborate with such development partners to improve upon the standard of living of the people. The NGO desk at the district assembly helps to facilitate such collaborations. Table 2.9 highlights the various NGOs and their area of interventions.

- Inadequate provision of equipment and logistics.
- Insufficient finances to meet operational cost.
- Poor infrastructural development in the district.

The activities of all these NGOs and CBOs are to be coordinated by the DA and its decentralized departments to ensure the effective discharge of their functions. This, however, has been limited due to the following reasons:

- Inadequate qualified personnel.
- The concentration of facilities and entrepreneurships in the district capital.

There is, therefore, the need to have critical look at these challenges and to address them for effective development of the district.

Table 2.9: List of Development Partners and NGOs

Development Partners	Activity Area
DANIDA	Health and good governance
CRS	Education
UNICEF	Health
WHO	Health
UNFPA	Health
IFAD	Food security
JICA	Health, bridges
IDA	Water and sanitation, roads, food security
WFP	Education, health
Action Aid Ghana	Education, food security, good governance
Plan Ghana	Health, livelihood, education good governance
TUDRIDEP	Food security, capacity building
DISCAP	Water and sanitation capacity building and logistics
DFID	Roads, education, health
IMCC	Health, research
EU MICRO PROJECT	Education, health, food security
CMA	Health and Nutrition,
YARO	HIV/AIDS family planning, micro credit, women empowerment, nutrition and education
Action for Empowerment and Project Sustainability (AEPS)	Education/Empowerment of the local people
PAWLA	Women and Children issues
FOMWAG	Health and nutrition, domestic violence, religious sensitization.

Source: District Programme Overview Report, 2004, GIMPA Survey 2008.

Traditional Setup

The Sissala East District has two chieftaincy divisions. These are Tumu (see Picture 2.3 for example) and Wellembele. The divisions under Tumu Paramountcy includes Pieng, Bujan, Tafiasi, Sakai, Challu, Santijan, Nabulo, Bawiesibelle, Kasana, Wutu, Kwapun, Pina, Kunchogo, Banu and Bassisan. Those found under Wellembele Paramountcy include Bugubelle, Kulfuo, Nmanduanu and Jijen.

There is a close collaboration between these traditional setups and the formal system in terms of policy-making, conflict resolution and the implementation of development programmes and projects. The two paramountcies have come together to form the Sissala East Traditional Council. The relationship among chiefs, on the one hand and between chiefs and the district assembly on the other has been very cordial.



Picture 2.3: Chief's Palace in Tumu.

despite subsequent rapid changes in the Ghanaian body-politic, the institution remains a unifying and stabilizing force.

The government policy of decentralization offers the chiefs in the district an opportunity to blend local aspirations with objectives of the district assembly. In this regard, chiefs in the District have been very responsive and take the initiative, especially in community mobilization, revenue generation and self-help programmes.

Contribution of Traditional Authority to District Development

In the Sissala East District, the chieftaincy institution still remains the oldest, most revered and sacred institution. This age long institution performs very significant functions. The chiefs do not only serve as focus of unity and arbitration but also an intermediary between the people and their ancestral spirits. The chief in this district is a judge, administrator, peace officer and plays many other roles rolled into one. The chief prominently stands as the head of the traditional state. Chiefs and what they symbolize in our society are so vital that

Problems of Traditional Authority

A very serious issue that militates against this noble institution is the spate of some chieftaincy disputes and protracted litigations. A notable example of chieftaincy dispute is that of Nabugubelle. Despite some isolated cases, the district is very calm with all paramount and divisional chiefs contributing their quota to the development of the district in an atmosphere of peace.

Security

The Sissala East District shares its northern borders with southern part of Burkina Faso. Its headquarters is about 29 kms away from Leo, the headquarters of the Sissili of the neighbouring Burkina Faso. The Sissala East District in all respect is therefore a border district. As expected, it is capable of demonstrating some criminal attributes typical of most border districts. Some of these activities include smuggling, child labour, cattle rustling, elopement, and transfer of epidemic diseases. Recently, it experienced a spate of armed robbery. These criminal activities are not a characteristic of the people. The Sissala East District therefore is relatively very peaceful. As for cattle rustling and armed robbery, it is both done internally and across the border.

Cross-border movement of cattle has become a yearly activity, especially in the dry season (December-March). Large herds of cattle are moved by Fulani herdsmen who move into the District and the country in general for grazing and watering purposes in the valleys of the Sissili River and its tributaries. They remain in Ghana till May-June when farmers already crop their fields, causing a lot of havoc on sprouting crops.

When conditions get better in Burkina Faso, they move back. Some of these cattle owners with their large herds settled in communities where there are dams and shrubs. These communities collect taxes in cash or in kind from the alien herdsmen for the use of their facilities. The alien herdsmen, however, connive with some of the local people as well as some traditional rulers to avoid taxes they are obligated to pay to the District Assembly. Some molest innocent

local people and this creates serious security concerns in the district.

Other criminal activities carried out in the district include petty stealing, minor assaults, offensive conduct, fraud and poaching. There are various security agencies in the district. These include the police, Customs Excise and Preventive Services (CEPS), Immigration service, Bureau of National Investigation (BNI), watchdog committees, Assembly members and Traditional authorities. All these agencies have been doing very well in ensuring that total peace and harmony prevail in the district. There is therefore the need for these security agencies, especially the police, fire service, watchdog committees to be equipped with the requisite logistics and equipments so that they can continuously ensure a peaceful atmosphere in the district to enable socio-economic development.

Sissala East District's Status of the MDGs

The Millennium Development Goals

In September 2000, 189 member nations of the United Nations (UN) adopted the Millennium Development Goals (MDGs) at a UN Millennium Declaration. Most of the goals and targets were set to be achieved by 2015 on the basis of the global situation in the 1990s. Ghana was one of the 189 nations that adopted the MDGs.

It is not explicitly clear whether the MDGs are part of serious development discussions and development planning in the Sissala District. For example, no mention of the MDG was made in the Sissala East District Medium-Term Development Plan for the period 2006 to 2009. It is also not clear if educational, health, water and

sanitation, and economic development targets of the district are set, taking into account the district's own progress in meeting the MDGs for its people. The MDGs will, therefore, be an important area for the Sissala East District to adopt more strongly when it is reviewing its Medium-Term Development Plan.

Status of MDGs in Sissala East

From the various findings of the 2008 GIMPA Household Survey on economic activities, poverty, education, health, water and sanitation;

as well as annual performance reports from the decentralized sector agencies, some conclusions can be drawn on the status of the relevant MDGs in Sissala East District.

The relevant MDGs and their targets are presented in Table 2.10; along with comments on the status of the Sissala East District in the last column. As can be seen from Table 2.10, Sissala East District is making progress in decreasing child mortality and HIV prevalence but lagging behind the attainment of most of the other MDG indicators.

Table 2.10: MDGs Status of Sissala East District

MDG	Targets	Status in Sissala East District
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	❖ Over 80% of those interviewed could afford 3 meals during the long dry season.
	Target 2: Halve between 1990 and 2015, the proportion of people who suffer from hunger	❖ Per capita income from the survey at time of survey is less than one dollar.
Goal 2: Achieve universal primary education	Target 3: Ensure that by 2015, children everywhere, girls and boys alike, will be able to complete a full course of primary schooling	❖ Estimated gross enrolment rate in Sissala East is 74% and 50% for primary school and JHS respectively. ❖ Secondary data showed GER significantly higher for girls.
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	❖ Secondary data revealed an increasing GER for girls transiting from primary to JHS while boys, GER declines.
Goal 4: Reduce child mortality	Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	❖ Under 5 (absolute) mortality decreased from 42 in 2006 to 22 in 2008. If current trend is maintained, this goal could be achieved.
Goal 5: Improve maternal health	Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	❖ Absolute figures from the DHD showed an increase in maternal mortality from 3 in 2006 to 3 in both 2007 and 2008.
Goal 6: Combat HIV/AIDS, malaria and other diseases	Target 7: Have halted by 2015, and begun to reverse the spread of HIV/AIDS	❖ Awareness has been created. The incidence of HIV declined slightly from 61 in 2007 to 58 in 2008.
	Target 8: Have halted by 2015, and begun to reverse the incidence of malaria and other major diseases	❖ Malaria continues to be the number one cause of morbidity and mortality for all age groups in the district.
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	❖ Some steps have been taken but bushfires, rainstorm and drought continue to destroy farms and roofs of houses. ❖ From the 2008 GIMPA survey, about 80% of the people use boreholes as source of drinking water. About 95% are without sustainable access to basic sanitation.
	Target 10: Halve by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	
	Target 11: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	

Source: Field survey and secondary data.

Economic Activities and Poverty

Introduction

The composition of the district economy is the characteristic of the Ghanaian economy. It has larger agricultural sector seventy-six per cent (76%), service and commerce fifteen per cent (15%), and the industrial sector nine (9%). The Sissala East District is basically rural with more than 80 per cent of the people living in rural settlements and engaged in farming.

Major Economic Activities

Agriculture

The district economy is mainly agrarian. This makes agricultural related activities the predominant activity employing a greater proportion of the population. The people practise subsistence farming with only a few engaged in commercial cotton farming. The main crops are cereals such as millet, maize, sorghum, and rice. The rest are groundnut, cowpea, yam and cotton. Figure 3.1 gives the output level for the major crops for 2003–2005.

In spite of the production level, the district has never achieved equilibrium in its food

balance. Household food security is therefore a development problem. Animal rearing places a secondary role to crop farming in the district. Types of animals reared include; cattle, sheep, goat, swine and poultry. Figure 3.2 is a summary of the stock of animals produced in the district over the last three

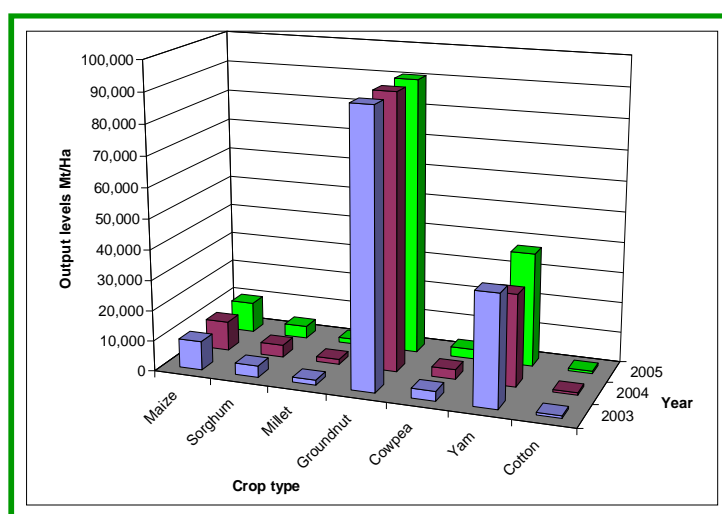


Figure 3.1: Production levels of some major crops (in tonnes).

Source: District office of MOFA, Tumu July 2006.

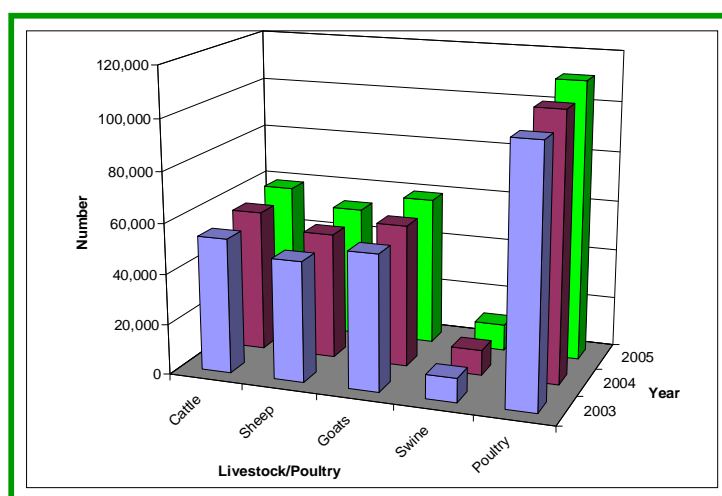


Figure 3.2: Production levels of Livestock and Poultry the District.

Source: District Office of MOFA, Tumu July 2006.

years.

Industry

The district's industrial sector is dominated by small-scale industries, most of which are agro-processing and manufacturing of farm implements such as donkey carts, chairs and school-play equipment.

The Ghana Cotton Company

The Ghana Cotton Company Limited (see Picture 3.1) is in production, processing and marketing of cotton and its by-products. The company was established in 1986 as Limited Liability Company. The factory is situated in Tumu, the district capital (see Picture 3.2). The company has a ginnery in the area. This large cotton ginnery industrial outfit employs about 72 permanent workers and 120 temporary workers per cycle of ginnery most of who come from Sissala East district. The company also engaged about 8000 to 9000 cotton farmers in both Sissala East and West.

Annual production of lint cotton is about 1800 ton. Roughly 70 per cent of this volume is exported and the remaining 30 per cent are sold through cotton marketing companies to the local textile companies. Local farmers make GH¢0.365 per kg of seed cotton sold.

Cotton farming in Tumu is very labour intensive and with low productivity. The farmer groups have called for subsidy on cotton fertilizers to reduce cost of production in order for them to be competitive.

Some of the small-scale industries include:

1. Sheanut production and processing



Picture 3.1: The Ghana Cotton Company Ltd, Tumu.



Picture 3.2: Pile of Cotton at Factory in Tumu.

2. Groundnut oil production
3. Weaving and dressmaking
4. Pottery activity and basketry
5. Blacksmithing
6. Pito brewery
7. Carpentry and masonry
8. Construction and building
9. Vehicle repairs and auto-mechanic

The establishment of a Vocational Training Institute in Tumu by the Catholic Church has contributed significantly to the production of skilled young women in weaving and dressmaking.

Carpentry and masonry, vehicle repairs and auto-mechanics, blacksmithing and welding are important activities most young people engage in. The availability of such middle level technical skills is a potential for rural industrial growth in the district. However, the lack of market for their products is a major setback affecting growth

and expansion of these small-scale industrial activities.

