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ECONOMIC GROWTH

[SCOPING REPORT OF POTENTIAL GROWTH POLES FOR THE IMPLEMENTATION OF PROJECTS UNDER THE 11TH EDF]

Submitted to:

Monitoring and Evaluation Technical Support Services – Ghana

For the

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ACRONYMS

ADB	Agricultural Development Bank
ADP	Area Development Programme
ADVANCE	Agricultural Development and Value Chain Enhancement
AFD	Agence Francaise de Development
AfDB	Africa Development Bank
AGRA	Alliance for Green Revolution
AID	Alternative Initiative for Development
ASWG	Agriculture Sector Working Group
CBRDP	Community Based Rural Development Project
CCFC	Christian Children's Fund of Canada
CERGIS	Centre for Remote Sensing and Geographic Information Systems
CIDA	Canadian International Development Agency
CIFS	Community Driven Initiatives for Food Security
CWSA	Community Water and sanitation Agency
DACF	District Assemblies Common Fund
DADU	District Agricultural Development Unit
DANIDA	Danish International Development Agency
DDF	District Development Facility Fund
DFR	Department Of Feeder Roads
DFR	Department of Feeder Roads
DP's	Development Partners
DWAP	District Wide Assistance Project
DWST	District Water and Sanitation Team
EDF	European Development Fund
EU	European Union
EUD	European Union Development
FAME	Family Association for Mental Health
FDU	Fisheries Development Unit
GDCA	Ghana Developing Communities Association
GEDAP	Ghana Energy Development and Access Project
GIDA	Ghana Irrigation Development Authority
GIZ	German Federal Enterprise for International Cooperation
GoG	Government of Ghana
GP	Growth Poles
GPRS	Ghana Poverty Reduction Strategy
GPRTU	Ghana Private Road Transport Union
GSOP	Ghana Social Opportunities Project
GTZ	German Technical Corporation
HDW	Hand Dug Wells
HIPC	Highly Indebted Poor Country Initiative
IBIS	Interagency Border Inspection System
ICRISAT	International Crops Research Institute for the Semi-Arid Tropic
IDA	International Development Association
IDO	Independent Development Organization
IFAD	International Fund for Agricultural Development
IGF	Internally Generated Fund
IWRM	Integrated Water Resource Management
JICA	Japan International Cooperation Agency
JIDA	Japanese International Development Cooperation
KCCCU	Krachi Community Cooperative Credit Union
KNUST	Kwame Nkrumah University of Science and Technology
KVIP	Kumasi Ventilated Improved Pit
LDP	Livestock Development Project
MCA	Millennium Challenge Account

MiDA	Millennium Development Authority
NGO's	Non-Governmental Organizations
NMTDPF	National-Medium Term Development Policy Framework
NORPREP	Northern Regional Poverty Reduction Programme
NORST	Northern Regional Small Towns
NRGP	Northern Rural Growth Project
PHC	Population and Housing Census
PMD	Pwalugu Multipurpose Dam Project
PV	Photovoltaic
RSIP	Rice Sector Improvement Project
RTIMP	Root and Tuber Improvement and Marketing Programme
RURIC	Rural Information and Research Centre
SADA	Savannah Accelerated Development Authority
SARI	Savannah Agricultural Research Institute
SEND	Social Enterprise Development
SHEP	Self-Help Electrification Project
SNV	Stichting Nederlandse Vrijwilligers: Netherlands Development Organization
SWC	Soil and Water Conservation
TCP/GHA	Technical Cooperation Programme/ Ghana
TOR	Terms of Reference
UDS	University for Development Studies
UNICEF	United Nations International Children Emergency Fund
USAID	United States Agency for International Development
UWADEP	Upper West Agricultural Development Project
VIP	Village Infrastructure Project
VLTC	Volta Lake Transport Company
WHO	World Health Organization
WRI	Water Resource Institute
WUA	Water Users Association
WVI	World Vision International

Background

The **European Development Fund** (EDF) is the main instrument for European Union (EU) aid for development cooperation's in Africa, the Caribbean, and Pacific countries and the Overseas Countries and Territories. The 1957 Treaty of Rome made provision for its creation with a view to granting technical and financial assistance to African Countries which at the time were still colonised and with which certain countries had historical links.

The EDF funds cooperation activities in the fields of economic development, social and human development as well as regional cooperation and integration. It is financed by direct contributions from EU Member States according to a contribution key and is covered by its own financial rules. The EU is currently on its 11th EDF which covers the period 2014 – 2020. The total financial resources of the 11th EDF amount to €30.5 billion for the period 2014 - 2020. Of this amount, €323 million has been allocated to Ghana under the 11th EDF National Indicative Programme (NIP).

The NIP provides total financial envelope inn the sum of €323 million non-repayable grant for three identified focal areas of Governance, Agriculture and Social Protection. In the area of agriculture, an amount of €160 million has been designated for productive investment in the Savannah Ecological Zones, Northern as well as Coastal Savannah but mainly focusing on the Northern zones where they are most needed to combat poverty and ensure food security.

The commitment of these funds is planned in two phases: the first phase, which will form the main focus of this study will be implemented in 2016 with a targeted roll out of the second phase in 2018.

1.1 Problem Analysis

Northern Ghana is often perceived as having agro ecological conditions that are too difficult for improving agriculture productivity but qualitative research conducted in Burkina Faso suggests that lack of agriculture development is rather due to other factors. Conditions in the three northern regions are characterised by: high overall rural poverty level, seasonal hunger and systematic malnutrition, low agricultural productivity, dependence on erratic rains, extensive production system and a sub-optimal use of water resources, limited availability of marketing outlets, and limited access to main markets in the south and overseas. Hence, **the lack of access to infrastructures and equipment as well as poor access to functioning markets** are among the main bottlenecks preventing smallholder farmers to shift from subsistence farming to modern commercial agriculture or small rural business entrepreneurship.

1.2 Irrigation is central to both expansion and intensification strategies.

Out of an estimated 6.385 million hectares of cultivated area in Ghana, only 30,900 hectares are irrigated (0.5 %). This share falls far below the 3.5 per cent irrigation rate for sub-Saharan Africa as a whole, and even further below the 34 per cent rate in Asia. However, Ghana still irrigates 2% of its 1.5 million hectares of potentially irrigable land, compared with 18% for sub-Saharan Africa[1].

1.3 Post-Harvest handling and value addition

The second infrastructural missing link for a successful market development is post-harvest handling and value addition. The **low energy access in rural areas and low energy intensity** in agriculture economy translates into limited storage facilities for grains and perishable vegetables and inadequate post-harvest handling practices.

1.4 Limited Access to Infrastructure and Markets

Finally, **limited marketing infrastructure and access to market** are the other major constraints to the development of the agriculture sector in Northern Ghana. The road

[1] USG-GoG technical team (2011): Ghana constraints analysis (partnership for Growth). Final report August 2011

infrastructure is poor with some districts completely cut-off from all road networks, thus preventing any agriculture development. Additionally, transportation prices in Ghana especially in the Northern Region are extremely high.

The bane of agriculture is reinforced by the fact that little investments from Government of Ghana (GoG) or Development Partners (DPs) are focused on infrastructures. Therefore, regionally **targeted and integrated investments tackling the main identified infrastructures gaps** could have an important impact in unlocking entire region and setting up the tools necessary to foster growth in the agriculture sector. These hardware investments will go along with capacity building and institutional programmes to reinforce their sustainability.

The proposed project directly supports the efforts of GoG in the Agriculture sector. It is also line with the vision behind the **Savannah Accelerated Development Authority** (SADA)[2] and the Northern Development Strategy (2010-2030). In particular, it is supportive of the SADA "growth pole" strategy that aims at concentrating and combining enough interventions and investments in one specific region to spark the required transformation.

1.5 Lessons learned

The following lessons learned, based on past experience in Ghana, form the rational of the proposed project.

Integrated infrastructures focused on specific regions: Most of existing programmes in the agriculture sector focus on the sector itself – i.e. value chain development, rural finance etc. by key donors such as USAID and IFAD– whereas infrastructure projects are usually focused on one sector or the other – road or water or energy – in an uncoordinated way. This approach means that communities and farmers are never really involved and cannot use one infrastructure to increase the financial sustainability of the others[3]. In brief, the opportunity for farmers and firms to change their situation is low without a comprehensive and integrated public investments programme in road access, in irrigation and post-harvest infrastructures that would provide room for expansion, efficiency, reduction of losses and quality improvement.

Out-growers schemes and private sector: The Northern Region of Ghana, benefiting from a strong focus of DPs, GoG, private companies and community-based organisations, are beginning to make progress towards development. Significant interest has been put on out-grower schemes, which usually deal with commercial farmers and traders through contractual arrangements. They are perceived as providing a good example of sustainable business relations that should be supported. **The irrigation projects that have been in operation for relatively long periods are those that are managed by private sector players or community owned.** This fact tends to provide some additional justification of supporting private and community driven approaches. An integrated infrastructural programme will have to survey these schemes in order to be able to support them. Moreover, management modes relying on community and/or private players will be privileged.

Complementarity of actions: The idea to focus on the infrastructures rather than on agriculture came from two different steps: The European joint programming process; the project's identification mission, which undertook thorough evaluation of the agriculture sector. One of the conclusions of this report underlined the absence of infrastructural programmes in support of the many initiatives implemented in value chain development. Consequently, the programming's focus was put on complementarity: the project will tackle

[2] http://mofa.gov.gh/site/?page_id=282

[3] e.g. products of a more costly irrigation agriculture needs to come out on to local markets or to be processed for exportation in order to guarantee the income that will serve to pay for the irrigation services and maintain the infrastructures

the missing links of existing agricultural development programmes. This is a win-win situation as the infrastructure will reinforce the work of others and the growth that will be generated will support the sustainability of the investments made.

1.0 Terms of Reference

1.1 Objective

The overall objective of this consultancy mission is to support the European Union Delegation in the choice of the geographical regions that will benefit from the infrastructure packages described above. The consultants will do so by providing a comparative analysis of the different growth poles and propose potential areas where EU contribution could have the most added value.

1.2 Scope

The following areas have been designated as growth poles by the GoG (SADA) in the three Northern Regions of Ghana. (Northern Region, Upper West Region and Upper East region):

1. Sisili Kulpawn Valley
2. Pwalugu Area
3. Buipe Area
4. Daka/Katanga Valley
5. Oti River Basin
6. Fumsi Valley
7. Kabaka Gorge
8. Bui Development Area
9. Nasia Valley
10. Kamba Dam
11. Bontaga Dam

Consequently, the priority scope of this mission should be the screening and analysis of these growth poles with an aim to provide an initial evaluation of their development potential. However, should the consultants, through their research and meetings, find other areas outside of the growth poles that would fit the conditions described above (important irrigation potential, number of public and private development partners already present, large infrastructures missing to unlock potential) they should also include this information in the comparison.

Sector	Information on the Growth Poles (GP)
General information	– Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)
Information related to partners	– Relevant contacts and activities from the key ministries (Agric, Energy, Transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP

Sector	Information on the Growth Poles (GP)
Agriculture related information	– Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural/arable land (scale, quality) in each GP – Identified potential of agricultural/arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – Numbers of farmers and agro businesses (number and broad classification) in each GP
Energy related information	– Main existing renewable energy projects in each GP – Level of access to energy/to electricity (households and commercial) in each GP – Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid /distance to the grid /grid densification in each GP – Availability of information on solar /wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP
Water related information	– Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP
Transports and logistics related information	– Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP

1.3 Deliverables

It is foreseen that the assignment will be carried out between 15th of July and the 15th of August in Ghana. The final report should be delivered on the 1st of September the latest. The consultants will deliver the following result in a detailed report (in English):

- A detailed description and mapping of the targeted growth poles in terms of agriculture products, energy resources, water/irrigation resources and road networks integrating the information above.
- An overview of the key international, national and local stakeholders' active in the field of agriculture, energy, water and secondary roads in each growth pole.
- Based on the information above a comparison of the growth poles in terms of added value and potential impact of the EU intervention in the different sector identified (irrigation, water, energy, road, markets).
- The consultant's recommendations on the Ghana's Growth Poles/regions in which the EU interventions would have the most added value

- Draft report

The draft report shall be submitted to the EUD in electronic copy not later than 15 days following the completion of the work in Ghana. Comments on the draft report will be provided within two weeks.

- Final report

The final report will integrate all comments. It shall be submitted in four hard copies and electronic version including all the annexes stored in a CR ROM / USB disk not later than 15 days following the receipt of the comments on the report to the EU Delegation. Final acceptance will be granted by the EU Delegation at the latest four weeks after receiving the final version of the report.

- The final report / appendices should include especially:
  - Sectorial maps for each regions (agriculture, energy, water and road)
  - Summary maps for each regions
  - List of existing programmes and project for each region.
  - List of documents used and of stakeholders contacted

2.0 Methodology and Approach

We commenced with a detailed desk study review and synthesis of available reports data, compilation and analysis of all relevant documents available on the three regions including the SADA report collating, summarizing and reporting the results. We subsequently conducted interview with representatives of relevant agencies and institutions. Some of the institutions we engaged with were:

- Members of the Agriculture Sector Working Group (ASWG)[4] to collate and review their activities in the northern part of the country especially districts where growth poles have been identified
- The Ministry of Agriculture and Project Coordinators of donor/GoG funded projects
- Department of Feeder Roads
- Management of SADA
- Other private sector operators in the northern part of the country e.g. AgDEVCO
- Volta River Authority for background on the energy situation in Ghana
- Centre For Remote Sensing and Geographic Information Studies (CERGIS)

We commissioned the preparation of detailed maps of growth pole locations and then proceeded on an extensive field visits of most of the districts located within these growth poles to validate our desk review processes and update our understanding and finalize this report.

3.0 Structure and Comment on Assignment

The report has been structured under six main headings.

Chapter 1: Background

Chapter 2: Terms of Reference

Chapter 3: Methodology and Approach

Chapter 4 Contextual Framework for developing a Growth Pole in the SADA Enclave

Chapter 5: Summary of Field Observation

Chapter 6: Conclusions

Chapter 7: Summary of data on profiles of districts contained within identified Growth Poles

Appendices: This includes data on Warehouses /Donor Activities/ Irrigation Schemes/ Population of Districts/Aggregators in the SADA Zone

Whilst all efforts were made to collate data from relevant government and private agencies, there were some difficulties in getting data from some of them. Also, we cannot in some cases vouch for reliability of some of the data collected from these institutions.

[4] This is a working group of all donors operating in the agriculture sector in Ghana

4.0 Contextual Framework for developing a Growth Pole in the SADA Enclave

Agriculture forms a core part of Ghana's economy, creating value of ~US$6bn (roughly 36% of GDP) and employing 4.6m people (56% of the workforce). Approximately 3 million smallholder farmers with average farm sizes between 0.5-2 hectares currently produce 95% of the country's food crops. Furthermore, Ghana faces increasing food security challenges despite growing agricultural production (3.1% annual average staple crop production growth, 2005-2008).

Ghana has designated the Northern Region as one of four potential breadbaskets. The Northern Region has about 7 million hectares of potential agricultural land with good soil, currently of which only about 10% is under cultivation, primarily by roughly 350 000 smallholders. Despite relatively good availability of water through local rivers, only 600 hectares (<1% of cultivated land) is currently irrigated. Agricultural production techniques are still basic with less than 50% of farmers using fertilizer and only 5-10% using improved seeds.

As a result, yields are low at 2.6 tons/hectare for rice and 1.7 tons/hectare for maize, and average farm household income is about US$700-800 per year (with about 6 members per household). Hence, the Northern Region has ample potential to increase cultivated land area, boost yields through irrigation and improved farming techniques, and thereby also increase smallholder income.

While there are already several initiatives under way trying to improve agricultural production in Ghana, it is believed that these interventions are not focused and holistic enough to bring about the required transformation. In this context, the Alliance for a Green Revolution in Africa (AGRA) is supporting Ministry of Food and Agriculture (MoFA) in the development of a "breadbasket approach" to concentrate and combine interventions in a specific region that has potential to produce a large share of the country's staple food requirements. Specifically, the objectives of the breadbasket effort are to:

- Increase country food security
- Improve smallholder incomes
- Increase agriculture's contribution to the country's GDP

It is clear that the breadbasket strategy needs to be actualized in an efficient manner to meet its objectives. This will require a combination of interventions that seek to select the right value chains and reduce transactional cost for potential large-scale agribusiness players to anchor these investments. Unless this takes place, realization of the potential of these identified Growth Poles will not happen.

Increasing Value Chain Competitiveness

From production to marketing, a number of donors are working in the SADA zones to increase the competitiveness of rice, maize, and soybean value chains in northern Ghana. To accomplish this, support is being provided to increasing access to seeds and fertilizers, building and rehabilitating irrigation systems, improving crop research and farming practices, and modernizing storage and distribution methods.

Enabling the Private Sector Participation

Donor support is also facilitating private sector engagement throughout the agricultural value chain, primarily by connecting buyers, producers, and other actors to help them understand market possibilities and pricing, increasing farmer income and market efficiency.

4.1 Agricultural Growth Potential from Increased Irrigation

Key crops produced in these districts include Maize, Rice, Sorghum, Cassava, Yam, Groundnut, Cowpea and Soya Bean. USAID "Feed the Future" initiative supports the production of rice, soybean and maize in the three northern regions. All these crops can benefit from increased irrigation with the first crop rice, exhibiting the greatest potential for growth, and the rest following in a descending order of magnitude.

A modernised agriculture seeks to transform the subsistence oriented smallholder farmer and processor into one that is producing and selling more to the market without compromising household food security. The SADA strategy recognises that food insecure farm households, due to their higher vulnerability to market imperfections, tend to give significant priority to food crops in the allocation of their productive resources. The strategy therefore underscores the importance of food security as a pre-requisite for agricultural modernisation for poor and vulnerable households.

A transformed smallholder producer will also be expected to live on a well-planned and managed farm, adopt new and proven technology, and manage farm activities in a manner that does not degrade the environment. Similarly a transformed smallholder agriculture system should be structured in a way that reduces transactions costs in all aspects through access to information and well as coordinated production systems.

Scale of Potential Irrigation Interventions[5].

Presence of Black Volta River and its tributaries in the region allows for ample exploration of the options such as pumping from the river and bunding with improved drainage, and these were considered, for districts along watercourses in the *Upper West Region.* Total area suitable for this type of water development is estimated to be about **1,600ha in about 13 different communities of four districts**.

White Volta River also provides a unique opportunity for pumping from the river and bunding with improved drainage options, with **about 2200 ha** as total area suitable for this type of irrigation, in all the *Upper East Region* districts along water- courses (Garu/Timpani, Bolgatanga, Talensi/Nabdam and others).

Downstream portions of White Volta River were considered for pumping from the river and bunding with improved drainage options with about **2800 ha** as total area in **Daboya, Adaayili, Lingbuisa Kukuo, Dalun Teplinayili, and Nawuni communities of the Savelugu/Nanton, Tolon/Kumbungu and Tamale Districts of the** *Northern Region.* It is noteworthy that, **pumping is** already on-going along the banks of the **Naboggu and Nasia** rivers (tributaries of White Volta) on the small-scale and can be evaluated and scaled-up, after the feasibility studies have been carried out

There are other **waste areas of the Northern** region where above interventions have good prospects, especially around **Daka/Oti river**. These are opportunities to be explored by the Northern Region Growth Project (NRGP) as **cost of these options is the lowest** and **developed areas can be of considerable size**. Parts of the East, West and Central Gonja, Nanumba North and South as well as Yendi and Zabzugu/Tatale Districts all have areas suitable for the pumping and improved drainage options.

Introduction of the **fish-rice culture** on the basis of the practices carried out in the Niger River flood plains in Mali may be another very new but viable option **that can be piloted in**

[5] *SADA, (December 2010). A Sustainable Development Initiative for The Northern Savannah: Strategy and Work plan. Pp 83-84*

the parts of the White Volta plains (Savelugu/Nanton district, for example) where **bunded rice culture** is already in existence after the past interventions of the World Bank and the AFD and cost of additional infrastructure would be lower for this reason.

4.2 Entry points of the strategy

The agricultural modernisation strategy provides entry points to allow for inclusive growth and poverty reduction as follows:

i. A marketing-based out-grower system that defines the structure of existing and expanded markets. This will encourage the emergence of a growing private sector capable of engaging producers in a manner that responds to client and market demand.

ii. Tree crop production as a source of steady flow of incomes to empower the poor to build their assets and enhance their capacity to invest in farm and non-farm production activities.

iii. Selected staple crop production systems for productivity improvement to increase competitiveness of the Northern Savannah ecological belt as a supply source for the sub-regional market. This recognises that not all smallholders will have the capacity to go into tree crops and will continue to rely on staple crops for sustenance and means of income. Crops will be selected on the basis of importance in household food consumption basket, current demand outside the household, including the potential to generate agro-industrial activity.

iv. Horticulture production to diversify into export agriculture which has been a source of growth and significant poverty reduction among farmers in southern Ghana and a good avenue for targeting women and the youth.

4.3 Preconditions for modernization

Agricultural modernization requires a re-orientation of producers, production systems, and institutions towards the market. It also requires new knowledge and skills especially for the application of science and technology and supporting infrastructure. The following pre-conditions are necessary in order to facilitate a competitive market-oriented agriculture.

i. Traditional and local government authorities, as well as individual landowners need to be engaged to convert fallow land to capital thereby improving the availability of and access to contiguous land to enhance coordination of production activities and related support services.

ii. Partnerships need to be developed with existing private sector expertise in (domestic and international) market oriented agricultural production to attract investment. This requires specific incentives that will attract private sector actors (agribusiness) into northern Ghana, and demonstrate the investment potentials for the private sector (agribusiness and producer organizations).

iii. There is an urgent need for road networks to effectively connect these market centres and reduce the high transaction cost of doing business. Investments decisions for the road networks must be based on connecting and facilitating economic activities supported by these rural and especially urban markets listed below.

iv. Investments in research in collaboration with the private sector for initiating the use of modern technologies, pre and post-harvest equipment, improved seed varieties, Good Agricultural Practices to increase yields.

v. Investments in irrigation systems to make up for failures in weather patterns and ensuring all year round production and processing of crops.

5.0 Summary of Field Observations

The SADA Strategy and Work plan 2010-2030 provides insights into the geographic location and types of Infrastructure Development, which are pre-requisite to promote growth and a sustainable development strategy in the SADA zones.

We note that all areas identified under the SADA Growth Pole Breadbasket Strategy are based on initiating agricultural development centred on irrigation systems as a tool for agricultural development. It must be pointed out that some of the Growth Poles such as Buipe and Pru had greater potential in livestock and aquaculture respectively relative to crop production.

A number of observations are made from the review of documents as well as field validation trips conducted during the period 3rd to 9th and 14th to 15th August by the Assessment Team.

Generally, all the 34 districts located within the area of influence of the 11 identified Growth Poles (GP) shared common problems of weak infrastructure in terms of roads and other network, low electricity penetration, district and community markets and social services (health, water and sanitation systems). The majority of farmers in these districts operate at a subsistence level characterised by low yields, very limited use of equipment and inputs.

These factors coupled with poor road, energy, water and sanitation infrastructure and very low population density has resulted in the lack of major investment by private sector in the agriculture sector.

Most of the markets in the districts visited conduct very brisk business on market days but were very basic and lacked features associated with modern markets. This included poor or absent sanitation facilities and use of mainly wooden tables and sheds for the sale of good. All the district capitals had district markets with smaller ones in some of the settlements, accessed by local residents and itinerant traders for sale to the markets in Tamale, which is the biggest metropolitan city in the three northern regions. Districts such as Savelugu / Nanton, Tolon Kumbungu being geographically close to Tamale also bring their produce to Tamale on markets days. (Refer to Annex 6 Market Locations)

With the exception of the Kumasi – Tamale- Paga road, portions of Bolgatanga - Wa road and Wa – Tamale road, almost all the major roads in the north have not been tarred. We observed that, road networks within district are very poor and accessibility and connectivity non-existent in several cases. There is an urgent need for road networks to effectively connect production areas to market and reduce the high transaction cost of doing business.

Water transportation provides a much cheaper alternative of transportation compared with roads to facilitate access to markets in the south. (Refer to Annex 9 Northern Road conditions and classification) There is the need to revive these abandoned water transportation systems as an alternative means of transport. To be competitive, in terms of costs, some competition must be introduced instead of allowing the system to be dominated by state monopolies.

Connectivity to the national grid is quite limited for a number of settlements in the districts visited with an average coverage of about 30%[6] and a common complaint of supply being erratic and of low voltage.

This situation makes it difficult for any form of serious processing. For example, Integrated Tamale Fruit Company (ITFC), a major agricultural firm in the north engaged in mango production and processing firm despite the MiDA/MCC funded intervention relies on generators for energy during processing to avert any downtime, damage to equipment and continuous power source.

[6] Based on discussions with officials of the various district assemblies visited

Whilst there are efforts by the Government of Ghana to extend coverage to the national grid for all lot of settlements witnessed during the visit, the dispersed nature of settlements means huge cash outlay. A key observation made during the field visits was extension of power to settlements bordering the main roads traversing the districts.

The bulk of the population rely solely on wood as cooking fuel and no major investment in biofuels with the 2 MW Navrongo Solar Power Plant, the only renewable energy scheme in the north.

With the exception of districts capitals where small water town systems had been installed, most of the settlements in the district relied on hand dug wells, boreholes with a few having standpipe pipes.

A lot of warehouses (over 100) ranging from 5 Mt to about 1,000 Mt funded have been funded by donors through agricultural programs implemented in the north. Most of them sighted during field visits were in deplorable state and showed a suboptimal level of use. (Refer to Annex 7 Warehouse Locations and Capacity)

Though about 90% of the population are engaged in various forms of agriculture in all the 34 districts visited, the lack of technology notwithstanding the myriad of donor funded projects, poor accessibility to production areas, small level of acreage of production, poor energy infrastructures and poor road network in combination have militated against the realization of potential of the northern part of the country in its agricultural revolution.

There are a significant number of rivers and streams available and traversing the north which lends itself to irrigation development to mitigate the adverse effect of the uni-modal rainfall pattern production, which restricts farming activities to not more than one planting season annually. (Refer to Annex 11 Growth Pole Area Maps) The potential of these Growth Poles differed with respect to potential investment cost of providing such infrastructure and their potential impact. Whilst most of these Growth Poles (GP) have been identified as potential source of irrigation for agricultural development, only a few have had detailed current studies done with only one having the private sector This is the Irrigated Wienco Agricultural Development (IWAD) Scheme, which plans to utilize the Sisili Kulpawn Rivers to develop an integrated irrigation scheme in the Mamprugo Moaduri District. (Refer to Table 1 Below)

A proposal for irrigation development with prefeasibility studies completed report 5,500 ha each as potential irrigable area. These is the Mpaha project located in the Central District GP3 also prepared by FAO in 1964 and updated in 1995-7. Both envisage a system of pumps, pipes, canals and a furrow, to grow rice and vegetables with the Tokpo communities as the primary beneficiaries. These are then followed closely by another set of two 4,050 ha irrigation pre-feasibility proposals prepared by Nippon Koei for Pwalugu and the Kamba Dam located in West Mamprusi GP2 and Lawra GP11 respectively. (Refer annex 8 for details Irrigation Projects in Growth Pole Area)

Table 1 Summary of Potential and Existing Irrigation Schemes

Growth Pole	District	Irrigation Scheme: Existing	Coverage HA	Potential Irrigation Scheme	Planned Coverage HA
1.Sisili Kulpawn	Mamprugu Moaduri	None		WIENCO / Gov. of Ghana/ SADA	15,000
2. Pwalugu	West Mamprusi	Nasia Irrigation	45	VRA- Pwalugu Dam Project	4,050
3. Buipe	Central Gonja	Yapei / Buipe	183 / 110	None	None
4.Daka/Katanga Valley	East Gonja / Kpandi	None	None	Kumdi / Nkanchina	None
5. Oti River Basin	Krachi East /Krachi West	Krachi West	None	None	None
6. Fumsi Valley	Wa East	None	None	None	None
7. Kabaka Gorge	Pru / East Gonja	None	None	None	None
8.Bui Development Area	Bole	None	None	None	None
9. Nasia Valley	Savelugu/ Nanton	Bunglung, Kukobila and Libga		Diplale Small Scale Irrigation, Nyeko, Sogu-Tampia and Chab-chab	None
10 Kamba Dam	Lawra	None		Kamba Dam	4,050
11 Bontanga Dam	Tolon Kumbungu	Bontanga Dam	615		

Whilst there has been an interest expressed by AgDEVCO in the proposed Bui Irrigation Scheme, not much detailed studies have been done though it must be mentioned that as part of the dam, the Bui Development Authority has made provision for an irrigation scheme.

Another observation was the lack of proper maintenance culture for the existing irrigation schemes similar to what is experienced in the south of Ghana as a result of weak management systems. The lack of enforcement for users to pay appropriate fees for land and water use is noted as being a significant contributor to this state of affairs.

A visit to the Bontanga Irrigation Scheme[7] in the Tolon Kumbungu district, which is currently, the largest scheme in the north showed a complete neglect and lack of use by farmers. The excuse being that during the rainy season farmers opted to farm elsewhere on cheaper lands with no requirement to pay user fees.

Most of the 34 districts visited have very good soils capable of supporting production of various crops for both local and export markets. Also, land sizes are very huge and contiguous making clearing costs relatively lower than in the southern parts of the country.

Whereas the three northern regions have a combined total of 43% (97,703 sq. km) of landmass of Ghana (227,533 sq. km), they only constitute about 17.1 % of total population of Ghana[8]. The population density for the Northern Region is about 35 per sq. km and the lowest in Ghana followed closely by Upper West with 38 per sq. km, and far less than then average for Ghana, which is 103 per sq. km[9]. None of the growth poles straddle the Upper East district, which has a population density of 118 per sq. km (Refer to Table 2 Population density by Region below).

[7] 615 hectares

[8] Ghana Statistical Service (2010 Population Census)

[9] Ministry of Local Government and Rural Development

However, notwithstanding, the vast expanse of unpopulated lands, poor roads, energy, water and sanitation infrastructure has resulted in the lack of investment by the private sector in the agriculture sector.

Table 2 Population density by region, 1984 - 2010[10]

REGION	AREA (SQ KM)	2010	2000	1984
GHANA	**238,533**	**103**	**79**	**52**
WESTERN	23,921	99	80	48
CENTRAL	9,826	224	162	116
GREATER ACCRA	3,245	1,236	895	441
VOLTA	20,570	103	80	59
EASTERN	19,323	136	109	87
ASHANTI	24,389	196	148	86
BRONG AHAFO	39,557	58	46	31
NORTHERN	70,384	35	26	17
UPPER EAST	8,842	118	104	87
UPPER WEST	18,476	38	31	24

Donor Support

There are a number of donors and NGOs working actively in the provision of capacity building and social services, which has greatly contributed to the upgrade and provision of systems to improve the lives of the people in their targeted districts. Some of these are World Vision, Action Aid, DFID, European Commission, World Bank, CIDA, USAID, etc.

Nine donors are currently implementing a total of 509 interventions, with districts in the Northern Region having the highest number of 205 followed by Upper West with 142 (Table 3 Summary of Donor Funded Projects).

There is a need to ensure a greater level of collaboration to take advantage of the possible synergies with those engaged in agricultural development interventions. At the last count 283 out of the 509 Development Partner interventions were implemented in districts located within the 11 SADA growth pole enclaves. (Refer to Annex 1 Development Partner Interventions)

Table 3 Summary of Donor Funded Projects[11]

	Count of Donor Interventions by Region					
Donor	**BRONG AHAFO**	**NORTHERN**	**UPPER EAST**	**UPPER WEST**	**VOLTA**	**Grand Total**
AFD		9	3	4		16
AGRA		6	1	7		14
CIDA		71	30	46		147
GiZ		12	5	5		22
IFAD	33	42	18	27	15	135
IFDC	7	24	7	9	2	49
JICA		3		1		4

[10] *Ghana Statistical Service (GSS)*

[11] Compilation of Data obtained from METSS

Count of Donor Interventions by Region						
Donor	BRONG AHAFO	NORTHERN	UPPER EAST	UPPER WEST	VOLTA	Grand Total
USAID	19	38	17	24	5	103
WFP				18		18
Grand Total	**59**	**205**	**81**	**142**	**22**	**509**

We also observed that there were a number of donor funded agricultural projects in the region, which targeted smallholder farmers and Farmer Based Organizations (FBOs), of which the majority may not at present have the capacity to sustainably build on these interventions. (Refer to Annex 4 List of FBOs)

The Ghana Commercialization of Agriculture Project (GCAP) funded by the World Bank and USAID is operating in the SADA region and the Accra Plains, and has as its focus, the provision of infrastructure support such as storage facilities, connectivity to national grid, land clearing, etc. for nucleus farmers who have entered into contractual relationship with smallholders.

The program is having a positive effect and reducing transactional cost of these targeted aggregators and nucleus farmers, which provides them with the necessary spare capacity to provide some services to their smallholders. (Refer to Annex 5 List of Aggregators and Annex 3; List of Nucleus Farmers)

Private Sector Initiatives

Though there are a few initiatives of private sector namely the Integrated Tamale Fruit Ltd (ITFC), Masara N'arziki and IWAD sponsored by Wienco Ghana Ltd, most of the other projects are funded by the public sector with issues of sustainability.

The 34 districts located in close proximity to the 11 SADA growth poles produced a total 367,940 Mt of Maize, 195,706 Mt of Rice and 75,950 Mt of soybeans in 2013. (Annex 2 Crop Production Statistics and Annex10; District Located within the SADA Growth Pole Area)

The Growth Pole (GP) 7 Kabaka Gorge districts recorded the highest volume for **maize** with 67,670 Mt (22%) closely followed by GP8 Bui Development Area 64,158 MT (21%) and GP 6 Fumsi Valley and GP9 Nasia Valley accounting for 48,687mt (16%) and 37,847mt (12%) respectively.

With respect to **rice**, GP9 Nasia recorded the highest production volume of 67,026mt (34%) followed by GP2 Pwalugu Area with 44,887mt (23%) while the GP5 Oti River basin and GP1 Sisili Kulpawn followed with 33,969mt (17%) and 13,169mt (12%) respectively.

GP9 Nasia also recorded the highest level of **soybean** production with 21,849mt (29%) closely followed by GP5 Oti River Basin with 16,959mt (22%) while GP2 Pwalugu Area and GP6 Fumsi Valley recorded 9,936mt (13%) and 8,658mt (11%) respectively. The Daka Katanga Valley followed these last two with 7,919mt (10%).

6.0 Conclusions and Recommendations

It is clear that the breadbasket strategy needs to be actualized in a responsive holistic approach to meet its objectives. This will require a combination of interventions that seeks to reduce transactional cost for potential large-scale agribusiness players to anchor these investments. Unless this takes place, realization of the potential of these identified Growth Poles will not happen.

In conclusion, this will require a different paradigm shift where incentives in the form of infrastructure support are offered as a catalyst in a Public Private Partnership with potential commercial firms. The key is to target potential investors and offer incentives to them to relocate and initiate agricultural production with smallholder an integral part.

These incentives should not be limited to infrastructural support in irrigation schemes, but should include provision of public goods such as road upgrade and accessibility, electricity connectivity and facilitation services for land accessibility and other studies. This will in effect have consequential effect on the provision and maintenance of other social services such as water and sanitation systems.

Within the context of the framework breadbasket strategy discussed above we are of the opinion that EU proposed investments will have the greatest positive impact if they are implemented in growth pole areas which:

2 Provides opportunities for cost effective public and private investment in Irrigation infrastructure, as a critical investment required to sustain production in the light of the climate change reality.

3 Encourages public private initiatives in the development of appropriate mechanization tools to support commercial and smallholder irrigation.

4 Supports or encourages Private sector participation in service delivery in the context of specific value chains in which the private sector have interest either as lead firms in production, marketing and or processing thus linking needs of the industry to the delivery of services

5 Facilitates the engagement of smallholders to produce for markets (domestic agroindustry, sub-regional and wider international markets). Examples of such opportunities exist in options that result in the revival of the rice industry and the production of vegetables (traditional and export) in potential areas such as the Fumbisi, Katanga and Tamde valleys.

6 Focuses on production clusters to reduce transactions costs, create scale economies for service providers (e.g. extension, research, mechanisation) and commodity brokers;

7 Facilitate the use of affordable motorised pumps at the smallholders level as an option to address labour scarcity and reduce the drudgery associated with irrigated agriculture, as well as acting as an incentive to encourage the youth to get into production.

To identify potential GPs for funding by the European Commission for the 11th EDF, a Growth Pole Selection Matrix has been developed based on the following criteria:

- Potential for Irrigation – Scale (0nly 0.46 of 1.9 million hectare of irrigable lands have been developed in Ghana). Under this criteria, we are referring to a number of issues such as: (Total max score 30) of which;
    - Funds already obligated for projects primarily for irrigation by other agencies (max score 10)
    - Funds already obligated for projects where irrigation is a secondary focus (i.e. dams for energy) by other agencies (max score 5)

- The size of the potential new irrigable acreage proposed scheme or the size of the incremental increase in acreage of existing schemes for production purposes; and (max score 10)
- Availability of pre or detailed feasibility studies fully funded. (max score 5)

Projects such as the Bui Irrigation Project for which funding the Bui Development Authority has secured and the Pwalugu Project as proposed by the Volta River Authority are focused primarily on energy with irrigation as a secondary objective.

- Demonstrated Private Sector Interest. Under these criteria, we scored and ranked the GPs on Production data (yield per acre and total production volumes[12]) for some selected value chains e.g. rice, maize and soya bean grown in districts, where the GPs straddle. This included but not limited to the following factors with a highest achievable (max score 30).

    - Current production of the irrigable crop, (max score 5)
    - Commercial Investment Projects being implemented or (max score 10)
    - Major Feasibility study funded and underway. (Max score 10)
    - Active Presence of Value Chain actors (aggregators etc.) in the districts where these selected GPs straddle. (Max score 5)

- Potential number of persons experiencing increased incomes and food security. This criteria is to measure the number of persons residing in the district who will directly /indirectly benefit from any investments made within the selected GP. The key indicator for scoring was based on the population of the districts as per Household Census (2010) conducted by the Ghana Statistical Services. The higher the population, the greater the score. (Max score 10)

- Potential of any EU investment to leverage on other existing donor interventions as a critical issue to ensure sustainability. More often than not, the potential of providing physical infrastructure has not been realised due to the non-availability of development of the human element that is intended to utilize the facility. During compilation of this report, a number of donors and activities in the agricultural sector has been identified that provide support in the form of capacity building to value chain actors such as farmers and aggregators. Also service providers such as agro-chemical dealers, transporters and agric-financers also do benefit from these donor-funded activities. The presence of these projects addresses issues of usage and utilisation resulting in investment sustainability. (Max score 30)

The scoring and ranking matrix proposed is to assist the EU select and prioritize within a logical framework; GPs most likely to grow in a sustainable manner from EU supported infrastructural investments.

On the whole, all the districts where GPs straddle, are saddled with weak infrastructure, a preponderance of smallholder production under rain fed conditions without the presence of large scale agribusiness actors, poor and weak social infrastructure such as electricity, water delivery and roads. These similar conditions make all the GPs potential candidates for interventions.