Some women in the district have also engaged in batik (tie and dye) making (see Picture 3.3). Their products are sold to a German woman in the town, who in turn exports them to Europe.



Picture 3.3: Tumu women in batik production.



Picture 3.4: Traders from Burkina Faso coming to Tumu on a market day.



Picture 3.5: Sissala Rural Bank Ltd, Tumu.

Commerce and Service

Commerce in the district is restricted to buying and selling of predominantly agricultural produce which is normally at its

best during the weekly market. The two weekly markets in the district are on six-day 'rotational' basis. These are located at Tumu, the district administrative capital, and Bugubelle. Besides these weekly markets, there are stores in the town centres where a wide range of manufactured goods and basic household items are provided. The commerce and service sectors in the district are still under-developed and need a major boost to make it more vibrant to serve the changing trends of commerce and distributive trading.

Another interesting feature of the district's commercial sector is the role played by traders from Burkina Faso (Picture 3.4). These traders bring a wide range of goods such as onions, potatoes, cattle, sheep and high yielding mango seedlings. Their contribution to the weekly market gives the district's commerce and service sector an international touch.

Financial Sector (Banking)

There are three banks in the entire Sissala East districts. These are the Ghana Commercial Bank, Sissala East Rural Bank (Picture 3.5) and the Agricultural Development Bank. The banks have low capitalization. The Ghana Commercial Bank in Tumu as a matter of policy grants loans to only people working in the formal sector, often teachers. Lending to farmers and traders is very risky to the Bank. The Sissala East Rural Bank lends all categories of groups but most of their clients are petty traders. Default rate is very high among farmers and traders. The Agricultural Development Bank in the district has not been active for some time now.

Access to finance is a most critical constraint to productivity of the working

class (see Figure 3.3). Due to perceived risk with farming, resulting from over reliance on rain, farmers are not able to secure sufficient loans for large scale farming.

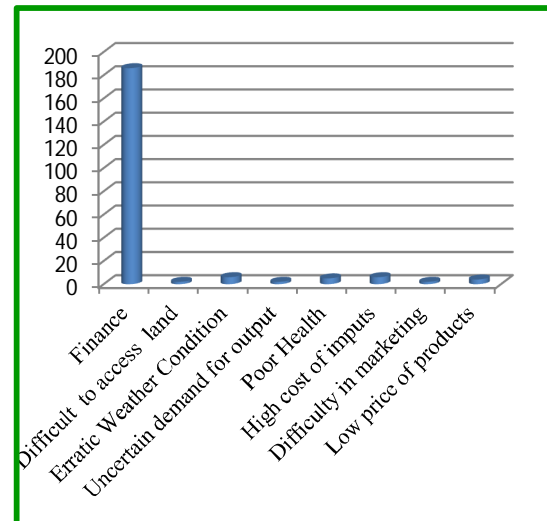


Figure 3.3: Constraints to work productivity.

Employment, Unemployment and Under-employment Situation in the District

Employment, unemployment and under-employment are critical indicators which directly measure poverty situation in a community. About 76 per cent of the working class interviewed are into subsistence farming, but are unable to produce enough to feed their families all year round. Low food production is the result of poor soil fertility and unfavourable weather condition during the dry season.

Most of the youth have to migrate to the southern part of the country every year either immediately after harvesting the poor yields of crops from their small size farms or after writing their Junior Secondary School or Senior Secondary School Certificate examinations. The aim of the migration is to marshal resources for the upkeep of their families during the lean season and to cater for their education in order to progress on the

educational ladder. Animal farming, especially poultry rearing is also a lucrative venture in the district. Animal farming is done on free range and most police cases relate to animal theft.

Unemployment Situation in Sissala East District

According to the International Labour Organization (ILO), a person is said to be “unemployed” if he/she is available but does not have a job and is actively looking for work. Based on this definition, about 46 per cent of adults interviewed said they were unemployed. Adult not currently working gave the following as reasons for their unemployment (see Figure 3.4).

Further probing revealed that some of those who indicated that they were engaged in some work for income or in kind were indeed underemployed as they indicated willingness to do extra work which was unavailable.

Table 3.1: Trends in the Incidence of Poverty in Ghana (%)

Region	1991/92	1998/99	2005/06
1. Ashanti	41	28	20
2. Brong Ahafo	65	36	30
3. Central	44	48	20
4. Eastern	48	44	15
5. Greater Accra	26	5	12
6. Northern	63	69	52
7. Upper East	67	88	70
8. Upper West	88	84	88
9. Volta	57	38	31

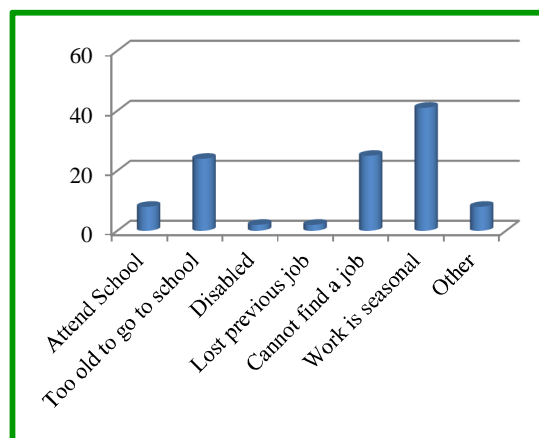


Figure 3.4: Reasons for Unemployment.

Source: 2008 GIMPA Household Survey.

10. Western	60	27	18
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Source: NDI, 2008; originally from Ghana Statistical Service, 2007.

Under-employment

Under-employment is said to exist when people are working but are willing to take additional work or willing to work for extra hours but can not find such a job. The household survey revealed that 45 per cent of the people are underemployed. Such a high figure may be explained by the fact that the survey was conducted during the dry season when majority of farmers are idle.

Poverty Situation in the District

The incidence of poverty in Sissala District is high; estimated as less than one Ghana cedi. This suggests a poverty incidence of 100 per cent as compared with the national poverty incidence of 28 per cent in 2005/06 and the

Upper West Region figure of 88 per cent in 2005/2006 (NDI, 2008).

Such a high poverty incidence as captured by the survey may be due to the fact that most of the sampled households are located in rural areas where income levels are generally very low. Comparison of the poverty incidence among regions of Ghana clearly shows the Upper West region is the poorest (see Table 3.1).

A dimension of poverty is the level of food security in the household. The 2008 GIMPA Household Survey included the availability of food to household. When household members were asked on average how many times people eat in a day, the majority of them said three times a day. This finding is summarized in Table 3.2.

Table 3.2: Number of Times People Eat in a Day

Food Availability	Frequency	%
Once	2	1%
Twice	43	18%
Thrice	198	81%
Total	243	100%

Source: 2008 GIMPA Household Survey.

On the question of whether there are periods in the year that the household is not able to eat the number of times that they themselves have stated, 45 per cent of respondents answered in the affirmative; indicating that even those who could eat only once or twice a day are not able to sustain this. About 53 per cent of household respondents stated that this phenomenon occurs every year. When questioned why there was difficulty in satisfying their food needs, the households provided multiple reasons: poor harvests, problems with storage facilities and hike in food prices during the lean season.

Education and Literacy

Introduction

The commitment of Government of Ghana in the achievement of Universal Primary Education (MDG 2) by 2015, by ensuring that children everywhere in Ghana, boys and girls will be able to complete a full course of primary schooling, has seen the educational system of the country go through many changes. The government's loyalty towards achieving the educational goals is mirrored in several policy frameworks and reports. In May 2003, the Ministry of Education and Sports came out with the Education Strategy Plan (ESP) for 2003–2015. The ESP was informed by many documents and policy goals, especially the Education for All goals, the Millennium Development Goals and the Ghana Poverty Reduction strategy.

Within the ESP, primary education is designated as a sector priority and various measures and decisions have been taken by the Government to accelerate its efforts in achieving MDG 2 by 2015. Some of the measures taken include institution of the capitation grant to all public basic schools, including pre-school education (4 to 5 years old) as part of compulsory basic education, the introduction of a school feeding programme, special programmes to bridge the gender gap in accessing education and targeted programmes to improve access in under-served areas.

All these efforts have resulted in good progress in the education sector. This chapter reflects the progress made by the Sissala East

district in conformity with the Government's commitment to achieving the Universal Primary Education by 2015.

Education Infrastructure

Number of Schools

One key input to the realization of the MDG for education is children's access to education which is dependent on the number of schools available. There are a number of education infrastructure ranging from Kindergarten, Primary and Junior High Schools in the Sissala East District. There are 22 Crèche / Nursery / Kindergartens, 56 Primary Schools, 31 Junior High Schools and one Senior High School. The total number of children enrolled in the schools is 10,054 with a female enrolment percentage of 56.8 per cent and a Pupil/Teacher ratio of 37 to 1.

Distribution of School in the District

The district is divided into five small educational management units called Circuits for ease of supervision (Map 4.1). The Tumu Circuit has the largest concentration of educational institutions with Nabulo having the least as indicated from Table 4.1.

Table 4.1: Matrix of Educational Facilities in the Sissala East District

Type of Facility	No. of Settlement	No. of Facilities
KG/Creche/Nursery	22	22
Primary	49	56
Junior High School	27	31
Senior High School	1	1
Total	54 communities out of 91	110

Map 4.1: Education Facility Distribution in the District

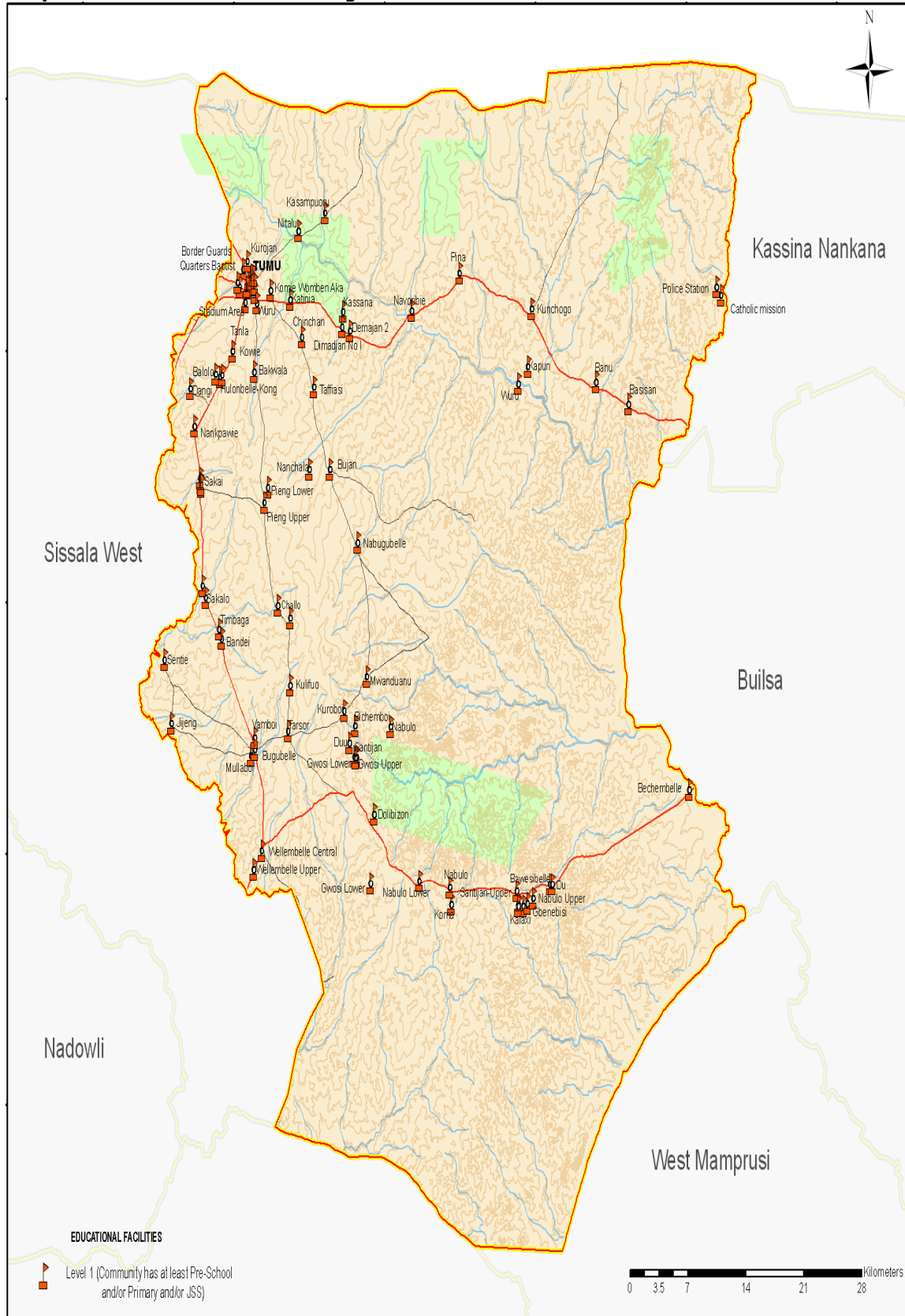


Table 4.2 indicates that the distributions of educational institution are skewed towards Tumu, the district capital. This implies that most of the rural communities lack the required number of educational facilities to cater for the ever increasing numbers of children in the school-going age. For example, all the secondary and vocational schools as well as the Teachers Training College are located at

Tumu. One can also mention the role being played by the private sector in the provision of basic education in the district. Thus the table indicates that there are two private kindergarten schools, one primary and a junior secondary school all located at Tumu. Religious organizations are also involved in the provision of education. For example, the only vocational institute was established and is managed by the Catholic Mission.

Circuit	KG		Primary		JHS		SHS		TVET		TTC	
	Pub	Priv	Pub	Priv	Pub	Priv	Pub	Priv	Pub	Priv	Pub	Priv
Tumu	10	3	9	1	8	1	2	–	–	1	1	–
Wallembele	8	–	8	–	8	–	–	–	–	–	–	–
Bujan	7	–	9	–	6	–	–	–	–	–	–	–
Kunchogu	6	–	9	–	6	–	–	–	–	–	–	–
Nabulo	3	–	8	–	8	–	–	–	–	–	–	–
Subtotal	34	3	43	1	36	1	2	0	0	1	1	0
Grand Total	37		44		37		02		01		01	

Table 4.2: List Distribution of Educational Institutions in the Sissala East District 2007

Number of Schools – Physical Conditions

Again in terms of physical infrastructure, pre-schools in the district leaves much to be desired. For example, 10 out of the 20 public pre-schools in the district are without school structures and therefore pupils are accommodated under trees. Table 4.3 presents the current physical conditions of basic schools in the Sissala East District.

Table 4.3: Physical Condition of School Infrastructure

Levels/ Mat. Used	KG	Primary	JSS	SSS/TECH /VOC
Under Trees	18	6	3	–
Mud	10	6	–	–
Pavilion	–	5	–	–
Lancrete	–	–	–	–
Sanderate	9	24	34	3
Total	37	44	37	3

Source: District Directorate of Education 2007/8.

The following are observations on the status and requirement of educational physical infrastructure in the district:

- Government's mandatory policy of attaching all primary schools with KGs has brought about an increase in KGs from 26 to 37 most of which are under trees and mud structures.
- Quite a significant number (12) of Primary schools, especially in Nabulo and Kunchogu Circuits are also under trees and mud structures.
- Tumu Senior/high/Technical School has inadequate hostel accommodation for students. They are therefore compelled to rent accommodation in town and are seen to fall victim to unscrupulous landlords and co-tenants, especially the girls in this era of STIs.
- Tumu Senior High Technical School needs a dining hall for mid-day meals as they sit under the trees to eat.

- St. Clare's Vocational is in need of a hostel facility for the students.
- Kanto Senior High School is under the Second Phase of the Model school Programme. Rehabilitation of existing structures is in progress while additions are being made.
- TUTCO has had additional structures under the GET FUND-Assembly Hall Complex, Teachers bungalows; etc.

School Enrolment and Access

The Sissala East District has a total enrolment of 14,671 pupils at the basic school level. This compared with the total of 20, 967 children in the school-going age gives a school participation rate of 70.4 per cent.

This figure exceeds the national figure of 50 per cent and thus gives an encouraging picture which could be sustained and improved upon over the next planned period. The breakdown of the enrolment figure of all the basic school levels as well as the teacher population have been captured in the Table 4.4.

Table 4.4: School Enrolment and Pupil Teacher Ratio

Circuits	Pre-Schools					Primary School					Junior Secondary School				
	Enrolment		Teachers		PTR	Enrolment		Teachers		PTR	Enrolment		Teachers		PTR
	B	G	M	F		B	G	M	F		B	G	M	F	
Tumu	330	363	1	24	28:1	1438	1616	24	61	36:1	564	706	35	19	24:1
Wellembele	379	422	0	13	62:1	944	1113	32	18	41:1	240	246	34	6	12:1
Bujan	271	273	4	4	68:1	655	1013	35	24	28:1	190	268	22	6	16:1
Kunchogu	155	147	0	4	76:1	909	1169	29	7	58:1	129	122	20	7	9:1
Nabulo	122	178	3	2	60:1	431	584	29	7	28:1	99	164	26	0	10:1
Total/average	1257	1383	8	12	48:1	4234	4961	104	78	51:1	906	1214	82	31	19:1

Source: District Directorate of Education 2008/9.

It is interesting to note from Table 4.4 that in the Sissala East district enrolment figures for girls at all basic school levels are higher than that of boys. This situation can be attributed to the success chalked in the girl-child education campaign embarked upon by the district education office with the support of NGOs and CBOs within the district. It must, however, be noted that girl-child education campaign must not be pursued to the detriment of the boy-child. With respect to basic school teachers, the district has a total of 496 teachers made up of 55 pre-school, 266 primary and 175 junior secondary school teachers. It must be noted that these teachers comprise trained, pupil and Arabic teachers.

A comparison of 14,671 pupils with 496 teachers gives an average pupil-teacher ratio (PTR) of 38:1 at the basic school level.

This figure is quite encouraging because it falls below the 40:1 national average. This situation notwithstanding, the district lacks teachers at the pre-school level which poses a problem for the proper preparation of children for basic school. The picture is relatively better at the primary and JSS levels except in the Bujan and Kunchogu circuits where the PTR at the primary school level are 68:1 and 76:1 respectively. Efforts must therefore be made to recruit more qualified teachers at pre-school levels.

Access to School

2006/07 and again to 70.3 per cent in 2007/08.

Kindergarten

Overall school enrolment increased during the 2008/9 academic year. At the KG level this increase in enrolment is attributable to the following:

- (i) Government mandatory policy of having all primary schools attached with Pre-Schools,
- (ii) Capitation Grants put in place to alleviate parents of the burden of school levies,
- (iii) Provision of the playing materials by Plan Ghana, and
- (iv) Conversion of five Nutrition Centres built by AAIG into KGs and the AAIG's exposure of girls to education camps in Accra.

Table 4.5 shows school enrolment indicators at the KG level:

Table 4.5: Access Trends in Kindergarten Education in Sissala East District

KG — Access 4–5 (Actual)	2005/6	2006/7	2007/8
Total no. of pupils in all schools	1700	2074	2627
Total no. of Female pupils	885	1086	1381
Total no. of Male pupils	815	988	1246
Pop. aged 4–5	3864	3959	4054
Female pop. aged 4–5	1872	1918	1964
Gender Parity Index (GPR)	1.15	1.16	1.17
Gross Enrolment Rate (GER)	43.9	52.2	64.8
Male Gross Enrolment Rate (MGER)	40.9	48.4	59.6
Female Gross Enrolment Rate (FGER)	47.2	56.6	70.3

- GER rose steadily from 43.9 per cent in 2005/06 to 52.2 per cent in 2006/07 then to 64.8 per cent in 2007/08.
- MGER equally increased from 40.9 per cent in 2005/06 to 48.8 in 2006/07 and again to 59.6 per cent.
- FGER increased significantly from 47.2 per cent in 2005/06 to 56.6 per cent in

There has not been any significant change in Gender Parity Index. It was 1.15 in 2005/06, 1.16 in 2006/07 to 1.17 in 2007/08, indicating that there are still more girls in school than boys in this age group.

Primary School

Table 4.6: Access Trends in Primary Education in Sissala East District

Primary Access 6–11	2005/6	2006/7	2007/8
Total no. of pupils in all schools	7819	8573	9053
Total no. of Male pupils	3275	3674	4103
Total no. of Female pupils	4544	4899	4953
Pop. aged 6–11	11635	11921	12207
Female pop. aged 6–11	5684	5823	5962
Male aged 6–11	5952	6098	6244
Gross Enrolment Rate	67.2	71.91	74.1
Male GER	55.0	60.24	59.6
Female GER	47.2	56.62	65.7
Gender Parity Index	1.4	1.4	1.2

In the Primary Schools it is attributed to the Take-Home Ration for girls who obtain a minimum amount of attendance from WFP. Other incentives included Supplementary Feeding by CRS, payment of Capitation Grants by government, CRS School feeding programme, regular visits by C/S supported by Plan Ghana. DFID provided fuel, lubricants and about 450 metal dual desks for the primary schools in the period under review. Table 4.6 shows the analysis of indicators on primary school education:

The following trends can be observed:

- There was a significant increase in the GER from 67.2 per cent to 71.9 per cent then to 74.1 per cent in 2005/06, 2006/07 and 2007/08 respectively.
- MGER had a steady increase: 55.0 per cent, 60.2 per cent and 65.7 in 2005/06, 2006/07 and 2007/08.

• **Table 4.7: Access Trends in JHS Education in Sissala East District**

JHS Access 12–14 YRS	2005/6	2006/7	2007/8
Total no of students in all schools	2078	2234	2607
Total no of Female pupils	1183	1220	1504
Total no of Male pupils	895	1014	1103
Pop aged 12–14	4948	5070	5192
Female pop. aged 12–14	2243	2298	2353
Male aged 12–14	2705	2298	2353
GER	41.9	44.6	50.2
FGER	52	53.1	63.9
MGER	33.0	36.5	38.8
GPI	1.5	1.45	1.6

The Junior High School level rather had a steady enrolment rate which is attributed to the low retention of girls early marriages and others leaving to seek non-existent jobs in southern Ghana. The boys are often used in animal traction instead of going to school.

It is realized from the Table 4.7 that GER is 41.9 per cent, 44 per cent and 50.2 per cent for 2005/06, 2006/07 and 2007/08 respectively. There was also a steady increase in both FGER and MGER. GPI fluctuates from 1.5 to 1.4 to 1.6 showing more girls in school than boys.

Limitations to School Access

Despite the increasing trends in school enrolment during the past three years, especially at the primary level, the universal basic education goal is far from being achieved. Regular school attendance is still a major issue. The 2008 GIMPA Survey shows that ill-health and demand of farm work are major causes of school absenteeism among pupils in the district (see Figure 4.4).

As can be observed from Figure 4.1, about 50 per cent of pupils who absented themselves from school did so because of sickness. This confirms a strong correlation between school enrolment access and health condition. A well-coordinated action programme to improve health status of children can go a long way in improving the school enrolment and performance.

Table 4.8: Performance Increase (Aggregate 6–30) from 61.6 to 70%

Year	2005			2006			2007		
Sex	B	G	T	B	G	T	B	G	T
No. Presented	432	359	791	274	281	555	233	315	548
No. Passed (Agg 6–30)	259	139	398	200	143	343	168	179	347
Percentage Passed (%)	60.0	39.0	50.0	71.5	61.8	61.6	71.2	55.4	62.1

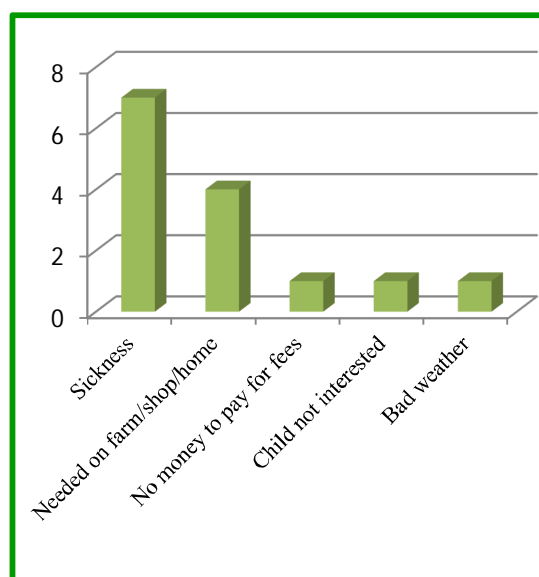


Figure 4.1: Education Facility Distribution in the District.

Again nearly 30 per cent of school absenteeism is caused by parents using their

children to work on farms. Most girls are allowed to go to school but boys are often used for animal traction on farms, especially during the cropping seasons. The survey also revealed that 29 per cent of absentees eventually drop out of school. Due to the implementation of Government Capitation Grant and School Feeding Programme, absenteeism resulting from children being sent home for school fees is no longer a major problem.

Performance at BECE

Table 4.8 shows in details the performance at BECE level from 2005 to 2007 for boys (B), girls (G) and the total (T).

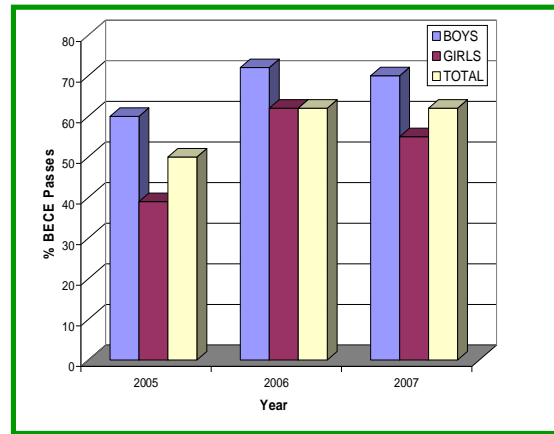


Figure 4.2: Percentage Performance at BECE (2005–2007).

In terms of performance the boys recorded a little lower than 60 per cent in 2005. It increased to about 70 per cent, but fell to 67 per cent in 2007. The girls on the other hand have not performed as well as the boys. In 2005, only 36% of the girls passed; it increased to 60 per cent in 2006, but fell to 52 per cent in 2007.

The overall performance was 48 per cent in 2005, it rose to about 60.2 per cent in 2006; the total pass in 2007 was about 60.1 per cent, which is almost the same as the percentage recorded in 2006.

CHAPTER 5

Health, Water and Sanitation

Human Development

The main goal of the health sector in the Sissala East District is captured in the Mission Statement of District Health Services Directorate as “to work in collaboration with all partners to improve the health status of all people living in the district through the provision of quality health services which are accessible, available and delivered by well motivated staff.” Based on this mission, the district has over the past years strived to meet the health needs of the populace.

The health status of the Sissala East District populace is among the worse in the country. This is compounded by high poverty and relatively low literacy levels. There are high levels of preventable diseases such as malaria, eye/trachoma, diarrhoea, etc. By the end of 2007, several health data had been reported by the Sissala East District Health Services that provide a general picture of the health status of the district at the time of preparing the District Human Development Report. In terms of health geographical demarcation, there are six sub-districts, which offer health services, and these consist of 59 communities. There are 71 outreach sites; also there are 12 nutrition centres in the district. The district has only one hospital. An effort to reach all settlers in the district has lead to the implementation of Community Health Planning Service (CHPS) with two CHPS zones in operation. There are also 16 CHPS zones yet to be functional. There are

95 trained TBAs and 71 community-based surveillance volunteers and 172 CBAs. There are nine chemical sellers in the district. The shops serve as sources for first aid drugs for the people in the district.

The operation of traditional herbal units can also be seen around as there are two traditional herbal units in the district. Generally, accessibility to health service is well spread out due to the compact nature of the district and its number of health facilities.