The potential of all these GPs can be realised if agricultural actors are able to respond to these interventions with a resultant increase in yields, production and incomes enabling them to fund the maintenance of the infrastructure provided.

[12] SRID; Ministry of Food & Agriculture

Table 4 Scoring & Ranking Matrix for GPs

Criteria	Score											
		Growth Pole 1 Sisili Kulpawn	Growth Pole 2 Pwalugu	Growth Pole 3 Buipe Area	Growth Pole 4 Daka/ Katanga	Growth Pole 5 Oti River Basin	Growth Pole 6 Fumsi Valley	Growth Pole 7 Kabaka Gorge	Growth Pole 8 Bui Development Area	Growth Pole 9 Nasia Valley	Growth Pole 10 Kamba Dam	Growth Pole 11 Bontanga Dam
Potential for Irrigation – Scale 30												
Funds obligated for projects	**10**	7	5	4	4	4	4	4	8	4	4	0
Irrigation as secondary focus	**5**	5	2	5	5	5	5	5	1	5	5	5
New Acreage of proposed scheme/incremental acreage of existing schemes	**10**	8	8	5	8	7	7	6	8	4	8	6
Availability of pre or detailed feasibility studies	**5**	4	2	2	2	2	2	2	3	2	2	4
Demonstrated private Sector Interest 30												
Current production of the irrigable crop	**5**	3	1	2	3	2	2	2	0	2	1	3
Commercial Projects being implemented	**10**	9	2	4	4	4	4	3	3	5	2	5
Major Feasibility study underway	**10**	9	8	4	7	4	4	4	8	4	4	0
Active Presence of Value Chain actors	**5**	3	1	2	4	2	2	3	1	3	1	3
Impact on population in the district 10	**10**	5	6	7	4	9	5	8	8	9	9	8
Total Score	**100**	**75**	**56**	**55**	**62**	**54**	**57**	**55**	**64**	**60**	**53**	**58**

Based on the scoring matrix, we recommend GPs 1, 4 and 8.The matrix serves as a starting guide and can be modified to align with the objectives of the user. We propose a number of recommendations that in our view will help greatly in making strategic decisions complement any interventions.

8 Using the selection matrix in its present form or modified to select a number of GPs for further in-depth economic analysis studies for intervention by donors.
9 Whilst the GPs as per the breadbasket strategy have been selected as result of irrigation potential, it may be useful to look at other agricultural value chains such as aquaculture which has great potential as a result of location near water bodies which traverse most of the districts straddling these GPs.
10 We recommend more collaborative effort and convergence between projects targeted at social services and those at agricultural development.

These incentives should include but not limited only to infrastructural support in irrigation schemes, but should include the provision of public goods such as road upgrade and accessibility, electricity connectivity and facilitation services for land accessibility and other studies.

Finally, provision of physical structure without effective economic participation and use by beneficiaries will yield not intended results.

7.0 Details of Field Observations

7.1 Growth Pole 1; Sisili Kulpawn Valley

Growth Pole **1. Sisili Kulpawn Valley**	**Observations - Administrative District(s) within which the Growth Pole is located - Mamprugo Moaduri district**
Profile	The Sisili Kulpawn Valley is located in the Mamprugo Moaduri district which was carved out of the West Mamprusi District in 2012 by an Act of Parliament. It is located roughly within longitudes 0°35'W and 1°45'W and Latitude 9°55'N and 10°35'N. The district capital is Yagaba and shares boundaries with Builsa District in the Upper West Region in the north, North Gonja and Kumbungu Districts in the south, Sissala West and Wa East Districts in the west and West Gonja to the east.
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview** The Mamprusis are the major ethnic group in the district who co-exist peacefully with other minor ethnic groupings including the Akan, Frafras, Kassinas, Bimobas, Fulanis, and the Ewes. Whilst there are figures for unemployment, the indigenes are mainly engaged in agricultural activities. As a result of its newly created status, the district lacks infrastructure with the District Assembly operating in a rented building. **Population Overview** There are no reliable population data since the last census was published in 2010. This is because the district was carved out of the West Mamprusi district in 2012. **Geographical Overview** The natural vegetation of the district is classified as Guinea Savannah Woodland, composed of short trees of varying sizes and density, growing over a dispersed cover of perennial grasses and shrubs. The climatic conditions, relief features and soil texture which foster water logged conditions (especially in the area west of the White Volta) in the rainy season and draughty soils in the dry season tend to develop a characteristically hardy tree vegetation adapted to long periods of dry spells. The district is characterised by a single rainy season, which starts in late April with little rainfall, rising to its peak in July-August and declining sharply and coming to a complete halt in October-November. The area experiences occasional storms, which have implications for base soil erosion depending on its frequency and intensity especially when they occur at the end of the dry season. Mean annual rainfall ranges between 950mm - 1,200mm.The dry season is characterised by harmattan winds. These winds, which blow across the Sahara

Growth Pole 1. Sisili Kulpawn Valley	Observations - Administrative District(s) within which the Growth Pole is located - Mamprugo Moaduri district
	desert, are warm and dry causing significantly daily temperatures and causing the soil to lose moisture rapidly. Maximum day temperatures are recorded between March-April of about 45°C while minimum night temperatures of about 12°C have been recorded in December-January. The humidity levels between April and October can be as high as 95% in the night falling to 70% in the day. Night humidity for the rest of the years ranges between 80% and 25%. The Sisili and Kulpawn rivers converge within the district and then drain into the White Volta providing major source of irrigation potential in the district. Soils of alluvial origin (savannah glycols) can be found in the major river valleys and drainage courses; these are predominantly in the west of the district along the basins of the White Volta and its tributaries. These soils are deep; fine textured and is well suited for the cultivation of a wide range of crops. The depth of these soils also allows for the use of bullocks and other forms of mechanised farming. In spite of their potentials, soils in this category remain under-utilized due to drainage and flood control problems. On the flat to gentle upland slopes of the eastern parts of the district are found the moderately well drained upland soils developed mainly from Voltaian sandstones. These soils are characterized by deep loamy soils of sand with good water retention capabilities described as moderately well drained.
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP	**Key Government Agencies** There is an established district assembly. Due to its newly status, the assembly has only the directorate of Agriculture. **Relevant Programs by Donors** As a result of its newly status, there are no major donor activities well established apart from World Vision which is working on water and sanitation related issues . (Refer to Annex 1 Development Partner Interventions for details) **Relevant NGOs** World Vision playing a role in the water and sanitation sector. **Relevant Financial Institutions** There are no financial institutions in the district.

Growth Pole **1. Sisili Kulpawn Valley**	**Observations - Administrative District(s) within which the Growth Pole is located - Mamprugo Moaduri district**
– Relevant Local companies, out-grower schemes etc. in each GP	**Relevant Local Companies/Outgrower Schemes** Wienco Ghana Ltd has commenced an outgrower program under its IWAD Initiative. (Refer to Annex 3; List of Nucleus Farmers and Annex 4 List of FBO)
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – -Numbers of farmers and agro businesses (number and broad classification) in each GP	**Main Local and Regional Markets** Most of the crops produced are sold to traders coming from Tamale and other large towns in the region with Fumbisi the main market in the district. **Main type of crops and livestock farmed** The main crops grown in the district are maize, rice, soya bean, shea nut, fishing and livestock. These crops are grown during the rainy season. Agriculture is basically on a subsistence level with smallholder farmers representing the main users of agricultural land. The average farm sizes vary from 0.5 ha to 2.4 ha. The predominant type of farm labour is from the immediate family (man, wife or wives and children. There are however periods where farm labour is hired to supplement family labour. Animals reared include cattle, sheep, goats, pigs, local birds and domesticated guinea fowl. The cattle population mainly consists of the small West African shorthorn breed and the rest being the Zebu type with few Sennas and N'damas. The sheep and goats are mainly the West African Dwarf breeds.
Energy related information – Main existing renewable energy projects in each GP – Level of access to energy / to electricity (households and commercial) in each GP – Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP	**Energy** Majority of households use firewood as an energy source. Put together, firewood and charcoal is used by 60.5% of all households. This puts a severe strain on the depleting tree cover in the district. **Access to National Grid** The whole district is not connected to the national grid.

Growth Pole **1. Sisili Kulpawn Valley**	**Observations - Administrative District(s) within which the Growth Pole is located - Mamprugo Moaduri district**
– Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	(Refer to Annex 7 Ware House Locations and Capacity)
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/ distribution technics in each GP	**Irrigation Facilities** Though predominantly an agricultural district, the district lacks irrigation infrastructure to support dry season farming. Wienco Ghana Limited in collaboration with the Government of Ghana through the Savannah Accelerated Development Authority in a Public Private Partnership are engaging in the introduction of an Integrated Water Management Project within the Sisili - Kulpawn Basin. The project seeks to establish water storage facilities for the promotion of large scale irrigated agriculture and out grower schemes on an estimated area of 20,000 ha. The objective of the project is to irrigate 15,000 Hectares of land for mainly sugar and rice cultivation under centre pivots with a mix of nucleus and out growers. A lot of work has been done and studies and designs completed for take-off. (Refer to Annex 8 Irrigation Projects In Ghana) **Water and Sanitation** Water and sanitation systems not developed with indigenes relying on surface and river water for water for domestic needs.
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP	This zone was previously part of West Mamprusi District and was referred to as Overseas due to inaccessibility. It was then only accessed by crossing the White Volta at various low point during the dry seasons. Currently the only access to the zone is through a bridge funded by AFD of France over the White Volta at Kpasenkpe from Wulugu on the National route N4. The road is unpaved and surface condition at the beginning is good but fair to poor

Growth Pole 1. Sisili Kulpawn Valley	Observations - Administrative District(s) within which the Growth Pole is located - Mamprugo Moaduri district
– Quality of secondary roads – in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	midstream and finally ends at Yagaba in good condition. The travel time from Wulugu to Yagaba over 3 hours. (Refer to Annex 9 Northern Road Conditions /Classification) **Main Roads (Trunk Roads)** All the Regional trunk roads into the pole are un-engineered. There is no tarred trunk road in the pole. The central area of the pole is encumbered by rivers and streams dominated by the White Volta and its tributaries. The White Volta is the main drainage system almost dissecting the zone. Most of the regional trunk roads originating from either east or west terminate at banks of the rivers. The main transportation challenge is lack of bridges and box culverts to link the eastern agricultural lands (mainly for rice cultivation) to the western area where most of the major markets (Walewale, Loagari) are situated. The most important regional trunk road is Walewale-Wungu-Yama-Lobri-Yagaba-Yizesi. There is a missing link from Mishuo to Lobri Junction. There is no transport service in the area except on market days where produce are move from the farm gate to markets mainly by bicycle, donkeys and motorized small trucks. Bicycle is the main means of transport in the area. **Secondary Roads (Feeder Roads)** The District Roads Engineer at West Mamprusi has oversight responsibility over maintenance of feeder roads in this newly created district of Mamprugu-Moaduri district. The most important and priority feeder roads in the pole area are as follows: 1. Yizesi – Nangurima; Yizesi-Mugu 2. Tantala – Zukpeni; Tantala - Wamtobiri 3. Kubouri – Liche; Kubouri – Kpatprigu; Kubouri – Kubagna 4. Yagaba – Gbima; Yagaba-Kubouri 5. Jadema – Kunkwa

Growth Pole 1. Sisili Kulpawn Valley	CONCLUSIONS AND RECOMMENDATIONS
Observed Agricultural Potential of the Growth Pole **1. Agriculture** **2. Energy** **3. Water** **4. Transport and logistics**	**Agriculture:** The key potential is the IWAD Project spearheaded by Wienco Ltd. This is as a result of convergence of the two Volta coupled with ample land which has been soil tested and found suitable for growing rice, sugar and other cereals. Also, potential additional water for irrigation on completion of the Pwalugu Multipurpose Dam by the Volta River Authority. **Energy:** No connectivity to the national grid resulting in difficulty for potentially agro-processing on large scale. **Water:** Water is available in the district because of the rivers and water bodies traversing the wider areas. **Transport and logistics:** In order to systematically developed and improve the quality transportation in the pole influence area, a Master Plan is needed which takes into account the land use plan, the drainage and perennial flooding, and the road network need to support agricultural potential of the pole.
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **1. Agriculture** **2. Energy** **3. Water** **4. Transport and logistics**	**Agriculture:** Funding to construct dams for purposes of flood mitigation and channel water for irrigation purposes. **Energy:** The need to have a whole and complete plan for electrification of the district to support agro-processing in the district. **Water:** To support the IWAD Project and also improve water systems for the indigenes. **Transport and logistics:** Funding to support the following transport infrastructure will be needed • Development of Master Plan • Bridges and Box culverts, • Improvement of the Regional Trunk Roads to the required standards • Reconstruction of Priority Feeder Roads

7.2 Growth Pole 2; Pwalugu Area

Growth Pole *2.* **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
Profile	The Pwalugu growth pole is in the West Mamprusi district with Walewale its district capital. The district was created in 1988 under LI 1448. It is located roughly within longitudes 0°35'W and 1°45'W and Latitude 9°55'N and 10°35'N. The total land area is 5,013 km² and shares boundaries with eleven districts and two regions – Upper East and West. Administratively the district lies within the Northern Region, although it has strong economic and functional linkages with some major settlements in the Upper East Region like Bolgatanga and Fumbisi. It shares boundaries with East Mamprusi and Gushiegu-Karaga districts to the East, West Gonja, Savelugu-Nanton and Tolon-Kumbungu districts to the south, Builsa, Kassena-Nankana and Bolgatanga districts (Upper East Region) to the north and Sissala and Mamprugo Moaduri district to the west. In 2012, a new district the Mamprugo Moaduri district was carved out of the district.
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview** The Mamprusis are the major ethnic group in the district who co-exist peacefully with other minor ethnic groupings including the Akan, Frafras, Kassinas, Bimobas, Fulanis, and the Ewes and mainly engaged in agriculture. **Population Overview** Based on census carried out in 2010, 75 & of the district residents classified as rural with a population of 168,011. The District has an average household size of eight (8) with a dependency ratio of 112.0. The district thus, has a population density of about 24 person/km² compared to 16 in 1984. The population is concentrated in and around Walewale the District capital of within 10 to 15km radius. There are other pockets of relative concentration in and around Janga in the Southern part of the District, in and around Yagaba-Kubori and Yizesi areas to the Western Half of the District. The last area of relative concentration is Kpasenkpe-Duu area. The rest are either very sparsely concentrated or unsettled at all. There is therefore a very vast land of unoccupied land mass in the District. The district is predominantly a rural one, with majority of the population living in rural areas. It is interesting to note that only five (5) settlements have a population from

Growth Pole 2. **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
	5,000 and above. Sixteen (16) settlements were found to be in the range of 2,000 to 5,000 in 1997 but this number has increased to 23 in 1999. The District capital, Walewale alone accounts for 12% of the district's population. **Geographical Overview** The district is characterized by a single rainy season, which starts in late April with little rainfall, rising to its peak in July-August and declining sharply and coming to a complete halt in October-November. The area experiences occasional storms, which have implications for base soil erosion depending on its frequency and intensity especially when they occur at the end of the dry season. Mean annual rainfall ranges between 950mm - 1,200mm.The dry season is characterized by harmattan winds. These winds, which blow across the Sahara desert, are warm and dry causing significantly daily temperatures and causing the soil to lose moisture rapidly. Maximum day temperatures are recorded between March-April of about 45°C while minimum night temperatures of about 12°C have been recorded in December-January. The humidity levels between April and October can be as high as 95% in the night falling to 70% in the day. Night humidity for the rest of the years ranges between 80% and 25%. The natural vegetation of the district is classified as Guinea Savannah Woodland, composed of short trees of varying sizes and density, growing over a dispersed cover of perennial grasses and shrubs. The climatic conditions, relief features and soil texture which foster water logged conditions (especially in the area west of the White Volta) in the rainy season and draughty soils in the dry season tend to develop a characteristically hardy tree vegetation adapted to long periods of dry spells. The existence of dense woodlands and forests along river valley (especially areas along the basin of the White Volta and its tributaries) is gradually beginning to change due to the influx of people into these areas as a result of the successful control of river borne diseases (e.g. Onchocerciasis). There are large tracts of fertile land in the Yizesi; Kunkua, Katigri and Soo valleys, which could be utilized for large-scale, rice production. The soil conditions in this area

Growth Pole 2. **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
	are rich and loamy and have a very high water holding capacity. The vegetation is also annually affected by bush fires, which sweep across the savannah woodland each year.
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	**Key Government Agencies** There is an established district assembly with all the key government agencies in place. **Relevant Programs by Donors** There are a number of programs implemented in water, health and sanitation. Also, the district has a number of donor projects being implemented in the areas of agricultural value chains, capacity building and support services to actors along these selected value chains such as USAID Advance Project. The following donors are active in the district: • USAID • CIDA • IFAD/AfDB • AFD • GIZ • World Bank **Relevant NGOs** World Vision playing a role in the water sector. Some of them identified by the district office are: • Neighbour-in-Need Foundation • Northern Empowerment Association • Chera Biisi Fari • World Vision Ghana (Overseas ADP) • Planned Parenthood Association of Ghana • Integrated Social Development Centre

Growth Pole 2. **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
	• New Energy • Catholic Family Health Project • Rural Information & research Centre (RURIC) • Alternative Initiatives For Development (AID) 11. Orphanage Foundation Mission **Relevant Financial Institutions** There are financial institutions in the district. The district has one Community Bank, which was opened in 1994, one commercial bank established in 2008 and one Agriculture Development bank opened in 2010. The banks have injected some amount of capital into private and public business ventures, including water supply and sanitation development. There are also some Susu operations conducted by the banks and private individuals. Access to credit is limited by the problem of lack of security for the loans and the interest rates. This is worsened by some people taking loans and refusing to pay back. This scares the banks from giving further loans. **Relevant Local Companies/Outgrower Schemes** Wienco Ghana Ltd has commenced an outgrower program under its IWAD Initiative which though is in the Mamprugo Moaduri district spill over into the West Mamprusi district.
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP	**Main Local and Regional Markets** Most of the crops produced are sold to traders coming from Tamale and other large towns in the region with Walewale and Janga as the main markets in the district. **Main Types of Crops and Livestock** The major crops farmed in the district are sorghum, groundnut, millet, beans, maize and rice. Crop production in the district is on a subsistence basis whereby small farm holder farmers produce for family upkeep and occasional sale. There are however, a number of commercial farmers.

Growth Pole 2. **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
– -Numbers of farmers and agro businesses (number and broad classification) in each GP	Dry season farming is done along the banks of the White Volta. Crops cultivated during the dry season include leafy vegetables, tomatoes, onions, soybeans, and pepper. The potential of dry season farming is limited by inadequate water-retaining structures including dams and dugouts. Major cash crops grown in the district are groundnuts, rice tobacco and cotton. Field information revealed that about 60% of adults in the rural communities own at least one cow, 80% own at least a goat or sheep and 90-100% own fowls. All livestock are maintained on free range with isolated cases of supplementary feeding in the form of household waste or spoiled grain. The people in the district see the breeding of livestock as a viable investment. In addition, livestock is kept for religious reasons or as a source of animal protein. The common disease affecting livestock in the district includes tick, worm infections, diarrhoea, black leg, foot and mouth disease, pneumonia, ascariasis, anthrax and helminthiasis.
Energy related information – Main existing renewable energy projects in each GP – Level of access to energy / to electricity (households and commercial) in each GP – Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP – Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP	**Energy** Majority of households use firewood as an energy source. **Access to National Grid** Currently 16% of communities in the district are connected to the national grid with an additional 30% targeted to be connected by 2015. The district capital Walewale is connected to the national grid with the 16% all lined on the main road from Tamale to Bolgatanga.

Growth Pole 2. **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
– Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	**Irrigation Facilities** The only irrigation facility the District can boast of is a small under-developed irrigation facility at Nasia which covers about 40 hectares of land for irrigation. Under the MCA Compact 1, MiDA commissioned SNC Lavalin to prepare full studies for the rehabilitation of the scheme and estimated at a total cost of 368,000 USD. 1.0.0.0.0 The Nasia Irrigation Scheme is located in the West Mamprusi district 91 km north of Tamale, the regional capital. The longitude and latitude are 0° 47' 50"W and 10° 09' 38" N respectively. Initially constructed and operated by the Japanese company Nippon Koei Co the Project was handed over to the Government of Ghana in February 1967. The scheme has been rehabilitated in 1980, 1996, 2003 and 2005 but, after each rehabilitation, it produced at the most one or two cropping on 50 % of its surface 1.0.0.0.1 Ten communities were initially associated with the Nasia Irrigation Scheme. The scheme belongs to the Nasia Farmers and Fishermen's Association (NAFAFA), 100 smallholder farmers are concerned (77 men and 23 women). 1.0.0.0.2 The Nasia Irrigation Scheme pumps water from the Nasia River, a major tributary of White Volta. The quality of the water is perfect for irrigation purposes. The water availability is largely sufficient for irrigation during the months of October to February. During the months of March to June, there is important risk for shortage of water. A second cropping during the dry season can be risky. The soils are considered as suitable for irrigation purposes. The scheme comprises two mobile-wheeled pumps, a wooden pump storage house, a transformer

Growth Pole 2. **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
	(inappropriate and inadequate), 3000cu.m capacity night storage reservoir and a network of canals and drains. The irrigable area of the scheme is 40ha, however the scheme is not functioning at present. The Nasia Irrigation Scheme also has nine fishponds which have been non-operational due to lack of water 1.0.0.0.3 The main constraints reported by the farmers are unavailability of improved varieties, high cost of inputs and absence of credit facilities. It is a pump-gravity irrigation scheme, which was in operation until the removal and replacement of a transformer at the pump station by the West Mamprusi District Assembly without the knowledge of the Nasia Farmers and Fishermen Association (NAFAFA). The other key development is the proposed Pwalugu dam site is located on the White Volta River by the Volta River Authority. The river is the boundary between the Upper East Region and the Northern Region. The proposed irrigation site is located in the Northern Region west of Walewale over an area of 20,000 potential hectares of irrigable land near Kunkua. The study area, in contrast to much of Ghana, is very dry and relatively poor. The proposed PMD Project aims at implementing multi-purpose requirements related to power generation, irrigation development, flood management in the northern region and integrated water resource management (IWRM) of the White Volta River basin, which has implications at the regional, national and trans-boundary level. There are only ten dams and dugouts in the West Mamprusi District located mostly to the Eastern part of the District in the communities as named in the table below. These are in a very bad state and require rehabilitation. These are Gbimsi dam, Diani dam, Nayorku dam, Zangu-Vuga dugout, Gbani dam and Nabari dugout. The rest are Wulugu dugout, Nasia dam, Wungu dugout and Zangum dugout.\The scanty and poor state of the few water bodies in the district does not provide any incentive for dry season farming and in view of the fact that the area is a major cattle-raising area, there are serious economic consequences requiring swift and urgent action to save the situation. Though predominantly an Agricultural District, the West Mamprusi District lacks irrigation infrastructure to support dry season

Growth Pole 2. **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
	farming. With one single rainfall regime, food production situation is worsened during years of bad weather condition. The District though possesses large sites where large scale irrigation facilities can be established. **Water and Sanitation** The principal sources of water supply in the district are boreholes fitted with pumps, hand dug wells (protected and unprotected) streams, pond and dugouts. Sixty-nine percent (69%) of settlements in the district rely on surface water for drinking either perennially or seasonally. Both human beings and animals share these same sources of water. There are a number of streams in the district. Unfortunately most of them dry out in the dry season. Animals also share the streams. The urban communities including Walewale, Nasia and Wulugu source water from boreholes fitted with pumps. Walewale the district capital enjoys pipe-borne water. These water facilities were provided by agencies and NGOs including Community Water and Sanitation Agency (CWSA), World Vision (W.V.I) and New Energy. Observations in the field indicate that most communities depend on streams, dugouts and ponds. In view of the high dependence of various traditional water sources by inhabitants in the district, there is a high incidence of water bound diseases in the district. The situation has improved tremendously of late from 2000 to 2005 where accessibility to potable water has increased from 31.5% to 51.6%. There are also five small town water systems in the District with two under construction. The district capital, Walewale, has only 7 public aqua privies. These facilities are all in bad state of repair and needs replacement of serious rehabilitation. There are only two alternative KVIP latrines in the centre of the town to serve thousands of people either resident or travelling. There are aqua privies in bigger settlements including Janga, Kparigu, Yagaba, Wungu, Kpasenkpe and Gbimsi which are almost out of use. All these facilities need maintenance or to sound better, replacement. There are also water closets located in a number of government bungalows in the district. The district has 276 household VIP latrines, 7 institutional KVIP latrines and one public two-seater KVIP latrine. General sanitation conditions in several communities in the district are poor. Most people have no access to toilet facilities and the free-range system of human waste disposal is a very common feature. This has resulted in a

Growth Pole 2. **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
	high incidence of faecal-oral diseases in the district. The district solid waste disposal system is not well developed yet. However, the District has of late acquired refuse collection and disposal equipment to improve on the situation. Their practice of indiscriminate dumping of refuse in both large and small communities still persist district wide. The district has in place a District Water and Sanitation Team (DWST), which is responsible for the management and administration of water and sanitation activities in the district. The DWST is currently involved in the following activities. Collection and dissemination of information about district water and sanitation programmes; 1. Monitoring the activities of Partner Organisations; 2. Co-ordinating the activities of all water and household latrine and related sanitation programmes; 3. Co-ordinating activities of NGOs in the water and sanitation sector. 4. In collaboration with CWSA, the DWST monitors water quality issues.
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads – in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	**Main Roads (Trunk Roads)** All the trunk roads in this pole emanates from Walewale except the Wulugu –Duu trunk road. The only tarred trunk road that runs through the Pwalugu Pole is the section of the N4 from Nasia through Pwalugu onwards to Bolgatanga. This section of the N4 needs pavement strengthening at some localized section and overlay of the entire section. The remaining three trunk roads are regional roads. The Walewale-Gbani road goes eastwards entering East Mamprusi at Lengbensi. One of the trunk roads going west is the Walewale-Wungu-Mishuo road which finally ends at Yizesi through Yagaba. This road terminates at Mishuo due to lack of crossings The other trunk road on the western side is Wulugu-Duu trunk road. All the regional trunk road are unpaved in fair condition but spot improvements are needed at localized spot severely damaged. The main production centres (Nasia, Yama, Duu and Kpasenkpe are connected to the trunk roads. Only 10% 0f the trunk roads in this pole are tarred.

Growth Pole 2. **Pwalugu**	**Observations - Administrative District(s) within which the Growth Pole is located - West Mamprusi**
	Secondary Roads (Feeder Roads) The feeder road network totals 375km of which 65% maintainable and are programmed for annual road maintenance. 20% are partially-maintainable and 15% are non-maintainable and will therefore require reconstruction to bring it to maintainable standard. All the major markets centres (Walewale (biggest), Janga, Bulbia, Kparigu, Wulugu, Kpasenkpe and Duu are connected by either trunk or feeder roads to the major production areas. Feeder roads and water crossing structures are needed in the Mishuo area as a matter of priority. Local transport are mainly bicycle, motorbike and donkeys

Growth Pole 2 : Pwalugu	**CONCLUSIONS AND RECOMMENDATIONS**
Observed Agricultural Potential of the Growth Pole **5. Agriculture** **6. Energy** **7. Water** **8. Transport and logistics**	**Agriculture:** Whilst the district is agrarian, the potential for irrigation is dependent on the completion of the Pwalugu Multipurpose Dam which will offer irrigation potential of about 20,000 Ha for this district **Energy:** With the construction of the PMD, energy needs of the district is well assured. **Water:** There is ample water available for irrigation purposes. **Transport and logistics:** The road network is very extensive. Considering that only 10% of roads are tarred, the surface condition must be improved and maintained to reduce travel time within the pole. This will facilitate and reduce the cost of business transaction within the pole. It will reduce the turnaround time between the farm gates and the market centres

Growth Pole 2 : Pwalugu	CONCLUSIONS AND RECOMMENDATIONS
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **5. Agriculture** **6. Energy** **7. Water** **8. Transport and logistics**	**Agriculture:** The possibility of rehabilitating to optimize and expand the existing 40 ha irrigation scheme at the Nasia Dam in the district. As well as encouraging and anchor tenant/buyer to ensure effective management which is a key requirement for sustainably of Investments • In 1997, technical management changed from GIDA to MoFA when the Agricultural Sub-Sector Irrigation Project (AgSSIP) and Village Infrastructure Project (VIP) were launched to improve the conditions of the reservoir and the main canals. Since that time there has been a steady deterioration in the holding capacity of the night storage reservoir and it is estimated that up to 40% losses are occurring. Although the seepage has not been rectified, farmers were still able to irrigate by direct pumping to the fields. **Energy:** The need to provide support to extend electrification in most parts of the district to facilitate some levels of agro-processing. **Water:** The need to provide more boreholes to complement existing ones in the communities and facilitate collaboration between the promoters of the PMD. **Transport and logistics:** Upgrading of the trunk road and construction of bridges within the Mishuo area will be needed to link production areas to the markets.

7.3 Growth Pole 3; Buipe Area

Growth Pole 3. **Buipe Area**	**Observations - Administrative District(s) within which the Growth Pole is located – Central Gonja**
Profile	Central Gonja District is located to the South Western part of Tamale in the Northern Region of Ghana. It lies on longitude 1˚5'W and 2˚ 58'W and latitude 8˚32'N and 10˚2'N. The District was carved out of the West Gonja District in 2004. It shares boundaries in the South with Kintampo Municipal in Brong Ahafo Region, West Gonja District in the West, Tamale metro in the North, Tolon District to the North East and East Gonja District in the East. The District covers 7,555km², which represent 11% (source: 2010PHC) of the total land area of the Region. The District is strategically linked to the Southern sector as the gate way to the two Northern Regions (Upper East and Northern).
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview** The economy of the Central Gonja District is largely agrarian in nature. Not less than an 80% of estimated population percentage is engaged in farming as a primary occupation. Poverty situation is very high as in Ghana the food crop farmers happen to fall in the class of highly impoverished people. Others are also engaged in fishing especially the communities along the white and Black Voltas. Buipe has one of the largest cattle markets in the northern region. There are even plans to turn this cattle market to an international one to serve the sub-region. With the trans-ECOWAS highway cutting across the District, this dream is sure to come to reality. There are however, a few factories that manufacture cement and oil as well as drinking water. The District is the only District Assembly in the Northern Region that is proud to house manufacturing industries. There are no statistics about the income and employment situation across the District. There are about 20 ethnic groups in the district. The major groups, however, in order of magnitude are Gonja, Dagomba, Hanga, Mamprusi and Dagarbas. There are four major religious groups in the Central Gonja District. These are as follows: Islam constitutes about 84.3%, Christianity 12.1% while traditional religion 1.8% and others 1.6% (source: GSS 2010 PHC). **Population Overview** The settlements are largely nucleated in nature and tend to be located along the main access routes in the District with an estimated population of 34,681. The largest of the settlements in terms of hierarchy is Buipe the District capital. The communities in the central Gonja district

Growth Pole 3. **Buipe Area**	**Observations - Administrative District(s) within which the Growth Pole is located – Central Gonja**
	are largely located at intervals of average of 15kms apart. They are also made up of population clusters not exceeding 100 to 200 in a community. Communities that have population of 500 and above numbered 62 in 2010. However, the top 10 communities in the District have populations ranging from 1,408 to 11,653. According to the 2010 population census, there are a total of 103 communities across the District. **Geographical Overview** The district is situated in an old geological area. The rocks are mainly Voltaian formation with isolated Cambrian rocks, which contain valuable minerals such as gold and diamond. Limestone occurs between the lower and middle Voltaian formation around Buipe –the capital of the District. Generally, the soils in the District are fertile for Agriculture purpose. The natural vegetation is guinea savannah. But the richness is determined (Dissected) by the soil types. The large mass of vegetation cover is dissected by human activities such as shifting cultivation, slash and burn method of land preparation for farming and housing. The major tree species are shea nut, dawadawa, baobab, acacia, neem and few ebony. These tree are scattered except in most valleys where isolated wood –land or gallery forest are found. Most trees are deciduous shedding their leaves during the dry season in order to conserve water. Grass grows in tussocks and may reach 2.7m during the rainy season. The original vegetation in major settlements such as Buipe, Yapei, Mpaha and Kusawgu has been destroyed by human activities. Bush fires, charcoal burning and fetching of firewood have reached alarming proportions. The only forest reserve the District is endowed with is the Yakumbo Forest Reserve. This forest is located at Western part of District capital. It has a land area of about 1200 hectares.
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.)	**Key Government Agencies** There is an established district assembly with all the key government agencies in place. **Relevant Programs by Donors** There are a number of programs implemented in water, health and sanitation. Also, the district has a number of donor projects being implemented in the areas of agricultural value chains, capacity building and support services to actors along these selected value chains such as USAID Advance Project. The following donors are active in the district: • USAID

Growth Pole 3. **Buipe Area**	**Observations - Administrative District(s) within which the Growth Pole is located – Central Gonja**
– Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	• CIDA • IFAD/AfDB • AFD • GIZ • World Bank (Refer to Annex 1 Development Partner Interventions) **Relevant Financial Institutions** There are financial institutions in the district. The district has one Community Bank, which was opened in 1994, one commercial bank established in 2008 and one Agriculture Development bank opened in 2010. There are also some Susu operations conducted by the banks and private individuals. **Relevant Local Companies/Outgrower Schemes** Premium Foods Ltd has commenced an outgrower program in the district. Also, there is some level of investment in aquaculture at Kikale.
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – -Numbers of farmers and agro businesses (number and broad classification) in each GP	**Main and Regional Markets** The main market is at Buipe, which serves both a key regional market for cattle for the country, and also district market. **Agricultural and Livestock** Central Gonja is a major agriculture concentrated zone in the region and the country for that matter. Production levels for major food crops like Maize, Cassava, Yam, Rice, Groundnut, Cowpea, Soybean, Millet and Sorghum has been on the ascendancy. Yam is also cultivated in the District especially around Mpaha Area. There is commercial livestock with Buipe having the largest cattle market in the country. There is currently some rudimentary infrastructure with adjoining kraal for processing livestock which attract cattle dealers from other districts and traders from around the country. This is possible because of the strategic location of Buipe on

Growth Pole 3. **Buipe Area**	**Observations - Administrative District(s) within which the Growth Pole is located – Central Gonja**
	the main Tamale Kumasi highway and also close to the Volta Lake linking it to Akosombo through water navigation. Some commercial aquaculture has commenced at Kikale using cage systems in the lake.
Energy related information – Main existing renewable energy projects in each GP – Level of access to energy / to electricity (households and commercial) in each GP – Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP – Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	**Energy** Firewood is the main source of energy. **Access to National Grid** Apart from Yapei and Buipe and a number of smaller settlements along the main highway from Kumasi to Tamale, most of the settlements are not connected to the national grid.
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP	**Irrigation Facility** There are two irrigation schemes that is currently under some limited re-construction at Yapei and Buipe covering an area of 183 and 110 hectares respectively by the Ghana Irrigation Development Authority. The first takes its water from the Black Volta and the latter from the White Volta. The targeted crops are rice and vegetables. **Water and Sanitation** Water systems available in the district only cover about 30% of the population. Most of the people rely on boreholes and hand dug wells.

Growth Pole 3. **Buipe Area**	**Observations - Administrative District(s) within which the Growth Pole is located – Central Gonja**
– Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads – in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	**Main Roads (Trunk Roads)** There is only one trunk road in this Pole is the 53.5 kilometre section of the N10. It starts from Suronuase, Kawope, through Buipe and Domeabra to Fulfulso Junction. The road is in good condition and currently undergoing overlay. **Secondary Roads (Feeder Roads)** The total length of feeder road network within the zone is 128.3km. The network of feeder roads in the western side of the pole connects the trunk road at Buipe. While the eastern feeder roads network connects only at Domeabra. The conditions of the feeder roads are mainly poor. All other accesses in the pole are tracks and un-engineered. The most important feeder roads which need rehabilitation and improvement and are of high priority to the Pole are: • Domeabra - Mpaha (52km). 15km is currently being surface dressed under DFR Cocoa Roads Project • Kusugu – Tulwe (75km) • Buipe – Lito – Damango (67.2 km) On the eastern side there is a missing link from Yapei through Amerigivovi, Jukuku, Yala and Buijai to Salaga. Currently one can only access Salaga from Buipe is by going to Tamale and the descent to Salaga, a distance of 222.8km and travel time of 5-6 hours. The alternative missing link is estimated to take only45 minutes. There is an inland ports at Buipe and Yapei. The Volta Lake Transport Company, a subsidiary of Volta River Authority, manages the port. Bulk cargo including oil, cement among other is transported by barges from the port at Akosombo from the

Growth Pole 3. **Buipe Area**	**Observations - Administrative District(s) within which the Growth Pole is located – Central Gonja**
	south to the north. Water transport is most economical in the transportation of bulk cargo but has challenges. The main challenge is the shoals at Debre. The Ministry of Transport, under World Bank funding is carrying out a Master plan study toward the development of the Volta Lake transport.

Growth Pole 3 : Buipe Area	**CONCLUSIONS AND RECOMMENDATIONS**
Observed Agricultural Potential of the Growth Pole **9. Agriculture** **10. Energy** **11. Water** **12. Transport and logistics**	**Agriculture:** The district is strategically located on the main highway linking Kumasi to Tamale and also a key point in water way transport along the Volta Lake. It has a major livestock market but very poor infrastructure for managing the process of slaughtering and keeping cattle. **Energy:** Access to the national grid is very low and will need to be extended and upgraded to three phase if agriculture potential in the district is to be realized. **Water:** Due to location of Buipe which is strategically placed on the Volta Lake, this offer the opportunity for Buipe to be developed as major trading and logistic hub for trade between the north and south of the country. **Transport and logistics:** There is the need to carry out a master plan study to identify production areas and links to regional and national markets

Growth Pole 3 : Buipe Area	CONCLUSIONS AND RECOMMENDATIONS
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **9. Agriculture** **10. Energy** **11. Water** **12. Transport and logistics**	**Agriculture:** Will recommend that existing slaughterhouse be upgraded to introduce element of sanitation and hygiene. Also, the need to have an enlarged kraal to house cattle brought by herdsmen for trading. Whilst it may be tempting to introduce cold storage and other sophisticated facilities, will recommend that these extras are provided for after rigorous discussions with actors along the livestock value chain and explore possibilities of private sector complementing upgraded facilities. **Energy:** Funding support to facilitate and Fast-track electrification project in the district. **Water:** Removal of shoals at the berthing point to ease access for large boats and ferries and improvement in water systems for use by the communities. **Transport and logistics:** Most of the envisaged investment especially development of Buipe as national hub for cattle business must have efficient transport network to effectively support this endeavour.