Health Services Delivery

Health services in the district are delivered along the three-tier Primary Health Care System, which consists of three levels. These are as follows:

- Level A:** This is the community level made of traditional healers, chemical sellers, and community clinics etc.
- Level B:** These are health centres responsible for providing clinical, public health and maternity service to the catchment areas within communities, community institutions, teachers and village-based health workers and health institutions.
- Level C:** The Regional Hospital offers services as the first referral point in primary health care, since there is no district hospital. It provides clinical (outpatient and inpatient)

and maternity services and serve as a back-up for health centres in the municipality. Cases are referred to the regional hospital and sometimes direct to a teaching hospital, depending on the severity of the disease (GHS: 2007 Annual Report).

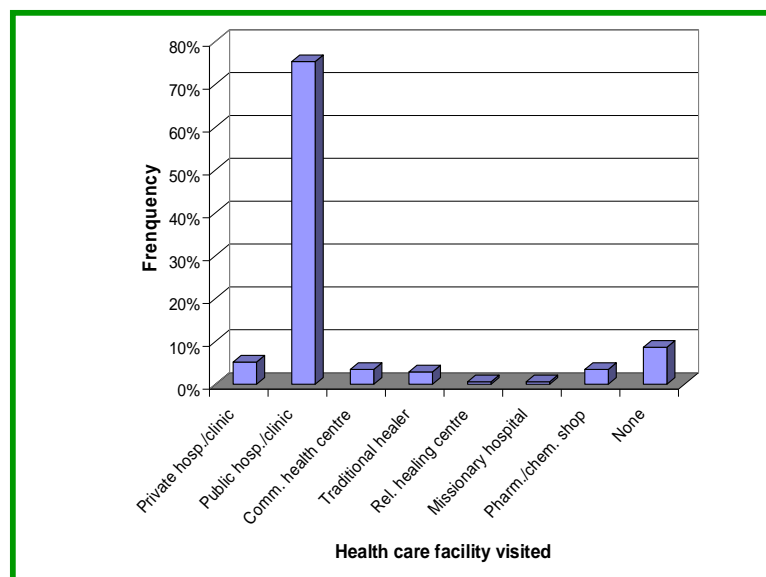


Figure 5.12: Health facility visited when ill.
Source: GIMPA Household Survey 2008.

There is effective integration of the private institutions with the public sector. That includes reporting and supervision. Also, the practice of traditional medicine is common in the district. Sometimes, severe diseases such as cerebral malaria and pneumonia are sent to the traditional healers. The regular hospital services are in the area of immunization, reproductive health, child health and nutrition supplementary feeding, control of micro-nutrient deficiency, nutrition

rehabilitation, school health, and special outreach services. (Refer to Figure 5.1 for details).

Health Infrastructure and Personnel

The district has a number of health institutions each of which provides some variety of health services. The distribution of these facilities in the Sissala East District is shown in detail in Map 5.1.

The formal health system in the Sissala East District consists of district hospital, health centres, and CHPS zones, mother/child health and family planning (MCH/FP) clinic as well as community nutrition centres. The district has only one Ghanaian doctor and two Cuban doctors. The doctor (Ghanaian) population ratio is 1:92000 people. This figure 92,000 consists of the two districts in Sissala (Sissala East and Sissala West).

Table 5.1: Matrix of Health Facilities in the Sissala East District

Type of Facility	No. of Settlement	No. of Facilities
Hospital	2	2
Clinic	9	9
Health Centre	0	0
Total	12 communities out of 91	11

Map 5.1: Health Facility Distribution in the District



Table 5.2: Summary of Health Services Staff Situation

Category	2005	2006	2007	Notes
DDHS	1	0	1	
Ghanaian Doctors	1	1	1	
Cuban Doctors	2	2	2	
Medical Assistant	2	2	3	(2 retired)
Nurses	42	38	36	(6 study leave)
Anaesthetics	1	1	2	(1 study leave)
Paramedics	49	49	53	
TOs/FTs	10	9	10	
Staff strength	108	102	108	
Population-Doctor Ratio	1:55,216	1:50,065	1:50,916	
Population-Nurse Ratio	1:1,315	1:1,318	1:1,414	

Source: GHS: Report 2007.

Being a rural district, it has been difficult for Sissala to have medical doctors or even medical assistants in the health centres and the few who are available are located in the hospital. The personnel situation is provided in the Table 5.2. In relative terms, the district appears to have an average to good staffing level; the doctor to patients and nurse to patients' ratios are still very high, considering the high population density and total population of the district. The high doctor and nurse to patients' ratios could threaten the ability of the district to provide good quality health services and negatively affect the achievement of MDGs' especially in child and maternal health care.

Health Care Access and Quality of Health Services

Physical access may be defined as the ability of an individual to reach a health facility in less than 30 minutes. The 2008 GIMPA Household Survey solicited responses from households in the Sissala East District on their physical access to health facilities based on the time to reach the facility and the means of travel to the facility. From 238 households surveyed, only 14.7 per cent

claim to be less than 30 minutes away from the nearest health facility. As many as 69.3 per cent claim to be 45 to 60+ minutes from the nearest health facility. This could pose a danger to child and maternal health issues, thereby, threatening the ability of the district to achieve MDGs 4 & 5. The details of these findings are provided in Figure 5.2. Another disturbing finding is that as many as 66.4 per cent

can access the health facilities only by walking on foot to the service centers. This further compounds the ability to obtain expedited health services for children and pregnant women and the attainment of MDGs 4 & 5 especially. The details on means of transport commonly used by people in the Sissala East District to access health services are provided in Figure 5.3.

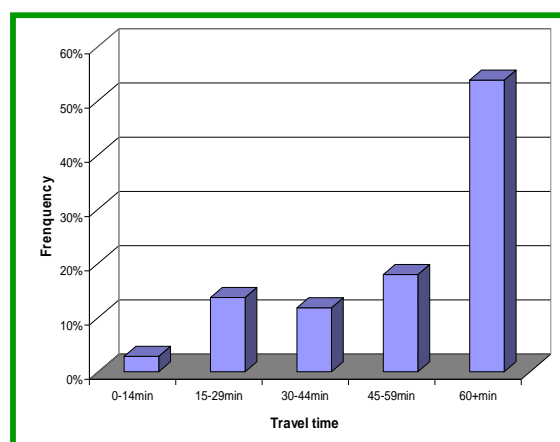


Figure 5.2: Travel Time to Nearest Health Facility.
Source: GIMPA Household Survey 2008.

Disease Control/Surveillance

Disease surveillance is a global priority and therefore embraced by the Ghana Health

Service (GHS). Surveillance forms the bedrock of all disease situations of public health concern in every district. It is worth noting that if the surveillance system is effective, outbreaks of communicable diseases can easily be identified and controlled to prevent life and economic losses. It enables you to keep track of events of such diseases and put in place emergency measures in case of sudden contingencies. Plotting such diseases monthly can alert management to take immediate steps to contain any situation. Effective disease surveillance, along with out-patient and in-patient care collectively contributes to maintaining a healthy human resource for all other development initiatives in any district and the nation for that matter. It is in line with this that the Sissala East District has given major priority to disease surveillance and control activities.

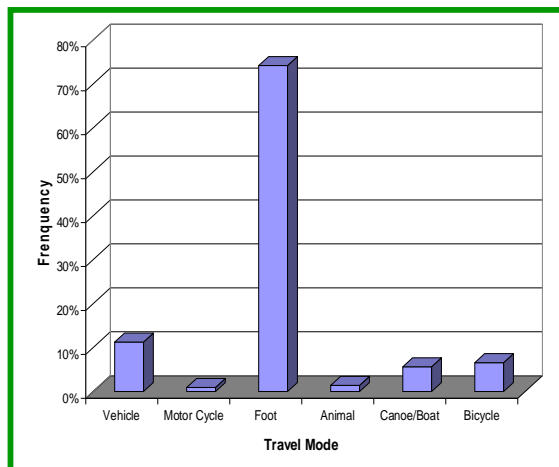


Figure 5.3: Travel Mode to Nearest Health Facility.
Source: GIMPA Household Survey 2008.

During the period under review, effective monitoring procedures were put in place to monitor the trend of communicable diseases. The district has a total of 71 volunteers all trained and are active in report submission. They are doing well by

submitting their monthly reports on some selected diseases such as CSM, AFP, Guinea Worm, Measles and Neonatal Tetanus. Vital events such as birth and infant death are also reported. Besides, volunteers and sub-districts are also alerted to report promptly to DHMT whenever there is a suspected case of epidemic or any unusual event — for example sudden death in a community.

The officers of the disease control unit ensure that all guidelines pertaining to surveillance and epidemic management are strictly followed for early case detection and prevention. Table 5.3 is a summary of the reports on community-based disease surveillance for the period.

Table 5.3: Report on CBDSV (2005 to 2007)

Year		2005	2006	2007
Diseases	CSM	0	0	1
	AFP	0	1	0
	G/Worm	0	1	0
	Measles	1	1	0
	Neonatal Tetanus	0	0	1
Birth	GHS	62	124	151
	TBA	525	363	926
Death	Infant	12	15	23
	Preg. Related	8	0	0

Source: GHS Report 2007.

Epidemic Prone Diseases

These are diseases that have the potential to spread fast, affecting a large number of people. Consequently, a surveillance system is put in place to ensure that they are well controlled when they do occur.

Table 5.4: Trend in Epidemic Prone Diseases

Diseases	2005	2006	2007
CSM	0	0	1
Cholera	0	0	0
Yellow Fever	0	0	0
Measles	1	0	0
AFP	0	1	0

Source: GHS Report 2007.

There was one case of CSM recorded within the period. Measles cases over the period reduced from 1 in 2005 to zero in 2007. There were no cases of cholera, yellow fever and AFP despite 2007 floods in the district.

Top Diseases of OPD Attendance

In disease surveillance, it is also advisable to keep track of the causes of OPD attendance at the various health facilities, if possible. This is to put the necessary logistics needed to manage those cases and put in place measures to either investigate the causes or find alternative treatment among other managerial decisions.

Below is a Table of the top main causes of OPD attendance in the Sissala East District during the last three months or more. From the Table, it is self-explanatory that malaria has been the main cause of OPD attendance followed by hypertension, skin diseases, ulcer and snake bites over the period under review. Contribution of malaria cases in total OPD attendance was at 49.8 per cent over the period. Hypertension, skin diseases, ulcer and snake bites over the period were also regular conditions among the top causes of OPD attendance.

Malaria

Despite all the efforts and intervention put in place to check the high incidence and prevalence of malaria, it still continues to dominate as the leading cause of both morbidity and mortality in the district. It was the reason for most OPD attendance in all the six sub-district and Tumu hospital.

In an attempt to reduce the number of morbidity and mortality caused by malaria, ITN's distribution is on-going at a subsidized price. ITNs are available in the health facilities. The DHA in collaboration with

other partners continue to fight the disease through educational messages to the public on environmental cleanliness and self-protection by using ITNs. The Intermittent Preventive Therapy (IPT) using SP is being embarked upon. All pregnant women attending ANC are screened and given SP at the required time.

A total of 3000 ITNs were received from UNICEF office in Tamale for distribution to vulnerable groups like children under 5 years and pregnant women (GHS Report 2007).

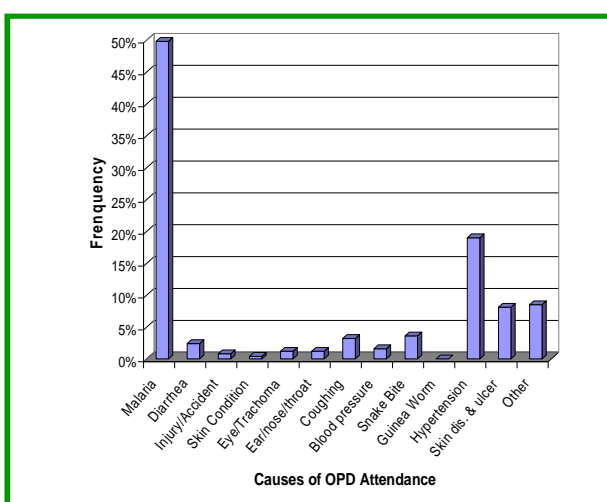


Figure 5.4: Main Causes of OPD Attendance in the District.

Source: GIMPA Survey 2008.

Malaria Control Activities

As part of the approach to control malaria, the following strategies were developed and pursued:

- Improving case management at all levels,
- Multiple prevention,
- Improving partnership and collaboration with stakeholders, and
- Equitable distribution of ITNs in the district.

The year saw a lot of education on Anti-Malaria Drug Policy to reflect the

change from chloroquine as first line treatment of uncomplicated malaria to Artesunate — Amodiaquine. This was done through organization of durbars. Sub-districts were encouraged to strengthen Intermittent Preventive Therapy in the Sissala East District. It is worth mentioning that it has enhanced defaulter tracing and has also reduced the big gap that existed between women who took IPT1, IPT2 and IPT3.

Table 5.5: ITNs Received and Distributed Between 2005 and 2007

Distribution	2005	2006	2007
Total ITNs Received	3,000	2,100	6,678
No Given to Under 5 years	1,500	1,050	3,339
No Given to Pregnant women	1,200	840	2,672
Others	300	210	667
Total ITNs	3,000	2,100	6,678

IPT Use

Table 5.5 shows ITNs Received and Distributed 2005 and 2007. There has been significant increase in ITNs received from donations. The district received a greater portion of nets as a result of the floods in 2007. The coverage of ITNs among children under 5 years in the district stood at 68 per cent in 2007 compared to 62 per cent in 2006, while the coverage for pregnant women stood at 52 per cent in 2007 compared to 44 per cent in 2006. The utilization rate for both children under 5 years and pregnant women was 50 per cent.

Table 5.6: Malaria Cases by Groups and Treatment with Artesunate Amodiaquine

Cases		2005	2006	2007
Total Patients Seen	<5 years	3598	4863	9273
	>5 years	4143	11562	33568
	Pregnant women	2192	7462	7503
Total No. Clinical Malaria	<5 years	2597	2733	6087
	>5 years	3511	2918	11858
	Pregnant women	198	338	372
Total Confirmed	<5 years	416	741	916
	>5 years	238	867	1396
	Pregnant women	146	156	169
Total treated	AS/AM	–	6091	15830
Total Anti- Mal.				2487

Source: GHS Report 2007.

Malaria Deaths

Table 5.7 shows the statistics of recorded malarial deaths between 2005 and 2007.

Table 5.7: Recorded Malaria Deaths

Year	2005	2006	2007
Total Death	92	66	83
Total Mal Death	29	21	19
Total under 5 Death	40	42	31
Mal under 5 Death	23	25	17
Above 5 Mal Death	16	7	2
Pregnant women Death	3	0	0

Source: GHS Report 2007.

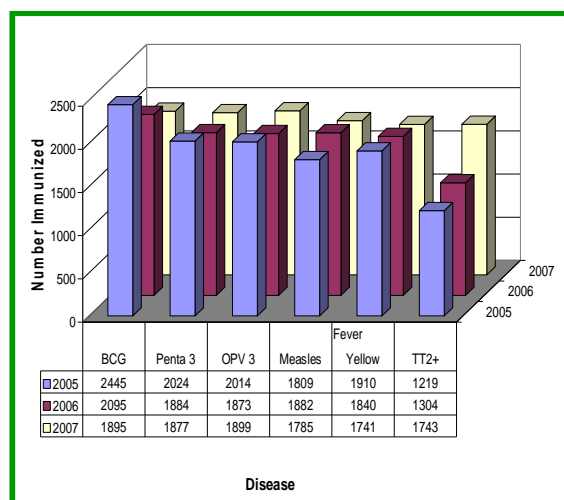


Figure 5.5: Immunization Performance in 2005–2007.
Source: GHS 2007.

There has been a vast reduction in malaria deaths for all the age groups. This could be attributed to early reporting to health facilities. The use of ITNs by many people and the implementation of Community Integration Management of Childhood Illness have contributed to the reduction in malarial deaths. All these deaths were recorded at the district hospital only.

Based on the year target of 90 per cent immunization set by the district, the district made some modest achievement in immunization coverage. Two antigens (OPV3 and TT2) have improved. On the other hand, BCG and Yellow Fever experienced slight reduction. The drop in BCG and Yellow Fever is general across all sub-districts except Tumu and Nabugubelle which had slight increases in Yellow Fever.

Even though there is a slight drop in Penta 3 coverage, it is worth noting that, the district recorded 97 per cent coverage which is above the 90 per cent target set. TT2+ immunization among pregnant women increased from 65.1 per cent in 2006 to 68.6 per cent in 2007. Two sub-districts recorded over 50 per cent. While the entire district had 68.8 which is over the 50 per cent target set (GHS Report, 2007).

Integrated Management of Childhood Illnesses (IMCI)

Integrated Management of Childhood Illnesses (IMCI) and Accelerated Child Survival and Development (ASCD) activities in the district are aimed at achieving Millennium Development Goals 4 and 5. The Ghana Health Service in its continuous effort to improve maternal and child health services initiated High Impact Rapid Delivery, a sustainable approach to maternal and child health service delivery. In 2003, Ghana Demographic and Health Survey revealed

that after many years of absolute decline in maternal and child mortality, neo-natal deaths and child mortality have suddenly shot up. The survey also showed that Upper West Region recorded the highest rate for both indicators in Ghana. Based on this unacceptable high under-five mortality rate, the district has no other option than to take the necessary steps to reverse the trend, so as not to prevent the whole country from attaining the Millennium Development Goals of reducing the under-five deaths by two-third by 2015.

Water and Sanitation

Water and sanitation requires attention in the life of human beings. Safe water is necessary for good health. Unsafe drinking water can be a significant carrier of diseases. The source of drinking water is of great importance to health since the source determines the water quality and can help minimize fatal disease such as diarrhoea, bilharzia, typhoid, dysentery, guinea worm and cholera which are common in the country. The availability and accessibility to improved water sources therefore is essential.

Inadequate disposal of human excreta and personal hygiene is associated with a range of diseases including diarrhoea and polio. Unfortunately, sanitation facilities are woefully inadequate in the district, hence the citizenry become more prone to environmental and other poor sanitary diseases.

As a result, the Sissala East District has made it a priority to provide potable water and good sanitation to its citizens. The various sources of drinking water in the district include, pipe-borne, boreholes, protected wells and rivers/springs, among others.

Water Situation: Opportunities and Challenge

This section seeks to give an outline of water facilities available in the district and the extent to which their existence or otherwise has affected the lives of the people and subsequent development of the district. It has been estimated that on the whole about 87 per cent of the population of the district has access to potable water; 72 per cent of 15 dependent on boreholes fitted with hand pumps provided under the support of various Development Partners and Agencies.

Even though the above statistics make the situation of water supply in the district look reasonably good one needs to look at the current state to be able to draw a conclusion. Table 5.8 gives the current state of potable water source in the district. The details of the distribution and type of water facilities available are presented in Maps 5.2 and 5.3.

Table 5.8: Matrix of Water Facilities in the Sissala East District

Type of Facility	No. of Settlement	No. of Facilities
Borehole	79	166
Hand Dug Well	11	17
Stand Pipe	7	12
Total	81 communities out of 91	195

Of the 91 communities in the district, only 81 have water supply facilities. Like other facilities, full coverage is a problem in the water sector. For the facilities that are in existence some are not functioning and as such only 38,100 people in the district are being served. This represents 72 per cent of the total population of about 52,760. Domestic water supply is therefore still a big problem in the district. The situation is more worrying because some of these sources also serve domestic animals, including livestock.

There are four main sources of water in the Sissala East District. These are the small town water system serving Tumu, and its

environs, boreholes, hand-dug wells fitted with pumps and dams. In terms of number, there are 88 boreholes located in 39 communities, 3 hand-dug wells and 10 dams. The details of communities and type of water facilities available and their conditions are presented in Tables 5.8, 5.9 and 5.10.

From the tables above, it can be indicated that 40 communities out of the total of 65 in the Sissala East District are provided with at least one of the water sources aforementioned. This represents 62 per cent of the communities. In terms of population served, the distribution covers over 70 per cent of the population.

It must, however, be noted that two of the pumps serving the Tumu township are currently out of order, leading to lack of water in greater parts of the various suburbs. Again, some of the boreholes and hand-dug wells dry up during the dry seasons while others are broken down. This is due to low water tables as well as lack of regular maintenance of the facilities. Frantic efforts are being made by the District Assembly with support from the development partners to restore these water infrastructural facilities and to expand the current coverage of water in the district.

Table 5.9: List of Communities with Boreholes

Community	Facility	Number	Condition
Wahabu	Borehole	2	Good
Nabulo	"	3	Good
Gbenebisi	"	1	Good
Gwosi lowea	"	2	Low yielding
Basiesibele	"	4	One low yielding
Sentie	"	1	Good
Jijan	"	2	Good
Nankpawie	"	2	Good
Nabugubele	"	3	Good
Challu	"	4	Good
Kulfuo	"	2	Good
Nmanduanu	"	3	Good
Walembele	"	8	3 low yielding, 2 broken
Bichamboi	"	2	Good
Tarsaw	"	3	Good
Tanvielle	"	1	Good
Chinchan	"	2	Good
Navrowie	"	1	Good
Tanla	"	1	Good

Health, Water and Sanitation

Bassisan	"	1	Good
Kajiaboi	"	1	Good
Komo	"	1	Good
Potolo	"	1	Good
Dangi	"	1	Good
Kong	"	3	Good
Ping	"	3	Good
Dolibizam	"	1	Good

Nanchala	"	1	Good
Bujan	"	2	One broken down
Sakalu	"	4	Good
Samulaboi	"	2	Good
Bugubele	"	3	Good
Bande	"	2	Good

Table 5.10: Communities with Hand-dug Wells

Community	Facility	No.	Condition
Kowie	Hand-dug wells with pumps	1	All functioning well
Bakuala	"	1	
Welembelle	"	1	

Source: DWST, Tumu 2006.

Kroboi	"	2	Good
Vamboi	"	2	Good
Sumboru	"	1	Good
Dimajan	"	3	Good
Nitalu	"	1	Good

Tumu	"	6	One low yielding
	–	88	–

Source: DWST, Tumu 2006.

Maps 5.2: Distribution of Water Facilities: Boreholes





Table 5.11: List of Communities with Dams

No.	Community	Facility Type	Status
1	Tumu	Dam	Good
2	Kong	"	"
3	Sakai	"	"
4	Tarsaw	"	"
5	Wellembelle	"	"
6	Nabulo	"	Not functioning
7	Bawiesibelle	"	Good
8	Pieng	"	"
9	Bassisan	"	"
10	Banu	"	"

Source: DWST, Tumu 2006.

Table 5.12: Matrix of Sanitation Facilities in the Sissala East District

Type of Facility	No. of Settlement	No. of Facilities
Pit Latrine	6	6
KVIP	37	65
Total	39 communities out of 91	71

Table 5.13: Type and Condition of Toilet Facilities in the Sissala East District

Location	Facility	Number	Condition
Tumu township	KVIP	7	Functioning
	Pit latrine	3	Non-functioning
	Household latrine	54	Functioning
TUTCO	KVIP	1	All functioning
SECTEC	KVIP	1	
KANSEC	KVIP	2	
ST. CLARES	KVIP	1	
Kowie	KVIP	1	All functioning
Kong school	KVIP	1	
Sakai school	KVIP	1	
Sakalu school	KVIP	1	All functioning
Bondei school	KVIP	1	
Bugubele school	KVIP	1	
Bugubele market	KVIP	1	
Tumu market	KVIP	1	
Walembelle school	KVIP	1	
Nabulo school	KVIP	2	
Ping school	KVIP	1	
Nabugubele school	KVIP	1	
Walembelle clinic	KVIP	1	
Nabugubele clinic	KVIP	1	
Nabulo clinic	KVIP	1	
Chinchin school	KVIP	1	
Dimajan school	KVIP	1	
Chinchin	Household latrine	30	8 are not functioning
Duu East	Household latrine	30	20 are not functioning
Sentie	Household latrine	5	
Jujen	Household latrine	5	
T I Ahmadiya school	KVIP	1	Functioning
Total		158	

Management of Tumu Town Water Supply System

Sanitation

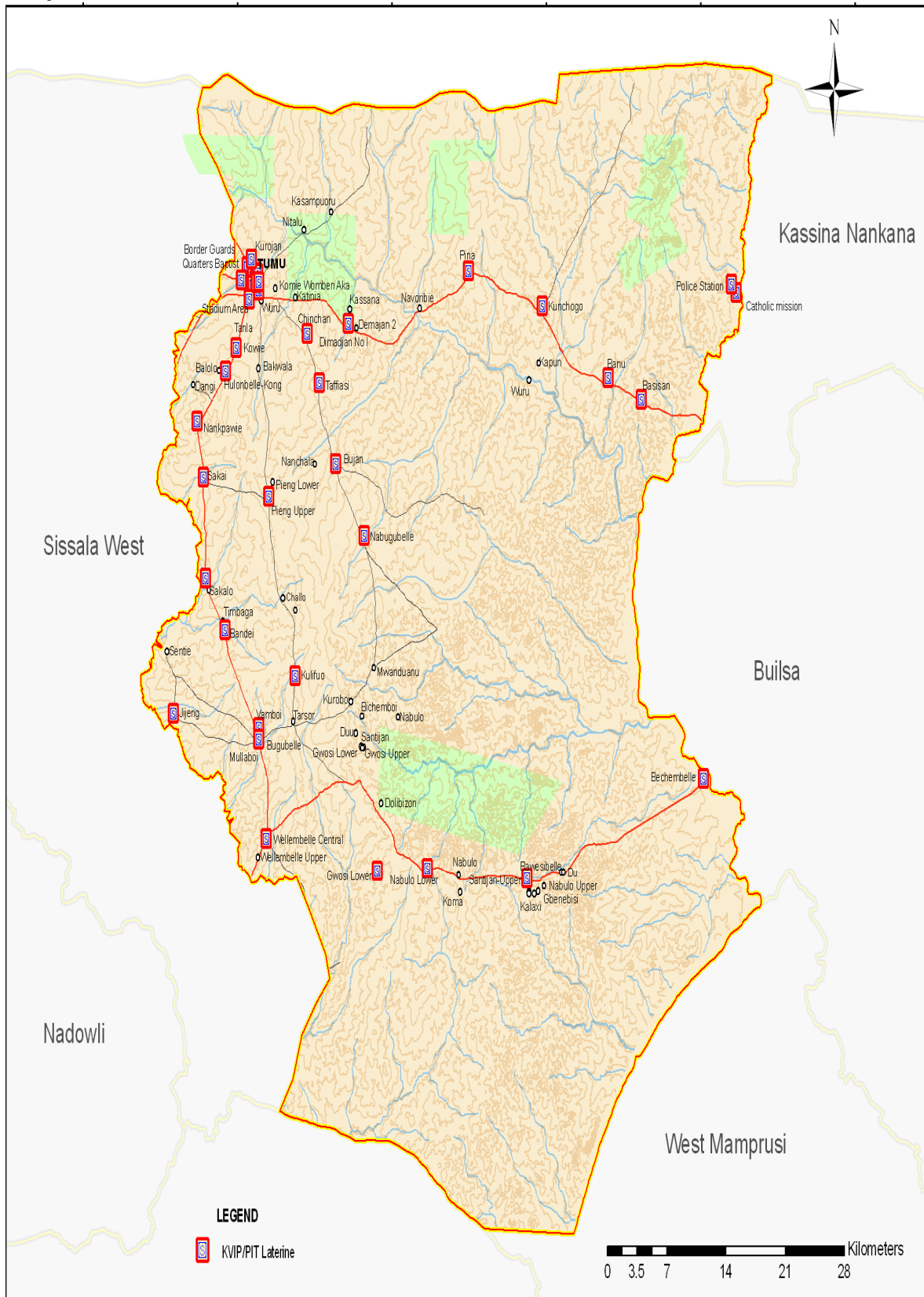
The sanitation concerns of the district border on the provision of toilet facilities and the collection and management of refuse. In terms of toilet facilities, the major toilets provided in the district are KVIPs and pit latrines. The KVIPs and pit latrines are provided in communities and institutions levels such as schools and health centres. Table 5.12 presents details of each type, while Map 5.4 shows a spatial distribution of the facilities within the district.