7.4 Growth Pole 4; Daka/Katanga Valley

Growth Pole **4. Daka/Katanga Valley**	**Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai**	
	East Gonja	Kpandai
Profiles within the selected growth poles (GP) **The Daka/Kantanga Valleys are located** within the **East Gonja** and **Kpandai District,** both of which are situated at the South- eastern section of the Northern Region of Ghana	The East Gonja district lies between Lat. 8°N & 9.29°N and, Long. 0.29E & 1.26°W. It shares boundaries with Yendi and Tamale districts to the North, Central Gonja District to the West, Nanumba-North and Nanumba-South Districts to the East, and the Brong Ahafo Regions to the South. The total land area of the district is 10,787 sq. kilometres, occupying about 15.3% of the landmass of the Northern Region. The district comes first in terms of land area (size) among the districts of the Northern Region.	The District is located at the South-eastern corner of the Northern Region of Ghana and lies between latitudes 8° N and 9.29° N and longitudes 0.29 ° E and 1.26°W. It is bordered to the North by Nanumba South District, East Gonja to the West, Krachi West District to the South-West, Nkwanta North District to the East and Pru District in Brong Ahafo Region to the South .The District has a total surface area of 1,772.04sqkm with water covering about 5%.
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview:** The income levels are generally low and irregular over the year. The greater proportion of the people is engaged in subsistence agriculture, small-scale industries or petty trade. Incomes of this category of people are usually irregular or seasonal. The average earnings of these smallholders and other low income earners ranges between GH¢35:00 and GH¢100.00 p.a. The medium and higher income group earn between ¢100:00 and ¢200.00 per annum. A significant proportion of the population of the district, over 75% is living below the lower poverty line of GH¢90.00 (or approximately $120 US) per annum. The general poverty level in the northern region is estimated at 69.2% **Population Overview** The 2000 Population and Housing Census put the population of the East Gonja District at 174,500 and it is currently estimated at 197,932 using an annual rate of growth 2.1% per annum. The	**Economic and Social Overview:** The economy of the District is dominated by agriculture followed by commerce and industrial sectors. Agriculture accounts for about 90% of the District labour force, commerce and industry sectors accounting for about 10%. The annual average household income for a sampled population of 900 households is GH¢650.00. The average per capita income was realized to be GH¢54.17. Most of the people draw their income from food crop farming (61%) and 20.6%, 10% and 3.6% from business/trading, salaries and fishing respectively. **Population Overview** The current projected population based on 1984 and 2000 Population and Housing Census put the population figure for 2013 at 104,861. The population density is estimated at 41 persons per square km for 2013. Compared to the national average of 89 persons per sq. km. indicates that the district is sparsely populated.

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
	district's share of the total population of the Northern Region is 9.67%, second after the Tamale Municipality. **Geographic Overview** **Relief and Drainage** – The natural vegetation in the district is the Guinea Savannah Woodland, which has evolved from climatic conditions and modified substantially by human activities. There are few grooves, which have been preserved over the years – The district has a number of large water bodies that flow throughout the district. These include the Volta Lake and the Daka River both of which run across the district. A number of streams, dams, valleys, hills and mountain are also found at various locations in the district, as part of the natural environment. – The confluence of the Volta and some of its major tributes including the White Volta and the Daka River are found in the district. There is good flow of water from these rivers, which are collected and stored in the Volta Lake. This provides the potentials for water transport, irrigation development and fishing activities.	**Geographic Overview** **Relief and Drainage** – The lands are gently undulating with few depressions. There are few high hills to the eastern corridor of the district but mountains are completely absent. The soils are generally sandy loamy except in the lowlands and swampy areas where alluvial deposits are found. – The district is endowed with three big rivers- River Oti, River Daka, White Volta and its tributaries that transverse the district at vantage points and floods these areas at the peak of the rainy season. There are also low lying and swampy areas, which also become waterlogged during the rainy season. – Other water bodies found in the District include numerous intermittent streams located in most parts of the District. These water bodies constitute important resources for the people as most of them depend on them for household use, fishing and transportation. Generally, the area is well drained except that few portions located close to the major rivers and streams become waterlogged and pose problems for human and vehicle movement in the rainy seasons. The 20 water bodies also create large expanse of riverbanks that offer an advantage for rice cultivation. – The topography of the District is not a hindrance for road development and yet most of the communities in the District are accessible only by footpaths. **Climate** The District lies in the Tropical Continental Climatic Zone with the mid-day sun always overhead. As result, temperatures are fairly high ranging between 29oC and 40oC. Maximum temperature is usually recorded in

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
		April, towards the end of the dry season. Minimum temperatures are also recorded around December-January, during the Harmattan period This climatic pattern is good for food crop production and to some extent, forest development. However, the concentration of the rains in three months period affect farming since most parts of the year when rains are off is usually declared as "off farming" and the people spend most of this period idling. Similarly, the pattern affects accessibility to certain communities as most roads become flooded during the peak season rendering them impossible or unmotorable. **Vegetation** The District is located in the transitional zone between the Northern Savannah and the moist semi deciduous forest. The tree cover consists of semi-deciduous trees such as oil palm trees; raffia palm; acacia; shea-nut trees; dawadawa trees among others. In addition, tall grasses that characterize Guinea Savannah areas are extensively spread throughout the district. A large number of both plant and animal species inhabit the natural environment. **The soils** The soils in the district are classified into three major groupings. These include alluvial soils classified as Glysols, which is found around the Volta Lake, particularly in the drawn-down zone of the Volta Lake, in the dry season. The soils along the Lake are medium textured and moderately well drained in parts. The soil is potentially fertile for the commercial cultivation of yams and maize. The bulk of the district is covered by ground water laterites, developed mainly from Voltaian Sandstone materials, highly concretionally with frequent exposures of iron pan and boulders. There are, however, deeper

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
		and slightly better soils in some locations, which could support shifting cultivation patterns. Any development should include maintenance of vegetation cover to prevent soil erosion. The other major soil group is the relatively fertile Savannah Ochrosols. This soil group is moderately well drained with good water retention. The soils types found in the District are good for the cultivation of crops such as yam, maize, groundnut, and cassava among others. Also the recent discoveries of smooth sand (Sea-Sand) around Blajai may be an important revenue sources to the District if access road is created to the site.
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on	**Partners Programs** The following Non - Governmental Organizations, Civil Society Organizations and Community Based Organizations are operating in the District: – Catholic Relief Services; Education and Health – Adventist Development & Relief Services; Agro-forestry – IBIS; Local Governance – Presbyterian Primary Health Care; Health – Catholic Primary Health Care; Health – FAME; Health – SEND Foundation of West Africa; Food Security/Health/Advocacy/Income generation – Management Aid (MAID); Micro-Credit – Juxtapose Integrated Development Association Water/ Health/ Income gen – Abranyo Youth Development Assoc. Education/Health/Income gen – PENORUDA; Water/Health/Income gen. – Technoserve ; Agribusiness. – EGOGSA/EGOWEF Independent Development Organization. (IDO); Water & Sanitation, Reproductive Health;	**Partners Programs** The following Non-Governmental Organizations, Civil Society Organizations and Community Based Organizations are operating in the District: 1. IBIS Ghana- Local Governance, Decentralization & Education 2. SEND- Foundation of West Africa – Food Security and Micro Finance 3. GDCA – Community Empowerment 4. EGOCSA – Capacity building advocacy 5. JIDA – Capacity Building and Advocacy. **Relevant Financial Institutions** Saving is an important part of the District's economy since it is the mechanism for accumulating capital for investment. The District 2008 socio-economic survey revealed that about 90% of the people do not save in the banks. This could be attributed to the absence of financial institutions in the District with the exception of Kpandai Credit Union. Mostly the business owners get their supply from the local markets (mostly throughout the year). This means that for most of the businesses there could be uninterrupted supply of services throughout the year. Those that receive

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	– JICA and USAID – ADVANCE – NORST, IDA, SNV **Relevant Financial Institutions** Presently, the District is served by only one bank, the Ghana Commercial Bank, whose coverage is mainly limited to Salaga and its environs. Savings rate are extremely low and the volume of bank loans to support investments is extremely negligible. The main funding sources available to the District Assembly include: – Internally Generated Fund (mainly rate funds) – HIPC Relieve Funds – DACF – District Development Facility Fund (DDF) – Other GOG (mainly for personal emolument and FE's) – Support from Development Partners (EU, DWAP, CIFS, DFID, IBIS, CBRDP, UNICEF, WHO, CCFC & NORPREP)	their supply of raw materials occasionally always make provision for enough reserve that can take them for reasonable period of time.
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP	**Main and Regional Markets** **Commerce and Industry;** River sand weaning is becoming an increasingly important commercial activity. **Current Production** **Crops** Agriculture is the predominant economic activity and it employs over 81.8% of the economically active labour force (*2000 PHC Reports*) in the East Gonja District. Crops produced are mostly roots and cereals. Average Yield, Major food crops in metric tons/ha (2009) *(Source: MOFA Annual Report, 2009)* are: maize 9.33mt/ha: Yam 18.33mt/ha; Rice 4.5mt/ha; soya bean 5.33mt/ha; groundnut	**Main and Regional Markets** **Commerce and Industry** This sector employs about 10% of the District's labour force. The sector is least developed and dominated by petty traders, kiosk owners, and transport owners. Periodic markets that are scattered all over the District enhance commercial activities. Notable among these are the Kpandai, Kumdi, Kitare, Katiejeli, and Jamboai among others. These market centres constitute the major sources of revenue to the District Assembly. However the market infrastructure are poorly developed. Only few of the

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
– Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – -Numbers of farmers and agro businesses (number and broad classification) in each GP	3.00mt/ha; cassava 3.5mt/ha; with a food balance of 19,500 MT Even though the District seems to be doing well there is still the problem of food security. This is largely due to high post-harvest losses and types of food items available resulting from the reliance on a single rainfall regime that is very erratic. The average yield per hectare of food crops is most favourable for the roots and tubers (cassava and yams) (Refer to Annex 2; Crop Production Statistics 2013) **Livestock Population** is reported in (2009) as cattle 70,132; sheep 36,890; goats 56,000 and local birds 120,000 (*Source: MOFA Annual Report, 2009)* **The soils** in the district are classified into three major grouping. These include: Alluvial soils classified as Glysols, which are found around the Volta Lake, particularly in the drawn-down zone of the Volta Lake, in the dry season. The soils along the Lake are medium textured and moderately well drained in parts. The soil is potentially fertile. The bulk of the district is covered by **ground water laterites**, developed mainly from Voltaian Sandstone materials, highly concretionally with frequent exposures of iron pan and boulders. There are, however, deeper and slightly better soils in some locations, which could support shifting cultivation patterns. Any development should include maintenance of vegetation cover to prevent soil erosion. The other major soil group is the relatively fertile Savannah Ochrosols. This soil group is moderately well drained with good	markets have stalls or stores and activities are largely conducted under trees and in temporal structures. Due to the importance of the markets in the District's economy, steps need to be taken to facilitate their development through the provision of adequate support infrastructure. Also trustworthy and qualified market revenue collectors need to be employed to ensure effective and efficient revenue mobilization **Industrial activities** are largely on a small scale and characterized by reliance on indigenous knowledge and resources. Family ownership and use of labour intensive technology are some of the basic features of this sector. Major small-scale industrial activities engaged in by the people include carpentry and cassava processing, as well as tailoring. Using the type of raw materials as a criterion, Small Scale Industries can be grouped into the following categories; Agro/Wood/Clothing/Service **Current Production** **Crops** Agriculture is the main occupation of the people in the District employing about 90% of its labour force. The sector consists of crop farmers, fishermen, and livestock farmers. Farming in the area is still at a primary stage of development characterized by use of crude and inefficient implements. **Cropping pattern** The main crops grown in the District include yam, cassava, maize, rice, and groundnut. Mixed cropping is a common feature among the farmers in the district. This is largely due to the fact that crops grown are suitable to be

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
	water retention. It occupies the Northern tip of the district bordering Tamale district and the south-eastern section of the district **Numbers of farmers/agribusinesses** No large aggregators operate within the district. The collapse of the rice industry is attributed to the lack of combine harvesters resulting in loss of produce due to fires. The USAID ADVANCE project is working in the district to reorganize the value chain.	inter-cropped with others. For instance yams planted on mounds are inter-cropped with maize or cassava. The advantages associated with mixed cropping as obtained from the farmers was that it provided the singular opportunity for the two crops to be harvested on the same piece of land during the same season and also serves as security against total loss of yield due to pest or disease infestation of any one crop. However, mixed cropping put a lot of pressure on the soil as crops compete for soil nutrients at the same time. Soil fertility management should therefore be encouraged **Livestock Population** Small ruminants and poultry are on free range or the extensive system and only a few farmers practice the semi intensive system. The district is blessed with large expanse of pastoral lands. Inhabitants interested in cattle rearing take advantage of this to keep large numbers of cattle. Other types of animals such as goats and sheep are also reared on a limited scale. Livestock and poultry are mostly not kept for commercial purposes but as a buffer during the dry season. **Fishing** Fishing is an important agricultural activity in the District. The district is blessed with the Oti River and its tributaries. People leaving in settlements around do a lot of fishing. Various types of fresh water fishes are normally harvested in the rivers. Some of the fish types include; tilapia, mud fish, "gear box", tug fish. **Numbers of farmers/agribusinesses**
Energy related information	**Renewable Energy access and use is** virtually non-existent.	**Renewable Energy access and use**

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
– Main existing renewable energy projects in each GP – Level of access to energy / to electricity (households and commercial) in each GP – Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP – Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	**Access to Energy/Electricity** connectivity is good About 50% of the populated areas have access to electricity. However there is very limited access to electricity to overseas areas located at the south bank **Wood for energy** **Storage and processing facilities** Two disused storage facilities for crops exit in the district. There are plans to rehabilitate them **Types of Energy driven irrigation systems used** No functioning irrigation systems reported	About 90% of the population depends on wood and charcoal as the main source of energy for both domestic and commercial purposes. The collection of wood and the production of charcoal lead to environmental degradation in all the settlements in the district. **Wood for energy** Intensive harvesting of the trees for fuel wood and charcoal production, and effect of the Fulani herdsmen are fast reducing the tree cover **Storage and processing facilities** Farmers store their produce in structures made from leaves and wood often referred to as "Kechagla". Other places of storage include putting farm produce in jute sacks and fertilizer sacks. Some farmers prefer leaving their farm produce on the farms but most of these farmers lose their produce through bush fires and theft. All the farmers in the district lack access to appropriate storage facilities and this has led to high post-harvest losses. Owing to this, most farmers prefer selling their produce at give- away prices immediately after harvest. There are very few small-scale agro-based processing industries in the district. The bulk of agricultural produce is sold unprocessed. Establishment of more small scale manufacturing industries can assist in value addition of the produce which will increase the shelf life of the produce and thereby improve the income levels of framers on the long term The fishes harvested are normally smoked, fried and some salted into salted fish (used as flavour in soup). Both salted and smoked fish are normally sold on the local markets to resident buyers who use it locally. A large chunk of the locally processed fish is sold out to market women from other districts.

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
		Most of the fishermen lack appropriate storage facilities that will enable them to store their fish and sell at appropriate times. Other major constraints of fishing in the district include: poor catch in the dry seasons, low profit margins and spoilage of fish. In recent times the fishermen use unauthorized nets for fishing there by depleting the stock on the rivers and the lake
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	**Irrigation** The district lies at the confluence of the Volta and some of its major tributes including the White Volta and the Daka River. There is good flow of water from these rivers, which are collected and stored in the Volta Lake. This provides the potentials for water transport, irrigation development and fishing activities. There is currently no irrigation system deployed in the district. **Water and sanitation** East Gonja District has 184 functioning boreholes with hand pumps (out of 201), 16 number of Hand-dug wells (HDWs) with hand pumps and 1 number of small town system with 65 public stand pipes serving Salaga town as well as Sisipe, Kalande and Nkwanta. **Point sources**: Through the interventions of EU/AFD and of course RWSP/DA, 40 boreholes were drilled between 2007 and 2009, to bring the total number to 167 for the district. Rainwater harvesting is being promoted by Water Aid. **Sanitation Facilities** Between 2007 and 2009, 264 household latrines were provided to augment the 153 that were in existence. Currently, 350 latrines are under construction throughout the district. Ten (10) institutional latrines were constructed in year 2009 Out of the 46.5% safe water coverage for East Gonja District, boreholes alone account for 23%. What is worth mentioning here is,	**Irrigation** The main implements used for farming include cutlasses and hoes. Farming is not yet mechanized in the District and the people still practice rain fed agriculture. Although the District has large expanse of water resources for irrigation, no formal level of irrigation is practiced in the District. This is largely due to the absence of irrigation facilities and partly due to limited knowledge of farmers on irrigation development. The hopes are that when proposed Kumdi **and Nkanchina irrigation** dams are completed, they will offer opportunity to the farmers in the District to practice dry season farming. No studies have been done to ascertain its viability or otherwise. With this high dominance of food crop farming as a major source of household income in the district, coupled with rain fed agriculture, there is the need for the development of irrigation facilities that will constantly supply water to reduce the degree of vulnerability associated with rain failures **Water and Sanitation** **Water:** The main sources of potable water for the people in the district include small town water systems, boreholes, and wells. The District has a total number of 5 small water system, 117 boreholes and 6 wells in about

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
	almost all of these boreholes are found in the now Kpandai district where the ground situation is most favourable for it. This skewed distribution of safe water correlates with guinea worm prevalence in the district. Some of the attempts the District Assembly and its development Partners are making to improve the situation are as follows: • The provision of 6No. Small town systems through the support of NORST and EU/UNICEF. • The provision of some rain water harvesters around the Kpariba Areas by CCFC. • Completion of works on 27 boreholes. • The extension of Tamale pipe water supply to the Kpariba areas	250 communities. The other sources of drinking water included Oti River, River Dakar, dams and seasonal streams. The District potable water coverage as at 2009 was 37.90% **Sanitation** The general sanitation situation in the district leaves much to be desired. There is only one approved final refuse disposal site at Kpandai, which is about 4km. from District Capital. All other communities in the district have no approved sites for solid waste disposal. They dump refuse indiscriminately. Only the District Capital has a limited number of refuse containers for refuse disposal. There are no sewage systems for disposing liquid waste as such; most of the people therefore resort to throwing their liquid waste around the surroundings of their houses and in gullies created by the erosion. These wastes get collected in these gullies and serve as the major grounds for the breeding of mosquitoes and other harmful insects that pose serious health hazards to the people. Sanitation coverage by location varies from a low of 0% to a maximum of 18.2%
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads in each GP	**Main Roads (Trunk Roads)** The road network in this pole extends beyond the Volta Lake and abuts growth pole 7. There are 4 main regional trunk roads in this section of the pole. All radiating from Salaga. They are • Salaga – Tamale (114km) • Salaga – Mankango (30km) • Salaga – Kpandai (60km) • Salaga –Bimbila (48m) The condition of some of the trunk roads ranges from fair to poor. Apart from the section from Tamale to Salaga being tarred and in good condition, all the other trunk roads are not tarred. The main transport terminal is at Salaga. The Ghana Private Road Transport Union (GPRTU) provides transport services to the pole. Comparatively this pole has adequate trunk road system.	

Growth Pole 4. Daka/Katanga Valley	Observations - Administrative District(s) within which the Growth Pole is located – East Gonja and Kpandai	
	East Gonja	Kpandai
– Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	**Secondary Roads (Feeder Roads)** Most of the feeder roads serving the villages and the farming communities are linked to the trunk road. Most of the feeder roads are engineered. The length of the feeder roads network is 375km. All the marketing centres are linked to the agriculture production areas by feeder roads. The condition of most of the feeder roads is poor. Most of these roads are due for periodic maintenance and rehabilitation. Landing facilities to support water transport are at Kabieso, Kafaba and Seneyiri and need improvement. The ferry services along this area are not very reliable mainly due to low patronage. On feeder roads, the total network in the district is 812.4km out of which 468.1km is engineered and 161.9km partially engineered. The un-engineered network is 182.4km. – East Gonja also has an airstrip located at Nkwanta near Salaga that support some level of air transport including helicopter and Fokker 8 to the District.	

Growth Pole 4 Daka/ Katanga Valley	CONCLUSIONS AND RECOMMENDATIONS
Observed Agricultural Potential of the Growth Pole **1. Agriculture** **2. Energy** **3. Water** **4. Transport and logistics**	The district is well drained with both black and white Volta River, the Dakar and Oti rivers. The district is further blessed with a number of fertile valleys used for large-scale rice production. Five of these valleys; namely the famous Katanga valley that measure to 10,000 hectare. M-zongo valley which measures up to 2,000 hectares, Makango valley which measure up to 1,000 hectares, Nakpaye valley which measures up to 1,500 hectares and Lamisah valley which measures up to 500 hectares, were developed under the Rice Sector Improvement Project (RSIP). These valleys, which, together consist of about 15,000 acres of viable and productive land, are available and ready for actualization and commercial production of rice in East Gonja. Several other small-scale valleys have been developed and used for smallholder out-grower rice production over the last five years, under the Japanese Low-land Rain-fed rice production project, which is currently in its last year. The Katanga valley is vast and left fallow for over a decade now. Consequently the soil has formed … and require application of heavy equipment particular a dozer for land preparation. Presently, farmers in harvesting of rice are using labour intensive technologies, and this is ineffective for large-scale commercial rice farming envisage in the value chain. Farmers have lost their crops to bush fires while waiting for combine services. A ready access and availability of effective combine services is therefore a pre-requisite for the success of the rive value chain development in the district. Though the district has a fairly good rainfall pattern and distribution in terms of annual amount of rainfall and number of wet days over the months, the impact of climate change on the rainfall pattern and predictability cannot be overlook. It is therefore, necessary that additional measures are designed to irrigate the valleys and farms to avoid the potential effect of climate chain such as erratic and rain failures. The addition of irrigation facilities in the value chain will further enable farmers to crop the lands during the dry seasons when unemployment is usually very high and labour is idling. Another recurrent bottleneck is access to adequate quality inputs particularly seeds, fertilizers, weedicides and technical assistance. Farmers have suffered severely crop failures as a result of poor quality of seeds, late arrival and application of fertilizers and irregularity of technical assistance. The first key activity is **land development** in the four valleys proposed. ***The Katanga valley*** Poor access among other factors has contributed to the valley being neglected has not been cropped for over a decade, and so is now heavily infested with earthworms and associated mounds, which, will pose difficulties for tilling or ploughing using tractors. Consequently, the land development services would be required for breaking the hills that characterize the valley. Tractors will subsequently be used for second ploughing or harrowing before planting. Thereafter levelling and bunding will be executed to protect the land and facilitate flow of water across the field.

Growth Pole 4 Daka/ Katanga Valley	CONCLUSIONS AND RECOMMENDATIONS
	The ***Gurushe-zongo valley*** has also been laying fallow for about a decade or so now. The private partners together with District Assembly have begun constructing bounds and galleries and to protect the land and also facilitate effective flow of water to all parts of the lands. Tractors could subsequently be used for first and second ploughing before planting. Parts of the ***Makango valley*** has been under cultivation of the last couple of years. A few shrubs will be removed and tractors used for first and second ploughing before planting. ***The Mabungi valley*** similarly has a significant level of shrubs that should be cleared before first and second ploughing is done. **Agriculture Potential** – Sustainable Food Security within the six (6) months of the dry season can be ensured through strategic investments which make use of the potentials for irrigation agriculture, diversification into livestock rearing, good post-harvest management and increasing the shelf-life of agricultural produce through agro-processing. Large tract of arable land/ grazing field for livestock production, Availability of 20 No. dams and dugouts. Availability of water bodies, which could be used for reservoirs & irrigation schemes. Availability of large pool of unskilled labour. – Expanding market access through infrastructure development and market incentives; **Energy** – Increasing access to rural electrification under the Self-Help Electrification (SHEP) Project; **Water** – Need to have good pump/storage for the Salaga water works to expend coverage – Need to undertake Construction of dams for some settlements – Need to Improved delivery through Boreholes/wells Rain water harvesting – Mechanized dams (Volta River) – Increased Mechanization of selected boreholes **Transport and logistics** – Water transport should be supported and developed to ensure unimpeded access to all areas of the pole Regulating Water Transport system for increased production and tourism development;

Growth Pole 4 Daka/ Katanga Valley	CONCLUSIONS AND RECOMMENDATIONS
	–
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **1. Agriculture** **2. Energy** **3. Water** **4. Transport and logistics**	**Infrastructure Gaps** **Priorities for Private Sector Competiveness -Agriculture** – High Extension officer –Farmer Ratio – Limited storage facilities leading to high post-harvest losses – Non-existence of irrigation systems leading to over reliance on rain-fed agriculture and increased risk of food insecurity. – High farmer tractor ratio leading to vast expanse of lands – Persistent bush burning in the District. – Weak institutional support to farmers – Low farmer managerial and entrepreneurial skills – Inadequate credit facilities for farmers/businessmen in the district – Lack good road network to link production areas. – Limited agricultural technology backstopping services. – Absence of mechanized services for land development (de-stumping etc.) and preparation – Need to promote new areas of economic activity e.g. Fish farming & bee keeping **Energy** – Low coverage of electricity – Lack of electricity services to the South- western and northern parts of the district. **Water**

Growth Pole 4 Daka/ Katanga Valley	CONCLUSIONS AND RECOMMENDATIONS
	– Suboptimal level of irrigation facilities – Inadequate water access especially East Gonja connections for potable water **Transport and logistics** – Deplorable crossings over streams and rivers (broken culverts) – Non Completion of the tarring of Tamale to Makango road – Bad road network (Abrumase area needs special attention) – Need to re-activate ferry services Sika-kura – Need to improve the landing facilities along the Volta Lake. VLTC is developing a Master Plan to inform any transport development agenda. – Need feeder roads to link the district up with Nkoranza and Kintampo districts.

7.5 Growth Pole 5: Oti River Basin

7.5.1 Krachi East and Krachi West

Growth Pole 5. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
Profiles within the selected growth poles (GP) **This growth pole shares a boundary with 7 districts Kpandai, Nanumba South; Nkwanta North; Nkwanta South; Krachi East; Krachi Nchumuru and Krachi West**	The Krachi East District is located at the North Western corner of the Volta Region of Ghana and lies between latitudes 7º 40'N and 8º 15'N and longitudes 0º 6'E and 0º20'E. It is bounded on the South West by Krachi West District, Biakoye District to the South East, Kadjebi District to the East and Nkwanta District to the North. It has a total surface area of 2528 sq. km with water covering about 25%. This location places the district at a strategic position – the central point between the Northern and Southern parts of the Eastern corridor of Ghana. The District can therefore take advantage of its strategic location to invest in "*Gate- way programmes"* to both the Southern and Northern Ghana. Similarly, strategic communication and entertainment facilities of national importance aimed at wider coverage for both the southern and northern Ghana can be conveniently located in the district to achieve the desired results. Being strategically located in the transitional zone, the district has the advantage of experiencing mixed climatic conditions that has both positive and adverse implications for the district's development. **Population Overview** The 2000 Population and Housing Census put the population figure for Eastern part at 75,058, (segregated from the then Krachi District). The current projected population based on 2000	The present-day Krachi West District with Kete Krachi being its capital town is the leftover of the former Krachi District that was created at the beginning of the current decentralization programme in 1988. The administrative and political jurisdiction of the former Krachi West District has since undergone remarkable changes. The then Krachi District was re-established by Legislative Instrument 1501 (L.I.1501) on March 10, 1989 after Jasikan and Nkwanta Districts had been segregated out of it. On August 4th 2004, the District was further split into two districts, namely, Krachi East District and Krachi West District by Legislative Instrument 1747. The creation of the Krachi Nchumuru District in June, 2012 is the latest split of the traditional Krachi West District and still constitutes the present Krachi West District established by LI 2078. Krachi West District is located at the north-western corner of the Volta Region. It lies between longitudes 0º 05'West and 0º 07'West and latitudes 7º 65' North and 8º 06' North. It is bounded to the east by the Oti River that separates it from the Krachi East District, to the north by the newly created Krachi Nchumuru District and to the south and west by the Volta Lake which separates it from the Sene East District of the Brong-Ahafo Region. It has a total surface area of about 1,074 Square Kilometres of which about 20 per cent is covered by water **Population Overview** The 2010 Population and Housing Census put the population of the District at Forty Nine Thousand, Four

<table>
<tr><th rowspan="2">Growth Pole
5. Oti River Basin</th><th colspan="2">Observations Administrative Districts Located with the Growth Pole Area</th></tr>
<tr><th>Krachi East</th><th>Krachi West</th></tr>
<tr><td></td><td>Population and Housing Census put the population figure for 2013 at at107, 260 using a projected growth rate of 2.1%. The population density is estimated at 46.15p/sq. km (persons per square kilometre) for 2013. These compared to the national average of 89 persons per sq. km. indicates that the district is sparsely populated

Settlement System The district population like most other populations is not evenly distributed. The 2005 District Base Line survey revealed a pattern of population concentration in the District capital and other larger settlements. The major settlements are strategically located on the only trunk road from Dambai to Worawora.

The concentration of people in these major towns put significant stress on existing social services such as schools, health and water facilities and on land for agriculture and residential activities. The population of most communities in the hinterland ranges from 50 to about 200 people. The table below shows the population of 10 major communities in the District

<table><tr><th>Community</th><th>Population</th></tr><tr><td>Dambai</td><td>15,680</td></tr><tr><td>Katanga</td><td>5,580</td></tr><tr><td>Asukawkaw</td><td>8,502</td></tr><tr><td>Tokuroano</td><td>6,000</td></tr><tr><td>Dormabin</td><td>2,252</td></tr><tr><td>Kparekpare</td><td>3,006</td></tr><tr><td>Adonkwanta</td><td>3,000</td></tr><tr><td>Kplema</td><td>2,182</td></tr><tr><td>Adumadum</td><td>1,025</td></tr><tr><td>Okanease</td><td>2,000</td></tr><tr><td>Total</td><td>49,227</td></tr></table></td><td>Hundred and Seventeen (49,417) comprising 25,370 males and 24,047 females. Based on a population growth rate of 2.5%, the population of the district is projected to stand at 54,614 by September, 2014. The population density is about 46.0 persons per square kilometre.

Settlement System
There are at least One Hundred (100) human settlements including over 30 island communities distributed all over the numerous islands on the Volta Lake.

Over 70% of the population lives in rural communities. Only Kete Krachi, the district capital, is urban with a population of a little over Ten Thousand (10,000).

There are, however, other several major settlements of lower populations and most of these are located along the main Krachi – Dambai trunk road while many others are along the Volta Lake. Most settlements are difficult to reach due to the insufficiency of the road network in the district. The district also has a considerable number of island communities, which can only be reached by means of outboard motors or canoes. The inaccessibility of most of these communities hinders their accelerated development.</td></tr>
</table>

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**District Economy** The economy of the District is dominated by agriculture with commerce and industrial sectors least developed. Agriculture accounts for about 68% of the District labour force, commerce account for about 12%, while industry and other sectors account for about 20%. **Relief and Drainage** The District lies between the Northern parts of the central Uplands with hills ranging between 850m to 1000m above sea level around Asukawkaw and Katanga areas. The Northern part of the District is part of the North Western Savannah zone of the Volta region which is characterized by almost flat relief with slopes ranging between 85m and 300m above sea level. The District is drained by the Oti River and the Volta Lake which form the boundary between the District and the Krachi West District. The Asukawkaw River is another major river that drains the District and also marks the end of the District to Biakoye District. Other water bodies found in the District include numerous intermittent streams located in most parts of the District. These water bodies constitute important resources for the people as most of them depend on them for household use, fishing and transportation. Similarly, the major hills present great potentials for the development of Tourism in the area. However the topography does not allow for easy road development and most of the communities in the area are accessible only by foot-paths through the high terrains. Generally, the area is well drained except few portions located close to the major rivers and streams, which become waterlogged and pose problems for human and vehicle movement in the rainy seasons. The	**District Economy** The economy of the Krachi West District is dominated by the agriculture sector with the commerce and industrial sectors very underdeveloped. According to the 2010 Population and Housing Census, Agriculture alone accounts for about 72.2 per cent of the labour force in the district. Commerce accounts for 11%, while industry and other sectors account for 16.8 per cent **Relief and Drainage** The Krachi West District lies between the northern parts of the Central Uplands with hills ranging between 850m to 1000m above sea level. The northern part of the district is part of the North Western Savannah Zone of the Volta Region, which is characterized by almost flat relief with slopes ranging between 85m and 300m above sea level. The district is drained mainly by Volta Lake. The Volta Lake also marks the end of the district to the South. Other water bodies found in the district include numerous intermittent streams located in most parts of the district. Generally, the area is well drained except few portions located close to the major rivers and streams that become waterlogged and pose problems for human and vehicular movement in the rainy seasons. **Climate** The district has a tropical climate with a mean maximum temperature of about 30 ºC (in March), and a minimum temperature of 25.5 ºC (in August). Relative humidity is high in the rainy season (about 85%) and very low in the dry season (about 25%). **Vegetation** The district lies in the transitional vegetation zone between the Savannah Zone in the north and the Forest Zone in the south. About 75% of the district is covered with savannah grass

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
	water bodies also create large expanse of riverbanks that offer enviable advantage for rice and vegetable cultivation. **Climate**; The rain fall pattern is single maxima towards the northern part of the district with the rains occurring in April to October and double maxima at the south-eastern tip. August is usually the peak of the rains. Mean annual rainfall is 1,300mm. The dry season starts from November to March This climatic pattern is good for food crop production and to a lower extent, forest development. However, the concentration of the rains in six (6) months affect farming since most parts of the year when rains are off is usually declared as "off farming" and the people spend most of this period idling. Similarly, the pattern also affects accessibility as most of the community roads become flooded with water making road transportation almost impossible during rainy seasons. **Vegetation** The District is located in the transitional zone between the Northern Savannah and the Moist Semi Deciduous forest. About 75% of the District is covered with savannah grass land characterized by short drought resistant trees notable among them are shea, dawadawa, etc. This type of open vegetation is predominant at the northern parts of the district. Significant portion of forest vegetation is found in the district especially at the southern part characterized by forest tree species such as Odum, Wawa, mahogany etc. Fringing vegetation can also be found along the major rivers that drain the district. The vegetation type as described above is gradually being degraded because of overdependence on it for daily livelihood activities such as bush burning, charcoal burning and farming as well as lumbering.	land characterized by short drought resistant trees notable among them being Shea tree, and dawadawa. About 80 per cent of the uncultivated land of district is covered with grassland. Teak plantations are also quite common in parts of the district due to afforestation programs instituted by the District Assembly and its Development Partners under the Ghana Social Opportunities Project (GSOP). **Soils** The major soils groups include Adankpa Association and the Kintampo Association around Kete-Krachi town, and patches of Dadiekro Lima and Volta Lima Association (sandy loam) in some locations close to the Volta Lake. About 70 per cent of farmers experienced losses in soil fertility in their farms. This is worsened by continuous cultivation, which exposes the soil to erosion (KNUST- Spring Programme, Krachi District DMTDP 1996-2010). The rainfall pattern in the district is single maxima and the district enjoys maximum rainfall from mid- August-to mid-September There is a long dry season from October to mid-April with a rainy season lasting from late April to late September.

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
	Soils The major soils found in the district include the Techiman Association, mainly sandy soil found in the north, Kplesawgu Association (sandy clay soil) in the mid portions and southern tip, and the Dormabin-Dentesso Association (silty sand) found around Dormabin.	
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP	**Relevant Programs by Donors** (Refer to Development Partner Interventions by Growth Pole District) **Relevant Financial Institutions** About 98% of the farmers in the district finance their farming activities through their personal savings (own savings). Savings however, are usually meagre in the district and this is a major limiting factor hindering the growth of farming in the district. There exist one Commercial Bank and two Rural Banks at Dambai	**Relevant Programs by Donors** Kete-Krachi and Osramanae in the Krachi West District have benefited from Germany Technical Cooperation (GTZ now GIZ) grant and Danish International Development Agency (DANIDA) support to the Government of Ghana for the provision of pipe borne water to small towns under the Small Towns Water Project (Eastern Zone). The aforementioned communities and their immediate surroundings enjoy pipe water from mechanized water supply system even though it is not without challenges. The smaller communities also have boreholes as their source of potable water. The Community Water and Sanitation Agency (CWSA), World Vision Ghana and Afram Plains Development Organisation (APDO) are involved in the provision of boreholes to communities without potable water or communities with inadequate potable water source. They are also into the rehabilitation and maintenance of non-functioning boreholes and the training of Water and Sanitation (WATSAN) Committees as a way of ensuring Community Ownership and Management in the district. Some people, especially those living around the lakes and streams/rivers, depend largely on either rivers/streams or the lake for their water needs such as drinking, bathing and washing of clothes. **Relevant Financial Institutions**

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
– Relevant Local companies, out-grower schemes etc. in each GP		Only two financial institutions operate in the district. A branch of the Ghana Commercial Bank is the only formal bank operative in the district. The other financial Non-banking institution is the Krachi Community Cooperative Credit Union **(KCCCU)** that is engaged mainly in micro financing. It is worth mentioning that a Farm Loans Office of the Agricultural Development Bank (ADB) operated in the entire then Krachi District for a few years but stopped business in 2009.
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made	**Current Production** **Agriculture** The main occupation of the people in the District employing about 68% of its labour force. The sector consists of crop farmers, fishermen, and livestock keepers. Farming in the area however is still at a primary stage of development characterized by use of crude and inefficient equipment. The main implements used for farming include cutlasses and hoes. Farming is not yet mechanized on a large scale in the District and the people still practice rain fed agriculture however, there is currently a small scale mechanization of farming with the introduction of tractors for plough. Although the District has large expanse of water resources irrigation by any form is not practiced. This is largely due to the absence of irrigation equipment and partly due to limited knowledge of farmers on irrigation development. The main crops grown in the District include yam, cassava, maize, rice, and groundnut. Mixed cropping is a common feature among the	**Current Production** **Agriculture** The agriculture sector of the district comprises of crop farming, fishing and livestock rearing. About 70 per cent of the population is actively engaged in agricultural related ventures with about 65 per cent in subsistence agriculture. Production and productivity especially in the area of cereals and legumes has increased remarkably as a result of intervention made by Food Crops Development Projects. The District enjoys about 65% extension coverage. Agricultural activities in the district are mainly limited to rain fed agriculture. The main crops grown are cassava, yams, groundnuts, pepper, maize, cowpeas. Mixed cropping is mostly practised. A greater number of the farmers use hoes, axes and cutlasses as farm implements while very few use tractors for tilling. The District has **vast fertile and arable land** available for farming.

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
– Levels of soil erosion, degradation, desertification in each GP – -Numbers of farmers and agro businesses (number and broad classification) in each GP	farmers in the district. This is largely due to the fact that crops grown are suitable to be inter-cropped with others. For instance yams planted in mounds are inter-cropped with maize or cassava, rice is also inter-cropped with millet and or groundnuts. The advantages associated with mixed cropping as obtained from the farmers was that it provided the singular opportunity for the two crops to be harvested on the same piece of land during the same season and also serves as security against total loss of yield due to pest or disease infestation of any one crop. This system is also known by the experts to be boosting soil fertility since nitrogen for instance can be infused into the soil for used by maize if inter-cropped with groundnut The cultivation of industrial or cash crops in the district is on a small scale. The principal industrial crops grown in the district include oil palm, soya beans, groundnuts and tomatoes. Cocoa is also grown on a limited scale around Okanease area. **Export Crops**. The district has a credible record of being a net exporter of tubers such as yam and cassava. Cereals such as maize, rice, soya beans are also exported on a limited scale to other districts and surrounding regions including Greater Accra. **Farm Size** Farming in the District is largely on small scale with average farm holding of about 4 acres per annum. This means farming is still on subsistence level. It was revealed in the survey that communities in the Volta river resettlement areas have limited farmlands of about 3 acres	**Livestock Production** The rearing of cattle is the lead animal production activity in the district and several herds of cattle and kraals can be found in the district. Small ruminants including sheep and goats are also commonly reared in almost every town and village.

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
	per household and no expansion of farm size could be possible within such settlements. **Land Acquisition for Farming** Apart from Volta River Authority resettlement towns where fixed plots of land (3 acres per household) were allocated, all other farmers in the district have access to free land for cultivation. **Life Stock and Poultry** It is a common phenomenon in the district that, all households in the district keep live stock or poultry mostly on free range. The district is blessed with large expanse of pastoral land. Inhabitants interested in cattle rearing take advantage of this to keep large numbers of cattle. Other types of animals such as goats and sheep are also reared on a limited scale. Livestock and poultry are not kept for commercial purposes but as a buffer against poverty. **Fishing** Fishing is an important agricultural activity in the District. The district is blessed with the Oti River and its tributaries and the Volta Lake. People living in settlements around them do a lot of intensive fishing. Various types of fresh water fish is normally harvested in the rivers. Some of the fish types include; tilapia, mud fish, "gear box", tug fish, among others. The survey revealed that 82% of the fishermen use canoes for their fishing. A good number of the fishermen depend on hired labour to assist them in part of their fishing activities.	
Energy related information	**Renewable Energy access and use is** virtually non-existent. **Access to Energy/Electricity**	**Renewable Energy access and use is** virtually non-existent. Very few households (0.2%) use solar lights. **Access to Energy/Electricity**

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
– Main existing renewable energy projects in each GP – Level of access to energy / to electricity (households and commercial) in each GP – Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP – Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	**Production** The methods of production were mainly manual for 52.3% of the industries and 47.7% for those who use machines. The machines used in this sector are rudimentary and less efficient. Various sources of energy are used to enhance production in this sector among these are: firewood for distilleries, gari processing and breweries; electricity for metal works, tailoring and hair dressing. Others include diesel fuel and petrol for milling, fishing etc. Wood-based energy sources were found to be slow and have adverse effects on the environment. Petroleum sources were very expensive. Electricity sources were characterized by frequent power outages. The combined effects of the various energy sources revealed a pattern of instability in production and this leads to low productivity **Wood for energy** **Main and Regional Markets** This sector employs about 6% of the District's labour force. The sector is least developed and dominated by petty traders, kiosk owners, and transport owners. Periodic markets that are scattered all over the District enhance commercial activities. Notable among these are the Dambai, Asukawkaw, Katanga, Dormabin, and Dadoto among others. These market centres constitute the major sources of revenue to the District Assembly. However these market infrastructures are poorly developed. Only two of the market facilities have stalls and stores while trading activities are largely conducted under trees and in temporary structures constructed from "zanamarts" and sticks mostly provided by the traders themselves in other markets. An analysis of the District revenue sources indicates that market tolls are the major contributor to the Internally Generated Revenue. It contributed about 39.64% of the internal revenue in 2007 and 37.91%	About (47.1%) of households are connected to the national grid. These communities that are connected are mostly found on the main trunk road from Kete-Krachi to Dambai. **Wood for energy** **Main and Regional Markets** There is only one large market in the district located at Kete-Krachi. Ancillary commercially viable markets exist in the other towns such as Ehiamankyene, Bommoden and Ntewusae. These periodic markets serve as the main sources of internally generated revenue for the District Assembly. The District Assembly has on-going infrastructural improvement projects aimed at developing these markets to boost trading activities in the district. **Storage** **Processing** The industrial sector is the least developed in the district. Industrial activities are virtually absent and heavily reliant on local indigenous technology, raw materials and resources, individual family ownership and the use of labour intensive method of production. Few industrial activities at very low scale such cassava processing, brewery, tailoring, petty carpentry, blacksmithing, and hairdressing can be found in almost every locality **Types of Energy driven irrigation systems used** Old abandoned irrigation facility exists started in the 1970s for rice. Proposals contained in the Medium term district plan suggests that plans are underway to purchase a diesel powered irrigation pump to start the

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
	in 2008. Further analysis of market tolls in the District revealed that most of the market tolls are generated from the Dambai market and the performance is expected to increase by more than 100% if attention is paid to the other markets. This underscores the importance of markets in the District's Development as a major source of revenue. In spite of the encouraging performance of market tolls, significant issues need to be addressed if it is to remain the major contributor: 1. Poor development of market infrastructure 2. Inadequate trained revenue collectors 3. Poor supervision and monitoring of revenue collectors **Storage** Farmers store their produce in structures made from leaves and wood often referred to as bans. Other places of storage include putting farm produce in rooms selected for the purpose. Some farmers prefer leaving their farm produce in the farms but most of these farmers lose their produce through bush fires. All the farmers in the district lack access to appropriate storage facilities and this has led to high post-harvest losses. Owing to this, most farmers prefer selling their produce at give- away prices immediately after harvest. The district has modern silos at Dormabin constructed in 1992 by the Food Distribution Agency to reduce post-harvest losses and improve storage but the facility is still not in use. These silos therefore need to be rehabilitated and put to use. Fish harvested are normally smoked and some salted (used as flavour in soup). Both salted and smoked fish is normally sold in the local markets to resident buyers who use it locally. A large chunk of the locally processed fish is sold out to market women from other districts and surrounding regions. Trade in fishing in the district has become	process of rehabilitation at Papatia Grubi. Agricultural activities in the district are mainly limited to rain fed agriculture

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
	such an important business that a special day has been set aside as a market day for fish. Every Monday is usually the day set out for the marketing of fish at the Dambai market. Most of the fishermen lack appropriate storage facilities that will enable them to store their fish and sell at appropriate times. Other major constraints of fishing in the district include: poor catch in the dry seasons, low profit margins and spoilage of fish. In recent times, the fishermen use unauthorized nets for fishing thereby depleting the stock in the rivers and the lake. **Processing** There are very few small-scale agro-based processing industries in the district. The bulk of agricultural produce is sold unprocessed. Establishment of more small scale manufacturing industries could help add value to farmers' produce, which may lead to increase in farmers' income. Most of the farmers sell their produce in the major markets of Dambai, Dormabin, Dadoto, and Asukawkaw among others. However the roads leading to most of these market centres lives much to be desired. **Gender Dimensions of Agriculture** Agriculture is the main stay of the rural economy in the district. Roles in agriculture are apparently segregated between male and female. While the male folk are engaged extensively at the cultivation stage, the women folk are involved in the processing stage. Small scale agro-processing industries that engage most women in the district include: shea butter extraction, gari making, and groundnut oil extraction, among others. Though, the industries aforementioned are still at small scale levels, potentials exist for their growth and expansion in the district	

Growth Pole 5. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
	Types of Energy driven irrigation systems used	
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	**Irrigation** **Refer to Annex 8 Irrigation Projects In Ghana** **Water and Sanitation**	**Irrigation** The Department of Agriculture in the District has elaborate plans under the National Medium-Term Development Policy Framework (NMTDPF) targeted at accelerated Agriculture Modernization. The thrust of this target includes **Agriculture Mechanization, the rehabilitation, expansion and promotion of the use of existing irrigation** facilities and infrastructure along with interventions to promote the development of small-scale community based irrigation schemes. Several other Government Agriculture Policies and programmes including the Root and Tuber Improvement Programme, Block Farming, Animal Production Services and activities under the Savannah Accelerated Development Authority are being implemented in the district. **Water and Sanitation** The main sources of domestic water for the people in the district are the Volta Lake, boreholes, and seasonal streams. Out of a total of 207 communities, only the district capital, Kete-Krachi and Osramanae have the Small Town Water System and enjoy mechanized borehole water distributed through twenty-eight and fifteen stand posts respectively. The water supply system in Kete Krachi township is however not fully functional. There are over sixty-four (64) boreholes distributed over thirty-three (33) communities. A fairly large population who live on the numerous islands in the district depends on the Volta Lake as their main source of water for every purpose.

Growth Pole *5*. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
		Sanitation The 2010 Population and Housing Census reported that there are no sewage systems for the disposal of liquid wastes in the district. The people therefore resort to throwing their liquid waste around the surroundings of their houses and in gullies created by erosion. A majority of households do not have access to decent toilet facilities while some use pit latrine (19.5%) and public toilets (27.5%). rage in the country.
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	This pole stretches over 4 administrative districts namely Nkwanta South, Nkwanta North, Krachi West and Krachi Nchumuru. **Main Roads (Trunk Roads)** The main trunk road that spines through Nkwanta South and North district is the National route N2. Various sections of the N2 has been constructed. Construction of sections around Brewaniase towards Nkwanta is on-going. The N2 stretch from Nkwanta through Kpasa to Oti Damanko is untarred. From Oti Damanko the trunk road then deviates from the N2 southward onto regional trunk through Wulunsi, Kpandai, Dodoikpe (Nandi), Borae to Kete Krachi. There is an offshoot from the main trunk road at Dodoikpe to Dambai ferry crossing point. The other trunk road in this pole is from Dambai to Nkwanta. About 85% of the trunk roads are unpaved and are partially engineered and the road condition very poor. Yam farming and trading is very vibrant on the entire trunk road corridor because most of the major market are situated near the road. **Secondary Roads (Feeder Roads)** The state feeder road network per the districts within the pole is as summarized below: **Nkwanta South:** Only 2km of the feeder roads are tarred. The feeder road network is 484km with breakdown as follows: • Engineered Roads – 230km • Partially Engineered – 150km • Non-Engineered – 104km The road condition of the engineered roads is 29.5% good; 52.2% fair; 18.3% poor. Feeder road links which are of priority to the district are as follows: 1 Nkwanta – Kue 2 Nkwanta – Shire	

Growth Pole 5. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Krachi East	Krachi West
	3 Agou Jct – Kabite –Bonache Most of the feeder roads have drainage challenges, cutting off most farming communities to markets during the wet seasons. **Nkwanta North:** The feeder road network is 215k with details below: • Engineered Roads – 105km • Partially Engineered – 50km • Non-Engineered – 60km Challenges are similar to that of Nkwanta South. **Krachi West:** Most of the feeder roads in this district are in fair condition as a result of regular reshaping and spot improvement being carried out by DFR. But water transport for communities on island villages is a big challenge denying them of access to markets. These communities are always at the mercy of middle market women. **Krachi Nchumuru:** All the road in this district are feeder roads. Access to farm gate and market is a big challenge. This problem has reduce most of the bargaining power of the farmers. – **Dambai:** It has 280km of feeder roads. 80km is engineered and 90km – partially engineered and 110km is non-engineered. A total of 60km are tracks and unclassified by DFR but being maintained by the district assembly. **Lake Transport** Lake transport play important roles in the socio-economic development of the Krachi West District. Alake transport, a link exists between Krachi and Defour/Kojokrom which continues to Atebubu and Kumasi. Most travellers patronize the lake transport for business and pleasure purposes. The Volta Lake Transport Company of the Volta River Authority provides a ferry/pontoon service across the lake from Kete Krachi to Kajaji in the Sene East District of the Brong Ahafo Region.	

7.5.2 Nkwanta South and Nkwanta North

Growth Pole 5. Oti River Basin	Observations Administrative Districts Located with the Growth Pole Area	
	Nkwanta South	Nkwanta North
Profiles within the selected growth poles (GP) **This growth pole shares a boundary with 7 districts Kpandai, Nanumba South; Nkwanta North; Nkwanta South; Krachi East; Krachi Nchumuru and Krachi West**	**Location & Size** Nkwanta South is one of the Twenty-Three (23) Municipal and District Assemblies in the Volta Region. It is located in the northern part of the Region. It lies between latitudes 7' 30o and 8' 45o North and longitude 0'10o and 0'45o East. It is bounded to the North by Nkwanta North District, to the South by Kadjebi District, to the East by the Republic of Togo and to the West by Krachi East District. **Population Overview** According to the 2010 Population and Housing Census (PHC), there were117, 878 people living within the District with estimated population growth rate of 2.5% (based on the Regional and National growth rate as released by the Ghana Statistical Service [GSS]). Nkwanta District, which was later split into Nkwanta North and South) had a total population of 41,723 in 1970, 84,544 in 1984 and 151,276 in 2000. Therefore, by extrapolation, the population figure for Nkwanta South District in 2000 was 90,766 The last four decades have witnessed two factors, which have accelerated the growth of population in the district. The first was the significant migration from the southern Volta Region especially from the Tongu Districts to take advantage of the fishing opportunities provided by the newly formed Volta Lake. Accompanying elements in this inflow of population were artisans and farmers attracted by abundant and **sparsely populated**	***Location and Size*** The Nkwanta North District, being one of the eighteen (18) districts in the Volta Region, is located between Latitude 7°30'N and 8°45'N and Longitude 0°10'W and 045'E. The district shares boundaries with the Nanumba South District to the North, Republic of Togo to the East, Kpandai District to the West, and Nkwanta District to the South. The District Capital, Kpassa is located 270km to the South of Ho (the Regional Capital). The District has a surface area of approximately 1510km^2 thus making it one of the smallest districts in the Volta Region of Ghana. The Nkwanta North District is remotely located in terms of proximity to large commercial centres such as Hohoe and Yendi. This makes prices of farm produce low but prices of manufactured goods remain high in the district. As a result, the district experience low household incomes especially among farmers who dominate the district's population **Population Overview** The 2000 National Population and Housing Census indicated that the district has a population of 60,517 making up of 29,738 (49.14%) males and 30,779 (50.86%) females. The District has a population growth rate of 3.0% as compared to the regional and national figures of 1.9% and 2.7% respectively.

Growth Pole *5*. **Oti River Basin**	Observations Administrative Districts Located with the Growth Pole Area	
	Nkwanta South	Nkwanta North
	farmlands. The second factor in accelerating population growth in the District was the designation of Nkwanta as the District capital. The administrative and other service centres that have been established have served as stimuli to population growth in Nkwanta and other settlements. Since 1981, ethnic conflicts in the Northern Region with spill over effects in the Nkwanta District may also have caused an inflow of population contributing thereby to the overall significant growth of the population in the District	With this constant growth rate, the projected population of the Nkwanta North District in 2010 stands at 78,672 and is projected to stand at 54,614 by September, 2014. The population density is about 46.0 persons per square kilometre. **Settlement System** With a population density of 40 persons per square kilometre, the district is sparsely populated when compared with the regional average of 77 persons per square kilometre. There are about 66 communities with a population above 75 persons (2000 Population and Housing Census). In all, there are over 200 scattered settlements in the district (Field Survey, 2008). This shows that majority of the inhabitants live in isolated hamlets and cottages preferable on their farms. Thus, the general settlement pattern of the district can best be described as dispersed type. This dispersed settlement pattern makes it difficult to provide essential social services to most people in the district. The major settlements in the district are lined up along the Kpassa – Damanko trunk road that stretches from the South to the North.
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages)	**District Economy** The economy of the District is dominated by agriculture with commerce and industrial sectors least developed. Agriculture accounts for about 68% of the District labour force, commerce account for about 12%, while industry and other sectors account for about 20%. **Relief and Drainage**	**District Economy** The predominant occupation in the district is agriculture with crop farming being the major activity. Agriculture employs about 70% of the total labour force. Commerce is the second largest employer (about 25%), which is being boosted by the booming yam production in the district. It is worth noting however that the service and industry sectors in the district are moving at a very slow pace employing less than

Growth Pole *5*. **Oti River Basin**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Nkwanta South	Nkwanta North
–Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Relief** The District is classified into Two (2) major relief zones. These are the mountainous southern portions lying along the eastern border with the Republic of Togo and the undulating northern part with altitudes between 100m to 200m above sea level. This part stretches from the savannah woodland of the northern part of the district to the forest zone of the southern part. Notable mountains that can be found in the relief feature of the district are the Kyabobo Mountain (about 884 metres above sea level) and the Kelembo Mountain (738 metres above sea level). **Drainage** Nkwanta South District is drained by several drainage features such as: - Oti River (1% of the surface area of the district. - Sabu River - Bonakye River - Chai River Sabu, Bonakye and Chai rivers take their source from the Buem-Togo Ranges on the eastern border of the District and flow in southwestern direction into the Oti River. The several tributaries of these rivers and streams serve both domestic and animal (cattle, pigs, sheep, goats etc.) population of the district. **Most of these streams almost invariably dry up during the long dry season**. **Climate**; Generally, Nkwanta South District is characterized by a tropical climate with dry and humid weather conditions. The rainfall regime experienced in the District is the double maxima type; that is from April to July and September to October. The average number of rain days in 86 with extreme annual rainfalls	5% of the work force. This occupational distribution reflects the significance of agriculture in the district's economy The Nkwanta North District is predominantly rural. The 2000 Population and Housing Census indicate that nearly 80% of its population live in communities with less than 5,000 people. As of 1984, there was no single settlement in the district which attained urban status. As at 2000, there were only two urban settlements namely Kpassa and Damanko. The district however is situated in a deprived area in the northern-most part of the Volta Region where accessibility remains a problem. Additionally, the district comes nowhere near other districts in terms of infrastructural development **Relief and Drainage** The district forms part of the country's dissected plateau. The greater proportion of this plateau is between 100m and 200m above sea level. There are few valleys that do not exceed 150m above sea level. The district is endowed with a number of rivers and streams, the most important of which is the Oti and Kpassa Rivers. The streams and rivers exhibit a dendritic pattern, which forms the Oti basin. The relief and drainage systems favour the development of fish farming, cultivation of valley bottom rice, sugarcane and dry season vegetables. Of these potentials, fish farming is practised on commercial basis at Damanko, Danladi and Kabonwule. Due to the relatively low level of relief in the district, road construction would be less expensive. **Climate**

Growth Pole *5*. **Oti River Basin**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Nkwanta South	Nkwanta North
	ranging between 922mm to 1,874 mm. The dry season is from November to March. During this time the evapo-transpiration exceeds water availability at the earth's surface. The mean annual maximum temperatures range between 24oCand 39oC (76oF to and 103oF), while the mean annual minimum temperatures are between 11oCand 26oC (52oFand 79oF). January, February, March and April are the hottest months while December has the lowest temperatures. Temperatures in the District are high throughout the year for plant growth. Availability of water is crucial for agriculture during the long dry season of November to March. **Vegetation** The District is covered by three vegetation zones. These are ; i. Semi-Deciduous Forest zone, found mainly on the eastern border of the District. (30% of the vegetative cover). ii. Savannah Woodland, which extends from the North-Eastern part of the District Southwards to the zone of the Semi-Deciduous Forest. (50% of the vegetative cover). iii. Grassland Savannah extending eastwards from the Volta Lake and its Oti arm. (20% of the vegetative cover of the District). The most common timber species in the District include Odum, Wawa, and Kyenkyen. Due to logging, farming and cutting of fuel wood and charcoal production, the original vegetative cover has been reduced to secondary forests. It is also worth noting that	The Nkwanta North District forms part of the tropical climatic zone, which is characterised by double maxima of rainfall (i.e. between April and July; August and September). The area experiences two main seasons namely wet and dry seasons. The dry season is experienced between November and March. Mean annual rainfall figures range from 922mm to 1,874mm. The mean annual temperature of the district is between 52°F (11°C) and 103° F (39°C). The area records high relative humidity figures ranging from about 80% during the wet season to 70% during the dry season. The climate of the District is suitable for the growing of various crops. However, the influence of the long dry spell (harmattan) has damaging effects on the environment and farm outputs. The relatively heavy rains associated with this type of climate adversely affect all roads in the District, thus rendering them not motor-able during the rainy season. **Vegetation** The District lies in the Transitional Vegetation Zone and covered by Savannah Woodland and Grassland. Occasional pockets and remnants of semi-deciduous forest also exist. It is crystal clear that desertification is knocking at the door of the district hence policy interventions aimed at combating this threat should be put in place. **Soils** The soil in the district is mainly of the ferric acrisols and dystric fluvisols type. The ferric acrisols type of soil covers about 70% of the entire soil in the District, which supports the cultivation of a wide variety of crops including root crops,

Growth Pole *5*. **Oti River Basin**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Nkwanta South	Nkwanta North
	bush burning is rampant during the long dry season. There are two reserves in the district. These are the Kyabobo Reserve, now National Park, and the Chai River Reserve. **Soils** The District is underlain by the Voltaian, the Buem Volcanic formation and the Togo series. The Voltaian, which is mainly shale and mudstone beds and sandy pebbly beds occupy the eastwards of Lake Volta and takes about a quarter of the District. The Togo series consisting of quartzite, phyllites, sandstone, shale, schist and solicited limestone is on the eastern border forming the Buem-Togo ranges. The Buem- Volcanic formation consisting of Basaltic, Andesitic and Trachytic lava occupies about two-thirds of the district. These geographic formations determine the types of soils in the district. The first group of soils is the laterite integrates found in the Savannah-Woodland zone of the District. The second groups of soils are the forest Ochrosols and Oxysols found in the forest zone of the district. These soils support variety of crops including yam, cassava, maize, groundnut, cowpea, and sorghum. Rice production is also widespread in the District.	cereals, legumes, and oil palm. It also makes the district to have a comparative advantage in agriculture and agro-processing. ***Geology and Minerals*** The geology of the Nkwanta North District is a combination of Granitoid Undifferentiated and Phyllite, Schist, Tuff and Greywacke, which contains the mineral bearing rocks. There are also granite rocks and deposit of minerals such as phosphate, has been discovered in some parts of the district but not mined. The presence of mineral deposits in the district has the potential to generate royalties as revenue to the District Assembly as well as create employment for the inhabitants. It also implies that there is going to be influx of people to the district if the mining operation takes –

Growth Pole *5*. **Oti River Basin**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Nkwanta South	Nkwanta North
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	**Relevant Programs by Donors** **Relevant Financial Institutions** About 98% of the farmers in the district finance their farming activities through their personal savings (own savings). Savings however, are usually meagre in the district and this is a major limiting factor hindering the growth of farming in the district. Two (2%) of the farmers obtain credit from relatives, friends or private moneylenders to finance their farming activities. There exist one Commercial Bank and two Rural Banks at Dambai but farmers' ability to obtain loans from the banks is limited due partly to lack of collateral securities and none of the farmers interviewed during the survey had any savings with the banks.	**Relevant Programs by Donors** **Relevant Financial Institutions** There are no commercial banks operating in the district. The Kpassa Rural Bank Limited is the only bank operating in the district with its headquarters at Kpassa. This situation of limited financial institutions in the district poses a great challenge to economic development in the sense that the people would not be able to have adequate access to banking services in order to enhance their businesses
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP	**Current Production** **Agriculture** Agriculture is the single most important economic activity in the	**Current Production** **Agriculture** **Crops**

<table>
<tr><th>Growth Pole
5. Oti River Basin</th><th colspan="2">Observations Administrative Districts Located with the Growth Pole Area</th></tr>
<tr><td></td><td>Nkwanta South</td><td>Nkwanta North</td></tr>
<tr><td>– Main type of crops and livestock farmed in each GP
– Current use of agricultural / arable land (scale, quality) in each GP
– Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made
– Levels of soil erosion, degradation, desertification in each GP
– -Numbers of farmers and agro businesses (number and broad classification) in each GP</td><td>District, 80.5% in terms of employment and income generation. The District is a major producer of yam, cassava, maize, groundnuts,
Cowpeas and rice. The major crop producing areas in the District is shown on the table below

<table><tr><th>CROP</th><th>PRODUCTION AREAS</th></tr><tr><td>Cassava</td><td>Throughout the district but less in the extreme north.</td></tr><tr><td>Yam</td><td>District-wide but less along the eastern and southern borders.</td></tr><tr><td>Maize</td><td>Brewaniase, Pusupu, Bontibor, Kpeve, Chaiso</td></tr><tr><td>Rice</td><td>Brewaniase, Keri, Bonakye, Kabiti</td></tr><tr><td>Cowpea</td><td>Kue, Keri, Bonakye,Odumase</td></tr><tr><td>Groundnut</td><td>Ofosu, Tutukpene, Brewaniase,Bonakye</td></tr><tr><td>Plantain / Banana</td><td>Shaire, Chillinga, Obanda, Abubruwa, Pusupu, Bontibor, Chaiso, Dadiase</td></tr><tr><td>Cocoyam</td><td>Obanda, Pusupu, Bontibor, Chaiso, Odumase, Keceibi</td></tr><tr><td>Citrus</td><td>Abubruwa, Obanda, Akyem, Kecheibi</td></tr><tr><td>Cocoa</td><td>Abubruwa, Obanda, Akyem, Kechiebi</td></tr><tr><td>Avocado</td><td>Abubruwa, Obanda, Pusupu, Akyem</td></tr><tr><td>Sorghum</td><td>Bonakye.</td></tr><tr><td>Oil Palm</td><td>Pusupu, Bontibor, Abubruwa, Kecheibi, Chaiso, Odumase</td></tr></table>
The District has the potential to produce more cassava and yams when there is ready market the produce

Most farmers in the District still practice-shifting cultivation especially in the northern part of the District. Factors that contribute to this include, availability of land as a result of the relatively low population density, and high cost of agricultural inputs and inadequate of extension officers to advise on the proper land usage.</td><td>The major economic activity in the district is farming. Unlike in other parts of the country, where farming is left in the hands of the elderly, people of all ages in the district are involved in farming due to the high returns derived from yam production. The District is one of the leading producers of yam in the country. About 80% of the working population is involved in the production of yam as either farm owners, tenants or farm labourers. This makes the yam industry the largest in the district.

There is a high concentration of 'yam buying middlemen' in the district. These activities of middlemen offer employment to a sizeable number of the youth

Fishing
Fishing in the Oti River as an economic activity is fast catching in the district. A relatively sizeable number of Battors of Ewe origin engage in fishing and smoking of fish. Again, middlemen are involved in this business too. The common species of fish produced are tilapia and mudfish. The District Directorate of Food and Agriculture's records show that an average of ten tonnes of fish is produced annually.

The district has enormous potential for fish farming but this is not being tapped. Fish farming, if effectively packaged and marketed to the various communities, could add to the dietary and economic well-being of farmers especially during the lean farming season.

Livestock Farming</td></tr>
</table>

<table>
<tr><th>Growth Pole
5. Oti River Basin</th><th colspan="2">Observations Administrative Districts Located with the Growth Pole Area</th></tr>
<tr><td></td><td>Nkwanta South</td><td>Nkwanta North</td></tr>
<tr><td></td><td>Moreover, subsistence farming, cultivating very small acreages, is predominant in the District, averaging 2 acres of land per farmer. They also depend on hoes and cutlasses for their farming activities. Mechanized farming is not practiced in the District due unavailability of adequate equipment. The major source of human capital for farming in the District is through family labour. Credit facilities are not available to be accessed by farmers.

Farmers depend mostly on traditional methods of storage resulting in post-significant harvest losses especially during the rainy season due to the poor road network within the District and obsolete storage methods. Agro-processing is largely limited to gari preparation using cassava; therefore about 95% of agricultural produce are sold in their law state. Farmers therefore are unable to derive maximum benefit from their efforts as a result of low prices of produce and high post-harvest losses. In effect, majority of the people fall below the $1.25 per day income bracket

Life Stock and Poultry
The District produces different types of livestock such as cattle, sheep, goat, pigs, and poultry, which are often local breeds.
<table><tr><th>TYPE</th><th>PRODUCING AREAS</th></tr><tr><td>Cattle</td><td>Bonakye, Kabiti</td></tr><tr><td>Sheep and Goat</td><td>Bonakye, Kabiti</td></tr><tr><td>Pig</td><td>Alokpatsa, Bonakye, Ofosu</td></tr><tr><td>Poultry</td><td>Throughout the district, Exotic breeds at Nkwanta.</td></tr></table>
Fishing
Fish farming is carried out on the Oti arm of the Volta Lake in</td><td>Most households rear animals for domestic consumption. There are a few households who rear animals for commercial purposes just to supplement incomes from crop farming and other sources. The major livestock reared in the district are sheep, goats, pigs and cattle</td></tr>
</table>

<table>
<tr><th>Growth Pole
5. Oti River Basin</th><th colspan="2">Observations Administrative Districts Located with the Growth Pole Area</th></tr>
<tr><td></td><td>Nkwanta South</td><td>Nkwanta North</td></tr>
<tr><td></td><td>the District in Kabiti mainly by the migrant Tongus. However, there is the potential to increase its production especially in Brewaniase which is abound in low-lying lands and have regular supply of water body</td><td></td></tr>
<tr><td>Energy related information
–Main existing renewable energy projects in each GP
–Level of access to energy / to electricity (households and commercial) in each GP
–Presence of modern "wood for energy" projects (type and short evaluation) in each GP
–Access to the grid / distance to the grid / grid densification in each GP
–Availability of information on solar / wind / hydro / biomass resources in each GP
–Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP
–Presence of energy driven irrigation systems (numbers,</td><td>Renewable Energy access and use is virtually non-existent.

Access to Energy/Electricity

Wood for energy Majority of households use firewood as an energy source and in limited dependency on kerosene and charcoal

Main and Regional Markets
The proportion of the District population engaged in wholesale and retail trading is just about 4.8 percent. These are basically manufactured products (finished goods) imported. There are a number of major markets, which play important role in the development of agriculture. Vigorous trading activities especially in farming produce take place within these centres, offering producers an opportunity to meet buyers and to purchase inputs. The table below shows some markets in the district

<table><tr><th>MARKET</th><th>MARKET DAYS</th><th>STATUS</th></tr><tr><td>Nkwanta</td><td>Every Monday</td><td>Major</td></tr><tr><td>Kabiti</td><td>Every Wednesday</td><td>Major</td></tr><tr><td>Bonakye</td><td>Every Saturday</td><td>Major</td></tr><tr><td>Brewaniase</td><td>Every Friday</td><td>Major</td></tr><tr><td>Kue</td><td>Every Tuesday</td><td>Minor</td></tr><tr><td>Pawa</td><td>Every Thursday</td><td>Minor</td></tr><tr><td>Keri</td><td>Every Sunday</td><td>Minor</td></tr><tr><td>Kecheibi</td><td>Every Friday</td><td>Minor</td></tr></table></td><td>Renewable Energy access and use is virtually non-existent.

Access to Energy/Electricity
Only four (4) out of over 20 clearly defined communities in the district are connected to the national grid.

Wood for energy Majority of households use firewood as an energy source and in limited dependency on kerosene and charcoal

Main and Regional Markets
The district has five (5) major market centres located at Kpassa, Sibi, Damanko, Tinjase, and Nabu. The unfortunate issue about these market centres is that, most of them operate effectively on the same day of the week. This limits the opportunity of producers and traders to send their products/wares to as many of the markets as possible within a week. This situation minimises sales of traders as well as revenue base of the Assembly.

The markets do not have adequate essential structures such as stores/stalls, places of convenience and sanitary equipment. Thus, the poor infrastructure base of these market centres coupled with the same market days phenomenon does not augur well for the development of the district's economy.</td></tr>
</table>

Growth Pole ***5*. Oti River Basin**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Nkwanta South	Nkwanta North
broad classification, type of energy used) in each GP	Cocoa production is a major activity in the district especially in Kechiebi and its surrounding areas. Cashew development is also picking up in the District. Potential exists for large-scale cultivation of these cash crops – cocoa and cashew. **Storage** (Refer to Annex 7 Ware House Locations and Capacity) **Processing** is limited to preparing gari from cassava. Manufacturing is also limited to tailoring, carpentry and block works and gold smiting. The proportion of the population engaged in these activities is about 4.7%. Known natural resources in the District include timber, shea nut and other forest products. Others are clay deposits, building sand, quarrying stones and gravel for roads construction. Presently, these resources do not provide any economic basis for the establishment of manufacturing industries. However, the District offers a potential for the manufacture of agricultural equipment such as cassava graters, various hand tools, water tanks and other agro processing equipment. There is the potential for cassava chips production and gari processing for export. Honey production is gaining currency in this District **Types of Energy driven irrigation systems used** **Limited use of fuel driven water pumps**	***Commerce*** This sub-sector provides employment for a considerable number of people in the district. The major items of trade are agricultural products and inputs, orthodox and herbal drugs, auto-parts, clothing, provisions and petroleum and plastic products. Women dominate the commerce sub-sector in the district. However, their contribution to the local economy is not much felt due to the small nature of their businesses (petty trading). Commerce in the district is an area that has not been fully harnessed for socio-economic development as compared with farming. **Storage** **Processing** Out of the categories of manufacturing industries, only small-scale industries exist in the district. These range from carpentry and joinery, metal smelting, shea butter extraction, automobile fitting, refrigeration repair, cassava processing, cereal milling, bakery, shoe making, tie and dye and batik making to fuel dispensing. These small-scale industries are thriving pretty well in the district. However, access to credit facilities in order to expand them by their owner's remains a problem. **Types of Energy driven irrigation systems used** Limited use of fuel powerd water pumps

Growth Pole *5*. **Oti River Basin**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Nkwanta South	Nkwanta North
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	**Water and Sanitation** Currently, potable water coverage in the district is just about 60% which means 40% of the district's population does not have access to potable water sources. **Sanitation** coverage is below 20%. Increasing access to potable water and sanitation is key to achieving health outcomes and sustained poverty reduction. During the plan period the focus of the Assembly will be acceleration of rural water provision with emphasis on guinea worm endemic communities. Improved management of solid and liquid waste throughout the district is also a priority.	**Water and Sanitation**. Sanitation in the district is very poor. The open dumping system of refuse is practised. Apart from the district capital and a few other communities, refuse disposal in other parts of the district is not well managed.
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP	This pole stretches over 4 administrative districts namely Nkwanta South, Nkwanta North, Krachi West and Krachi Nchumuru. **Main Roads (Trunk Roads)** The main trunk road that spines through Nkwanta South and North district is the National route N2. Various sections of the N2 have been constructed. Construction of sections around Brewaniase towards Nkwanta is on-going. The N2 stretch from Nkwanta through Kpasa to Oti Damanko is untarred. From Oti Damanko the trunk road then deviates from the N2 southward onto regional	

Growth Pole *5*. **Oti River Basin**	Observations Administrative Districts Located with the Growth Pole Area Nkwanta South	Nkwanta North
– Quality of secondary roads in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	trunk through Wulunsi, Kpandai, Dodoikpe (or Nandi), Borae to Kete Krachi. There is an offshoot from the main trunk road at Dodoikpe to Dambai ferry crossing point. The other trunk road in this pole is from Dambai to Nkwanta. About 85% of the trunk roads are unpaved and are partially engineered and the road condition very poor. Yam farming and trading is very vibrant on the entire trunk road corridor because most of the major market are near the road. **Secondary Roads (Feeder Roads)** The state feeder road network per the districts within the pole is as summarized below: **Nkwanta South:** Only 2km of the feeder roads are tarred. The feeder road network is 484km with breakdown as follows: • Engineered Roads – 230km • Partially Engineered – 150km • Non-Engineered – 104km The road condition of the engineered roads is 29.5% good; 52.2% fair; 18.3% poor. Feeder road links which are of priority to the district are as follows: 4 Nkwanta – Kue 5 Nkwanta – Shire 6 Agou Jct – Kabite –Bonache Most of the feeder roads have drainage challenges, cutting off most farming communities to markets during the wet seasons. **Nkwanta North:** The feeder road network is 215k with details below: • Engineered Roads – 105km • Partially Engineered – 50km • Non-Engineered – 60km Challenges are similar to that of Nkwanta South. **Krachi West:** Most of the feeder roads in this district are in fair condition as a result of regular reshaping and spot improvement being carried out by DFR. But water transport for communities on island villages is a big challenge denying them of access to markets. These communities are always at the mercy of middle market women. These island villages contribute about a third of the total crop production of the district.	

Growth Pole *5*. **Oti River Basin**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Nkwanta South	Nkwanta North
	Krachi Nchumuru: All the road in this district are feeder roads except the regional trunk road (R26) from Borae junction through Chinderi to Grubi (Lake Point). The trunk road is not engineered and its standard is not different from the feeder roads in the district Access to farm gate and market is a big challenge due to the very poor condition of the feeder roads. Most of the access are tracks and earth roads. This problem has reduce most of the bargaining power of the farmers. **Krachi East:** Has 280km of feeder roads. 80km is engineered and 90km – partially engineered and 110km is non-engineered. A total of 60km are tracks and unclassified by DFR but being maintained by the district assembly.	