As can be observed from Table 5.12, only 39 out of the 91 communities in the district have pit latrine or KVIP.

The details of the conditions (defined by suitability for use) of the sanitation facilities are shown in the Table 5.13.

The total of the facilities is 158 in 2008. Out of this 31 were not functioning. All the three pit latrines were not functioning in Timu; all the 54 household latrines and three KVIPs were, however, functioning. In Chinchin, eight out of 30 household latrines were non-functioning; while for the Duu East town-ship, 20 of the household latrines are not functioning out of a total of 30. Thus 19.62 per cent of all the facilities were not functioning.

Map 5.4: Sanitation Facilities Distribution in the District



Resource Endowment and Investment Opportunities

Physical Resources

Transportation Infrastructures

Access roads are available to some communities. The district has about 258.8 km length of trunk roads, with about 226.14 km of the road being feeder roads. Accessibility becomes difficult, especially during rainy season as a result of the unpaved nature of some of the roads. Map 6.1 presents the spatial distribution of these two categories of roads in the district.

Table 6.1: Road Network and Road Condition Mix in the Sissala East District

Road Name	Condition			Total (km)
	Good	Fair	Poor	
Tumu–Sissilli	3.0	59.0	–	62.0
Tumu–Kuplima	–	16.9	–	16.9
Tumu–Wahabu	0.3	61.4	–	61.7
Tumu–Silbelle	–	10.5	–	10.5
Tumu–Jeffissi	9.0	26.5	–	35.5
Tumu–Santijan	–	51.8	10.2	62.0
Tumu Town Roads	2.1	1.2	6.9	10.2
Total	14.4	227.3	17.1	258.8



Picture 6.1: Untarred road leading to Tumu township.

Road Condition Mix

Table 6.1 shows the road condition mix for the Sissala East road network. Out of a total road of 258.8 km only 14.4 km are in good condition, while 17.1 km of road are in poor condition. The greater of the road was in condition described as fair during 2008. Refer to Picture 6.1 for an example of an untarred road to Tumu township.

Communication

There are two FM radio stations in Wa, the regional capital which cover the Sissala East District. These enable the rural people to be informed, educated and entertained on various issues of national importance including health. A radio station (Radford FM) under construction for the past years has just been completed and is now in operation in the District capital, Tumu.

Tumu has two internet centres. There is one internet centre at Kanton Secondary Technical School and the other at the Tumu office of the Ministry of Communication (MoC). Access to the internet is often very close. The MoC, apart from providing internet access, also provides ICT training to students in the

district. The national TV network covers the district; however only GTV transmissions can be received in the district. There are internet facilities which people visit for internet services. There is also a radio station and a community information centre. (Refer to Pictures 6.2 and 6.3).

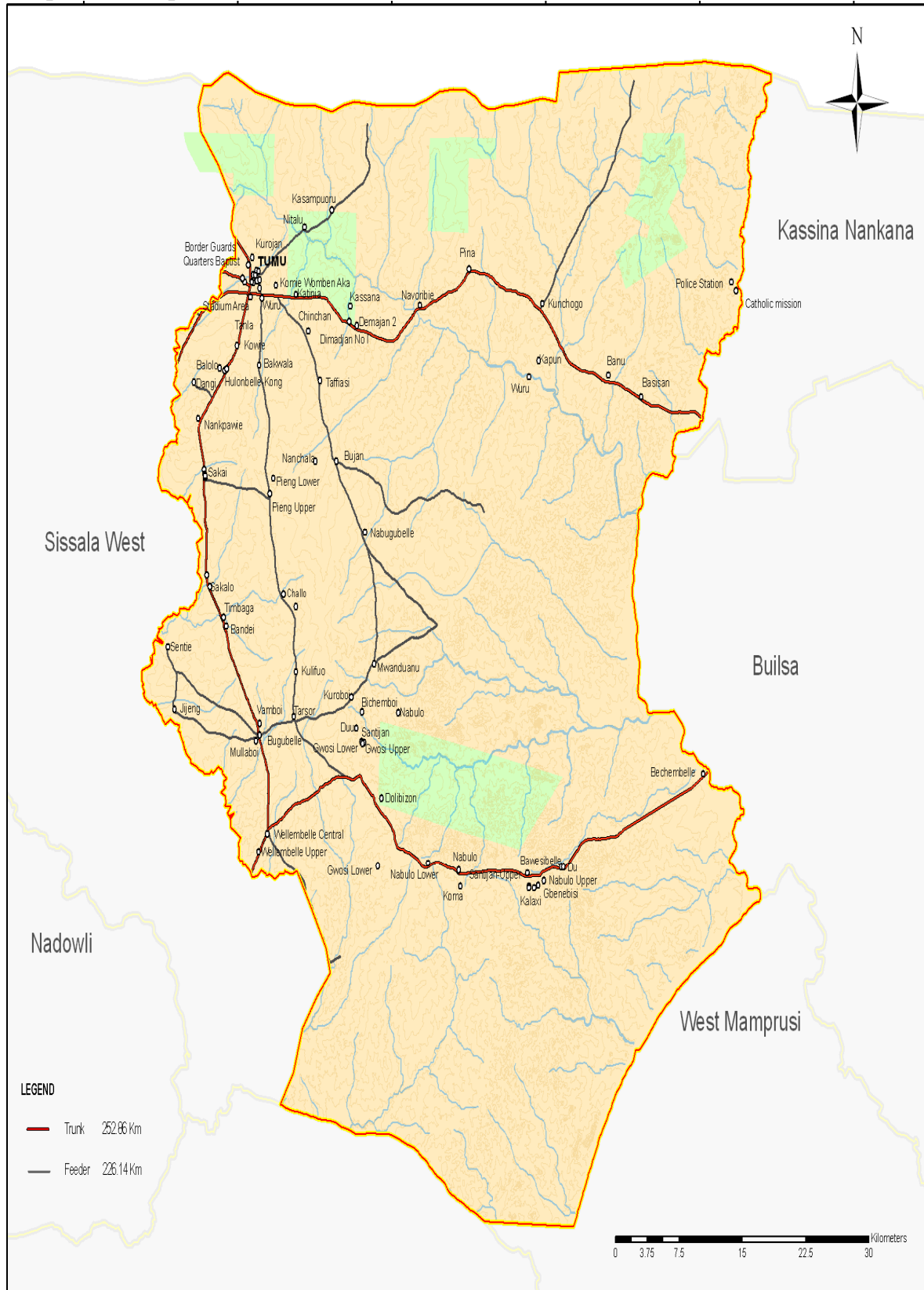


Picture 6.2: The entrance to Radford Radio Station.



Picture 6.3: Community Information Centre — Sissala East District Assembly, Tumu (Ministry of Communication).

Map 6.1: Transportation Network Distribution in the District



Health

The various health facilities in the district were networked on GHS/MOH regional radio programme. This used to allow health facilities to interact with the district hospital and the DHA, especially on referral of patients. This network system broke down since 2005 and all efforts to have it repaired proved futile.

Markets

Local markets, which vary in size and importance, are located in major settled communities. Markets in the area, are either operated on a daily basis or at periodic times. Map 5.2 illustrates a distribution of these markets within the district.

Hazards and Environment Impacts

Poor Physical Access

The district has a major problem of poor road infrastructure. This in effect affects the socio-economic development of most communities in the district. Typical examples of such communities include Gwosi, Santijan and Bawiesibelle which are almost cut off from the rest of the communities in the district during the peak rainy season. For instance, such communities are unable to access certain facilities such as health, market and education. At the same time it is not possible to reach them with development programmes and interventions.

Droughts, Bushfires and Rainstorms

The district is influenced by the dry harmattan winds for six months. During this period, there are no rains and water bodies dry up, leaving the people with absolutely no water sources. The vegetation is severely affected and this makes living conditions unbearable for the people. These droughts are so severe that sometimes they extend into the wet seasons, making the pattern of farming unpredictable. Delays in planting coupled with unreliable rainfall turn to affect the produce of farmers.

The unavailability of water does not only affect crop production but adversely affects livestock rearing. During this period, there is little or no pasture and water, so livestock die or are stolen.

Owing to the long drought, the vegetation is vulnerable to bushfires. These bushfires are so devastating that they destroy the vegetation, economic trees, food crops, settlements and exposes the soil to excessive erosion, leading to the loss of soil nutrient.

Rainstorms are also as destructive as bushfires and droughts. The storms are so strong that settlements are destroyed; roofs of buildings are ripped off and there is loss of human lives and property.

Table 6.2 summarizes responses on the number of people affected by droughts, bushfires and other disasters.

Table 6.2: Number of People Affected by Natural Disasters

Hazard Type	Frequency	%
Affected by flooding		
Yes	131	53.0
No	106	44.7
Affected by windstorm		
Yes	82	33.2
No	149	60.3
Affected by drought		
Yes	76	30.8
No	158	64.0
Affected by bushfire		
Yes	53	23.5
No	172	76.1

Source: GIMPA 2008 Household Survey.

Map 6.2: Distribution of Markets in the District



Investment Opportunities

Investment potential exists in the district as regards agriculture, industry, commerce, banking, energy, and tourism. Since the population density of the district is as low as eleven persons per square kilometre, there cannot be pressure on the land even in the distant future, which means there is a high potential for investment in agriculture.

Land is vast enough for large-scale cultivation and the soils are fertile and in fact, virgin in many parts of the district. Food crops grown are millet, maize, sorghum, beans and yams. The cash crops are cotton, cowpea, soyabeans and groundnuts; fruit crops are shea nut, *dawadawa* and cashew. Mango also does very well in the area.

The grass that abounds in the area also supports livestock rearing. While Fulani herdsmen from neighbouring Burkina Faso rear the animals in the area, their activities are unscientific and their behaviour unacceptable. Therefore, there is the need for better investors in livestock in the district.

Agricultural raw materials in the district form a formidable raw material base for industry. Cotton ginning has great potential and in fact, the Ghana Cotton Company has a ginnery in the area. Thus, there is strong potential for forming linkages with the textile industries located in the south of the country.

Indeed, there is the potential for the actual establishment of a textile industry in the district. Commerce in manufactured

goods also has good prospects in the area because of its relative isolation from major centres of economic activity, which means local suppliers can hardly cope with the problem of procuring and transporting these goods from these centres to the district. Therefore, only Tumu is supplied with these goods and so the potential for trade is high around these vast districts.

Banking services in the area are highly inadequate. At the moment, there is only one bank the Ghana Commercial Bank located at Tumu, which also serves other settlements. Therefore, a second bank is urgently needed in the area.

Another area that presents major possibilities for investment is in energy supply in the form of liquefied petroleum gas, fuel and lubricants. Being far from the supply centres, users of LPG gas encounter great difficulties before they could obtain gas for domestic use. A gas depot would therefore have a large, ready market for its product. The same also goes for fuel, which is only available in three settlements in the district and even here supply is highly erratic. The fuel distribution, particularly in the southern sector of the district would be a very profitable venture.

All things considered, the physical characteristics of the district support a viable agricultural base, which is as yet under-exploited. Industries can take root from this, especially in the area of agro-processing and textiles. Trade is yet to see the expansion that the local market demand can support. Energy supply is also highly inadequate, creating veritable opportunities in this area.

Table 6.3: Summary of Investment Potential and Opportunities in the Sissala East District

Potential	Opportunity
Availability of dams for off-season employment	Existence of financial institutions to provide credit
Availability of co-operative groups	
Existence of dams and streams in the district	Availability of district agricultural department for consultations
Availability of vast arable land for crop cultivation	Presence of DA agricultural department
Presence of corporative societies	
The existence of two major established market centres in the district	Geographical location of district (to the Burkina Faso border)
Availability of land for expansion and construction of health facilities	District assembly counterpart funds
Presence of district and sub-district health management	Existence of NGOs and Bilateral support
Availability of barns, and granaries, sacks, pots, baskets and drums	Support from NGOs and other bilateral agencies
Presence of training college in the district	Support from NGO and other bilateral organizations, District Assembly and GET fund
Presence of female members of the DA to pursue women and children agenda	The inclusion of the vulnerable and excluded in both GPRS I & II as major national thematic area
Existing programmes for women, children and other vulnerable groups in the district	
Existence of the police service, CHRAJ	Job creation and opportunities
NCCE and other security outfits	
High level manpower available	The existence of DA to coordinate programmes and activities in the district
Availability of information	Donor and NGOs support in the area of capacity building
Availability of labour for construction and other manual jobs (High communal spirit)	Support from nongovernmental organizations
The availability of tourist attraction centres in the district	Support from District Assembly, NGOs and other bilateral agencies
Strategic position of the district with Burkina Faso for cross-border investment	High level economic activities and generation of employment
Peaceful co-existence among the people	Opportunities for higher foreign investment
Availability of scholarship scheme for students	Support from NGOs and District Assembly
Availability of SSS graduates in the district	Support from NGOs, chiefs, opinion leaders and other bilateral organizations
Existence of health and VCT centres, guidance and counselling units in second cycle institutions and HIV/AIDS social clubs	Ghana Aids Commission, District Assembly, NGOs, CBOs and other bilateral organizations. Support from Centre for Scientific and Industrial Research
The activities of NGOs and CBOs in providing potable water and other services.	The presence of CBRDP, EU, DWAP and CWSA in the district
Economic trees like shea and dawadawa	Support from NGOs and District Assembly

Summary of Key Developments Issues

Analysis of findings of the household survey which was undertaken in November 2008 together with review of various sector specific reports of the Sissala East District identified some major development problems/issues which are considered critical to the district's ability to develop and achieve

the MDGs. These have been captured as follows:

- Poor revenue collection mechanisms
- Over-dependence on external source of funds to support development (DACF and development partners)
- Low income and poor savings practices among groups and individuals
- Over-dependence on rain-fed agriculture
- Rudimentary farming practices