Growth Pole 5:.Oti River Basin	CONCLUSIONS AND RECOMMENDATIONS
Observed Agricultural Potential of the Growth Pole **1. Agriculture** **2. Energy** **3. Water** **4. Transport and logistics**	– **Agriculture (Refer to** **The Growth Pole is agrarian with minimal activities of secondary and tertiary sectors. Agriculture is rain fed in the district and characterised by the use of outmoded farm implements and cultural practices. However, the district has high potential for agroprocessing, which is yet to be tapped. The structure of the local economy is skewed towards agriculture, which employs about 70% of the district's working population. Next to agriculture is the service sector that accounts for almost 26% of the working population. The industrial sector, which is dominated by small-scale industries, forms approximately 4% of the working class. Although the district has great potential in agro-processing, the weak nature of its industrial sector remains a constraint to the balanced development of the district.** – **Energy** **Majority of the households use firewood as the main source of energy** – **Water** **Water coverage is about 60% with sanitation coverage in the region of 20%** – **Transport and logistics** This pole has a high potential for Tourism and yam value market. The transportation input of the yam value chain must be examined and improved. It has the potential to be the bread basket of Ghana
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **1. Agriculture** **2. Energy** **3. Water** **4. Transport and logistics**	– **Agriculture** The development problems identified are : • High cost of agriculture inputs • Inadequate extension officers • No mechanized farming • Inadequate credit facilities • High post-harvest losses • Lack of storage facilities • Lack of agro-processing industries • Lack of dams dry season agriculture and aqua culture General Problems in Agricultural Sector

Growth Pole 5:.Oti River Basin	CONCLUSIONS AND RECOMMENDATIONS
	The major problems confronting agricultural development in the District include the following: **Crop farming** 1. Limited capital for expansion of farm sizes 2. Low levels of modern farming technologies 3. High prevalence of pest and diseases 4. Limited access to tractor services 5. Bad access roads linking farm settlements to market centres 6. Over reliance on rain fed agriculture 7. Lack of appropriate storage facilities 8. Low access to agricultural extension services 9. Low prices for farm produce 10. Limited access to credit facilities. **Life Stock Rearing** • High prevalence of diseases including: new castle disease, foot rot and anthrax • Low access to veterinary services • Inadequate information on poultry and animal rearing as a commercial activity **Fishing** 1. Depleting stock of fish in the river leading to poor harvest (especially during dry season) 2. High cost of fishing inputs 3. Lack of storage facilities – **Energy** – **Water**

Growth Pole 5:.Oti River Basin	CONCLUSIONS AND RECOMMENDATIONS
	Transport and logistics The trunk road system should be upgraded to reduce the turnaround time to the farm gates and the markets Bad nature of feeder roads • Bad nature of the Dodo-Pepesu-Nkwanta section of the N2 highway must be reconstructed. Several identified tourists attractions have however been discussed and considered as potentially viable and expected to be subsequently developed in due course including the following**:** 1) The Volta Lake (Beautiful scenery along the lake). 2) Islands and Islets (Water Bodies for cruising and sports; over forty islands and islets with breathtakingly beautiful natural scenery. Some are inhabited). 3) Game Reserves **(**Several game reserves with various endangered species of plants and animals presenting nature in its wild and undisturbed state, sights that can hardly be replicated anywhere else in the world**).** 4) Dente Grove (Shrine) at Kete Krachi 5) Old Dente Shrine (Shrine) at Kete Krachi 6) Cluster of Islands (Near Kete Krachi) 7) Dente Akwanbo (Nanaba) Festival (Traditional festivals By Krachi Traditional Council) 8) Remnants of the German Colonial Administration Block (Kete Krachi Lakeside

7.6 Growth Pole 6: Fumsi Valley

Growth Pole 6. **Fumsi Valley**	**Observations Administrative Districts Located with the Growth Pole Area**
Profile	The Wa East district was curved out of the former Wa district in 2004 by L.I. 1746 in July 2004. The district is located in the south eastern part of the Upper West Region with Funsi the district capital. The district shares boundaries with Mamprugu Moaduri to the northwest, West Gonja district to the southeast and Sissala district to the north. It has a landmass of about 3,196.4 Km^2 and located between latitudes 9°55'N and 10°25'N and longitude 1° 10'W and 2° 5'W. There are four major ethnic groups in the district; Wala, Sissala, Chakali and Dagaaba/Lobi. The dominant religion is Islam (70%), Christianity (10%) and Traditional Religion (20%).
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview** Agriculture and small-scale agro-processing accounts for over 90% of economic activity in the district. **Population Overview** The population of the district per the Ghana Statistical Service Census of 2010 indicates a population of 72,074 with a household size of 6.6 and all the indigenes classified as living in a rural area. **Geographical Overview** The climate is similar to what exist in all the other districts in the Upper West which is savannah grassland with unimodal rain from May to October. Temperatures are all year round reaching its peak in March/ April at an average of 42° Celsius and a low of 22° Celsius between December and January during the peak of the harmattan season. The vegetation is made up of shrubs, shea nut, baobab, dawadawa and acacia trees. There is a game reserve the Ambalaara located within the district. The soils are mainly sandy loamy and suitable for production of cereals and legumes. The district has the Kulpawn river running through with its numerous tributaries which offer irrigation potential.
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities	**Key Government Agencies** There is an established district assembly with offices. The district heavily rely on the Wa Municipal Assembly for some technical areas such as road engineering. **Relevant Programs by Donors** There are a number of program implemented in water, health and sanitation. Also, the district has a number of donor projects being implemented in the areas of agricultural value chains, capacity building and support services to actors along these selected value chains such as USAID Advance Project. The following donors are active in the district:

Growth Pole 6. **Fumsi Valley**	**Observations Administrative Districts Located with the Growth Pole Area**
(DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	• USAID • CIDA • IFAD/AfDB • AFD • GIZ • World Bank **Relevant NGOs** IFDC **Relevant Financial Institutions** There are no financial institutions in the district. There is a credit union operating in the district capital and not accessible to other parts of the district. **Relevant Local Companies/Outgrower Schemes** Masara N'arziki works with smallholder farmers' engaged in maize production in the district.
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP	**Main Local and Regional Markets** Most of the crops produced are sold to traders coming from Tamale and other large towns in the region with Fumbisi the main market in the district. **Main type of crops and livestock farmed** The main crops grown in the district are sorghum, groundnuts, cowpea, maize, rice and soya bean. The total arable in the district is estimated at 78,600 hectares with about 20% currently being utilized[13]. These crops are grown during the rainy season. Agriculture is basically on a subsistence level with smallholder farmers representing the main users of agricultural land. The predominant type of farm labour is from the immediate family (man, wife or wives and children). There are however periods where

[13] Sourced from the District Strategic Plan

Growth Pole 6. **Fumsi Valley**	**Observations Administrative Districts Located with the Growth Pole Area**
– Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – -Numbers of farmers and agro businesses (number and broad classification) in each GP	farm labour is hired to supplement family labour. Animals reared include cattle, sheep, goats, pigs, local birds and domesticated guinea fowl.
Energy related information –Main existing renewable energy projects in each GP –Level of access to energy / to electricity (households and commercial) in each GP –Presence of modern "wood for energy" projects (type and short evaluation) in each GP –Access to the grid / distance to the grid / grid densification in each GP –Availability of information on solar / wind / hydro / biomass resources in each GP	**Energy** Majority of households use firewood as an energy source and in limited dependency on kerosene and charcoal. **Access to National Grid** Access to the national grid is about 60% coverage of the district.

Growth Pole 6. **Fumsi Valley**	**Observations Administrative Districts Located with the Growth Pole Area**
– Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	**Irrigation Facilities** Though predominantly an agricultural district, the district lacks irrigation infrastructure to support dry season farming. Whilst there are potential irrigation sites, there are no studies conducted to evaluate their potentials. **Water and Sanitation** Though there has been intervention in the water sector, there is still more work to be done. In the main, there as of date 149 boreholes, 12 hand dug wells with pumps and 2 small town water systems. Sanitation systems are poor and inadequate in the district with most people resorting to open fields as toilets.

Growth Pole 6. **Fumsi Valley**	**Observations Administrative Districts Located with the Growth Pole Area**
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads – in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	**Main Roads (Trunk Roads)** There are no trunk roads in this district. **Secondary Roads (Feeder Roads)** There is no established outfit to see to the regular maintenance of feeder roads as there is no engineered road. Most of the tracks and earth routes are graded and reshaped by the district assemblies. The Regional Manager of DFR has oversight over the roads in the pole. There is no plan for the systematic development of the road network in the pole. This pole was part of the area previously referred to as overseas. It extends eastwards to the Sisili Kulpawn valley into the Mamprugu Moaduri District. There is no direct link between Growth poles 1 and 6. One can only access pole 6 from pole 1 by detouring north-west to Fumbisi-Sandema-Chichuliga, then drive back eastward to Tumu and then descend southwards through Walembelle to Funsi. The most economic route to the Regional market at Wa from Funsi through Katua is hampered by lack of bridge on the Kulun river. Currently Wa can only be accessed through Wahabu and then along the Gbele Game Reserve to Fian then back Tumu-Wa trunk road to Wa. There is no programme to address the transportation needs of this pole. However, the most important and priority feeder road links needing immediate attention to open up the pole and make it production areas accessible are: o Funsi – Kunlun-Katua-Bulinga-Wa o Funsi – Wahabu-Kojopare-Fian o Funsi – Duu-Baayiri-Wa

Growth Pole 6 : Fumsi Valley	CONCLUSIONS AND RECOMMENDATIONS
Observed Agricultural Potential of the Growth Pole **13. Agriculture** **14. Energy** **15. Water** **16. Transport and logistics**	**Agriculture:** Area has large arable area suitable for production of cereals. **Energy:** Energy coverage/access to the national grid is very low. **Water:** The district has a number of tributaries of the Black Volta which has irrigation potential. **Transport and logistics:** In order to realise the full potential of this pole. The road network between growth poles 1, 2 and 6 must be tackled as a composite project. This will open up the entire corridor between Wa-Funsi-Yagaba Mishuo Walewale (IR11). This will facilitate consolidation of the agricultural output from the three poles as they produce the same types of crops The feeder roads feeding IR11 from the villages and the farm gates will have to be developed alongside that of IR11 The trunk road from Navrongo to Fian (R181) together with IR11 are the most important trunk road that must be developed as priority to open up the entire overseas area
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **13. Agriculture** **14. Energy** **15. Water** **16. Transport and logistics**	**Agriculture:** Good road network and development of irrigation schemes will help realize the potential of the area. **Energy:** Expanding access to the national grid for most of the communities in the district. **Water:** Feasibility studies will be required to assess the potential of irrigation schemes in the district. **Transport and logistics:** A common road programme need to be developed comprising trunk and feeder roads for growth poles 1, 2 and 6.

7.7 Growth Pole 7: Kabaka Gorge

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
	The Kabaka Gorge straddles the Pru District and East Gonja District which is repeated here for ease of reference	

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
Profiles within the selected growth poles (GP) **Adjoining districts 2- East Gonja; ; Pru**	The East Gonja district lies between Lat. 8°N & 9.29°N and, Long. 0.29E & 1.26°W. It shares boundaries with Yendi and Tamale districts to the North, Central Gonja District to the West, Nanumba-North and Nanumba-South Districts to the East, and the Brong Ahafo Regions to the South where the **Kabaka Gorge is located** The total land area of the district is 10,787 sq. kilometres, occupying about 15.3% of the landmass of the Northern Region. The district comes first in terms of land area (size) among the districts of the Northern Region.	**Pru District** Lies between latitudes 7o 50' N and 8o 22' N and longitudes 0o 30 W and 1o 26'W. Land Area is 2,195km2 representing about 5.6% of the total land surface of the Brong Ahafo Region, and adjoining 6 Districts: East Gonja District to the North (N/R) Sene District to the East Nkoranza and Atebubu-Amanten to the South Kintampo North and Kintampo South to the West.
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview:** The income levels are generally low and irregular over the year. The greater proportion of the people is either engaged in subsistence agriculture, small-scale industries or petty trade. Incomes of this category of people are usually irregular or seasonal. The average earnings of these smallholders and other low income earners ranges between GH¢35 and GH¢100 p.a. The medium and higher income group earn between GH¢100 and GH¢200 per annum. A significant proportion of the population of the district, over 75% is living below the lower poverty line of GH¢90 (or approximately $120 US) per annum. The general poverty level in the northern region is estimated at 69.2% **Population Overview** The 2000 Population and Housing Census put the population of the East Gonja District at 174,500 (Special Reports) and it is currently estimated at 197,932 using an annual rate of growth	**Economic and Social Overview** Agriculture (farming, fishing and fishing related activities) and related commerce/trading are the main economic activities in the District. About 65% of the economically active population is engaged in Agriculture. Average farm size is a hectare per farmer, The crop sub-sector accounts for 50% of agricultural activities while Fisheries and Livestock accounts for 30% and 20% respectively. Extension officer/farmer ratio is 1:4.065. Nearly every household in the District is engaged in farming/fishing or an agricultural related activity. Farming in the district is largely carried out on small scale basis. The average cultivated land ranges between 4 – 6 acres for all crops. Despite its importance in the district economy, much of the agricultural potentials in the district remain unutilized. For instance, out of the total of **22,261 hectares** of arable land only **3,167 hectares** is currently utilized.

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
	2.1% per annum. The district's share of the total population of the Northern Region is 9.67%, second after the Tamale Municipality. The total population of the Northern Region stood at 1,820,806 (as at 2000). The district's population growth rate is 2.1% (1984-2000), lower than both the regional and national averages of 2.9% and 2.5% respectively. The growth rate for the 1970-1984 Censual periods was 3.9%, which indicates a significant decline in the growth rate of the population 2.1%. This relatively low population growth rate could be explained by increased out-migration from the District combined with modest success of population control and education measures of the Ministry of Health **Geographic Overview** – The natural vegetation in the district is the Guinea Savannah Woodland, which has evolved from climatic conditions and modified substantially by human activities. There are few grooves, which have been preserved over the years – The district has a number of large water bodies that flow throughout the district. These include the Volta Lake and the Dakar River both of which run across the district. A number of streams, dams, valleys, hills and mountain are also found at various locations in the district, as part of the natural environment.	Yeji, the District capital is also noted as the largest inland supplier of smoked/salted fish, cattle and other food crops in the district. The fish market serves as the main backbone of the Assembly's revenue. The District is less developed in the industrial sector. Small-scale vehicles repairs, metal-based industries and the manufacturing of farm implements/inputs currently characterize the sector. The sector employs only about 10% of the economically active population The service industry over the year has witnessed expansion especially in the areas of trading, telecommunication and retail, shops and bars. The income levels of the households in the districts vary widely. This is because there is a mix of very high-income earners as well as very low-income earners. The average annual income for an average household size (4 people) is about GH¢782.45. This translates into an average per capital annual income of GH¢195.61 Sixty-six (66%) of the people earn their income from agriculture related activities, seventeen (17%) form Service Sector, 13% commerce and 4% industry. Income levels are generally low throughout the district as compared to the national average income for head of $390.00. **Population** 129,248 (2010 population census) of which Male 65,832 and Female 63,416 (Source – PDA) with a growth rate of 3.6%. Population Density is 42.8 person/km. Labour force

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
	–The confluence of the Volta and some of its major tributes including the White Volta and the Dakar River are found in the district. There is good flow of water from these rivers, which are collected and stored in the Volta Lake. This provides the potentials for water transport, irrigation development and fishing activities.	52.8% (readily available) Age dependency ratio 1:0.84Economic dependency ratio 1:1.26, Rural –Urban Split 66.9:33.1, Average household size 5.6, Average annual income GHc288.00 **Geography Topography and Drainage** ; Generally plain with rolling and undulating land surface, land elevation is between 60m -300m above sea level. Highest point is a little over 300m above sea level. Falls within the Voltaian basin. Major water bodies: Volta lake, Pru River, Nyomo, Tanfi and Nwansi. Rivers flows through West of the District. Area is well drained. Drainage is generally dendritic. **Soils** Good soils developed under Savannah vegetation. Belong to the "ground water lateric soil" Formed over the Voltaian shale and granite. Classified under the Damango-Murugu/Ejura-Seni compound. Kowani-Kasele/Kpelesawgu-Limo compound, and Kpalsawgu-Changnaili-Lima compound associations. Compound associations are fine textured, ranging from fine sandy loams and mostly poorly drained. Soils are agriculturally important and support cultivation of yam, cassava, maize, rice, groundnuts, garden eggs, okro, tomatoes, and pepper. **Climate** District experiences the tropical continental or interior savannah type of climate, which is a modified form of the tropical continental or Wet-semi equatorial type. District lies within the Transitional zone between the two climatic regions in Ghana. Major rains occur between July and October, Minor rains: between April - June,; Annual rainfall is between 1400mm - 1800mm with a mean monthly temperature range from 30 0c to 24 0c. Mean annual temperature ranges between 26.5 0c and 27.2 0c with the hottest months in March and April (30 0c – 40

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
		0c). District falls under the influence of North-East trade winds (harmattan) Prolonged dry season between November and March ending around April
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	**Partners Programs** The following Non - Governmental Organizations, Civil Society Organizations and Community Based Organizations are operating in the District: – Catholic Relief Services; Education and Health – Adventist Dev't & Relief Services; Agro-forestry – IBIS; Local Governance – Presbyterian Primary Health Care; Health – Catholic Primary Health Care; Health – FAME; Health – SEND Foundation of West Africa; Food Security/Health/Advocacy/Income generation – Management Aid (MAID); Micro-Credit – Juxtopose Integrated Dev't Assoc. Water/ Health/ Income gen – Abranyo Youth Dev't Assoc. Education/Health/Income – PENORUDA; Water/Health/Income gen. – Technoserve; Agribusiness. – EGOGSA/EGOWEF Independent Dev't. Org. (IDO); Water & Sanitation, Reproductive Health; – JICA and USAID - ADVANCE **Relevant Financial Institutions** Presently, the District is served by only one bank, the Ghana Commercial Bank, whose coverage is mainly limited to Salaga and its environs. Savings	**Donor programs** reported include: – Livestock Development Project (LDP) – Northern Rural Growth Programme (AfDB) – RTIMP – Block Farming (MOFA) The external revenue sources for the district are mostly grants from Central Government royalties and development partners namely IDA ADF, DFID, GTZ, Danida, JiCA, EU, and NGOs **Relevant Financial Institutions** The Pru District can boast of one commercial bank (Ghana Commercial Bank), two rural banks (Yapra and Amanten-Kasei Rural Banks) and five credit unions operating micro-finance schemes namely, Yeji Community Co-operatives Credit Union, Brong-Ahafo Catholic Co-operative Society for Development (BACCSOD), Super Nick Micro Finance, Yeji Progressive Co-operative Credit Union and Mawunyo Susu and Micro Finance Scheme. All these financial institutions are concentrated only at the major communities like Yeji, Prang, Sawaba/Parambo, with agencies of the Yapra Rural Bank located at Abease.

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
	rate are extremely low and the volume of bank loans to support investments is extremely negligible. The main funding sources available to the District Assembly include: – Internally Generated Fund (mainly rate funds) – HIPC Relieve Funds – DACF – District Development Facility Fund (DDF) – Other GOG (mainly for personal emolument and FE's) – Support from Development Partners (EU, DWAP, CIFS, DFID, IBIS, CBRDP, UNICEF, WHO, CCFC & NORPREP)	
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land	**Main and Regional Markets** **Current Production** **Crops** Agriculture is the predominant economic activity and it employs over 81.8% of the economically active labour force (*2000 PHC Reports*) in the East Gonja District. Crops produced are mostly roots and cereals. Average Yield, Major food crops in metric tons/ha (2009) are: maize 9.33mt/ha: Yam 18.33 Mt/ha; Rice 4.5mt/ha; soya bean 5.33mt/ha; groundnut 3.00mt/ha; cassava 3.5mt/ha; with a food balance of 19,500 MT Even though the table the District seems to be doing well and there is huge food balance from 2007 to 2009, there is still the problem of food security. This is largely due to high post-harvest losses and types of food items available resulting from the reliance on a	**Markets** Pru district trades with various marketing centres nationwide. Key districts that trade with Pru are Kumasi Metropolis, Techiman Municipal, Kintampo North Municipal, and Sunyani Municipal. Commodities that flow from Pru to its trading partners are basically agricultural produce. Usual produce are yam, cassava, charcoal, fish, cattle and sheep. On a usual market day, these items are sold to buyers from all over West Africa. **Intra District Trade** There is a high degree of internal trade among communities in the Pru District. This is so because many small communities do not offer marketing opportunities for farmers who want to exchange their produce for money in other to purchase other consumables.

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
– (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – – - –	single rainfall regime that is very erratic. The average yield per hectare of food crops is most favourable for the roots and tubers (cassava and yams) **Livestock Population** is reported in (2009) as cattle 70,132; sheep 36,890; goats 56,000 and local birds 120,000 **The soils** in the district are classified into three major grouping. These include: Alluvial soils classified as Glysols, which are found around the Volta Lake, particularly in the drawn-down zone of the Volta Lake, in the dry season. The soils along the Lake are medium textured and moderately well drained in parts. The soil is potentially fertile. The bulk of the district is covered by **ground water laterites**, developed mainly from Voltaian Sandstone materials, highly concretionally with frequent exposures of iron pan and boulders. There are, however, deeper and slightly better soils in some locations, which could support shifting cultivation patterns. Any development should include maintenance of vegetation cover to prevent soil erosion. The other major soil group is the relatively fertile Savannah Ochrosols. This soil group is moderately well drained with good water retention. It occupies the Northern tip of the district bordering Tamale district and the south-eastern section of the district **Numbers of farmers/agribusinesses**	Major trading centres are Yeji, Prang, Parambo/Sawaba and Zabrama. They offer varying degrees of marketing opportunities for all market players. Usually the relationship is such that people from remote rural areas and overseas communities bring their fish and agricultural produce to Yeji and other marketing centres and in exchange purchase consumables, spare parts and inputs back home. The strategic location of the district (just on the edge of the Volta Lake) makes it ideal for trade in general commodities, which are basic to human survival. Vehicles from the southern sector to northern sometimes use the route through to Salaga and to Tamale. Distance from Kumasi to Tamale through Yeji is very short compared to Kintampo to Tamale. However, the poor road network from Mankago through Salaga to Tamale needs to be seriously rehabilitated if the District really wants to fully achieve its potentials. Also the pontoon needs to be replaced or an additional one acquired to facilitate travel across the Volta Lake **Current Production** **Crops;** The District lacks major plantation crops, however improved Mango, Cashew and Teak Plantations are being established in the District. E.g. Yeji, Prang and Abease areas The soils in the area favour the production of a variety of crops. Crops currently grown in commercial quantities include Yam, Cassava, maize and Rice. Major production centres include the Prang Abease corridor, Kadue, Adjaraja Beposo, Parambo/Sawaba and Yeji. However, others such as sorghum

<table>
<tr><th>Growth Pole
7. Kabaka Gorge:</th><th colspan="2">Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7</th></tr>
<tr><td></td><td>East Gonja</td><td>Pru</td></tr>
<tr><td>–
–
–
– Numbers of farmers and agro businesses (number and broad classification) in each GP</td><td>– No large aggregators operate within the district. The collapse of the rice industry is attributed to the lack of combine harvesters resulting in loss of produce due to fires. The USAID ADVANCE project is working in the district to reorganize the value chain.</td><td>and cowpea are also cultivated. Major vegetable cultivated are tomatoes, pepper and okro
▪ Main farming practice is shifting cultivation on mono and mixed cropping bases.
▪ Farmers depend mainly on rainfall.
▪ Bulk of agricultural produce is sold unprocessed.
▪ Average farm size is 5ha with some operating between 12-15ha under rain fed conditions;

DISTRICT CROPPED AREA AND PRODUCTION LEVEL - PRU - 2012
<table>
<tr><th></th><th>CASSAVA</th><th>YAM</th><th>MAIZE</th><th>G. NUT</th><th>RICE</th></tr>
<tr><td>Total Cropped Area</td><td>4,362</td><td>9,120</td><td>5,213</td><td>2,109</td><td>4,101</td></tr>
<tr><td>Ave. yield Mt /ha</td><td>25.3</td><td>15.3</td><td>2.4</td><td>3.3</td><td>2.8</td></tr>
<tr><td>Production 2012</td><td>110,359</td><td>139,536</td><td>12,511</td><td>6,959</td><td>11,482</td></tr>
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<u>Animal husbandry/poultry production</u> The livestock sub-sector recently assumed a major lead in agriculture in the District with the establishment of a major livestock market at Yeji. Major species of animals reared in the District include Cattle, Sheep and Goats. With the help of the recently ended Livestock Development Project, some livestock farmers actually raised their status by raising animals as a business venture and no more a hobby. Sundays and Mondays are the market days of the vibrant livestock market at Yeji. The table below shows results of recently conducted livestock census in 2010.</td></tr>
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Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru

CATTLE	SHEEP	GOAT	PIG
16,948	10,640	10,393	2,259

Source: DADU- PRU- VETERINARY

1.0.0.1 Process Fish Production

1.0.0.2 Yeji is popularly known for the production of fish. The fish industry provides jobs for about 46.3% of the people in the district either directly or indirectly in the areas of fishermen, fish mongers and traders The total processed fish (smoked & salted dry), captured as fresh fish weight equivalent that passed through the Yeji weekly Market by the 3rd quarter of 2010 was 2,529mt plus as shown in the table below. The Yeji Artisanal Fisheries Station is one of the three Cost Centres under the Fisheries Commission of the Ministry of Food and Agriculture. The Station is constituted of three (3) main units:

1) **Fisheries Management Uni**t (MIU) i) To collect and analyse fish catch and resource data in order to assess the current resource situation. ii) Make recommendations to the Director of Fisheries Commission to assist in the development of policies in relation to the Lake Volta

2) Fisheries Development Unit (FDU) i) To provide extension services **ii)** Monitor fish quality **iii)** Improve processing techniques **iv)** Introduce income generating activities e.g. bee keeping batik making, soap making, grass cutter rearing etc.

<table>
<tr><th>Growth Pole
7. Kabaka Gorge:</th><th colspan="2">Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7</th></tr>
<tr><td></td><td>East Gonja</td><td>Pru</td></tr>
<tr><td></td><td></td><td>3) Aquaculture Unit i) Ensure appropriate inputs for aquaculture operations, especially with regards to the quality of fish seeds (fingerlings) and fish feed ii) Provide education and training iii) Strengthen extension and outreach services. There are over 88 fishing communities in the district.

<table>
<tr><th>Fish Species</th><th>Wt. Kg</th></tr>
<tr><td>Alestes</td><td>45,946</td></tr>
<tr><td>Bagrus/Aucheng</td><td>43,079</td></tr>
<tr><td>Chrysichthys</td><td>1,043,416</td></tr>
<tr><td>Citharinus</td><td>10,134</td></tr>
<tr><td>Clarias</td><td>27,659</td></tr>
<tr><td>Cynothrissa</td><td>349,320</td></tr>
<tr><td>Distichodus</td><td>2,444</td></tr>
<tr><td>Gymnarchus</td><td>264</td></tr>
<tr><td>Heterotis</td><td>5,614</td></tr>
<tr><td>Hydrocynus</td><td>5,177</td></tr>
<tr><td>Labeo</td><td>89,697</td></tr>
<tr><td>Lates</td><td>389</td></tr>
<tr><td>Mormyridae</td><td>10,442</td></tr>
<tr><td>Schilbeidae</td><td>28,759</td></tr>
<tr><td>Synodontis</td><td>140,244</td></tr>
<tr><td>Tilapia</td><td>726,803</td></tr>
<tr><td>Total</td><td>2,529,387</td></tr>
</table></td></tr>
<tr><td>Energy related information
–Main existing renewable energy projects in each GP
–Level of access to energy / to electricity (households and commercial) in each GP</td><td>Renewable Energy access and use None was reported or observed.

Access to Energy/Electricity Communities on the Kabaka Gorge side of the district have not been connected to the grid</td><td>Renewable Energy access and use: None was reported or observed

Access to Energy/Electricity Only 10 out of a reported 230 communities have been connected to the grid</td></tr>
</table>

Growth Pole **7. Kabaka Gorge:**	**Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7**	
	East Gonja	Pru
– Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP – Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	**Wood for energy** **Storage and processing facilities** **Types of Energy driven irrigation systems used:** No irrigation systems reported	**Wood for energy** major sources of energy for lighting in the communities in the District are Electricity, Kerosene, Lamps, Flashlight/Torch light, Firewood and Candles. That for looking on the other hand includes firewood, charcoal, kerosene, crop residue and Liquefied Petroleum Gas (LPG). **Storage and processing facilities** Seven Warehouses are reported to exist in the district. This is although a maize producing district their service provider is located at Atebubu. Limited mechanization services and absence of processing facilities puts a damper production on prices. No temperature controlled pack houses for the current surge in mango production. No organized storage facilities exist for fish either. They are trying to introduce fish cage production to address the diminishing fish stocks. They believe that the construction of the Bui Dam is impacting fish levels in their area of operation. They believe that a programme to replenish fish stocks is a very necessary need. **Types of Energy driven irrigation systems used:** None reported

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	**Irrigation** The district lies at the confluence of the Volta and some of its major tributes including the White Volta and the Daka River. There is good flow of water from these rivers, which are collected and stored in the Volta Lake. This provides the potentials for water transport, irrigation development and fishing activities. There is currently no irrigation system deployed in the district. **Water** East Gonja District has 184 functioning boreholes with hand pumps (out of 201), 16No. Hand-dug wells (HDWs) with hand pumps and 1No. Small town system with 65 public stand pipes serving Salaga town as well as Sisipe, Kalande and Nkwanta. **Point sources**: Through the interventions of EU/AFD and of course RWSP/DA, 40 boreholes were drilled between 2007 and 2009, to bring the total number to 167 for the district. **Sanitation Facilities** Between 2007 and 2009, 264 household latrines were provided to augment the 153 that were in existence. Currently, 350 latrines are under construction throughout the district. Ten (10) institutional latrines were constructed in year 2009 Out of the 46.5% safe water coverage for East Gonja District, boreholes alone account for 23%. What is worth mentioning here is, almost all of these boreholes are found in the now Kpandai district where the ground situation is most favourable for it. This skewed distribution of safe water correlates with guinea worm prevalence in the district.	**Irrigation** The district's irrigation potentials also remain unexploited. Nothing concrete has been done to develop irrigation potentials that have been discovered in about six (6) localities. Currently practicing drawback irrigation for rice and vegetable production during the dry season **Water supply** Only the district capital currently enjoys pipe born water with scanty scattered boreholes for other communities. The main sources of drinking water in the urban and peri-urban settlements are pipe borne water (Yeji only), boreholes, and unprotected wells whilst boreholes and unprotected wells, rivers and streams are dominant sources in the rural areas. Data from the 2000 Population and Housing Census report indicates that 32.6% of the people had access to safe drinking water in the district. But with the construction and completion of a Small Town Water Supply System in Yeji, the proportion of people with access to safe water was improved to about 48%. Generally access to safe water is low in the rural communities. About 60% of rural localities do not have access to safe drinking water, whilst this figure is somehow low in the urban communities. In localities where rivers and streams are the major sources of water, there may be serious health implications for the people **Sanitation Facilities** Open dumping is the main method of refuse disposal. About 96.2% of the localities use this method. There are a few refuse

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
	–	disposal sites but they are found mainly in the two urban settlements (Prang and Yeji). The 2000 Population and Housing Census indicated that 48.16% of the district disposes their liquid waste in the compound, compared to 43.8% who dispose onto the streets or outside the house. The trend has not changed. Most of the communities in the district lack proper sewage system. Only 0.9% disposes their liquid waste through sewage system whereas 6.3% are disposing in gutters on open drains. In Yeji, food vendors for some time now have been seen disposing all forms of liquid waste in open drains and gutters bordering roads which serve as potential breeding grounds for mosquitoes and other household pests
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP	**Main Roads (Trunk Roads)** The only trunk road in the pole emanates from Kintampo, through Zambrama Abease to Prang (IR9) then turns left to Yeji. The trunk road IR9 will need a major rehabilitation. The road development is not consistent as tarred are interlaced with gravel section in very poor condition The section from Prang to Yeji (IR4) is a first class road constructed by Interbeton and funded by credit facility from the Netherlands Government. The Mampong –Ejura-Gyato Zongo-Prang- Yeji trunk road also enters the pole. **Secondary Roads (Feeder Roads)** The feeder roads within this pole need improvement as most of them are in poor condition. The most important feeder road serving the agriculture production area in the pole are as follows: - Cheremo – Zabramo - Abease – Kamapa - Cheremo – Kyirimako – Bronikrom - Aboa - Ankaraakoka Most of the feeder roads classified as access leading to the farm gates are non-existent. The pole has only 65km of tarred feeder roads.	

Growth Pole 7. Kabaka Gorge:	Observations Administrative Districts Located Directly Adjacent to the Growth Pole Area 7	
	East Gonja	Pru
– Access to local and regional markets (distance, quality) in each GP	The feeder roads are under the jurisdiction of the Regional office at Sunyani. Currently, restructuring of the Works Department to ensure that maximum attention is given to roads in this area of the pole.	

Growth Pole 7 Kabaka Gorge	CONCLUSIONS AND RECOMMENDATIONS
Observed Agricultural Potential of the Growth Pole **1. Agriculture** **2. Energy** **3. Water** **4. Transport and logistics**	– **Agriculture** The people of Pru District depend to a large extent on core traditional agricultural production to the neglect of other relevant economic areas that can be explored within the agricultural system. The soil base of the district can support a number of products that are being promoted under the non-traditional exports. Pineapples, Mangoes, Bananas and Oranges can be cultivated on large scale in various communities within the District. There exists vast uncultivated tracts of land all over the district and these can be the starting point for the diversification of the economy Aquaculture has a natural potential in the district needs to be further explored and developed to reduce the level of dependence on fishing from the major water bodies **Natural Resource Potentials** Vast arable land — Expansion of crop and livestock production — Agro processing Alluvial Valleys — Irrigation — Large scale rice production Tree species — Woodlots — Herbal Medicine Wildlife — Tourism — Expanded local revenue Natural and historical features — Development of tourist sites — Tourism – **Energy** Adequate sunshine — Solar Energy — Development of cottage industries

Growth Pole 7 Kabaka Gorge	CONCLUSIONS AND RECOMMENDATIONS
	– **Water** Water resources (Volta lake) — Irrigation, Aquaculture — Large scale vegetable and fish production – **Transport and logistics** the development of fishing market hub at Yeji is a big potential. Roads from Salaga to Mankango (IR4) and the improvement of the Kintampo-Prang will complement the existing good Mampong Yeji road. These trunk roads will be need to support the development of the Fish Marketing Hub at Yeji. – **Water as a means of transport** also plays a significant role in the transport system of the district. The use of Pontoon, boats and canoes to convey people and goods on the Volta Lake is very prominent and serves as a major link between the district and the Northern Region. The Akosombo Queen (Ship) which docks at Yeji every Tuesday also serves as a major link between the district and Accra, the national capital
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **1. Agriculture** **2. Energy** **3. Water** **4. Transport and logistics**	– **Agriculture** Agriculture being the mainstay of the District depends mainly on rainfall for production. The existence of the Volta Lake is not fully exploited for irrigation farming during the dry season. As a result the major shock and risk affecting food availability, incomes and wealth accumulation are those that relate mainly to crop, production and fishing. The economic activities that individuals and households are involved in also determine to a large extent the vulnerability they suffer in terms of income stability and asset loss in the District Farm produce which tends to be stored at the farms due to the lack of proper storage facilities are sometimes are burnt into ashes by bushfires. In 2009 a total of 1,258 farmers reported this type of shock. Price-related shocks were also cited. This was reported by the fishermen, farmers, transported operators among others. Due to the fluctuating prices of agricultural produce like maize, yam and cassava and inadequate storage and processing facilities, increased productivity and harvest usually ends up in glut of produce and low prices. . The lack of storage facilities in the Districts compels farmers to sell off their produce immediately after harvest for the fear of produce getting rotten, or any unforeseen hazards, when prices are low. The same farmers are forced to buy back the produce during the lean season, when prices are at their highest levels.

Growth Pole 7 Kabaka Gorge	CONCLUSIONS AND RECOMMENDATIONS
	Pru District has a large fish market that is said to be the 2nd largest market in the Brong Ahafo Region after that of Techiman. However, economic transactions relating to fish and other agricultural commodities in Yeji are carried out on bare floors. There is no well-built market to support such important activities which basically is the backbone of the district. Other important market centres in the district are Parambo/Sawaba, Prang, Zabrama and Abease. These towns except Abease have well-built market infrastructure, which were constructed with the support of GTZ. It is imperative to construct a modern market facility for Yeji Township so as to improve the economic transactions and as well reduce the revenue leakages that result due to the haphazard nature with which trade takes place. There is need to also examine ways of ensuring that raw agricultural outputs and especially perishable ones are properly stored so that the benefits can accrue to the district population. Natural disasters such as perennial flooding and bush fires can also hamper food security in the district. It is therefore necessary to manage disasters effectively to ensure that there is no spill-over that would adversely affect food security. – Improving upon road network and surface conditions to production areas – Support the development of agro-processing and small scale irrigation systems – Provision of storage facilities **Energy** – Increasing the coverage of electricity in the District – Enforcing planning and building regulations – Ensuring safety on the Volta lake – Increase awareness on climate change, good hygiene practices, bushfire and other natural disasters. – Facilitate the construction of a substation

Growth Pole 7 Kabaka Gorge	CONCLUSIONS AND RECOMMENDATIONS
	Water – Improving access to safe and affordable water – Rehabilitate all broken down point sources (boreholes) – Increased involvement of communities in the provision of water and sanitation facilities – Improving access to sanitation and quality of the environment **Transport and logistics** Development of two remaining trunk roads IR4 and IR9 and upgrading of the existing track and earth roads to maintainable standard. – Equipment/pontoon for water transport on the Volta lake – Reduce High risk on the Volta lake as a result of stumps and poor safety measures by boat operators

7.8 Growth Pole 8: Bui Development Area

Growth Pole 8. Bui Development Area	Observations Administrative Districts Located with the Growth Pole Area	
	Bole	Tain
Profiles within the selected growth poles (GP) Adjoining districts Bole, Kintampo North Municipal, Kintampo South, Tain, Wenchi Municipal	**Location and Size** The Bole District used to be part of West Gonja District with Damongo as the Capital. The District has Bole as its capital. Both Districts still remain part of the Gonja Kingdom established in the 17th Century by Ndewura Jakpa. It is also the cradle of Gonja culture with its traditional capital at Nyange, which is located in the present day Sawla Tuna Kalba District. The Bole District covers an area of 4,800sq. km out of the area of 70,384 sq. km of the Northern Region. The District consists of vast lands not presently used either for human habitation or for agricultural activity. However it is believed that at one time or another such lands were put to use for crop production. Until recently the Sawla Tuna District used to be part of the Bole District, The boundaries have therefore been changed and now lies between latitude 8'10 5 and 09' and longitude 1.50 E and 2.45 W. It is located at the extreme western part of the Northern Region of Ghana. The District is bounded to the North by the SawlaTuna Kalba District, to the West by the Republic of Cote D' Ivoire with the Black Volta river being the boundary between the two neighbouring countries, to the East by the West Gonja District, to the south by the Wenchi and Kintampo North Districts in the Brong Ahafo Region. The District extends from Bodi to the North and Bamboi to the south	**Location & Size:** The Tain District is one of the newly created Districts in June 2004, in the Brong Ahafo Region. It is situated at the North West of Sunyani (Regional Capital). It lies within latitudes 7 ½ and 8.45° North and longitudes 2.52°West and 0.28° East. In terms of land area, Tain District covers 4,125 sq. kilometres. The district shared common boundaries with Wenchi Municipal to the East, Jaman North to the West, Sunyani Municipal to the South and Berekum Municipal to the South West. The Bole District of the Northern Region is also bound it to the North East and La Cote d'Ivoire to the North West. Nsawkaw, the district capital is 18 miles from Wenchi, the capital of Wenchi Municipal, which Tain was carved out of. The location of the big towns like Debibi, Brodi, Seikwa and Badu are far away from the district capital, Nsawkaw, and nearer Districts like Berekum, Sampa and Sunyani deprive the district of the needed revenue as the big towns in Tain District transact business with these nearby districts.

Growth Pole 8. **Bui Development Area**	Observations Administrative Districts Located with the Growth Pole Area	
	Bole	Tain
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview** The major economic activities in the district are 1. Agriculture, basically at the peasant level 2. Trading in foodstuff such as maize, beans, rice and other grains, 3. Sand winning mostly for construction work in the district 4. Fishing along the Black Volta 5. Sheanut processing 6. Small scale Mining activities – Galamsey 7. Petty trading such as provision stores In recent times Galamsey mining activities have taken a rather catastrophic dimension considering the sudden increase in population at Kui and Dakrupe and the various activities taking place in these areas. Income levels in the District are generally low and dependent on agriculture i.e. food crop cultivation with the average farm holding of about 2.3 acres. Almost all farming activities are done within six months of the year. Thus a rest period for some farmers when the rains are over, however yam farmers also begin to raise their yam mounts for the next farming season within the same time. As such incomes realized during the six months of crop production is consumed over the entire year. The incidence of poverty is highest amongst food crop farmers with 46% living below the poverty line GHC 90/year. In Bole District virtually all farmers have very low household incomes. **Population Overview** It has an estimated population of about 95, 353, with a population	**Economic and Social Overview** The district could be described as mainly rural, with only five (5) out of the 336 settlements being urban. The district has an estimated population of 112,939 (GSS 2009 Population Projection) with a growth rate of 2.6%. About 50.6% of the total population is males while 49.4% are females and this resulted in a male – female ratio of 1:1.02. The population density in the district is 22 persons per square kilometre (22 persons/km^2). The major occupation in the district is farming, about 80.2% of the total population and the remaining 19.8% are in the other sectors. The district has an average annual income of GH¢1,136.82 and expenditure of GH¢1,305.17. Also there is an average annual household remittance of approximately ¢170.00. **Population Overview** The district has a population size of 112,939 as at 2009 with males being 57,075 and females 55,864 (Source: Ghana Statistical Service –Population Estimates for Brong Ahafo Region-2009). The population has been increasing over the years with a growth rate of 2.6%. The population density in the district is 27.0 persons per square kilometre (22 persons/km^2), which is less than the regional population density of 45.9 persons per square kilometre and the national figure of 49.3 persons/km^2. This low density of the district implies that there is low concentration of people in the district and coupled with scattered nature of settlements make it extremely difficult to provide basic services to the people of the district. There are only five urban settlements and Nsawkaw is the capital of the district. The five urban settlements are Badu with a population of 13,021,

Growth Pole 8. **Bui Development Area**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Bole	Tain
	growth rate of about 3.6%. The population is sparse in nature with a density of 14 per km. It is as a result of factors such as water shortage, tsetse flies, incessant raiding, intensive warfare and epidemics that brought about the present sparsely populated nature of the settlements and the uninhabited lands. However in recent times things are beginning to change with the influx of migrants from the Republic of La Cote D 'Ivoire and the Upper West Region who are mainly migrant farmers in search of fertile lands. The vast and uninhabited lands are gradually being put to use for both food and cash crop production and the population is steadily increasing over the years. Bole is the District capital and is the biggest town in the District. Other major settlements include Bamboi, Tinga, Maluwe, Banda Nkwanta, Jama, Tesilima, Mandari, Mankuma and Sonyo are Gonja traditional settlements. The percentage land take of the District and the Northern Region in relation to Ghana (238,533 sq. km) is 2.0% and 29% respectively. The land take of the District is 6.8% of the total land mass of the Northern Region **Geographic Overview** **Relief and Drainage** The landforms of the District is low lying but gently undulating at altitudes ranging between 150m and 300m above sea level. However some parts average 600m above sea level. The relatively low lying nature of the District coupled with a number of streams imply that dams can be constructed along these rivers especially the major ones	Seikwa (10,471), Debibi (7,318), Nsawkaw (6,342) and Brohani (6,105). The rest of the population may be described as rural with population less than 5,000. **Geographic Overview** **Relief and Drainage** **Relief** The topography is predominantly undulating with gentle slopes of less than 1% inclination. The land generally rises from 30m above sea level to over 61m in the North West, with high evaluations occurring around Banda 592.2m. Apart from the North Western High Land, the others are basins of the tributaries of the Black Volta and therefore low lying. Refer to relief and drainage map. The fairly flat nature of the land and the fact that some land are serving as basins for tributaries of the Black Volta shows that in future the construction of small towns water systems in these areas will not be a problem. **Drainage** Generally, the district is well drained. The Black Volta marks the northern boundary of the district with the Northern Region. The tributary rivers which serve the communities in the district are Tain, Nyampanie .Some of the streams dry up in the dry season. River Tain flow throughout the year. Ground water potential in the district is highly variable. Much depends on the nature of the underlying rock formations and rainfall. The present combination of the lack of water storage in the wet season, heavy run-off, high evaporation and low infiltration rates to charge aquifers in some areas

Growth Pole 8. Bui Development Area	Observations Administrative Districts Located with the Growth Pole Area	
	Bole	Tain
	to supplement the water requirement of farmers during the dry season. **DRAINAGE** The district is drained by, rivers such as the Black Volta, dams streams and dugouts which serve the numerous needs of human beings and animals. **SOILS** There are various kinds of soils in the district that support plant growth. The main types of soils in the district include the savannah ochrosols, the tropical brown earth and the terrace soils. The savannah ochrosols are generally poor in organic matter and nutrient. Bush burning, overgrazing and poor farming practices in the district as a result of the absence of dense vegetation cause this. This means that good farm yield can be obtained with the application of chemical fertilizers and farmyard manure. The tropical brown earth is suitable for mechanized farming and plough farming. Thus supporting farmers with these methods of farming will help improve their production and productivity. The terrace soils occur along rivers and suitable for grain crops and tobacco. However, with the emergence of river blindness, farmers were compelled to move from rivers. Though this may have sustainability advantage to the rivers, the immediate economic lives of the people remain at stage. **Climate and Vegetation** The District is part of the Tropical continental climate, which is characterized by two seasons. The rainfall is seasonal and is characterized by a single maximum. The mean rainfall recorded is average. The second and third quarters of the year generally record the heaviest rainfall and also the greatest	contribute to water deficiencies hampering human settlement and increased agricultural production **Geology and Soils** Geologically, the district is underlain mostly by the Birrimian formation. The area falls under lower Birrimian which consists of such metamorphosed sediments as phyillite and schist. There are also granite and granodiorite in the south east and western parts of the district. The greatest proportion of the district falls under savannah ochrosol with some lithoso. The land is generally low lying and most of the soils are sandy loam and in the valleys loamy soils exist. The soils are fairly rich in nutrients and are suitable for the cultivation of crops such as maize, yams and cassava. There are clay deposits for bricks and the soil supports the cultivation of transitional and forest crops like cashew. The geological and soil formation of the district pose no difficulty as far as drilling for water in the district is concerned. The Birrimian formation makes it conducive for the drilling of water and coupled with the high water table in the district, the success rate in terms of water drilling is almost hundred percent (100%). Also, the soil type is very favourable for the cultivation of yam, cashew and other food crops **Climate and Vegetation** The temperature in the Tain District is generally high averaging about 24.5oC (779oF) throughout the year (Benneh and Dickson, 1970). Average maximum temperature is 30.9oC and minimum of 21.2oC. The hottest months are February to April.

Growth Pole 8. **Bui Development Area**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Bole	Tain
	number of rainy days. These are the conventional type of rainfall, which is mostly accompanied by thunderstorms and squalls. ***VEGETATION*** The vegetation of the district consists of savannah woodland, with trees such as shea nut, Dawadawa, teak, kapok and mango – all economic trees. There are also tall grasses and shrubs. Thorny species are also common. The natural vegetation in most parts of the district especially around the settlements has disappeared. What is seen today has resulted from the interference by man and animals through cultivation, grazing and exploitation for firewood. Beyond the major settlements the grasses are periodically burnt down especially during the dry season to clear the land of much of the vegetation. Grazing by animals has contributed to keeping the vegetation down.	The rainfall is characterized by seasonality, which is a limiting factor in agriculture and plant growth. The district has two main seasons, that is, rainy and dry seasons. The rainy season occurs between April and October with a short dry period in August. The average annual rainfall is about 1,140 – 1,270mm. The district experiences an average of 4 months of rain. However, rivers such as Tain and the Black Volta flow throughout the year which can be dammed to support dry season farming Situational analysis of both primary and secondary data revealed development problems in the district under the various thematic areas of the GPRS II. Generally, the district is well drained. The Black Volta marks the northern boundary of the district with the Northern Region. The tributary rivers which serve the communities in the district are Tain, Nyampanie .Some of the streams dry up in the dry season. River Tain flow throughout the year. Ground water potential in the district is highly variable. Much depends on the nature of the underlying rock formations and rainfall. The present combination of the lack of water storage in the wet season, heavy run-off, high evaporation and low infiltration rates to charge aquifers in some areas contribute to water deficiencies hampering human settlement and increased agricultural production **Vegetation** The Tain District spans the moist semi-deciduous forest and the Guinea Savannah woodland vegetation zones. The Guinea Savannah woodland represents an eco-climatic zone which has evolved in response to climatic and edaphic limiting factors and has been modified substantially human activity.

Growth Pole 8. **Bui Development Area**	Observations Administrative Districts Located with the Growth Pole Area Bole	 Tain
		The original forest vegetation has been subjected to degradation, caused mainly by the indiscriminate bush fires, slash and burn agriculture, logging and felling of trees for fuel over the years. The cumulative effect is that secondary vegetation occurs in cultivated areas. Timber species like Odum, Sapele, Wawa and Mahogany are found in places such as Dorbor and Bungase. In the semi-derived savannah areas, there are the absence of large economic trees as a result of logging, charcoal burning and mechanized farming. The grooves show that with protection, forest in the area can be productive because the soils in the sacred groves appear more fertile compared to soils lying a few metres away which have been laid bare by intensive cultivation and other unsustainable uses. In the grooves, wildlife like deer and antelope are found there. Other forest reserves are Sawsaw, Yaya and Bawa watershed are found in the district. The combination of the vegetation zones – guinea savannah, transitional zone and the forest permit the cultivation of a variety of crops – cereal, tubers and vegetables and even animal rearing. The forest reserves and the few groves around the water bodies in the district help to protect these water bodies like the Black Volta and the Tain. These make them to flow all year round. This means these rivers could be good sources of water when constructing small town water systems in future and could serve as irrigation facilities for those around. In addition, the existence of wildlife like deer, Hippopotamus and antelopes in the groove can serve as tourism potential for the District.
Information related to partners	**Partners Programs**	**Partners Programs**

Growth Pole 8. **Bui Development Area**	Observations Administrative Districts Located with the Growth Pole Area	
	Bole	Tain
– Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	Some of the development partners are; UNICEF CIDA -District Wide Assistance Project (DWAP) European Union AFD/CWSA Ibis EQUALL GAIT II IFAD CBRDP NORPREP ACTION AID PAPADEP Jaksally Youth Group Customary Lands Secretariat DFID ADRA WFP CFDC Central government transfers include DACF, HIPC and Personnel Emoluments, Skin Land Revenue and CEDED Revenue. There were a few donor/NGO interventions in the District. Notable amongst them UNICEF, DWAP, NORPREP, CBRDP, EU/GOG Micro Project, Ibis, GAIT II, EQUAL, ACTION AID-GHANA. Funds received from these sources are often project specific and also time bound. **Relevant Financial Institutions**	The district can boost of four local NGOs and nine Community Based Organizations (CBOs) operating in HIV/AIDS and other development programmes. The NGOs available are Resource Link Foundation (RLF), Social Development and Improvement Agency (SODIA) in collaboration with Action Aid Ghana, Brong Ahafo Women Development Foundation (BAWDF), Islamic Exposition Centre and BUCAD. The CBOs operating in the district include Menji Mmoa Kuo, Menji Abotare ye Women's Group, Life Saving HIV/AIDS Club, Girl Child Development Foundation, Youth Empowerment Training Centre (YETC) and Human Resource and Community Service. The NGOs have helped tremendously in the development of the district. Resource Link Foundation has successfully been able to control female genital mutilation and widowhood rite in some part of Banda Traditional Area. It has also trained unemployed youth in grass cutter rearing and bee keeping which generate employment in the district. Brong Ahafo Women Foundation on the other hand provides treatment, care and support services to PLHIV in the district. They work in collaboration with the Wenchi Methodist Hospital where they register those who test positive of the virus. Social Development and Improvement Agency has been able to identify the problems, constraints and challenges confronting quality education delivery and farmers in the district. Sensitization exercises have gone to communities on the spread of HIV/AIDS, the use of condom and training of peer educators in Menji, Brohani and Bofie, all in the Tain District. There have also been peace building programmes for chiefs and their elders in the district **Relevant Financial Institutions**

Growth Pole 8. **Bui Development Area**	Observations Administrative Districts Located with the Growth Pole Area	
	Bole	Tain
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – -Numbers of farmers and agro businesses (number and broad classification) in each GP	**Main and Regional Markets** The main market is the Bole market others are the Bamboi, Tinga, Banda Nkwanta markets etc. On market days traders from far and near patronize the market and goods are transported in and out of the District However very few farmers can afford to cultivate lands on a commercial scale, majority of the farmers cultivate lands at a subsistent level with little left for sale, this has had an effect on the income levels of the people. Household incomes are quite low which has a direct correlation with expenditure patterns of households. Few farmers engage in cashew nut plantation. Marketing of agricultural produce is quite a problem since the markets are few, majority of the existing markets are also rather small in nature, however inter District trade with the neighbouring Districts such as the Sawla Tuna Kalba, Wa and the southern parts of the country is quite encouraging. Apart from agriculture practices other economic activities include banking, communication (mobile network), fishing along the Black Volta River, while others also engage in hunting and trading. Petty trading is concentrated at Bole and Bamboi the two biggest communities in the District. The few and small nature of the available markets has also been a detriment to their expansion and large-scale production which can bring about the employment of more people in these areas. **Current Production** **Crops**	**Main and Regional Markets** **Current Production** **Crops** Major crops cultivated include maize yams groundnut cowpeas , pepper , Okro and vegetables including pepper which is usually dried According to data collected from the 9 Town/Area Councils in the Districts, there is much indication that, about 80.2% of the population is in farming and its related activities. The other 19.8% are engaged in other services like carpentry, trading, Teaching, masonry, weaving, plum ship, Tailoring, craftsmanship, blacksmith, Akpeteshie, vocations, among others. The major occupation, which is farming, is mainly rain-fed. Degedege is the only community with access to furrow type of irrigation covering 10 acres of land. Since the farming activities are controlled mostly by natural conditions, most people cultivate 0.49 hector of land on subsistence basis. This has contributed to the low yields in the crop sub-sector for major livelihood crops like maize, cassava, groundnut, cowpea, pepper, yam, cocoyam and plantain. Another factor that may contribute to low yield in the agriculture sector is the inadequate access to inputs and services such as seeds, agro-chemicals, extension services, diseases and pest control, low soil facility due to high incidences of bush-fire, post-harvest management and inadequate processing, marketing and transportation facilities.

Growth Pole 8. Bui Development Area	Observations Administrative Districts Located with the Growth Pole Area	
	Bole	Tain
	Crops cultivated include maize, yam, groundnuts, millet, sorghum, rice, cassava. Cash crop cultivated is basically cashew which in recent times is been promoted through the availability of credit facilities to the farmers Below is the production in mt. of major crops cultivated by farmers in the District over the period under review	With all these challenges mentioned, the crop sub-sector is not lucrative for farmers to expand their farm lands beyond subsistence levels, hence low yields resulting to little sales or nothing to make appreciable income for livelihood. This is therefore seen as the central cause of abject poverty in the district. Even though access to land is not a major setback, access to capital is a big problem due to conditions or hurdles one has to go through and sometimes, misses the farming season for which the credit is sought for. Most farmers when granted loans by banks are unable to pay back the loans due to the failure of the weather sometimes. This issue is one of the factors that fuel poverty among farmers. At the district crop sub-sector, cowpea recorded the lowest yields of 0.74% (Mt/ha) while cassava chalked the highest with 22.2 Mt/ha. It is clear that, cassava and other drought resistant tuber crops do well than the creeping crops like cowpea, groundnuts etc. This might be due to the fact that, the creeping crops which are protein supplements do not grow well due to inadequate rains. Cash crops like cashew, oil palm and agushie have been identified with the capacity to boost economic growth and to reduce poverty. There is no available statistics as to the output production in the district. Data need to be collected to ascertain the level of contribution to poverty reduction and growth. Refer to map on major crop producing areas in the district. **Livestock** The livestock sector is not without problem in the district. Potential activities like grass cutter and Rabbit rearing is being promoted. Agro-processing is mainly for Gari.

Crop	2006	2007	2008	2009
Maize	3,017.5	1,567.9	2,755.3	5,623.30
Rice	932.1	1,279.5	1,349.4	2,565.00
Millet	3,961.4	193.4	1,204.9	1,897.80
Sorghum	7,615.7	1,062.6	2,967.3	4,016.60
Cassava	22,925.0	7,803.3	36,335.8	128,221.90
Yam	41,045.7	49,719.6	48,640.5	74,352.80
Groundnut	2,175.2	1,103.1	2,341.1	3,915.50
Cowpea	266.5	60.8	323.2	258.80
Bambara bean	497.6	591.2	637.7	3,328.30

Livestock Population is reported in (2009) as cattle 12,119; sheep 13,644; goats 13,268 and Poultry 48,249

The soils

Numbers of farmers/agribusinesses

These include Agro-based such as milling, cassava processing, brewing and fishing Wood-based such as carpentry and charcoal production Primary repairs and Fabrication- bicycle, motor and vehicle repairs, vulcanizing, blacksmithing etc.

Growth Pole 8. Bui Development Area	Observations Administrative Districts Located with the Growth Pole Area	
	Bole	Tain
	The above shows that quite a variety of small scale industrial activities exist in the District even though majority of these enterprises are small scaled in nature and many lack managerial skills to enable them improve upon their businesses	**Livestock Population** **The soils** **Numbers of farmers/agribusinesses**
Energy related information – Main existing renewable energy projects in each GP – Level of access to energy / to electricity (households and commercial) in each GP – Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP – Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers,	**Renewable Energy access and use** is virtually non-existent. **Access to Energy/Electricity** In recent times much work has been done in an attempt to get many more communities connected to the National Grid. Bole Kakaiase, Bamboi, Carpenter are presently connected to the national grid. Work is presently going on to get many more communities connected these include the following communities Jama, Jugboi, Tesilma, Banda-Nkwanta, Sonyo, Mandari, Chibronyoa, Babator, Tinga, Mankuma and Maluwe When these communities are finally connected to the national grid the development of local industries shall be enhanced, the service industry in particular shall be given a boost and various employment avenues shall be generated. The use of television sets and other electronic devices shall also serve as a means of educating the rural folks in Government policies and programmes. Presently Chinese Electricity Company is in the District working on the electrification project. This is expected to have a positive influence in the socio economic development of the District	**Renewable Energy access and use** **Access to Energy/Electricity** The analyses from the data collected indicate that 16.9% of the 336 communities in the district have access to electricity. This further revealed that 60.5 % of the populations with electricity have connected it to their homes. Energy is one of the most important tools for growth. However, the current data on the energy situation in the district indicates that about 44.4% of the total population use electricity as the main source of energy, 36.6% also uses kerosene whiles the remaining 17.3% also rely on other sources of energy. The other sources of energy include firewood, charcoal, fuel etc. Though 38.3% of the entire populations use electricity as their main sources of energy, when this is compared to the percentage of 16.9% communities with access to electricity one can conclude that it is encouraging. This is because electricity is concentrated in the communities with high population. **Wood for energy**

Growth Pole **8. Bui Development Area**	**Observations Administrative Districts Located with the Growth Pole Area**	
	Bole	Tain
broad classification, type of energy used) in each GP	*Goal Increase access to the modern forms of energy in the District from present level of less than 23% coverage to 46% coverage by the end of the plan period* Strategies: Solicit support for an Electrification Programme to electrify many more communities Implement rural energy programme involving renewable energy **Wood for energy** **Storage and processing facilities** *Goal Increase the processing of agricultural produce from present level of 15% to 40% by the end of the plan period* Strategies □ _Soliciting for support in this area from organizations or NGOs □ _Creating a conducive environment for the private sector □ _Strengthening the BAC in the District. **Types of Energy driven irrigation systems used**	The other sources of energy used are firewood 59.2%, charcoal 30.4% and use others that include fuel 10.4%. With commercial activities, it was reported that 67.1% use other sources, which include fuel, 21.1% firewood and 11.8% charcoal. **Storage and processing facilities** There is an aggregator that buys maize dries it and takes it away. (Refer to Annex 8 Irrigation Projects In Ghana) **Types of Energy driven irrigation systems used** None was reported
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP	**Irrigation:** DFID is providing £2.47 million over three years (2012 – 2015) through an Accountable Grant to AgDEVCO UK for the development of the Tono and Bamboi irrigation schemes in Northern Ghana. In addition to this, DFID is managing a technical	**Irrigation:** Tain river is perennial and is used as a source of irrigation. Degedege is the only community with access to furrow type of irrigation covering 10 acres of land. **Water** The percentage of the population with water increased over the years and now about 70% of the population are with potable water

Growth Pole 8. **Bui Development Area**	Observations Administrative Districts Located with the Growth Pole Area Bole	Tain
– Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	assistance component of £150,000 to cover reviews during and at the end of the programme. AgDEVCO with funding from DFID has initiated land consultation conducted in July/August 2013, report in draft form; reconnaissance soil and engineering study completed, draft report issued; detailed soil study completed. In addition, detailed terms of reference have been prepared with technical input from ARUP Int'l (www.arup.com) for the detailed engineering study. These terms of reference issued in November 2013 is in line with the above programme. The scheme is expected to cover 4,000 hectares and impact on 6,500 smallholder farmers. Agricultural activity depends largely on rainfall so it becomes very necessary that MOFA cooperates with the meteorological agency to advice farmers to take advantage of the spill over's and the main season for increased productivity of crops which can bring about increase in incomes, a means of reducing poverty amongst farmer's majority of whom are in the subsistent category. Rain harvesting for household use should be encouraged to contain periodic water shortages from the main water pumping station. The construction of dams to harvest rain water for use during the long dry season will be very much desirable in the future. **Water** The water and sanitation status of the district is not encouraging, over the years not much has been done in terms of providing many more facilities in the communities and with an ever-increasing population the few facilities cannot sustain the demand required by the population.	

INDICATOR	BASELINE (2006)	2007	2008	2009	Implications
Percentage of Population with access to water	22%	29.9%	30%	70%	-There is enough potable water for almost everybody in the District.

Sanitation

Sanitation in the district revealed that 70% of the total population use open dumping as their system of disposing off solid waste in their communities. Also 27.9% dispose of their solid waste indiscriminately while 2% use the public container.

Apart from Nsawkaw, the district capital, which has 16.12% of the population having access to public container, the rest of the people in the district dispose of solid waste either indiscriminately or open dumping system. This implies that if pragmatic measures are not taken to manage waste disposal effectively, there will be an increase in diseases which come as a result of untidy environment such as malaria, cholera, diarrhoea, etc. in the future.

64.3% of the total population in the district use pit latrine while 30.4% use KVIP. On the other hand, 5.3% of the people also use septic tank to dispose of their human waste.

This data shows that majority of the population depend on pit latrine which is not safe since it breeds mosquitoes and spread malaria, and unsafe for human life.

The district cannot boast of water closet type of toilet because of lack of pipe born water in most of the communities. Though Nsawkaw, Badu and Seikwa have access to pipe born water, since it is not extended to most of

Growth Pole 8. **Bui Development Area**	Observations Administrative Districts Located with the Growth Pole Area	
	Bole	Tain
	The safe water sources available in the District are boreholes and wells. For now it is only the district capital Bole where the people enjoy pipe borne water from a Small Town Water System. The second small town water system at Tinga has since 2006 not been functional as a result of the damage resulting from the construction of the Trunk road passing through the Township During the period under review it was realized that about 68% of the population of the District had access to safe water. The southern part of the District is rather characterized by a low water table, which makes it difficult to reach water if boreholes are to be provided in the communities. Bamboi the second biggest settlement in the District is faced with this problem, it is being suggested that water from the nearby Black Volta may have to be treated in the future and used as potable water by the population. ***Sanitation*** Sanitation is another crucial area that is not developed and well managed. Sanitation issues rather correlates directly with an increasing population so that if not well managed diseases become more eminent. The few facilities presently available are grossly inadequate. The Zoom Lion which has a total manpower level of 102 spread throughout the District are helping to manage the situation, but they need to be well equipped to enable them work better for the desired result. However much more needs to be done in terms of providing many more refuse containers and in the management of final disposal sites.	the houses, people are not in position to water closet in their houses. However, some few private residences in Nsawkaw town have the facility in their homes. 52.7% of the entire population disposes off their liquid waste in drains whiles 47.3% dispose of theirs indiscriminately and to open spaces. This implies that appropriate measures like regular cleaning of gutters/drains in the district must be encouraged to avoid a situation where water get stag in the gutters which intern breeds mosquitoes.

Growth Pole 8. **Bui Development Area**	Observations Administrative Districts Located with the Growth Pole Area	
	Bole	Tain
	Polythene materials have become a major problem since they are not easily degradable, recycling them could be a better option and assistance is needed in this area.	
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	The road network in the area of interest of this pole is the downstream of the Bui Dam. There is no road map for the area. Regional trunk roads in the vicinity of the pole are: • Wench-Sampa • Nsawkaw-Berekum • Bedu Junction – Bedu The trunk roads do not directly impact on the pole as result of poor feeder roads condition. No feeder road is tarred. Road maintenance activities are mainly grading and reshaping by the District Assembly. Feeder roads within this pole do not benefit from GSOP. Funding for the road maintenance is from District Common Fund. Feeder roads of highest priority linking the agriculture production areas to Markets are: 1. Bola –Madrae-Chechero 2. Bamboi – Chibrinyoa – Babator 3. Makoma - Checke –	

Growth Pole 8. Bui Development Area	CONCLUSIONS AND RECOMMENDATIONS
Observed Agricultural Potential of the Growth Pole **5. Agriculture** **6. Energy** **7. Water** **8. Transport and logistics**	– **Agriculture** – **Energy** o The 400 MW Bui hydropower scheme is considered to be the most technically and economically attractive hydropower site in Ghana after the Akosombo and Kpong hydro power plants. On August 24, 2007, the sod was cut for the commencement of the Bui Hydroelectric Project. This will add 400 MW of electrical power to the existing capacity of the country after completion. The construction of the Bui Hydroelectric Project is being financed through a hybrid credit facility comprising of a Concessional Loan from the Government of the People's Republic of China and a Buyer's Credit Facility from the Export and Import Bank (Exim bank) of China. The total cost is about US$622 million, which is funded with a Concessional Loan of US$263.5 million, A Buyer's Credit of US$298.5 million and Government of Ghana contribution of US$60 million. o Government of Ghana through an Act of Parliament (BPA ACT 2007, ACT 740) has setup Bui Power Authority to develop, operate and manage the Bui Hydroelectric Project. It is proposed to develop an irrigation scheme to use water from the reservoir. – **Water and Sanitation** Due to the problem of managing Public toilets the DAs intends shifting emphasis to household latrines on a cost sharing basis with support from NORPREP (IFAD), WRI, UNICEF and Other partners. – **Other actions earmarked** include the following o Expansion of Existing water systems especially the Bole small town water system o Provision of additional small town systems and Boreholes in the fast growing communities o Establishment of an effective and efficient Management Boards for water and sanitation facilities o Provision of about 600 household latrines on a cost sharing basis to communities across the District on a yearly basis for the next three years o Improve on methods of refuse collection, disposal and waste management o Reorganization of the present Zoomlion sanitation workers o Provision of additional working tools, equipment, refuse collection containers to the sanitation unit o Strict enforcement of sanitation laws in all the communities – **Transport and logistics**

Growth Pole 8. Bui Development Area	CONCLUSIONS AND RECOMMENDATIONS
	– Even though the District has a number of tourism potentials many of these sites need to be developed and well organized if they are to attract many more tourists into the District. In recent times funding and support from STEP (Sustainable Tourism for the elimination of Poverty- a partnership of UNWTO & SNV- an International NGO engaged in Tourism, Ghana Tourist Board and AROCHA in the region has been supportive in this area. – In collaboration with the D/A, a reception centre is being constructed at Sonyo and Tourist guides have also been trained to assist tourists who visit the community thereby creating employment for some of the many unemployed youth in the community. – The Bui Dam that is currently under construction may disrupt the present habitat of the Hippopotamus at Ntereso another Tourism area, but it has been made clear that they will be relocated upstream
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **5. Agriculture** **6. Energy** **7. Water** **8. Transport and logistics**	**Agriculture** – Use of rudimentary methods of farming – Low crop yield – Inadequate agro-processing facilities – Lack of irrigation facilities – High incidence of poverty among farmers – Adverse impacts of climate change on food security **Energy** – Inadequate access to electricity **Water** – Inadequate sanitation facilities – Poor drainage system causing erosion and flooding in communities – Inadequate access to potable water – **Transport and logistics** The District is networked mostly by a maze of neglected third class roads and paths. The only first class road is the road that runs from Wa in the UW/R through Bole to Bamboi and links Wenchi in the BA/R.

7.9 Growth Pole 9: Nasia Valley

Growth Pole 9. Nasia	Observations Administrative Districts Located with the Growth Pole Area
Profile	The Savelugu/Nanton district was carved out of the Western Dagomba District Council in 1988 under the Local Government Act 462, 1993 by Legislative Instrument (LI) 1450.The Savelugu/Nanton district is located at the northern part of the Northern Region of Ghana within the coordinates 9° 24' N 0 28'W. It shares boundaries with West Mamprusi to the North, Karaga to the East, Tolon/Kumbungu to the West and Tamale Metro Assembly to the South. The altitude of the district ranges between 400 to 800 feet above sea level. The District has about 149 communities with a lot of the communities concentrated at the southern part. The district also has a total land area of about 1790.70 sq. km.
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview** The District remains an agriculture-based economy. The sector engages about 97 percent of the labour force, majority of who produce staple crops at subsistence level. Cash crop production is very minimal and includes shea nut, Soya beans, cotton and cashew. Agro-processing is generally done by traditional methods and on very small-scale bases. Below is a summary of major economic activities in the district. 1. Agriculture basically at the peasant level, 2. Trading in foodstuff such as maize, beans, rice and other grains, 3. Sand winning, the bulk of which is used for construction work in Tamale Metropolis 4. Fishing along the black Volta 5. Sheanut processing **Population Overview** The population of the district is estimated at 139,283. The average household size remains 8.7 with the smallest household comprising one member and the largest household having 47 members. There are 149 communities in the District. The communities are administratively demarcated into one urban/town Council (Savelugu, the district capital) and five Area Councils, namely, Nanton, Diare, Pong-Tamale, Moglaa and Tampion. The 143 other communities could be described as rural. Nearly 80% of the populace resides in these rural communities and 20% in the few urban towns. **Geographical Overview** The area receives an annual rainfall averaging 600mm, considered enough for a single farming season. The annual rainfall pattern is erratic at the beginning of the raining season, starting in April, intensifying as the season advances raising the average from

Growth Pole 9. Nasia	Observations Administrative Districts Located with the Growth Pole Area
	600mm to 1000mm.Temperatures are usually high, averaging 34°C. The maximum temperature could rise as high as 42°C and the minimum as low as 16°C. The low temperatures are experienced from December to late February, during which the North-East Trade winds (harmattan) greatly influence the District. The generally high temperatures as well as the low humidity brought about by the dry harmattan winds favour high rates of evaporation and transpiration, leading to water deficiencies. The main drainage system in the District is made up of White Volta and its tributaries. The effect of the drainage system is felt mostly in the northern part of the district covering the areas between Nabogu and Kukuobilla. These areas are prone to periodic flooding during the wet season, thus making them suitable for rice cultivation. One of the tributaries of the White Volta, Kuldalnali, stretches to constitute a natural boundary between the District and Tolon/Kumbungu district. The District finds itself in the interior (Guinea) Savannah woodland which could sustain large scale livestock farming, as well as the cultivation of staples like rice, groundnuts, yams, cassava, maize, cowpea and sorghum. The trees found in the area are drought resistant and hardly shed their leaves completely during the long dry season. Most of these are of economic value and serve as important means of livelihood especially for women. Notable among these are shea trees, (the nuts which are used for making shea butter) and dawadawa that provides seeds used for condimental purpose. The sparsely populated north has denser vegetation mostly with secondary forest. The populous south on the other hand, is depleted by human activities such as farming, bush burning and tree felling among others.
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g.	**Key Government Agencies** There is an established district assembly with all the key government agencies in place. **Relevant Programs by Donors** There are a number of program implemented in water, health and sanitation. Also, the district has a number of donor projects being implemented in the areas of agricultural value chains, capacity building and support services to actors along these selected value chains such as USAID Advance Project. The following donors are active in the district: • USAID • CIDA • IFAD/AfDB • AFD • GIZ • WFP • World Bank

Growth Pole 9. Nasia	Observations Administrative Districts Located with the Growth Pole Area
farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	**Relevant NGOs** • UNICEF • World Vision Ghana • Ghana Danish Community Project (GDCP) • CCFC/TUMA KAVI • GIGDEV • European Union • AFD/CWSA • DWAP (CIDA) • Catholic Relief Service • Rains/Camfed • NORPREP (IFAD) • CBRDP • School For Life • ADRA • OIC • Carter Centre • New Energy • Simli Aid • Literacy & Development Through Partnership (LDP) • Technoserve • Behishung Integrated Development Organization (BIDO) **Relevant Financial Institutions** There is one financial institution Borimanga Rural Bank. The proximity of the district to the Tamale metropolis offers its indigenes an opportunity to access its numerous financial institutions. **Relevant Local Companies/Outgrower Schemes**

Growth Pole 9. Nasia	Observations Administrative Districts Located with the Growth Pole Area
	ITFC Ltd have the main farm and a number of smallholders in the district. ITFC is engaged in the production and exports of dried and fresh mangoes and has a pack house facility in the district.
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – -Numbers of farmers and agro businesses (number and broad classification) in each GP	**Main local and regional markets** There are four major markets in the district where mainly agricultural products are sold on market days at Savelugu, Nanton, Tampion and Diare markets. The DA is developing the markets in phases. All the market, have been provided with some stores and stalls. Neighbouring markets such as Kumbungu and Tolon, Karaga, Gushegu and Tamale markets are patronised by people in the district. **Crop and Livestock** The district is predominantly agricultural with about 97% of the District economically active population (18-54 years) involved in farming of staple food crops. The major food crops include maize, rice, Yam, groundnut, cowpea & soya beans. The District has the potential to increase food crops output if agricultural practices in the District are modernized. Agricultural practices are also dependent on rainfall which is erratic. Thus there is great seasonal unemployment. The Cash crops in SNDA include shea nut, Cotton and Cashew. The shea nut trees are found in the whole area and they form part of the natural vegetation. In the north, from around Disiga into the Nasia Tributaries Forest Reserve, there is vast natural shea nut vegetation. Tree crop cultivation is also being pursued through ITFC in mango plantation. This is offering employment to the youth. Under the initiative about 541 Acres are currently under Mango production in the District. The plantations range from 1-5 years. Effective livestock rearing has not really caught up with the population. However, almost all farmers keep a few animals/birds such as goats, sheep and fowls. A few have cattle. Over the last three years however, there has been some level of growth in the livestock sector.
Energy related information –Main existing renewable energy projects in each GP	**Energy** Firewood is the main source of energy.

Growth Pole 9. Nasia	Observations Administrative Districts Located with the Growth Pole Area
– Level of access to energy / to electricity (households and commercial) in each GP – Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP – Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	**Access to National Grid** Out of 149 communities, only 24 have access to the national grid. In the main, most of these communities are located on the main roads in the district.
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP	**Irrigation facilities** Some irrigation facilities were initiated in the previous plans, but only three have been completed and are being used. These include Bunglung, Kukobila (MCA funded the power supply for irrigation) and Libga. Others, which are uncompleted schemes, are Diplale Small scale Irrigation project, Nyeko, Sogu-Tampia and Chab-chab project. The Libga irrigation scheme is located between longitude and latitude are 0° 50' 49"W and 09° 35' 18" N respectively. Under the MCA Compact Program, SNC Lavalin did detailed studies and a cost of 380,000 USD estimated to rehabilitate and expand the scheme. (Refer to Annex 8 Irrigation Projects In Ghana)

Growth Pole 9. Nasia	Observations Administrative Districts Located with the Growth Pole Area
– If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	**Water and Sanitation** Less than 55% of the populace has access to safe water namely treated water, boreholes and hand dug wells.
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads – in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	**Main Roads (Trunk Roads)** The road network within the western area of this pole is well developed compared to the eastern area. The trunk roads serving the eastern area comprises N10(Tamale-Bolgatanga) and two regional trunk roads namely: 1.0 Karaga –Pigu (R107) 2.0 Karaga – Tamale (R90) The standard of the regional trunk roads are not in accordance with their functional classification. They lack the minimum design standard requirements. The drainage structures are not functional in some area. The riding quality is very poor. **Secondary Roads (Feeder Roads)** The feeder roads system is quite adequate in the western side of the pole. This area was the sole beneficiary of the 110 km of feeder road recently completed under the Millennium Challenge Account. The eastern area has a high potential for rice cultivation but due to poor access to markets and farmgate it remains untapped. With respect to the management of the feeder roads network in the pole, DFR carry out maintenance on the engineered roads while the Karaga District Assembly takes care of the non-engineered roads. Funding support is from the District Development Fund. The World Bank is also supporting the maintenance activities under Ghana Social Opportunity Programme (GSOP). Most of the activities carried out are mainly routine maintenance.

Growth Pole 9. Nasia	Observations Administrative Districts Located with the Growth Pole Area

Growth Pole 9 : Nasia	CONCLUSIONS AND RECOMMENDATIONS
Observed Agricultural Potential of the Growth Pole **17. Agriculture** **18. Energy** **19. Water** **20. Transport and logistics**	**Agriculture:** The potential of the area is its proximity to Tamale and the main Kumasi Tamale road which provides access to markets in the south coupled with water bodies and good soils. There are a number of crops currently being grown which can be up scaled to boost agriculture activities in the district. **Energy:** Very low access to the national grid which hampers emerging SME processing in the communities. **Water:** Harness water, expand existing irrigation schemes and construct the Ligba Dam based on feasibilities studies already conducted. **Transport and logistics:** The need to address the accessibility challenges to the rice producing areas of Karaga will ensure return on investment in rice production

Growth Pole 9 : Nasia	CONCLUSIONS AND RECOMMENDATIONS
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **17. Agriculture** **18. Energy** **19. Water** **20. Transport and logistics**	**Agriculture:** To expand existing dams and construct potential areas identified for irrigation purposes. **Energy:** To expand access to national grid and also upgrade electricity supply from single to three phase to enable some levels of industrialization. **Water:** To provide more safe drinking water through the provision of hand-dug wells, boreholes, improve and rehabilitate small town water systems in some of the communities. **Transport and logistics:** The road infrastructure challenge must be addressed. Particularly the regional trunk roads and the feeder road system in the eastern section of the pole.