Resource Endowment and Investment Opportunities

- Lack of off farm/off season employment
- Low output levels and inadequate post-harvest infrastructural facilities (storage facilities and feeder roads)
- Lack of organized market for agricultural produce (low prices, the issue of middlemen etc.)
- Inadequate school infrastructure/facilities
- High teacher pupil ration at pre-school level
- Low enrolment among boys in basic schools
- Inadequate monitoring and supervision of teaching and learning at basic school level
- High drop-out rate among girls in basic schools
- Poor performance of pupils at basic school level
- Inadequate school infrastructure/facilities
- High infant mortality
- Inadequate community-based surveillance volunteers
- Inadequate infrastructure and logistics
- Inadequate training for non-conventional/unorthodox health practitioners
- Inadequate potable water source
- Poor maintenance of existing water facilities
- Inadequate sanitation facilities
- Incidence of child rights abuses and women's rights violation
- Lack of rehabilitation and education centres for the physically and the mentally challenged
- Weak collaboration between the District Assembly and other stakeholders
- Low staffing capacity of the District Administration
- Inadequate office and residential facilities for staff
- Weak district and sub-district institutions for local governance
- Land degradation, bushfires and deforestation

Appendix 1: Household Survey Questionnaire

Notes for Interviewers:

1. Assign an identification number for each person in the household and maintain the ID number throughout. For each set of questions there are columns for the ID number and the name of the person from whom information is being collected.
2. ID numbers and names of members of households are needed to ensure that consistency is maintained. It is crucial that the characteristics of and information pertaining to individuals are not mixed up.
3. A person is a member of a household if he or she has been sharing food, i.e. “eating out of the same pot” with other members of the household for a period of at least three months. Thus a child of a member of the household who is now married and living away from home is **not a member of the household**, even though he or she may be a member of the family. On the other hand children in boarding school who return to the household during holidays are members of the household.
4. Before the start of the interview inform the members of the household that the information received from them is **confidential**. Information provided by any individual household or person will not be revealed either to any other households or to the District Administration etc.
5. For most of the sections it is expected that the head of the household will be able to provide the necessary information on all members of the household. However where it is clear that the head of the household is in doubt, as tactfully as possible please ask for information from the person whose information is being requested or another knowledgeable member of the household.
6. The questionnaire has fourteen modules-General Information, Structure of the household, Employment, Assets, Health, Maternal Health, Child Health, Education, Adult Literacy, Food availability, Resource Endowment, Household Amenities, Access to Services and a module on political participation.
7. At the start of each module or sub-module it will be indicated which category of household members should answer the question. Even though it is expected that the head of the household would have a fair amount of knowledge about the household members it is expected that for some questions it will be necessary to ask the person directly to ensure accuracy.
8. For some sections of the questionnaire privacy is required, i.e. the individual should respond to the questions separately and not in the presence of other persons. If this is not done the person may either not respond to the question or else give a false answer.
9. At relevant points of the questionnaire explanatory notes will be provided to assist the interviewer.

Thank you for collaborating with us in this important exercise.

Section 1: General Information

1. District Name
2. Enumeration area/code.....
3. Locality
4. Household Number.....
5. Household Address.....
6. Name/Code of Interviewer
7. Date of Interview
8. Time Interview Started
9. Time Interview Ended
10. Name of Supervisor

District	Code
Bole	101
Nanumba North	102
Zabzugu/Tatale	103
Tamale	104
Karaga	105
East Mamprusi	106
Bolgatanga	201
Bawku West	202
Kasena-Nankana	203
Wa	301
Lawra	302
Sissala East	303

Notes: Locality: 1. Urban

2. Semi-urban

3. Rural

Questionnaire Number.....

Section 2: Structure of Household

[Obtain information about all living members of the household]

I.D.	1. Name of person belonging to Household.	2. Sex	3. Age in years	4. Relationship to HH Head	5. What is your marital status?	6. Were you born in this town?
		1. Male 2. Female	(at last birthday); If less than 1 year, Code 0	1. Household Head 2. Spouse 3. Child 4. Adopted child 5. Sibling 6. Parent 7. In-law 8. Other Relative 9. Other (specify)	1. Never married 2. Loose/ informal union 3. Married (monogamous) 4. Married (polygamous) 5. Divorced 6. Separated 10. 7. Widowed	1. Yes 2. No

Section 2 (Cont'd): Structure of Household

[Obtain information about all living members of the household]

I.D.	7. If No, in what year did you move to this town?	8. Why did you move to this town/ village? 1. To work/farm 2. To attend school 3. Came with spouse 4. Came to retire 5. Other (specify)	9. What is your ethnic group? (see table below)	10. What is your religion? 1. Christian 2. Muslim 3. Traditional 4. Other (specify)

Codes for ethnic groups

1. Asante	6. Krobo	11. Dagomba	16. Kusasi	21. Other (<i>specify</i>)...
2. Akwapim	7. Ewe	12. Mamprusi	17. Kassena-Nankani	
3. Fanti	8. Guan	13. Gonja	18. Konkomba	
4. Ga	9. Nzema	14. Grussi/Frafra	19. Nanumba	
5. Dangme	10. Hausa	15. Dagarti	20. Builsa	

Section 3: Employment

I.D.	Name of person belonging to Household	1. Did you do any type of work for pay in cash or in kind, in the last 7 days?	2. Have you been looking for work and been ready for work in the last 7 days?	3. If you are not working why?	4. If you are currently working what economic sector do you work in (main job)?
		1. Yes → q4 2. No	1. Yes 2. No	1. Attend school-ànext section 2. Too old to workàq9 3. Disabledàq9 4. Lost previous job. àq8 5. Cannot find a jobàq8 6. Work is Seasonalàq8 7. Other (specify) àq8	1. Agriculture 2. Fishing 3. Mining & Quarrying 4. Manufacturing 5. Construction 6. Transport/ Storage/ Communication 7. Finance/ Insurance/ Services 8. Utilities 9. Wholesale/Retail trade 10. Community/ Social Services 11. Other (Specify)

[Please administer to household members aged 7 years and over]

Section 3 (Cont'd): Employment

[Please administer to household members aged 7 years and over.]

I.D.	5. What are the problems you face with regard to your work?	6. What is your employment status in your main job?	7. For whom do you work in the main job?	8. If you are not working now, how long have you been without a job?	9. If you are not working how do you support yourself?
	1. Finance 2. Difficult to access land 3. Erratic weather conditions 4. Uncertain demand for output 5. Poor health 6. Inadequate fish catch 7. High cost of inputs (e.g. fuel) 8. Difficulty in marketing products 9. Low price of products 10. Other (specify)	1. Self-employed with employee 2. Self employed without employee 3. Unpaid family worker 4. Casual Worker 5. Regular employee 6. Domestic employees 7. Student/apprentice 8. Other (specify)	1. Public 2. Private formal 3. Private Informal 4. Semi-Public/ Parastatal 5. NGO's/Intl Org 6. Other (specify)	(in weeks)	1. Own savings 2. Pension 3. Remittance from relatives 4. Borrow from family/friends 5. Gifts 6. Credit purchases 7. Depend on spouse 8. Other (specify)

Section 4: Assets of the Household

[Include items only if they are in working condition]

1. Does any member of the household currently own any of the following assets?	Check 1. Yes 2. No	3. Does a female member of the household own any of these assets? 1. Yes 2. No
1. Motor car		
2. Motor bike		
3. Bicycle		
4. Truck		
5. Tractor		
6. Furniture		
7. Sewing machine		
8. Refrigerator/Freezer		
9. Radio		
10. Radio cassette		
11. Television		
12. Video recorder		
13. Electric/Gas Stove		
14. Electric Iron		
15. Electric Fan		
16. Air conditioner		
17. Mobile Telephone		
18. Boat		
19. Canoe		
20. Outboard Motor		
21. House		
22. Land for farming		
23. Other land		
24. Account with financial institution		
25. Shares in a company		
26. Jewellery		
27. Cloth: Dumas, Lace etc		
28. Cattle		
29. Sheep/Goats		
30. Chickens		
31. Non-farm business enterprise		
32. Donkeys		
33. Treasury Bills		
34. GT Feed line		
35. Farm tools		

Section 5: Health

[All Members of the Household]

I.D.	Name of HH Member	1. During the last 3 months did ... suffer from:	2. When ... was ill did ... visit	3. Why did ... not seek medical attention?	4. Has ... ever been vaccinated against measles?	5. Has ... ever been vaccinated against polio?
		1. Fever/Malaria 2. Diarrhoea 3. Injury/Accident 4. Skin condition 5. Eye/trachoma 6. Ear/nose/throat 7. Coughing 8. Snake bite 9. Blood pressure 10. Stroke 11. Diabetes/Sugar 12. None (go to next section) 13. Other (specify)	1. Private hospital/clinic 2. Public hospital/clinic 3. Community health centre 4. Private doctor/dentist 5. Traditional healer 6. Religious Healing Centre 7. Missionary Hospital 8. Pharmacist/chemistical shop 9. Other (specify) 10. None	1. No need 2. Too expensive 3. Too far 4. Other (specify)	1. Yes 2. No	1. Yes 2. No

Question 6: What measures does the household take to prevent malaria?

[Multiple responses allowed]

1. The children sleep in treated bed nets
2. Adults sleep in treated bed nets
3. The house is sprayed regularly
4. The compound is weeded regularly
5. The gutters are cleaned
6. Take anti-malaria tablets regularly
7. Use mosquito coil regularly
8. The windows in house have mosquito nets
9. Other (Specify)
10. Nothing

Section 5 (Cont'd): Health

[All Members of the Household]

I.D.	7. Has ... ever been registered or covered with a health insurance scheme?	8. If ... has never been registered, why?	9. Is ... still registered, or covered?	10. If ... is no longer a member, why?	11. If ... is registered or covered, what type of scheme is he/she registered with now? [check membership card]
	1. Yes, registered → q9 2. Yes, covered → q9 3. No	1. Premium is too high 2. Do not have confidence in operators of the scheme 3. Covered by other avenues 4. No knowledge of any scheme 5. Other (specify)... ..	1. Yes, registered → q11 2. Yes, covered → q11 3. No	1. Premium is too high 2. Do not have confidence in the operators of the scheme 3. Covered by other alternatives 4. Was not getting benefits 5. Other (specify)...	1. District mutual 2. Private mutual 3. Private company 4. Other (specify).....

Section 5 (Cont'd): Health

[All Members of the Household]

I.D.	12. How many times has ... registered with scheme since first registration?	13. What are the expected benefits from the scheme?	14. Does pay all/part of the premium?	15. How much premium has ... paid or expected to pay for the current insurance year?		16. Has ... ever benefited from the scheme?	17. How many times has ... benefited from the scheme since first registration?
		1. Only OPD services 2. Only in-patient services 3. Both	1. All 2. Part 3. Exempted → q15 4. N/A → q15	A. Paid [Cedis]	B. Expected to Pay [Cedis]	1. Yes 2. No	[code 99 if cannot remember]

Section 6: Maternal Health

[This section should be answered by women aged 12-55 years]

I.D.	Name of HH Member	1. Has..... been pregnant in the last 12 months?	2. Did... receive pre-natal care during pregnancy?	3. Did ... have a live birth in the last 12 months?	4. Did receive post-natal care after delivery?	5. Who delivered the child?
		1. Yes 2. No → go to q6	1. Yes 2. No	1. Yes 2. No - Still pregnant 3. No - Lost pregnancy 4. No - Still birth	1. Yes 2. No	1. Doctor 2. Nurse 3. TBA 4. Other

Question 6: How many members of the household died during childbirth in the last twelve months?

Section 7: Child Health

1. In the last 12 months has the household lost any children through death?

1. Yes 2. No

2. Age of Child		3. Number that passed away in the last 12 months	
		Male	Female
a)	Before or during childbirth		
b)	0- 12 months		
c)	13 months-2 years		
d)	25 months – 3 years		
e)	37 months – 5 years		

Section 8: Education

[Household Members aged 3 years and above]

I.D.	Name of person belonging to Household aged 3 years and above	1. Does ... currently attend school?	2.If.... currently does not attend school, has ever been to school?	3.If yes to q2 what is the highest grade completed?			4.What is the current grade?		5.What is ... mother's highest educational level?	6.What is ... father's highest educational level?
		1. Yes →q4 2. No	1. Yes 2. No→ go to next section	01 Pre-school 11 Primary 1 12 Primary 2 13 Primary 3 14 Primary 4 15 Primary 5 16 Primary6 17 JSS1 18 JSS2 19 JSS3	20 M1 21 M2 22 M3 23 M4 24 SSS1 25 SSS2 26 SSS3 27 S1 28 S2 29 S3	30 S4 31 S5 32 L6 33 U6 41 Voc/Tech 42 Teacher T 43 Nursing 51 Tertiary 52 Koranic 53 Special 54 Agric	01 Pre-school 11 Primary 1 12 Primary 2 13 Primary 3 14 Primary 4 15 Primary 5 16 Primary 6 17 JSS1 18 JSS2 19 JSS3	24 SSS1 25 SSS2 26 SSS3 41 Voc/Tech 42 Teacher T 43 Nursing 51 Tertiary 52 Koranic 53 Special Sch 54Agric College	[See question 3 for codes] 00 None 99 Don't know	[See question 3 for codes] 00 None 99 Don't know

Section 8 (Cont'd): Education

[Household Members aged 3 years and above]

I.D.	7. During the current academic year, has missed some days at school?	8. How often was not able to attend school?	9. The last time did not go to school, what was the reason?	10. How long has been out of school?	11. Is back in school?	12. Has ever repeated a class?	13. How old was in Primary 1?
	1. Yes 2. No	1. Once 2. Twice 3. Thrice 4. Several times	1. Sickness 2. Needed on farm/shop/home 3. No money to pay fees and other expenses 4. Child not interested 5. Marriage 6. Bad weather 7. Other	(in days)	1. Yes 2. No	Yes 2. No	(in years)

Section 9: Adult Literacy Rates

[Ask of members aged 15 years and above]

I.D.	Name of household member	1. Can ... read and write in English?	2. Can ... read and write in a local language?
		1. Yes 2. No	1. Yes 2. No

Section 10: Availability of Food

[- will elicit information on hunger]

1. How often in the last year did this household have problems satisfying food needs?

1. Never → *go to next section* 2. Seldom 3. Sometimes 4. Often 5. Always

2. If interviewee suffered from the above, does this happen every year? 1. Yes..... 2. No.....

3. Why was there difficulty in satisfying food needs? **[Multiple answers allowed]**

1. An Income earning member of the household died
2. An Income earning member of the household left
3. Additional member joined the household.....
4. An Income earning member of household lost job
5. An income earning member of household is no longer working because of illness.
6. Remittances no longer received
7. Reduction in remittances received
8. Poor harvest
9. Problem with storage
10. Sold most of product right after harvest and did not get a good price
11. Food prices became too high
12. Reduced access to land
13. Other

Household Agriculture

1. If farming is your principal occupation what type(s) of agricultural production unit(s) (farming) are you engaged in? Rank by importance where 1 equals most important

	Rank
Foodcrop	1
Cashcrop	2
Livestock	3
Fish rearing	4
Other (specify)	5

2. Which **Major Crops** do you cultivate? (Use Table 3 to List at most five (5) major crops cultivated)
3. For each of the major crops mentioned, please indicate the plot size, whether inter-planted with other crops and the output.

List of Major crops cultivated	Farm size cultivated (acres) and cropping type				Output (indicate units)	
	Current season (2008)		Last season (2007)		Current season (2008)	Last season (2007)
	Farm size (acres)	Sole stand or mixed crop	Farm size (acres)	Sole stand or mixed crop		

4. Please indicate the seed type used in planting each of your Major Crops, the source and the price.

[illegible]

Seed Type

Source of seed

1. Traditional
2. Improved (include name)

1. Own seed
2. Market
3. NGO Development Project
4. MOFA (Govt) Development Project

5. Please indicate the types and sources of fertilizer you used on your major crops

[illegible]

Type of Fertilizer Code: Source of Fertilizer

- ### 1. NPK

- ## 2. SA

- ### 3. Urea

- #### 4. Organic

5. *None*

- ### 1. Market

- ## 2. NGO Development project

- ### 3. MoFA (Govt) Dev. project

- #### 4. From own animals

Appendices

6. Please indicate the type of any other agrochemical you used on the crops (including field and storage) as well as the source.

List of Major Crop on which used	Current season (2008)					Last season (2007)				
	Type of agro-chemical (see codes below)	Qty (number)	Unit Price	Source of agrochemical (see code below)	Distance to source (km)	Type of agro-chemical (see codes below)	Qty (number)	Unit Price	Source of agrochemical (see code below)	Distance to source (km)

Type of agro-chemical

1. Field pesticide
2. Weedicides
3. Storage pesticides
4. None

Source of agro-chemical

1. Market
2. NGO Dev. projects
3. MoFA Dev. project
4. Own Extract Prepared
5. Other (Specify)

7. Please, for your Post Harvest Crops (Major crops), what proportion of your harvest do you store and where?

Type of crop	Current season (2008)		Last season (2007)	
	Proportion of Crop Stored (%)	Where do you store the produce (See Code below)	Proportion of Crop Stored (%)	Where do you store the produce (See Code below)

Where stored

1. On Farm barns
2. Off farm barns
3. Under ground
4. Other (Specify)

Appendices

8. How many bags/sacks/calabashes, etc of Crop produce did you harvest last season (2008) and at what price did you sell a unit?

Major Crop	Current season (2008)					Last season (2007)				
	Qty Harvested (indicate unit)	Qty Sold (indicate unit)	Month most crop sold	Unit price	Value	Qty Harvested (indicate unit)	Qty Sold (indicate unit)	Month most crop sold	Unit price	Value

Indicate the land preparation technique(s) used by the household

Which of the following land and water management techniques do you practice?

Practice	Is farmer practicing? 1=Yes 2= No	Estimated area of land applied in acres	Number of years farmer has adopted practices
Earth Bonding			
Stone Bonding			
Ridging			
Mounding			
Mulching			
Cover Cropping			
No burn land clearing(cutlass/hoe)			
Zero-tillage(chemical)			
Plough-in vegetative cover			
Ploughing across slopes			
Ridging across slopes			
Apply manure (rate)			
Apply chemical fertilizers (rate)			

Appendices

9. (a) Please indicate your Livestock size (numbers). (b) Which of the livestock did farmer start rearing within the last 10 years?

Livestock	Number 2008	Number 2007	Started rearing in last 10 years? 1 = YES 2 = NO
Cattle < 2year			
> 2 year			
Sheep < 1 year			
> 1 year			
Goat < 1 year			
> 1 year			
Donkey < 1year			
> 1 year			
Pigs < 1 year			
> 1 year			
Other(specify)			

10. Please indicate the size of your Poultry enterprise as well as those that the farmer started rearing within the last 10 years.

Poultry	Number 2008	Number 2007	Started rearing in last 10 years? 1 = Yes 2 = No
Chicken			
Duck			
Turkey			
Guinea Fowl			
Pigeon			
Other(specify)			

13. Please provide information on the ownership of livestock in your household

Livestock type	Current season (2008)		Last season (2007)	
	Number owned by MALE HH members	Number owned by FEMALE HH members	Number owned by MALE HH members	Number owned by FEMALE HH members
Cattle				
Sheep				
Goats				
Guinea Fowl				
Chicken				
Pig				
Turkey				
Ducks				
Donkeys				
Other (specify)				

39. How does your household manage its livestock? Enter all codes that apply. *See code below*

Livestock type	Mode of feeding	Mode of watering	What type of housing	Disease management
1. Cattle				
2. Sheep				
3. Goats				
4. Guinea Fowls				
5. Chicken				
6. Pigs				
7. Turkey				
8. Ducks				
9. Donkeys				
10. Other (specify)				

FEEDING:

1. Free range
2. Cut and feed forage
3. Feed crop residue/ by-product
4. None

WATERING:

1. At home
2. Ponds/dams
3. Streams and rivers
4. Other (specify)
5. Other (specify)

HOUSING

1. None
2. Kraal in house
3. Thatch hut
4. Other (specify)

DISEASE MGT.

1. Self treatment
2. Seek vet. advice
3. None
4. Other (specify)

13. How many animals (Livestock) did you sell?

Livestock	Units Sold	
	Current season (2008)	Last season (2007)
1. Cattle		
2. Sheep		
3. Goats		
4. Guinea Fowls		
5. Chicken		
6. Pigs		
7. Turkey		
8. Ducks		
9. Donkeys		
10. Other (specify)		

14. Do you do fish farming? 1. YES..... 2. NO.....

15. What percentages of your farm labor use were from the following sources?

Source of labour	Percentage of total labour used	
	Current season (2008)	Last season (2007)
Family		
Hired		
Exchange		
Other (specify)		

16. Credit for farming

Season	Did you borrow money for farming (from any source)? (1) YES (2) NO	If YES, from which source? 1. Formal 2. Informal
Current season (2008)		
Last season (2007)		

Does your household own a woodlot? 1. Yes 2. No

If Yes, indicate when it was established and size of the woodlot. When: Size: acres

Does your household do a collection of sheanut? 1. Yes 2. No

If yes, indicate the quantity and unit selling price for the following season

Season	Quantity collected (bags)	Quantity processed (bags)	Qty sold unprocessed (bags)	Unit selling price for the unprocessed
Current season (2008)				
Last season (2007)				

Appendices

Welfare Indicators:

(a) Food availability

How long does the household's harvest of staple crops last?

..... months

During which months does the household experience severe food shortages? Please tick

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

When do you harvest and how long does the following household food staples last in a year:

Household Food staples	Period food crop is harvested (<i>See code below</i>)	Food last till beginning of the Rainy Season	Food last till ending of the Rainy Season	Food last till beginning of the Dry Season	Food last till ending of the Dry Season
Maize					
Cassava					
Yam					
Sorghum					
Millet					
Rice					
Cowpea					
Other (specify)					

Food Harvest period code:

1. Beginning of the Rainy Season 2. Beginning of the Dry Season

Which part (s) of the year do your household consume most the following products?

(Tick all that apply).

	Beginning of the Rainy Season	Beginning of the Dry Season
beef		
mutton		
goat meat		
fresh fish		
smoked fish		
poultry meat		
bush meat		
Eggs		
Other (specify)		

Have made any investments in the last 3 to 5 years?

If yes, what type of investments did you make and how much (GH¢)?

Non-Farm

- Building of a house.....
- Renovation.....
- Education.....
- Training.....

Farm

- Seeds.....
- Fertilizer.....
- Farm tools.....
- Livestock.....

Name any association(s) you belong to.

Do you make any contributions to this association?

If yes, state the amount (GH¢)?

Have you contributed towards any community projects?

If yes, name the project and state the amount (GH¢)?
.....

Have you contributed towards the maintenance of any community projects?

If yes, name the project and state the amount (GH¢)?
.....

Section 12: Household Amenities

1.What kind of toilet facility does the household use?

1. None/beach/bush
2. Flush toilet
3. Pan/bucket
4. Covered pit latrine
5. Uncovered pit latrine
6. KVIP
7. Other

2.How does your household dispose of refuse?

1. Collected by refuse agency
2. Burned by household
3. Public provided dump
4. Dumped elsewhere
5. Buried by household
6. Other (specify).....

3.How does the household dispose of liquid waste?

1. Through the sewerage system
2. Thrown onto the street/outside
3. Thrown in the gutter
4. Thrown into the compound
5. Other.....

4.What is the main source of drinking water for this household?

1. Inside taps in dwelling or compound
2. Public outdoor tap
3. Borehole
4. Protected/Covered well
5. Uncovered well
6. Purchased treated water — tanker, bucket, barrels, sachet
7. River/pond/lake
8. Other (specify).....

5. Does the household or a household member own the dwelling?

1. Owns the dwelling
2. Rents the dwelling
3. Use without paying rent

6. What is the material of the roof of the house?

1. Mud
2. Thatch
3. Wood
4. Metal sheets
5. Cement/concrete
6. Roofing tiles
7. Asbestos
8. Other (specify).....

7.What is the material of the walls of the house?

1. Mud/mud bricks
2. Stone
3. Burnt bricks
4. Cement/sand crete
5. Wood/bamboo
6. Iron sheets
7. Cardboard
8. Other (specify).....

8.What is the main fuel used for cooking?

1. Firewood
2. Charcoal
3. Kerosene oil
4. Electricity
5. Crop residue/saw dust
6. Animal waste
7. Gas
8. Other specify

9.What is the main fuel for lighting?

1. Kerosene/oil/sheabutter
2. Gas
3. Electricity
4. Generator
5. Battery
6. Candle
7. Other specify.....

Section 13: Access to Services

[Please tick appropriate box]

1. How long does it take to reach the nearest facility ☐ 2. By what means does one travel?

Time to reach facility in minutes						By what means?					
	0-14	15-29	30-44	45-59	60+		Vehi- cle	Motor- cycle	Fo- ot	Ani- mal	Canoe/ boat
a. Supply of drinking water											
b. Food market											
c. Public transportation											
d. Primary School											
e. Junior Secondary											
f. Senior Secondary School											
g. Health Clinic or Hospital											
h. Telecommunication facility											
i. Bank											
j. Post office											
k. Police Station											

Section 14a: Political Participation

[Ask of household members aged 18 and over]

I.D.	1. Name of Member of HH aged 18 years and over	2. Did you vote in the last district elections? 1.Yes→go to 4 2.No	3. If No, why did you not vote? 1.Was not registered to vote 2.Was not eligible to vote 3.Was not in the country 4.Do not care to vote because it will have no effect on policies 5.Religious beliefs 6.Ill or injured 7.Other (specify)	4. Did you vote in the last national elections? 1.Yes → go to 6 2.No	5. If No, why did you not vote in the last national elections? 1.Was not registered to vote 2.Was not eligible to vote 3.Was not in the country 4.Do not care to vote because it will have no effect on policy 5.Religious beliefs 6.Ill or injured 7.Other (specify)	6. Have you ever been consulted prior to the start of any community projects? 1. Yes 2. No

Section 14b (Cont'd): Political Participation

[Ask of household members aged 18 and over]

1. Has any member of this household benefited from a community level project 1. Yes 2. No	
2. Has any member of this household benefited from a project of the district assembly? 1. Yes 2. No	
3. Please name the project	
4. Is any member of this household a member of a unit committee? 1. yes 2. no	
5. Does any member of the household know how much money was allocated to the district through the District Assembly Common Fund last year? 1. Yes 2. No	

Appendix 2: Guidelines for Focus Group Discussions

1. Economic Activities

Questions

- 1a. What are the major economic activities in this community?
- 1b. Who are the major participants engaged in these activities? (Gender, youth, migrants, indigenes)

2. Governance/Institutions

- 2a. Level of security in the community? (Police protection, watchdog committees, fire volunteers, security of resources, rights of individuals/groups)
- 2b. Level of participation in the community development programmes? (youth, female, males, marginalized groups etc.)
- 2c. Contact with the elected and appointed govt representatives (e.g. district assemblies, MPs, DCEs etc)
- 2d. Access to legal services?

3. Resource Endowments

- 3a. What resources are available to the community? (natural and physical resources e.g.
 - Roads,
 - hospitals,
 - schools,
 - irrigation facilities/dams,
 - rivers,
 - land,
 - forests,
 - community wood lots,
 - protected areas (sacred groves, shrines),
 - reliable rainfall etc.)
- 3b. Who has access to these resources? (physical, financial etc.)
- 3c. How are the resources made available to the people? (timeliness, quality, effectiveness etc.)
- 3d. How are these resources managed?
- 3e. What rights do the traditional rulers/state authorities have over resources in the communities?
- 3f. What are the rules governing the usage of these resources? (e.g. land tenure arrangements, soil fertility regulations etc.)
- 3g. Why do you have these rules? (probe for sustainability)
- 3h. Are there any punitive actions for breaking rules?

4. Investment Opportunities

- 4a. What opportunities exist for investments in this community?
- 4b. Which opportunities are being exploited?
- 4c. Who is investing (e.g. indigenes, migrants, foreigner etc) and in which area(s)?

5. Constraints

- 5a. What are the constraints to the utilization of resources?
- 5b. What development challenges face the community?
- 5c. What actions are being taken by the community to address them?
- 5d. What actions are taken by the district assembly to address them?

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