7.10 Growth Pole 10 Kamba Dam

Growth Pole 10. **Kamba Dam**	
Profile	The Lawra District is in the Upper West Region. It lies in the north western corner of the Upper West Region in Ghana between Long. 2°25 W and 2°45W and Lat. 10°20 and 11°00. It is bounded to the East and South by the Lambussie and Jirapa District and to the North and West by the Republic of Burkina Faso. The total area of the District is put at 1,051.2 square km. This constitutes about 5.7% of the Region's total land area, which is estimated at 18,476 square km (figure 1 shows the District in the Regional context). The District is estimated to have 157 communities with 95% of the inhabitants in the rural areas. The population density is about 89 per square kilometre. It is the most densely populated District in the region. With respect to religious composition, Christians dominate with a figure of 57,662 (57%). Muslims constitute a meagre figure of 4,239 (4.19%) whiles Traditional African Religion follows the Christian religion with a figure of 36,884 (36.46). others constitute 728 (0.72%). The most predominant tribe in the District is the Dagaaba with dialectical variations. There are other minor tribes such as the Hausa, Asante etc.
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview** Agriculture accounts for 80% of the District economy. Commerce /Service and industry account for about 18.2% and 0.8% respectively. In other words the agriculture, commerce and industry sub-sectors of the economy are all short of private sector led programmes and projects. **Population Overview** The current estimated population of the District as at December 2009 stands at 100,929 established by the Population Census conducted by Ghana Statistical Service in 2010. This comprises 52,288 women and 48,641 men. Only eight localities in the District have population above one thousand (1000). Nandom is the largest locality with a population of 7,596 followed by Lawra, the District capital with a population of 6,707. **Geographical Overview** The District lies within the Guinea Savannah Zone, which is characterized by, short grasses and few woody plants. Common trees in the District consist of drought and fire resistant trees such as baobab, dawadawa, Shea trees and acacia. The vegetation is very congenial for livestock production, which contributes significantly to household incomes in the District. The greatest influence on the vegetation is the prolonged dry season. During this period, the grass becomes dry and the subsequent bush burning leaves the

Growth Pole 10. **Kamba Dam**	
	area patchy and mostly bare of vegetation. Consequently, the torrential early rains cause soil erosion. Bush burning reduces the vegetative cover and transpiration and this affects average annual rainfall totals resulting in low agricultural yields as farmers depend mostly on rain fed agriculture. The climate of the District is the tropical continental type with the mean annual temperature ranging between 27°C to 36°C. The period between February and April is the hottest. Climatic changes of late, however affects the weather pattern. Between April and October, the Tropical Maritime air mass blows over the area which gives the only wet season in the year. The rainfall pattern leads to the migration of the youth, a factor associated with the underdevelopment of the human resource base of the District. The rock formation in the district is essentially birrimian with dotted outcrops of granite. The district mineral potential is largely unexplored. Some reconnaissance work indicates the presence of minor occurrences of manganese, traces of gold and diamond, Iron ore and clay.
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.)	**Key Government Agencies** There is an established district assembly with offices and relevant decentralized agencies. **Relevant Programs by Donors** DANIDA E.U DFID IFAD GTZ WORLD BANK **(Refer to** Annex 1 **Development Partner Interventions** **Relevant NGOs** PRONET Water and Sanitation social mobilization training CATHOLIC RELIEF SERVICES Education, Health/Nutrition NANDOM AGRIC PROJECT Agric extension

Growth Pole 10. **Kamba Dam**	
– Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	ACTION AID GHANA Basic Education, Health, Gender, Food Security TECHNOSERVE Rural Development UNICEF Health, Education, child support UNDP Planning Oxfam Agric. EQUAL Education DCA Planning WFP Education and Health CARE Agriculture RAAP Advocacy CIKOD Environment TROPENBOS Environment **Relevant Financial Institutions** 1. The Ghana Commercial Bank, Lawra 2. Nandom Rural Bank, Nandom 3. Kuoriba Langtaa Credit Union at Nandom 4. The Lawra Area Rural Bank. **Relevant Local Companies/Outgrower Schemes** None
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP	**Main Local and Regional Markets** The District has three main markets located in Lawra, Babile and Nandom. Two of these markets (Babile and Nandom) were up-graded with modern market facilities under the Village Infrastructure Project of the Ministry of Food and Agriculture. The remaining markets (very small and undeveloped) are located at Eremon, Boo, Baseble, Tuopare, Dowine, and Zambo. Currently the

Growth Pole 10. **Kamba Dam**	
– Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – -Numbers of farmers and agro businesses (number and broad classification) in each GP	Lawra Market is being upgraded into a modern market with support from the Community Based Rural Development Programme (CBRDP). **1.0.0.3 Main type of crops and livestock farmed** Agriculture, which is the major activity that engages about 80% of the population, is centred on crops and livestock production. The crops mainly grown by the farmers are corn, millet, maize, cowpea and groundnut. Of these the District has comparative advantage in groundnuts and cowpea production. The District has over the years recorded very low agricultural production due to the erratic rainfall pattern coupled with the long hot dry harmattan season that undermine the various efforts and interventions in the crop sub-sector. The result being that production always falls short of the expectation of farmers and consumers alike. Coping measures adopted in the District mostly include the importation of maize and other crops from either neighbouring Republic of Burkina Faso, Techiman in the south or other Districts in the region. This calls for the need to enhance the provision of water for dry season gardening and improved agricultural technologies. The livestock sub-sector continues to make steady but moderate gains. Goat and Sheep production seems to lead the production levels. Poultry and goats are still the most commonly reared livestock species in the District. Poultry continues to dominate the attention of the youth and farmers alike since little labour is required for an excellent income. Pig rearing despite the high labour demand continues to receive a boost since it is fast becoming the most affordable meat within the District. The presence of CSIR funded pig feed formulation meal in the District has further boosted the potentials of pig rearing in the District. It has become a strong source of security in terms of income especially for the vulnerable and excluded in the society, (the aged and widows.). The introduction of the bullock farming system is anticipated to provide employment for youth in agriculture and also improve upon the food security situation in the District as well as provide incomes for the youth.
Energy related information –Main existing renewable energy projects in each GP –Level of access to energy / to electricity (households and commercial) in each GP	**Energy** It is however well noting that, most people in the District still resort to the use of fuel wood for the domestic chores due to their inability to afford electricity resulting in a further degradation of the land. It is envisaged that when the current plan to extend the national grid to about 30 more communities in the District is achieved, a lot could be done in reducing drastically the degradation

Growth Pole 10. **Kamba Dam**	
– Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP – Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	of the wood cover and the migration of the youth in search of non-existing jobs. The pre-dominant source of Energy for lighting in the District is still kerosene or Shea-butter. **Access to National Grid** An estimated percentage of households with access to electricity currently stand at 24.3%.
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP – Evaluated potential of existing irrigation infrastructures in each GP	**Irrigation Facilities** There are no major irrigation schemes in the district. The key potential dam The Kamba Dam has been identified as a potential for irrigation scheme. Pre-feasibility studies were conducted by Nippon Koei and potentially can cover an area of 4,050 hectares. **Water and Sanitation** Currently, there are three (3) mechanized small town water systems in the District with beneficiary towns as Nandom, Babile and Lawra. There are also 452 boreholes in the District out of which 39 are for schools and clinics, 29 are private and used privately, 19 are low yielding and hardly produce water during the dry season and 24 of them are bad wells and cannot produce portable water. Thirty nine (39) of these are also in Nandom and Lawra which have water systems and hence these boreholes virtually lie fallow. The District based on the available functioning water facilities has calculated water coverage of 87%. Currently, there is the

Growth Pole 10. **Kamba Dam**	
– If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	construction of a small town water system underway in Babile and plans are in place to construct a similar project in Ko-Guo. Several other projects including Global Water initiative by CRS and CARE International, Japan Embassy Water Project and the GoG Priority Water Project are all to undertake the drilling of new boreholes and also rehabilitation of malfunctioning ones. The sanitation situation in the District leaves more to be desired. The District has a coverage of just 47% which underscores the high incident of open defecation. There are 132 public KVIP/institutional latrines. Out of a total of 14,308 households in the District only 1860 households have household latrines representing 13%. The rest of the population is supposed to be served by the 132 public KVIP/institutional latrines and the 5 septic tank toilets representing a percentage of 87%.
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads – in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP	**Main Roads (Trunk Roads)** This pole is strategically placed for regional trade with Burkina Faso, Mali and Northern part of La Cote D'voire. It is also connected to N12 which gives the pole access to the Takoradi port in the south. The trunk roads in the pole influence area is limited to only regional roads. There are no Inter-Regional routes linking this pole. Almost of 85 of the trunk road in this pole are unpaved. **Secondary Roads (Feeder Roads)** The feeder road network have a lot of missing links making movement in this pole extremely difficult to the farmgate and the local markets. Most of the feeder roads also lack the drainage structures. Most of the communities are cut during the raining seasons. Accessibility is limited to only the dry season. The general condition of the feeder roads are poor. As result of the poor nature of the roads vehicular transport is virtually non-existent. Most of the inhabitants depend on bicycles and motorcycles as the main means of transport.

Growth Pole 10. **Kamba Dam**	
– Access to local and regional markets (distance, quality) in each GP	
Observed Agricultural Potential of the Growth Pole **21. Agriculture** **22. Energy** **23. Water** **24. Transport and logistics**	**Agriculture:** Very close to Cote d'Ivoire and Burkina Faso and so access to regional markets. **Energy:** Expanded coverage and access to national grid. **Water:** Potential of building a 4,050 irrigation dam for agricultural production. **Transport and logistics:**
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **21. Agriculture** **22. Energy** **23. Water** **24. Transport and logistics**	**Agriculture:** Construction of Kamba Dam to address issues of constraints in production. **Energy:** Extending access to national grid for communities close to the potential irrigation site. **Water:** Provision and development of streams and tributaries for irrigation purposes. **Transport and logistics:**

7.11 Growth Pole 11 Bontanga

Growth Pole 11. **Bontanga**	
Profile	Tolon/Kumbungu District is one of the 45 districts created by the erstwhile Provisional National Defence Council (PNDC) Law 207 in 1988 with Tolon as its capital. The District covers approximately 2,741 km2 and forms about 3.9% of the total landmass of the Northern Region. The District lies between latitudes 90 15` and 100 02` North and Longitudes 00 53`and10 25` West. It shares boundaries with West Mamprusi District to the North, West Gonja District to the South-West, Savelugu/Nanton District to the East and Tamale Metropolis to the South-East. The indigenous people are Dagombas; however, one can still find other tribes like Gonjas and Ewes who do fishing along the White Volta. Dagombas constitute more than 80% of the district population. Islam and Traditional Religions are the predominant religions of the people.
General information – Economic and social overview in each GP (unemployment, sectors of activity, etc.) – Population overview in each GP (population, main cities, villages) – Geographical overview in each GP (size, river basins, river descriptions, forest, natural parks)	**Economic and Social Overview** Agriculture and small-scale agro-processing accounts for over 90% of economic activity in the district. **Population Overview** The total population, according to the 2010 Population and Housing Census, stands at 1112,331. The population density varies from place to place within the District with the northern part i.e. across the White Volta sparsely populated. The Southern part is however densely populated around Karsulyili and Yoggu. Major towns or settlements in the district are Kumbungu, Tolon, Nyankpala, Lingbinga and Dalun. **Geographical Overview** Rains begin in May and end in the latter part of October. July to September is the peak period and the district experiences floods during the period. The rest of the year is dry. The average annual rainfall is 1000mm. The temperature is warm, dry and hazy around February to April. It is cool, moist and rainy around May to September. Harmattan is experienced in the period between October and December. The district is generally hot. The soils are generally of the sandy loam type except in the low lands where alluvial deposits are found. The vegetative cover is basically Guinea Savannah interspersed with short drought resistant trees and grassland. Major tree species include the shea nut, Dawadawa and mango, which are economic trees and form an integral part of livelihood of its people.

Growth Pole 11. **Bontanga**	
Information related to partners – Relevant contacts and activities from the key ministries (Agric, energy, transport) and other relevant related public authorities (DFR, SADA, GIDA) at the local level in each GP – Relevant donors and international partners and their key programs and projects in each GP – Relevant NGOs and associations in each GP (e.g. farmers associations, water users associations etc.) – Relevant financing institutions working on agriculture or with farmers in each GP – Relevant Local companies, out-grower schemes etc. in each GP	**Key Government Agencies** There is an established district assembly with offices and relevant decentralized agencies. **Relevant Programs by Donors** There are a number of program implemented in water, health and sanitation. Also, the district has a number of donor projects being implemented in the areas of agricultural value chains, capacity building and support services to actors along these selected value chains such as USAID Advance Project. The following donors are active in the district: • USAID • CIDA • IFAD/AfDB • AFD • GIZ • World Bank **Relevant NGOs** **Relevant Financial Institutions** There are no major financial institutions in the district. Due to its proximity to Tamale, most of its indigenes go there to transact financial issues. **Relevant Local Companies/Outgrower Schemes** Solar Harvest a foreign owned agribusiness is implementing an outgrower scheme adjacent to the Bontanga Dam.

Growth Pole 11. **Bontanga**	
Agriculture related information – Main local and regional markets for agriculture products and livestock close to each in each GP – Main type of crops and livestock farmed in each GP – Current use of agricultural / arable land (scale, quality) in each GP – Identified potential of agricultural / arable land (scale, quality) in each GP should the right additional investment be made – Levels of soil erosion, degradation, desertification in each GP – -Numbers of farmers and agro businesses (number and broad classification) in each GP	**Main Local and Regional Markets** The main market is at Tolon and Kumbungu. **Main type of crops and livestock farmed** Agricultural production is the main activity in the District and is practiced mainly on seasonal (rainy season) and subsistence level with a few engaged in irrigation farming around the Bontanga Dam. Agriculture accounts for about 74% of the labour force. This reflects the agrarian nature of the economy. In both rural and town areas of the district, most people cultivate food crops like maize, rice, groundnuts, yam etc. The main crops cultivated per percentage of households are as follows; cereals 99. 8% legumes 88.3% tubers-80.6% 35.7% of the farming households cultivates vegetables, 15.3% fruits. The major crops currently grown in the District are maize, groundnuts, yam, cassava, sorghum, rice, cowpea, millet, pigeon pea, soya-beans. Others are tomatoes, pepper, onion, okro and garden eggs. Industrial crops grown are cotton, tobacco, (grown as a cash crop but also for local consumption), groundnuts, cashew, shea nut, and soya-beans. Livestock/Poultry82.8% of households own poultry, 77.65 own goats, 56.3% own sheep, 31.7% own cattle, 3.7% own rabbits and 0.9% own pigs. Local fowls, exotic birds, guinea fowls, turkeys and ducks constitute the poultry sector The poor nature of the environment also hampers livestock development in the district mainly because of inadequate water for livestock inadequate livestock/poultry breed improvement programmes and inadequate stocking of dams and dugouts for water supply. There is also weak institutional support for farmers, inadequate logistics for extension staff, inadequate supply of efficient management of agric machinery and equipment , inadequate credit for farmers, insufficient information, high cost of inputs and spare parts and low response to animal health care services.
Energy related information –Main existing renewable energy projects in each GP	**Energy**

Growth Pole 11. **Bontanga**	
– Level of access to energy / to electricity (households and commercial) in each GP – Presence of modern "wood for energy" projects (type and short evaluation) in each GP – Access to the grid / distance to the grid / grid densification in each GP – Availability of information on solar / wind / hydro / biomass resources in each GP – Presence of storage and processing units (numbers, broad classification, type of energy used) in each GP – Presence of energy driven irrigation systems (numbers, broad classification, type of energy used) in each GP	Majority of the households used firewood for cooking, with a few using other source of energy for cooking such as kerosene and charcoal. **Access to National Grid** Coverage and access to the national grid is low.
Water related information – Presence of existing irrigation infrastructures and water use (surface, efficiency, quality, management mode) in each GP	**Irrigation Facilities** There are two existing irrigation schemes located in the district. The Bontanga project is the largest irrigation scheme in the northern region. It is located in the Tolon Kumbungu district 34km northwest of Tamale, the regional capital. The longitude and latitude are 1° 01' 26" W and 09° 34' 10" N respectively. The Bontanga Irrigation Scheme was developed in 1983. The project comprises an earth fill dam with two off-take structures and a drop inlet spillway. Presently, the drainage system of the scheme is not functioning effectively. The Bontanga Dam with the Bontanga River the main source of water and had its pumping and canal systems renovated by the Millennium Development Authority in 2011. The scheme currently has about 615 hectares of land

Growth Pole 11. **Bontanga**	
– Evaluated potential of existing irrigation infrastructures in each GP – If none, identified economically viable irrigation potential in each GP (surface, mapping) – Access to water and sanitation in villages nearby (households and commercial) in each GP – Water extraction (surface- and ground-water) and extraction/distribution technics in each GP	developed prior to works with an additional 185 hectares added. The dam has not been managed properly after renovations and there appears to be the absence of a proper management structure in place to manage and maintain the facility. The Golinga scheme located in the Tolon Kumbungu district 14.5km southwest of Tamale, the regional capital. The longitude and latitude are 0° 56' 38" W and 09° 21' 8.4" N respectively. The scheme comprises a 450m long dam embankment on the Jolo River with outlet structures for two main canals (left Bank 1175 m and right Bank 1070 m) and built to provide irrigation on around 60 ha through main canals and 2300 m of laterals with an additional 40 hectares added after renovation by the Millennium Development Authority in 2011 . **Water and Sanitation** GWCL Connections came out as the most important water source for the District contributing 46% to the total coverage. This was followed by Boreholes fitted with Afridev Hand pump – 42%, Mechanized Pipe System – 6%, Hand-dug Wells fitted with NIRA Hand pumps – 5% and Boreholes fitted with Ghana Modified India Mark II and/or India Mark II Hand pumps – 1% It is significant to note, however, that, the major water supply source (GWCL) of the District is not equitably distributed between the two major zones namely Tolon Zone The sources of potable water for the District consist of Boreholes fitted with Afridev. Hand pumps (159 in 82 communities); GWCL Connections (166 Water Points in 65 communities); Hand-dug Wells fitted with NIRA Hand pumps (45 in 28 communities); Mechanized Pipe Systems/Borehole Mechanization (3 benefiting 5 communities) and finally Boreholes fitted with Ghana Modified India mark II/India Mark II Hand pumps (5 in 5 communities). The District thus has a total of 388 Water points from all the above Technology Options Overall, Potable Water Supply Coverage for the District was 43% (as of the date of this Report (April, 2009). Nyankpala Area Council has the least potable water supply coverage of 12% whilst Yoggu Area Council has the highest coverage of 82%. These coverage figures did not take into account the functionality status of the Water Facilities and could therefore be far lower if that was done. (Western Corridor), which has 6 Area Councils and the Kumbungu Zone (Eastern Corridor) which also has 6 Area Councils. It was heavily skewed in favour of the Kumbungu Zone. 144 Water Points (88%) were in the Kumbungu Zone whilst only 20 Water Points (provided by Bi-water under

Growth Pole 11. **Bontanga**	
	The Tamale Water Expansion Project in November 2008) representing 12% were in the Tolon Zone. In terms of sanitation facilities, 89.5% have no toilet facilities and "go on free range". 10.5% have traditional pit toilets, 5.3% use public KVIP, 2.0% use flushed toilet and 0.9% use bucket or pan latrine. In total 9.3% of the people have access to safe excrete disposal facilities, which corresponds with 3.5% of the population covered, by the baseline survey (1999 Sept.)? Below is a table showing existing toilet facilities in the district.
Transports and logistics related information – Access to main roads network (distance to main roads, quality) in each GP – Access to secondary roads in each GP – Quality of secondary roads – in each GP – Local transports and distribution companies / network in each GP – Other type of road/transport difficulties in each GP – Access to local and regional markets (distance, quality) in each GP	**Main Roads (Trunk Roads)** The main trunk roads to Bontanga are from the Tamale Metropolis. The first 7km to Bontanga through Kumbungu is in good condition. Thereafter the condition of the road is poor. From Kumbungu to Bolgatanga has recently been rehabilitated under the Millennium Challenge Account. The other trunk give the pole access to Savelugu-Nanton district capital. The road is in low lying area and need to be raised. **Secondary Roads (Feeder Roads)** Most of the feeder roads lack the requisite drainage structures making accessibility extremely difficult. Most of the feeder lack maintenance especially re-gravelling. Most of the feeder roads though engineered have been reduced to earth roads.

Growth Pole 11. **Bontanga**	
Observed Agricultural Potential of the Growth Pole **25. Agriculture** **26. Energy** **27. Water** **28. Transport and logistics**	**Agriculture:** The need to **diverse** current portfolio of rice, maize and soya bean to other economic crop due to suitability of soils in the GP. **Energy:** Conversion from single phase to three phase to encourage agro-processing. **Water:** To provide and utilize existing irrigation Bontanga Dam with incentives for proper management by an agricultural large scale firm. **Transport and logistics:**
Infrastructure Resource Gap to be filled to Facilitate the realization of Agricultural Potential of the Growth Pole **25. Agriculture** **26. Energy** **27. Water** **28. Transport and logistics**	**Agriculture:** Proper management of existing irrigation schemes and expansion thereafter to ensure scheme does not go waste. **Energy:** Expand penetration of access to national grid. **Water:** Efficient use of existing scheme. **Transport and logistics:**

Annexes DATA

Annex 1 Development Partner Interventions

Development Partners by Type of Intervention by Region

Count of Interventions	Administrative Regions					
Development Partners/Interventions	BRONG AHAFO	NORTHERN	UPPER EAST	UPPER WEST	VOLTA	Grand Total
<Null>				**1**		**1**
<Null>				1		1
AFD		**9**	**3**	**4**		**16**
Rice Sector Support		9	3	4		16
AGRA		**6**	**1**	**7**		**14**
Enhancing access to quality seeds for higher productivity of small scale farmers in UW Region of Ghana			1			1
Seed Production for Africa		6		7		13
CIDA		**71**	**30**	**46**		**147**
EWB - Building Capacity in Africa		1				1
Farm Radio FRI (DCFRN)		1	3	3		7
Food Security Advisory Services		16	6	9		31
Food Security and Environment Facility		1	3	1		5
Ghana Environmental Management Project (GEMP)		16	6	9		31
Greater Rural Opportunities for Women				6		6
Land Administration Project(Phase II)		6				6
Reducing Maternal & Child Under Nutrition		16	6	9		31
SFASDEP		14	6	9		29
GiZ		**12**	**5**	**5**		**22**
Chilli Value Chain		3				3
Climate Change Adaptation		2				2
Guinea Fowl Value Chain		3	5			8
Mango Value Chain		4		5		9
IFAD	**33**	**42**	**18**	**27**	**15**	**135**
Rural and Agricultural Finance	11	14	6	9	5	45
Rural Enterprises Programmes	11	14	6	9	5	45
Value Chain Development	11	14	6	9	5	45
IFDC	**7**	**24**	**7**	**9**	**2**	**49**
Agricultural Value Chain Mentorship Project		6				6
Commercial Development of FBOs (CDFO)		4				4
Linking Farmers to Markets		11	6	9		26
Marketing Inputs Regionally		3	1			4
West Africa Fertilizer Program/Ghana Agro-Dealer	7				2	9
JICA		**3**		**1**		**4**

Count of Interventions	Administrative Regions					
Development Partners/Interventions	BRONG AHAFO	NORTHERN	UPPER EAST	UPPER WEST	VOLTA	Grand Total
Climate and Ecosystem Change and Adaptation Resilience (CEDAR) Project		1		1		2
Sustainable Development of Rain-fed, lowland Rice Project		2				2
USAID	**19**	**38**	**17**	**24**	**5**	**103**
<Null>	1	3				4
Agric	7	13	6	9	3	38
Agric and Nutrition		10				10
Agric INPUTS MARKETING		1				1
Agric Processing and Marketing	4			6	1	11
AGRRIC AND NUTRITION		1				1
Capacity Building		1	2	2		5
Cereals, Pulses and Nuts Production	1	2	2	1		6
Food Security	2	4	2	4		12
GRASSCUTTERS AND OTHER SMALL RUMINANTS		1				1
Marketing of Agriculture Produce		1	1	1		3
Poultry		1	1			2
Road Transport/New Legislature	1				1	2
Seed Production			1			1
STARCHY STAPLES	1					1
SUGAR, ORANGES, PINEAPPLE AND BANANA	1					1
Vegetable			2	1		3
Vehicle Assembly and Transport Equipment	1					1
WFP				**18**		**18**
Dry season gardening				10		10
Resilience to Climatic Shocks and Support to Livelihoods				8		8
Grand Total	**59**	**205**	**81**	**142**	**22**	**509**

Development Partner Interventions by Growth Pole District

District	Growth Pole Id	Development Partners Count Of Interventions By District										% Of Total DPs
		AFD	AGRA	CIDA	GIZ	IFAD	IFDC	JICA	USAID	WFP	Grand Total	
Builsa	1	1		5	1	3	1		2		13	
Sissala East	1	1		6	1	3	1		4	2	18	
Gp 1 Total		**2**	**0**	**11**	**2**	**6**	**2**	**0**	**6**	**2**	**31**	**11%**
Bolgatanga Municipal	2	1			1						2	
East Mamprusi	2			7	1	3	1		3		15	
Kassena Nankana	2	1		6	1	3	1		4		16	
Gp2 Total		**2**	**0**	**13**	**3**	**6**	**2**	**0**	**7**	**0**	**33**	**12%**
West Mamprusi Gp1 & 2 Total	1 & 2	1		3	1	3	3	1	3		**15**	**5%**
Central Gonja	3	1		4	1	3	1		2		12	
G3p Total		**1**	**0**	**4**	**1**	**3**	**1**	**0**	**2**	**0**	**12**	**4%**
Nanumba North	4	1		5			2		2		10	
Gp 4 Total		**1**	**0**	**5**	**0**	**0**	**2**	**0**	**2**	**0**	**10**	**4%**
Krachi East	5					3			2		5	
Nanumba South	5						1				1	
Nkwanta North	5					3			1		4	
Nkwanta South	5								2		2	
Wenchi Municipal	5					3	1		1		5	
Gp 5 Total		**0**	**0**	**0**	**0**	**9**	**2**	**0**	**6**	**0**	**17**	**6%**
Kpandai Gp 4&5 Total	4 & 5			4		3	1		1		**9**	**3%**
Sawla-Tuna-Kalba	6			4	1	3	1		2		11	
Wa East	6	1		5	1	3	1		3	2	16	
Wa Municipal	6	1	1	6	1	3			3	1	16	
West Gonja	6			4		3	1		2		10	
Gp6 Total		**2**	**1**	**19**	**3**	**12**	**3**	**0**	**10**	**3**	**53**	**19%**
Pru	7					3			2		5	
Gp7 Total		**0**	**0**	**0**	**0**	**3**	**0**	**0**	**2**	**0**	**5**	**2%**
East-Gonja Gp 4&7 Total	4 & 7	1	1	5		3	2	1	1		**14**	**5%**
Bole	8			4	1	3	1		2		11	
Kintampo South	8					3	1		3		7	
Tain	8					3	1		4		8	
Tolon Kumbungu	8				3		2				5	

District	Growth Pole Id	Development Partners Count Of Interventions By District										% Of Total DPs
		AFD	AGRA	CIDA	GIZ	IFAD	IFDC	JICA	USAID	WFP	Grand Total	
Tolon Kumbungu	8	1		4		3	1	1	4		14	
Gp 8 Total		**1**	**0**	**8**	**4**	**12**	**6**	**1**	**13**	**0**	**45**	**16%**
Kintampo North Municipal	3, 7 & 8					3	1		2		6	**2%**
Savelugu Nanton	9	1					1				2	
Savelugu Nanton	9			5	3	3	2		3		16	
Karaga	9	1	1	5		3	2		3		15	
Gp 9 Total		**2**	**1**	**10**	**3**	**6**	**5**	**0**	**6**	**0**	**33**	**12%**
Grand Total	-	**13**	**3**	**82**	**17**	**69**	**30**	**3**	**61**	**5**	**283**	**100%**

Development Partner Interventions by All District

District	Growth Pole Id	Development Partners Count Of Interventions By District									
		AFD	AGRA	CIDA	GIZ	IFAD	IFDC	JICA	USAID	WFP	Total
Atebubu Amantin						3	1		1		5
Bawku East				4		3			4		11
Bawku Municipal							1				1
Bawku West				5	1	3	1		2		12
Bole	**8**			4	1	3	1		2		11
Bolgatanga				5		3	2		3		13
Bolgatanga Municipal	**2**	1			1						2
Builsa	**1**	1		5	1	3	1		2		13
Bunkpurugu Yunyoo				2							2
Central Gonja	**3**	1		4	1	3	1		2		12
East Gonja	**4 & 7**	1	1	5		3	2	1	1		14
East Mamprusi	**2**			7	1	3	1		3		15
Gushiegu		1									1
Gushiegu				5		3	1		4		13
Jaman						3					3
Jaman North						3			2		5
Jaman South									1		1
Jirapa Lambussie				4		3	1		2	1	11
Kadjebi						3					3
Karaga	**9**	1	1	5		3	2		3		15
Kassena Nankana	**2**	1		6	1	3	1		4		16
Kassena Nankana West				5	1	3	1		2		12
Ketu						3					3
Kintampo North Municipal	**3, 7 & 8**					3	1		2		6
Kintampo South	**8**					3	1		3		7
Kpandai	**4 & 5**			4		3	1		1		9
Kpandai							1				1
Krachi East	**5**					3			2		5
Lambussie										2	2
Lambussie-Karni				5		3	1		3		12
Lawra				5		3	1		3	3	15
Nadowli				5	1	3	1		2	1	13
Nandom										1	1
Nanumba South	**5**						1				1
Nanumba North	**4**	1		5			2		2		10
Nanumba South		1		4		3			3		11
Nkoranza						3	1				4
Nkoranza North						3	1		2		6
Nkwanta						3					3
Nkwanta North	**5**					3			1		4
Nkwanta South	**5**								2		2

District	Growth Pole Id	Development Partners Count Of Interventions By District									
		AFD	AGRA	CIDA	GIZ	IFAD	IFDC	JICA	USAID	WFP	Total
North Tongu							1				1
Pru	**7**					3			2		5
Saboba				6	1	3			3		13
Saboba Chereponi							1				1
Savelugu Nanton	**8**		1				1				2
Savelugu Nanton	**8**			5	3	3	2		3		16
Sawla-Tuna-Kalba	**6**			4	1	3	1		2		11
Sene						3			1		4
Sissala East		**1**	1	6	1	3	1		4	2	19
Sissala West				5		3	1		2	2	13
Tain	**8**					3	1		4		8
Tolon	**0**			4							4
Tolon Kumbungu	**8**				3		2				5
Tolon Kumbungu	**8**		1	4		3	1	1	4		14
Wa				7			1				8
Wa East	**6**		1	5	1	3	1		3	2	16
Wa Municipal	**6**		1	1	6	1	3		3	1	16
Wa West			1	5	1	3	1	1	2	3	17
Wenchi Municipal	**5**					3	1		1		5
West Gonja	**6**			4		3	1		2		10
West Mamprusi	**1 & 2**		1	3	1	3	3	1	3		15
Grand Total		**1**	**16**	**14**	**147**	**22**	**135**	**49**	**4**	**103**	**18**	**509**

Types of Interventions Development by Partners by District

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
<Null>	**1**								**4**		**5**
ATEBUBU AMANTIN									1		1
EAST GONJA									1		1
GUSHIEGU									1		1
KPANDAI									1		1
SISSALA EAST	1										1
Agric									**38**		**38**
BAWKU EAST									1		1
BAWKU WEST									1		1
BOLE									1		1
BOLGATANGA									1		1
BUILSA									1		1
CENTRAL GONJA									1		1
EAST MAMPRUSI									1		1
GUSHIEGU									1		1
JAMAN NORTH									1		1
JIRAPA LAMBUSSIE									1		1
KARAGA									1		1
KASSENA NANKANA									1		1
KASSENA NANKANA WEST									1		1
KINTAMPO NORTH MUNICIPAL									1		1
KINTAMPO SOUTH									1		1
KRACHI EAST									1		1
LAMBUSSIE-KARNI									1		1
LAWRA									1		1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
NADOWLI								1		1
NANUMBA NORTH								1		1
NANUMBA SOUTH								1		1
NKWANTA NORTH								1		1
NKWANTA SOUTH								1		1
PRU								2		2
SABOBA								1		1
SAVELUGU NANTON								1		1
SAWLA-TUNA-KALBA								1		1
SISSALA EAST								1		1
SISSALA WEST								1		1
TAIN								1		1
TOLON KUMBUNGU								1		1
WA EAST								1		1
WA MUNICIPAL								1		1
WA WEST								1		1
WENCHI MUNICIPAL								1		1
WEST GONJA								1		1
WEST MAMPRUSI								1		1
Agric and Nutrition								**10**		**10**
CENTRAL GONJA								1		1
EAST MAMPRUSI								1		1
GUSHIEGU								1		1
KARAGA								1		1
NANUMBA NORTH								1		1
NANUMBA SOUTH								1		1
SABOBA								1		1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
SAVELUGU NANTON								1		1
WEST GONJA								1		1
WEST MAMPRUSI								1		1
Agric INPUTS MARKETING								**1**		**1**
NANUMBA SOUTH								1		1
Agric Processing and Marketing								**11**		**11**
JAMAN SOUTH								1		1
KINTAMPO SOUTH								1		1
LAMBUSSIE-KARNI								*2*		*2*
NKORANZA NORTH								1		1
NKWANTA SOUTH								1		1
SISSALA EAST								1		1
SISSALA WEST								1		1
TAIN								1		1
WA MUNICIPAL								1		1
WA WEST								1		1
Agricultural Value Chain Mentorship Project	**6**									**6**
EAST GONJA	1									1
EAST MAMPRUSI	1									1
GUSHIEGU	1									1
KARAGA	1									1
NANUMBA NORTH	1									1
SABOBA CHEREPONI	1									1
AGRRIC AND NUTRITION								**1**		**1**
TOLON KUMBUNGU								1		1
Capacity Building								***5***		***5***
BAWKU EAST								1		1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
GUSHIEGU								1		1
KASSENA NANKANA								1		1
LAWRA								1		1
SISSALA EAST								1		1
Cereals, Pulses and Nuts Production								**6**		**6**
BOLE								1		1
KASSENA NANKANA								1		1
KASSENA NANKANA WEST								1		1
NKORANZA NORTH								1		1
SAWLA-TUNA-KALBA								1		1
WA EAST								1		1
Chilli Value Chain		**3**								**3**
SAVELUGU NANTON		1								1
TOLON KUMBUGU		2								2
Climate and Ecosystem Change and Adaptation Resilience (CEDAR) Project							**2**			**2**
TOLON KUMBUNGU							1			1
WA WEST							1			1
Climate Change Adaptation		**2**								**2**
BOLE		1								1
SAWLA-TUNA-KALBA		1								1
Commercial Development of FBOs (CDFO)					**4**					**4**
KARAGA					1					1
SAVELUGU NANTON					1					1
TOLON KUMBUGU					1					1
WEST MAMPRUSI					1					1
Dry season gardening									**10**	**10**

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
LAMBUSSIE										2	2
LAWRA										3	3
SISSALA WEST										2	2
WA WEST										3	3
Enhancing access to quality seeds for higher productivity of small scale farmers in UW Region of Ghana		**1**									**1**
WA MUNICIPAL		1									1
EWB - Building Capacity in Africa				**1**							**1**
SAVELUGU NANTON				1							1
Farm Radio FRI (DCFRN)				**7**							**7**
BOLGATANGA				1							1
BUILSA				1							1
KASSENA NANKANA				1							1
LAWRA				1							1
SABOBA				1							1
SISSALA EAST				1							1
WA MUNICIPAL				1							1
Food Security									**12**		**12**
BOLGATANGA									1		1
JAMAN NORTH									1		1
KARAGA									1		1
KASSENA NANKANA									1		1
LAWRA									1		1
SAVELUGU NANTON									1		1
SISSALA EAST									1		1
TAIN									1		1
TOLON KUMBUNGU									1		1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
WA EAST									1		1
WA MUNICIPAL									1		1
WEST MAMPRUSI									1		1
Food Security Advisory Services		**31**									**31**
BAWKU EAST		1									1
BAWKU WEST		1									1
BOLE		1									1
BOLGATANGA		1									1
BUILSA		1									1
BUNKPURUGU YUNYOO		1									1
CENTRAL GONJA		1									1
EAST GONJA		1									1
EAST MAMPRUSI		1									1
GUSHIEGU		1									1
JIRAPA LAMBUSSIE		1									1
KARAGA		1									1
KASSENA NANKANA		1									1
KASSENA NANKANA WEST		1									1
KPANDAI		1									1
LAMBUSSIE-KARNI		1									1
LAWRA		1									1
NADOWLI		1									1
NANUMBA NORTH		1									1
NANUMBA SOUTH		1									1
SABOBA		1									1
SAVELUGU NANTON		1									1
SAWLA-TUNA-KALBA		1									1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
SISSALA EAST					1						1
SISSALA WEST					1						1
TOLON KUMBUNGU					1						1
WA EAST					1						1
WA MUNICIPAL					1						1
WA WEST					1						1
WEST GONJA					1						1
WEST MAMPRUSI					1						1
Food Security and Environment Facility					***5***						***5***
BAWKU WEST					1						1
EAST MAMPRUSI					1						1
KASSENA NANKANA					1						1
KASSENA NANKANA WEST					1						1
WA MUNICIPAL					1						1
Ghana Environmental Management Project (GEMP)					***31***						***31***
BAWKU EAST					1						1
BAWKU WEST					1						1
BOLE					1						1
BOLGATANGA					1						1
BUILSA					1						1
BUNKPURUGU YUNYOO					1						1
CENTRAL GONJA					1						1
EAST GONJA					1						1
EAST MAMPRUSI					1						1
GUSHIEGU					1						1
JIRAPA LAMBUSSIE					1						1
KARAGA					1						1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
KASSENA NANKANA		1								1
KASSENA NANKANA WEST		1								1
KPANDAI		1								1
LAMBUSSIE-KARNI		1								1
LAWRA		1								1
NADOWLI		1								1
NANUMBA NORTH		1								1
NANUMBA SOUTH		1								1
SABOBA		1								1
SAVELUGU NANTON		1								1
SAWLA-TUNA-KALBA		1								1
SISSALA EAST		1								1
SISSALA WEST		1								1
TOLON KUMBUNGU		1								1
WA EAST		1								1
WA MUNICIPAL		1								1
WA WEST		1								1
WEST GONJA		1								1
WEST MAMPRUSI		1								1
GRASSCUTTERS AND OTHER SMALL RUMINANTS									**1**	**1**
TOLON KUMBUNGU									1	1
Greater Rural Opportunities for Women		**6**								**6**
LAMBUSSIE-KARNI		1								1
NADOWLI		1								1
SISSALA EAST		1								1
SISSALA WEST		1								1
WA EAST		1								1

Count of Development Org *	Development Partners Count of Interventions								
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
WA WEST	1										1
Guinea Fowl Value Chain					**8**						**8**
BAWKU WEST					1						1
BOLGATANGA MUNICIPAL					1						1
BUILSA					1						1
CENTRAL GONJA					1						1
KASSENA NANKANA					1						1
KASSENA NANKANA WEST					1						1
SAVELUGU NANTON					1						1
TOLON KUMBUGU					1						1
Land Administration Project(Phase II)	**6**										**6**
EAST GONJA	1										1
EAST MAMPRUSI	1										1
GUSHIEGU	1										1
KARAGA	1										1
NANUMBA NORTH	1										1
SABOBA	1										1
Linking Farmers to Markets							**26**				**26**
BAWKU MUNICIPAL							1				1
BAWKU WEST							1				1
BOLE							1				1
BOLGATANGA							1				1
BUILSA							1				1
CENTRAL GONJA							1				1
EAST GONJA							1				1
JIRAPA LAMBUSSIE							1				1
KASSENA NANKANA							1				1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
KASSENA NANKANA WEST							1				1
KPANDAI							1				1
LAMBUSSIE-KARNI							1				1
LAWRA							1				1
NADOWLI							1				1
NANUMBA SOUTH							1				1
NANUMBA NORTH							1				1
SAVELUGU NANTOM							1				1
SAWLA-TUNA-KALBA							1				1
SISSALA EAST							1				1
SISSALA WEST							1				1
TOLON KUMBUNGU							1				1
WA							1				1
WA EAST							1				1
WA WEST							1				1
WEST GONJA							1				1
WEST MAMPRUSI							1				1
Mango Value Chain	**9**										**9**
EAST MAMPRUSI	1										1
NADOWLI	1										1
SABOBA	1										1
SAVELUGU NANTON	1										1
SISSALA EAST	1										1
WA EAST	1										1
WA MUNICIPAL	1										1
WA WEST	1										1
WEST MAMPRUSI	1										1

Count of Development Org *	Development Partners Count of Interventions								
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
Marketing Inputs Regionally							**4**				**4**
BOLGATANGA							1				1
SAVELUGU NANTON							1				1
TOLON KUMBUGU							1				1
WEST MAMPRUSI							1				1
Marketing of Agriculture Produce									**3**		**3**
BAWKU WEST									1		1
EAST MAMPRUSI									1		1
NADOWLI									1		1
Poultry									**2**		**2**
BAWKU EAST									1		1
SABOBA									1		1
Reducing Maternal & Child Under Nutrition	**31**										**31**
BAWKU EAST	1										1
BAWKU WEST	1										1
BOLE	1										1
BOLGATANGA	1										1
BUILSA	1										1
CENTRAL GONJA	1										1
EAST GONJA	1										1
EAST MAMPRUSI	2										2
GUSHIEGU	1										1
JIRAPA LAMBUSSIE	1										1
KARAGA	1										1
KASSENA NANKANA	1										1
KASSENA NANKANA WEST	1										1
KPANDAI	1										1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
LAMBUSSIE-KARNI			1								1
LAWRA			1								1
NADOWLI			1								1
NANUMBA NORTH			1								1
NANUMBA SOUTH			1								1
SABOBA			1								1
SAVELUGU NANTON			1								1
SAWLA-TUNA-KALBA			1								1
SISSALA EAST			1								1
SISSALA WEST			1								1
TOLON KUMBUNGU			1								1
WA EAST			1								1
WA MUNICIPAL			1								1
WA WEST			1								1
WEST GONJA			1								1
WEST MAMPRUSI			1								1
Resilience to Climatic Shocks and Support to Livelihoods										**8**	**8**
JIRAPA LAMBUSSIE										1	1
NADOWLI										1	1
NANDOM										1	1
SISSALA EAST										2	2
WA EAST										2	2
WA MUNICIPAL										1	1
Rice Sector Support	**16**										**16**
BOLGATANGA MUNICIPAL	1										1
BUILSA	1										1
CENTRAL GONJA	1										1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
EAST GONJA	1									1
GUSHEGU	1									1
KARAGA	1									1
KASSENA NANKANA	1									1
NANUMBA NORTH	1									1
NANUMBA SOUTH	1									1
SAVELUGU NANTOM	1									1
SISSALA EAST	1									1
TOLON KUMBUNGU	1									1
WA EAST	1									1
WA MUNICIPAL	1									1
WA WEST	1									1
WEST MAMPRUSI	1									1
Road Transport/New Legislature									**2**	**2**
KRACHI EAST									1	1
SENE									1	1
Rural and Agricultural Finance		**45**								**45**
ATEBUBU AMANTIN		1								1
BAWKU EAST		1								1
BAWKU WEST		1								1
BOLE		1								1
BOLGATANGA		1								1
BUILSA		1								1
CENTRAL GONJA		1								1
EAST GONJA		1								1
EAST MAMPRUSI		1								1
GUSHIEGU		1								1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
JAMAN						1					1
JAMAN NORTH						1					1
JIRAPA LAMBUSSIE						1					1
KADJEBI						1					1
KARAGA						1					1
KASSENA NANKANA						1					1
KASSENA NANKANA WEST						1					1
KETU						1					1
KINTAMPO NORTH MUNICIPAL						1					1
KINTAMPO SOUTH						1					1
KPANDAI						1					1
KRACHI EAST						1					1
LAMBUSSIE-KARNI						1					1
LAWRA						1					1
NADOWLI						1					1
NANUMBA SOUTH						1					1
NKORANZA						1					1
NKORANZA NORTH						1					1
NKWANTA						1					1
NKWANTA NORTH						1					1
PRU						1					1
SABOBA						1					1
SAVELUGU NANTON						1					1
SAWLA-TUNA-KALBA						1					1
SENE						1					1
SISSALA EAST						1					1
SISSALA WEST						1					1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
TAIN						1					1
TOLON KUMBUNGU						1					1
WA EAST						1					1
WA MUNICIPAL						1					1
WA WEST						1					1
WENCHI MUNICIPAL						1					1
WEST GONJA						1					1
WEST MAMPRUSI						1					1
Rural Enterprises Programmes						**45**					**45**
ATEBUBU AMANTIN						1					1
BAWKU EAST						1					1
BAWKU WEST						1					1
BOLE						1					1
BOLGATANGA						1					1
BUILSA						1					1
CENTRAL GONJA						1					1
EAST GONJA						1					1
EAST MAMPRUSI						1					1
GUSHIEGU						1					1
JAMAN						1					1
JAMAN NORTH						1					1
JIRAPA LAMBUSSIE						1					1
KADJEBI						1					1
KARAGA						1					1
KASSENA NANKANA						1					1
KASSENA NANKANA WEST						1					1
KETU						1					1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
KINTAMPO NORTH MUNICIPAL						1					1
KINTAMPO SOUTH						1					1
KPANDAI						1					1
KRACHI EAST						1					1
LAMBUSSIE-KARNI						1					1
LAWRA						1					1
NADOWLI						1					1
NANUMBA SOUTH						1					1
NKORANZA						1					1
NKORANZA NORTH						1					1
NKWANTA						1					1
NKWANTA NORTH						1					1
PRU						1					1
SABOBA						1					1
SAVELUGU NANTON						1					1
SAWLA-TUNA-KALBA						1					1
SENE						1					1
SISSALA EAST						1					1
SISSALA WEST						1					1
TAIN						1					1
TOLON KUMBUNGU						1					1
WA EAST						1					1
WA MUNICIPAL						1					1
WA WEST						1					1
WENCHI MUNICIPAL						1					1
WEST GONJA						1					1
WEST MAMPRUSI						1					1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
Seed Production									**1**		**1**
BOLGATANGA									1		1
Seed Production for Africa	**13**										**13**
EAST GONJA	1										1
KARAGA	1										1
TOLON	4										4
WA	7										7
SFASDEP		**29**									**29**
BAWKU EAST		1									1
BAWKU WEST		1									1
BOLE		1									1
BOLGATANGA		1									1
BUILSA		1									1
CENTRAL GONJA		1									1
EAST GONJA		1									1
EAST MAMPRUSI		1									1
GUSHIEGU		1									1
JIRAPA LAMBUSSIE		1									1
KARAGA		1									1
KASSENA NANKANA		1									1
KASSENA NANKANA WEST		1									1
KPANDAI		1									1
LAMBUSSIE-KARNI		1									1
LAWRA		1									1
NADOWLI		1									1
NANUMBA NORTH		1									1
NANUMBA SOUTH		1									1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
SABOBA	1									1
SAVELUGU NANTON	1									1
SAWLA-TUNA-KALBA	1									1
SISSALA EAST	1									1
SISSALA WEST	1									1
TOLON KUMBUNGU	1									1
WA EAST	1									1
WA MUNICIPAL	1									1
WA WEST	1									1
WEST GONJA	1									1
STARCHY STAPLES									**1**	**1**
TAIN									1	1
SUGAR, ORANGES, PINEAPPLE AND BANANA									**1**	**1**
KINTAMPO SOUTH									1	1
Sustainable Development of Rain-fed, lowland Rice Project							**2**			**2**
EAST GONJA							1			1
WEST MAMPRUSI							1			1
Value Chain Development					**45**					**45**
ATEBUBU AMANTIN					1					1
BAWKU EAST					1					1
BAWKU WEST					1					1
BOLE					1					1
BOLGATANGA					1					1
BUILSA					1					1
CENTRAL GONJA					1					1
EAST GONJA					1					1
EAST MAMPRUSI					1					1

Count of Development Org *	Development Partners Count of Interventions									
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
GUSHIEGU		1									1
JAMAN		1									1
JAMAN NORTH		1									1
JIRAPA LAMBUSSIE		1									1
KADJEBI		1									1
KARAGA		1									1
KASSENA NANKANA		1									1
KASSENA NANKANA WEST		1									1
KETU		1									1
KINTAMPO NORTH MUNICIPAL		1									1
KINTAMPO SOUTH		1									1
KPANDAI		1									1
KRACHI EAST		1									1
LAMBUSSIE-KARNI		1									1
LAWRA		1									1
NADOWLI		1									1
NANUMBA SOUTH		1									1
NKORANZA		1									1
NKORANZA NORTH		1									1
NKWANTA		1									1
NKWANTA NORTH		1									1
PRU		1									1
SABOBA		1									1
SAVELUGU NANTON		1									1
SAWLA-TUNA-KALBA		1									1
SENE		1									1
SISSALA EAST		1									1

Count of Development Org *	Development Partners Count of Interventions										
Type of Interventions	**<Null>**	**AFD**	**AGRA**	**CIDA**	**GiZ**	**IFAD**	**IFDC**	**JICA**	**USAID**	**WFP**	**Total**
SISSALA WEST						1					1
TAIN						1					1
TOLON KUMBUNGU						1					1
WA EAST						1					1
WA MUNICIPAL						1					1
WA WEST						1					1
WENCHI MUNICIPAL						1					1
WEST GONJA						1					1
WEST MAMPRUSI						1					1
Vegetable									***3***		***3***
BAWKU EAST									1		1
BUILSA									1		1
JIRAPA LAMBUSSIE									1		1
Vehicle Assembly and Transport Equipment									**1**		**1**
KINTAMPO NORTH MUNICIPAL									1		1
West Africa Fertilizer Program/Ghana Agro-Dealer							**9**				**9**
ATEBUBU AMANTIN							1				1
KINTAMPO NORTH MUNICIPAL							1				1
KINTAMPO SOUTH							1				1
KPANDU							1				1
NKORANZA							1				1
NKORANZA NORTH							1				1
NORTH TONGU							1				1
TAIN							1				1
WENCHI MUNICIPAL							1				1
Grand Total	**1**	**16**	**14**	**147**	**22**	**135**	**49**	**4**	**103**	**18**	**509**

Annex 2; Crop Production Statistics 2013

			Crop Production Mt.					Ave Crop Yields per Ha					Crop Production % of Total.				
Growth Pole ID	Districts Located close to the Growth Pole Area	Pop	Maize	Rice	Cassava	Yam	Soyabean	Maize	Rice	Cassava	Yam	Soyabean	Maize	Rice	Cassava	Yam	Soyabean
1. Sisili Kulpawn Valley	1. Builsa		4,242	9,432	-	-	305	1.30	2.28	-	-	0.57					
	2.Mamprugu Moaduguri		-	-	-	-	-	-	-	-	-	-					
	3. West Mamprusi		8,927	13,541	17,782	54,463	4,783	1.43	2.45	6.70	8.44	1.43					
Total			**13,169**	**22,973**	**17,782**	**54,463**	**5,088**						4%	12%	1%	2%	7%
2. Pwalugu Area	1. Bolgatanga Municipal		3,675	8,390	-	-	-	1.73	2.66	-	-	-					
	2. East Mamprusi		2,024	1,581	12,218	66,947	5,152	1.00	1.40	10.87	12.08	1.55					
	3. Kassena Nankana		2,295	17,391	-	-	-	1.00	2.79	-	-	-					
	4.Talensi Nabdam		4,148	3,984	-	-	-	1.40	2.09	-	-	-					
	5. West Mamprusi		8,927	13,541	17,782	54,463	4,783	1.43	2.45	6.70	8.44	1.43					
Total			**21,069**	**44,887**	**30,000**	**121,411**	**9,936**						7%	23%	1%	3%	13%
3. Buipe Area	1. Central Gonja		4,611	2,218	81,183	68,103	1,093	1.31	1.83	12.40	12.06	1.78					
	2. Kintampo North Municipal		6,743	5,493	56,170	227,132	1,634										
Total			**11,354**	**7,711**	**137,353**	**295,235**	**2,726**						4%	4%	6%	8%	4%
	1. East Gonja		-	-	-	-	-	1.45	2.12	13.71	15.70	1.98					

			Crop Production Mt.					Ave Crop Yields per Ha					Crop Production % of Total.				
Growth Pole ID	Districts Located close to the Growth Pole Area	Pop	Maize	Rice	Cassava	Yam	Soyabean	Maize	Rice	Cassava	Yam	Soyabean	Maize	Rice	Cassava	Yam	Soyabean
	2. Kpandai		4,805	4,282	38,525	68,720	822	1.54	2.00	14.84	15.15	1.89					
4. Daka/Katanga Valley	3. Nanumba North		7,214	1,003	239,284	380,817	7,097	1.45	1.31	21.30	23.99	1.94					
Total			**12,019**	**5,285**	**277,809**	**449,538**	**7,919**						4%	3%	12%	13%	10%
	1. Kpandai		4,805	4,282	38,525	68,720	822	1.54	2.00	14.84	15.15	1.89					
	2. Krachi East		2,228	6,242	89,471	116,510	1,314	1.20	3.46	15.70	16.70	1.12					
	3. Krachi West		3,159	5,095	198,132	89,471	1,618	1.23	2.72	16.93	15.45	1.10					
	4. Krachi-Nchumuru Chinderi		-	-	-	-	-	-	-	-	-	-					
	5. Nanumba South		7,125	1,913	176,788	328,321	12,551	1.53	1.53	22.14	23.48	2.75					
	6. Nkwanta North		4,099	7,781	26,806	89,074	347	1.21	3.73	18.76	17.66	1.01					
5. Oti River Basin	7.Nkwanta South		3,994	8,656	31,666	75,938	307	1.19	3,77	17.82	17.66	1.02					
Total			**25,410**	**33,969**	**561,388**	**768,034**	**16,959**						8%	17%	23%	22%	22%
	1. Sawla-Tuna-Kalba		24,483	2,453	17,586	184,791	719	1.82	1.89	14.24	18.77	1.70					
	2. Wa East		5,800	1,600	-	67,511	3,400	1.15	1.65	-	11.25	1.40					
	3. Wa Municipal		9,000	854	-	109,710	3,320	1.24	1.60	-	20.70	1.00					
6. Fumsi Valley	4. West Gonja		9,404	1,988	454,961	177,351	1,219	1.30	1.65	20.54	23.78	2.15					
Total			**48,687**	**6,895**	**472,547**	**539,363**	**8,658**						16%	4%	20%	15%	11%

			Crop Production Mt.					Ave Crop Yields per Ha					Crop Production % of Total.				
Growth Pole ID	**Districts Located close to the Growth Pole Area**	**Pop**	**Maize**	**Rice**	**Cassava**	**Yam**	**Soyabean**	**Maize**	**Rice**	**Cassava**	**Yam**	**Soyabean**	**Maize**	**Rice**	**Cassava**	**Yam**	**Soyabean**
	1. East Gonja		6,743	5,493	56,170	227,132	1,634	1.45	2.12	13.71	15.70	1.98					
	2.Kintampo North Municipal		55,362	87	81,351	163,826	-	1.97	1.55	17.42	18.36	-					
7. Kabaka Gorge	3. Pru		5,574	203	185,778	229,519	-	1.73	1.69	19.19	18.01	-					
Total			**67,679**	**5,783**	**323,299**	**620,477**	**1,634**						22%	3%	14%	17%	2%
	1. Bole		5,704	907	21,948	59,148	954	1.25	1.43	11.80	15.71	1.20					
	2. Kintampo North Municipal		-	-	-	-	-	1.97	1.55	17.42	18.36	-					
	3. Kintampo South		21,939	-	81,351	163,826	-	1.85	-	21.36	21.35	-					
8. Bui Development Area	4. Tain		4,471	-	149,997	150,581	-	1.90	-	16.42	17.35	-					
	5. Wenchi Municipal		32,044	-	212,138	189,044	-	1.95	-	19.28	17.19	-					
Total			**64,158**	**907**	**465,434**	**562,599**	**954**						21%	0%	19%	16%	1%
	Karaga		7,398	3,023	1,950	1,946	6,622	1.45	1.45	1.45	1.45	1.45					
	Tolon Kumbungu		18,394	37,053	82,260	44,919	3,780	1.49	2.30	13.71	11.16	2.10					
9. Nasia Valley	Savelugu Nanton		12,055	26,950	24,746	113,354	11,447	1.29	2.50	7.98	14.75	2.15					
Total			**37,847**	**67,026**	**108,956**	**160,219**	**21,849**						12%	34%	5%	4%	29%
10.Kamba Dam	Lawra		4,444	270	-	-	227	1.20	1.20	-	-	0.97	1%	0.1%	0.00%	0.00%	0.30%

			Crop Production Mt.					Ave Crop Yields per Ha					Crop Production % of Total.				
Growth Pole ID	**Districts Located close to the Growth Pole Area**	**Pop**	**Maize**	**Rice**	**Cassava**	**Yam**	**Soyabean**	**Maize**	**Rice**	**Cassava**	**Yam**	**Soyabean**	**Maize**	**Rice**	**Cassava**	**Yam**	**Soyabean**
11.Bontaga Dam	Tolon Kumbungu		18,394	37,053	82,260	44,919	3,780	1.49	2.30	13.71	11.16	2.10					
	Grand Total		**305,835**	**195,706**	**2,394,567**	**3,571,338**	**75,950**						100%	100%	100%	100%	100%

Source: MoFA SRID

Annex 3; List of Nucleus Farmers

Nucleus Farmers in the Northern Region

District	1st Name	2nd Name	Enterprise	Community	Major Crop	Actor Type	Phone
Gushegu	Alhaji Umar	Razak	**Behishung Enterprise**	Tolon	Maize	Nucleus Farmer	0249536566 /0241723117
Gushegu	Abukari	Fuseini	**Abukari Farms**	Negblegbini	Maize	Nucleus Farmer	0208031332 /0242808705
Savelugu-Nanton	Umar	Abdul - Latif	**Jeminal Company Limited**	Savelugu	Maize	Nucleus Farmer	0244027223 / 0200261166
Tamale Metropolitan	Abdul-Rahaman	Takoro	**Zoccoffarm**	Tamale	Maize	Nucleus Farmer	0243507590
Tamale Metropolitan	Sulbila	Iddrisu	**Yong-Dakpemyilli Com**	Young-Daakpemyili	Maize	Nucleus Farmer	0242147915 /0208279324
Gushegu	Alhaji Alhassan	Iddrisu		Zinindo	Maize	Nucleus Farmer	0201626393 /0200310105
Nanumba North	Abukari	Tindana	**Guzuli Farms**	Bimbilla	Maize	Nucleus Farmer	0209192543
Nanumba North	Dasana	Natogmah	**Dikayini Farms**	Bimbilla	Maize	Nucleus Farmer	0246289641
West Gonja	Alhaji Asuma	Rony Sakara		Damango	Maize	Nucleus Farmer	0243523848 /0203826335
Tamale Metropolitan	Haruna	Sadik	**Simli Farms Ltd**	Tamale	Maize	Nucleus Farmer	0207208435
Gushegu	Alhassan	Alhassan		Zinindo	Maize	Nucleus Farmer	0201626393
Gushegu	Abdulai	Mahama		Zinindo	Maize	Nucleus Farmer	0201626393
Gushegu	Alhassan	Seidu		Kpatinga	Maize	Nucleus Farmer	0249446989 /0245896686
Gushegu	Nanoagma	Alhassan		Zinindo	Maize	Nucleus Farmer	0201626393
Nanumba North	Onajah	Jacques		Dipah	Maize	Nucleus Farmer	0245367508
Nanumba North	Mohammed	Issahak		Bincherata nga	Maize	Nucleus Farmer	0240473624
Nanumba North	Adam	Abukari		Bimbilla	Maize	Nucleus Farmer	0246385691 /0206419303
Nanumba North	Ibrahim	Hudu		Bimbilla	Maize	Nucleus Farmer	0242924317
Tamale Metropolitan	Zakaria	Alhassan	**Gundaa Produce Co**	Tamale	Maize	Nucleus Farmer/Aggregator	0244457685
Tamale Metropolitan	Zakaria	Iddrisu Sumani	**Heritage Seed Company**	Tamale	Maize	Seed Dealer	0543370501

District	1st Name	2nd Name	Enterprise	Community	Major Crop	Actor Type	Phone
Central Gonja	Alhassan	Baba Darison	**Kana Investment Ltd**	Buipe	Maize/Soy bean	Nucleus Farmer	0264652482 / 0200869759
Tolon-Kumbungu	Gina	Odateyfio	**Amsig Resources**		Rice	Aggregator/Processor	0244625646
Yendi Municipal	Matthew Mbanti	Dagbanja		Dagbanjado	Rice	Nucleus Farmer	0249758198
West Mamprusi	Samuel	M. Mahamadu	**Samsford Ltd**	Kparigu	Rice	Nucleus Farmer	0208265144 /0247401639
Zabzugu/ Tatale	Sulemana	Hudu		Sabare	Rice	Nucleus Farmer	0245221972
Tamale Metropolitan	Ibrahim	Mahama		Tamale	Rice	Nucleus Farmer	0249410746
Karaga	Alhaji Issahaku	Mahama		Napoligu	Rice	Nucleus Farmer	0243904139
Tamale Metropolitan	Mohammed	Adam Nashiru		Tamale	Rice	Nucleus Farmer	0243540629
Tamale Metropolitan	Abdulai	Immoro		Nyong	Rice	Nucleus Farmer	0209251753
Tamale Metropolitan	Alhassan	Sulley	**Gushei Farms**	Gushei	Rice	Nucleus Farmer	0264027753
Tamale Metropolitan	Baba	Abdullai Yakubu Alhaji		Juni/Kpanshegu	Rice	Nucleus Farmer	0243111193
Tamale Metropolitan	Memunatu	Iddrisu	**Lolandi Rice Processing**	Tamale	Rice	Aggregator/Processor	0246811045
Nanumba North	Alhassan	Ibrahim	**Kibos Farms**	Bimbilla	Rice/Maize	Nucleus Farmer	0245395798
Chereponi	Ernest	Asoi	**Kukunsor Women Group**	Chereponi	Soybean	Group Coordinator	0273688181 /0240995253
Chereponi	Lambini	Nicholas		Chereponi	Soybean	Group Coordinator	0273522908 /0541630108
Yendi Municipal	Yamba	Yelimangli		Bunbon	Soybean	Nucleus Farmer	0241099923
East Gonja	Osman	Awudu	**Samakusa Farms**	Salaga	Soybean	Nucleus Farmer	0208388368
Yendi Municipal	Alhassan	Jahanfor		Yendi	Soybean	Nucleus Farmer	0243170633 6/0268770636
Gushegu	Chief Abdulai	Alhassan	**Bogu Seeds & Fruit Ass**	Gushegu	Soybean	Nucleus Farmer	0208290029
Gushegu	Hussein	Muhib	**Kharma Farms Enterprise**	Gushegu	Soybean	Nucleus Farmer	0244435112
Gushegu	Mustapha	Dokurugu		Gushegu	Soybean	Nucleus Farmer	0209655303
Karaga	Iddrisu	Salifu	**Ramsali Enterprise**	Karaga	Soybean	Nucleus Farmer	0208293761
Chereponi	Zakaria	Seidu	**Zakaria Farms**	Nawieku	Soybean	Nucleus Farmer	0546560457
Saboba	Tignan	Bayi		Nakpamboni	Soybean	Nucleus Farmer	0549696599
Gushegu	Abukari	Dokurugu		Gushegu	Soybean	Nucleus Farmer	0243941257

District	1st Name	2nd Name	Enterprise	Community	Major Crop	Actor Type	Phone
Gushegu	Iddrisu	Yakubu		Gushegu	Soybean	Nucleus Farmer	0200544869
Saboba	John	Nantey	**Muyo Farms**	Saboba	Soybean	Nucleus Farmer	0267424300
Gushegu	Baba	Salifu		Gushegu	Soybean	Nucleus Farmer	0242624765
Gushegu	Abukari	Issah		Gushegu	Soybean	Nucleus Farmer	0243570878
Gushegu	Alhassan	Salifu		Gushegu	Soybean	Nucleus Farmer	0273310323
Gushegu	Alhassan	Mumuni Baba		Gushegu	Soybean	Nucleus Farmer	0242117121
Gushegu	Inusah	Issah		Gushegu	Soybean	Nucleus Farmer	0242960473
Gushegu	Amidu	Abdullah		Gushegu	Soybean	Nucleus Farmer	0242254021
Gushegu	Abukari	Mahama		Gushegu	Soybean	Nucleus Farmer	0201626393
Gushegu	Yussif	Zakaria		Zinindo	Soybean	Nucleus Farmer	0242575155 /0200866210
Gushegu	Abednego	Abosore	**Hakuna Matata Ent**	Yendi	Soybean	Seed Dealer	0208546425

Nucleus Farmers in the Upper West Region

First Name	Middle Name	Last Name	Age	Gender	Phone Number	Community	Commodity
Augustine	Sandow	Ambotima	52	M	0247963878	Nadowli	Maize
Felix	Null	Bazing	58	M	0208257028	Kojopare	Maize
Imoro	Null	Abdulai-Salia	34	M	0208708140	Hain	Maize
Isidore		Benlu	51	M	0244728515	Jang	Soyabean
Issah	Null	Issahaku	55	M	0260565700	Daku	Maize
John	Null	Mulnye	38	M	0275751320	Gindabo	Maize
Macadams		Iddrisu	54	M	0546509058	Loggu	Maize
Malik	Null	Nabie	52	M	0208446934	Tumu	Maize
Mamuda	Null	Buntei	38	M	0245273642	Tarsaw	Maize
Mashood	Null	Dori	42	M	0245283670	Bulenga	Maize
Tawfic		Abdul-Rahaman	35	M	0244607068	Wa	Maize
Yahaya	Null	Iddrisu	33	M	0247433002	Wa	Maize
Abu		Nabong	46	M	0201717292	Nwanduonu	Maize
Yaa-Naa		Yahaya	37	M	0245267456	Bugubelle	Maize
Frank	Kofi	Tetteh	46	M	0248875526	Kalba	Maize
Ramatu		Wassai	50	F	0208503760	Tumu	#N/A
Saaka		Awuro	46	M	0249182170	Funsi	Maize
Tahiru		Meke	55	M	0543372216	Jawia	Maize
James		Bawa	49	M		Dangi	Maize
Kassim		Bawile	42	M		Bujan	Maize
Dr. Francis		Banka	59	M	0246 601384	Sombo	Soyabean
Cletus		Zaabe	63	M		Dondometeng	Maize
James	Paanii	Wobil	45	M		Tumu	Maize
Ibrahim		Abdulai	35	M		Bugubelle	Maize

Nucleus Farmers in the Upper East Region

Farmer ID	First Name	Last Name	Age	Gender	Phone Number	Community	Commodity
1uer0908nf005	Martin	Ariku		M	0244486929	Bazua	Maize
1uer0905nf007	Musah	Sulemana	50	M	0246298325	Boya	Maize
1uer0905nf031	Moses	Afoko	41	M	0208294574	Bolgatanga	Maize
1uer0909nf008	Hajia	Tia	58	F	0246067350	Pwalugu	Maize
1uer0905nf001	Alhaji	Asaki	52	M		Adankotiga	Maize
1uer0818nf027	Ben	Awuni	40	M	0245942417	Nalerigu	Maize
1uer0820nf017	Christopher	Kwotuah	31	M	0243311525	Bunkpurugu	Maize
1uer0820nf018	Alice	Alex	41	F	0548480629	Bunkpurugu	Maize
1uer0818nf026	Abdul	Abdulai	54	M	0249180488	Nagboo	Maize
1uer0904nf006	Inusah	Abdulai	45	M	0249393402	Bolgatanga	Soyabean
1uer0902nf022	Awo	Oliver	46	M	0246799890	Navrongo	Rice
1uer0901nf013	Janet	Nyabase	49	F	0249662727	Chuchliga	Rice
1uer0902nf020	Iddrisu	Akolbire	48	M	0263143899	Nyariga	Rice
1uer0905nf024	Sulley	Agholisi	61	M	0264000579	Zebilla	Maize
1uer0901nf010	Akapata	Isaac	41	M	0205913191	Navrongo	Rice
1nre0820nf029	Henry	Konlan	64	M	0249182187	Bunkpurugu	Maize
1nre0820nf028	Mahamoud	Baba	63	M	0249184015	Sakogu	Maize
1uer0904nf025	Akukubilla	Ayamga	53	M	0249307104	Kalbeo	Maize
1uer0907nf030	Alhaji	Azure	69	M	0242975473	Kpatia	Maize
1uer0903nf019	Atanga	Gilbert	43	M	0209265537	Nyariga	Rice
1uer0901nf014	Akisiba	Enoch	46	M	0244832075	Chuchliga	Rice
1uer0901nf011	Maxwell	Akandem	42	M	02003226090	Sandema	#N/A
1uer0909nf021	Sulley	Adongo	56	M	02045959260	Bolgatanga	#N/A
1uer0905nf002	Baba	Kumasi	55	M	0244409331	Zogoyiri	#N/A
1uer0905nf015	Moses	Abaare	57	M		Binaba	Maize
1uer0908nf003	Alhaji	Saani	54	M	0248977178	Pusiga	#N/A
1uer0907br001	Mary	Anabiga	56	F	0242887611	Garu	#N/A
1uer0905nf004	Awintoma	Akandem	46	M	0242026967	Tilli	#N/A

Annex 4 List of FBOs

Brong-Ahafo Region FBO List

District	FBO name	FBO no	Major commodity
Kintampo north	Atta akura rice farmers association	2bar0711fb147	Rice
Kintampo north	Baaniatwe maize group	2bar0711fb167	Maize
Kintampo north	Badukrom maize group	2bar0711fb241	Maize
Kintampo north	Bawa akura rice farmers' ass.	2bar0711fb145	Rice
Kintampo north	Chirander rice farmers' ass.	2bar0711fb148	Rice
Kintampo north	Dawadawa no.2 rice farmers' ass.	2bar0711fb150	Rice
Kintampo north	Jato akura rice farmers association	2bar0711fb146	Rice
Kintampo north	Kobeda no 1 maize farmer's group	2bar0711fb242	Maize
Kintampo north	Kobeda no 2 maize farmers group	2bar0711fb243	Maize
Kintampo north	Mahama akura rice farmers ass	2bar0711fb144	Rice
Kintampo north	Nyamebekyere farmers group 1	2bar0711fb155	Maize
Kintampo north	Tahiru akura rice farmers' ass.	2bar0711fb143	Rice
Kintampo south	Abudwom community maize farmers	2bar0718fb224	Maize
Kintampo south	Adiemra maize farmers association	2bar0718fb195	Maize
Kintampo south	Akora top1 farmers maize group	2bar0718fb198	Maize
Kintampo south	Amoma/agyina maize farmers group	2bar0718fb191	Maize
Kintampo south	Ampoma maize farmers group	2bar0718fb209	Maize
Kintampo south	Anyima farmers association	2bar0718fb244	Maize
Kintampo south	Apesika maize farmers group	2bar0718fb199	Maize
Kintampo south	Attakrom maize farmers	2bar0718fb200	Maize
Kintampo south	Bawa akura farmers maize group	2bar0718fb197	Maize
Kintampo south	Bepoyase maize farmers group	2bar0720fb204	Maize
Kintampo south	Drepo farmers group	2bar0718fb226	Maize
Kintampo south	Drobokrom maize farmers group	2bar0720fb237	Maize
Kintampo south	Jema maize farmers association	2bar0718fb171	Maize
Kintampo south	Jema nkwanta maize farmers group	2bar0718fb205	Maize
Kintampo south	Jema-zongo maize farmers group	2bar0718fb206	Maize
Kintampo south	Krabonso maize farmers group	2bar0718fb192	Maize
Kintampo south	Kwabia maize farmers group	2bar0718fb201	Maize
Kintampo south	Nante farmers maize group	2bar0718fb196	Maize
Kintampo south	Nyamebekyere farmers group 2	2bar0718fb142	Maize
Kintampo south	Nyamebekyere maize farmers group	2bar0718fb207	Maize
Kintampo south	Oforikrom maize farmers group	2bar0718fb232	Maize
Kintampo south	Pamdu maize farmers group	2bar0718fb189	Maize
Kintampo south	Panyinamisa maize farmers group	2bar0718fb190	Maize
Kintampo south	Yeripemso maize farmers group	2bar0718fb225	Maize
Kintampo south	Yipaala maize farmers group	2bar0718fb194	Maize
Pru	Abease maize farmers association	2bar0716fb213	Maize
Pru	Abease rice farmers association	2bar0716fb223	Rice
Pru	Ajantruwa community farmers group	2bar0716fb220	Maize
Pru	Akasen women's group	2bar0716fb149	Rice
Pru	Akesen youth association	2bar0716fb152	Rice
Pru	Atai base rice farmers association	2bar0716fb162	Rice

District	FBO name	FBO no	Major commodity
Pru	Buma community farmers group	2bar0716fb217	Maize
Pru	Dama nkwanta farmers group	2bar0716fb221	Maize
Pru	Habitat farmers group	2bar0716fb229	Maize
Pru	Kadue maize / rice farmers	2bar0716fb211	Maize
Pru	Kajai maize farmers	2bar0716fb219	Maize
Pru	Kobre maize / rice farmers group	2bar0716fb222	Maize
Pru	Kofourkrom maize farmers assocition	2bar0716fb215	Maize
Pru	Konkoma maize / rice farmers group	2bar0716fb218	Maize
Pru	Korancha maize farmers group	2bar0716fb228	Maize
Pru	Labaika rice farmers association	2bar0716fb161	Rice
Pru	Ngua mallam maize farmers group	2bar0716fb230	Maize
Pru	Parambo maize farmers group	2bar0716fb214	Maize
Pru	Prang maize farmers group	2bar0716fb245	Maize
Pru	Sawaba maize farmers group	2bar0716fb227	Maize
Pru	Shalala rice/maize farmers	2bar0716fb212	Rice
Pru	Tonta maize farmers group	2bar0716fb231	Maize
Pru	Yeji famers group	2bar0716fb239	Maize
Pru	Young farmers group	2bar0716fb238	Maize
Pru	Zambrama farmers group	2bar0716fb216	Maize
Sene	Aketeng maize farmers group	2bar0713fb166	Maize
Sene	Akyeremade maize farmers association	2bar0713fb234	Maize
Sene	Anyo budu maize farmers ass.	2bar0713fb157	Maize
Sene	Banyaako maize farmers association	2bar0713fb165	Maize
Sene	Dada maize farmers group	2bar0713fb174	Maize
Sene	Dagomba line maize group	2bar0713fb173	Maize
Sene	Dwankrom maize farmers association	2bar0713fb235	Maize
Sene	God first maize afrmers association	2bar0713fb159	Maize
Sene	Krenkuase maize farmers group	2bar0713fb175	Maize
Sene	Kwame danso maize farmers	2bar0713fb163	Maize
Sene	Kwame danso rice farmers	2bar0713fb240	Rice
Sene	Laila maize farmers associationn	2bar0713fb160	Maize
Sene	Lassi maize farmers association	2bar0713fb156	Maize
Sene	Lassi maize farmers group	2bar0713fb176	Maize
Sene	Mframa maize farmers association	2bar0713fb164	Maize
Sene	Nyankontre farmers group	2bar0713fb238	Maize
Sene	Ohene akura maize group	2bar0713fb119	Maize
Sene	Wiase maize farmers association	2bar0713fb169	Maize
Sene	Wiri kofi maize farmers group	2bar0713fb208	Maize
Sene	Wisdom rice farmers association	2bar0713fb158	Rice
Tain	Adamu maize farmers group	2bar0720fb172	Maize
Tain	Agyawiam maize farmers group	2bar0720fb233	Maize
Tain	Akyekrom maize farmers group	2bar0720fb179	Maize
Tain	Amangoase maize farmers group	2bar0720fb183	Maize
Tain	Apayeso maize farmers group	2bar0720fb186	Maize
Tain	Aseakrom maize farmers group	2bar0720fb188	Maize
Tain	Asuafu maize farmers group	2bar0720fb180	Maize
Tain	Badu area 1 farmers association	2bar0720fb170	Maize

District	FBO name	FBO no	Major commodity
Tain	Badu area 2 farmers association	2bar0720fb210	Maize
Tain	Badu farmers association	2bar0720fb151	Maize
Tain	Dadease maize farmers group	2bar0720fb181	Maize
Tain	Dagadu maize farmers group	2bar0720fb184	Maize
Tain	Donkokrom maize farmers group	2bar0720fb182	Maize
Tain	Droboukrom maize farmers	2bar0720fb236	Maize
Tain	Kolongo maize farmers group	2bar0720fb185	Maize
Tain	Maakwaye maize farmers	2bar0720fb203	Maize
Tain	Tain attakrom maize farmers	2bar0720fb187	Maize

Upper West Region FBO List

District	Fbo name	Commodity
Wa east	Amanoyoum	Maize
Wa east	Amanoyoum	Maize
Wa east	Ambabaha	Maize
Nadowli	Apedomong	Maize
Wa east	Baateha	Maize
Wa east	Baateha	Maize
Wa east	Batiaha	Maize
Nadowli	Bazing	Maize
Nadowli	Benlunuma farmers group	Maize
Jirapa	Chapuri lanzinmaali women's group	Maize
Jirapa	Chapuri mwinasong women's group	Maize
Jirapa	Chapuri sonzele women's group	Maize
Jirapa	Chapuri zotuore women's group	Maize
Wa east	Dry season gardeners	Maize
Wa east	Enye	Maize
Wa east	Gmunigusu	Maize
Jirapa	Gyaavuur dabuoyiri tiertaa group	Maize
Jirapa	Gyaavuur nigbariyikpongnii farmer's group	Maize
Jirapa	Gyaavuur tedawabang women's group	Maize
Jirapa	Gyaavuur tiemakanglienie farmer's group	Maize
Jirapa	Gyaavuur domolaare biddobo nepogyaare farmer's group	Maize
Jirapa	Hain kanritachivie women's group	Maize
Jirapa	Hain sheabutter women's group	Maize

District	Fbo name	Commodity
Jirapa	Hain songbaala women's group	Maize
Jirapa	Hain songbaala women's group	Maize
Jirapa	Hain tietaado women's group	Maize
Jirapa	Kamiensaanye	Maize
Nadowli	Kaminduyi	Maize
Nadowli	Kantierenge	Maize
Nadowli	Kanyiri	Maize
Wa east	Kenyiri	Maize
Wa east	Kparebaye	Maize
Jirapa	Lang-ullo zinlaafia women's group	Maize
Wa east	Maaltaa	Maize
Wa east	Marita	Maize
Wa east	N/a	Maize
Jirapa	Nindor suntemmine women's group	Maize
Jirapa	Nindor tienkando women's group	Maize
Jirapa	Nindor wawiete women's group	Maize
Jirapa	Nindor zinbonkabon women's group	Maize
Nadowli	Nornawa farmers group	Maize
Jirapa	Ollukun noreyene women's group	Maize
Nadowli	Saanye	Maize
Jirapa	Sigri women's group	Maize
Sissala west	Sissala west farmer based organisation	Soya
Sissala west	Sissala west farmer's association	Maize
Sissala west	Sissala west farmer based organisation	Maize
Sissala east	Sissala east farmer based organisation	Maize
Wa east	Sombaala	#n/a
Wa east	Sombaala group	#n/a

District	Fbo name	Commodity
Wa east	Songbaaba	Maize
Nadowli	Sorimenye	Maize
Wa municipal	Sumbala	Maize
Wa east	Sumbalba	Maize
Wa east	Sumbo	Maize
Wa west	Sunbaala	Maize
Nadowli	Sungmwinenye	Maize
Nadowli	Sungtaanye	Maize
Wa east	Taabiyaga	Maize
Nadowli	Tiekando	Maize
Jirapa	Ullokuun kampuopele women's group	Maize
Jirapa	Ullokuun kariminuguye women's group	Maize
Jirapa	Ullokuun noreyene women's group	Maize
Jirapa	Ullokuun songbaala women's group	Maize
Jirapa	Ullokuun sonzele women's group	Maize
Jirapa	Ullokuun zinlanfia women's group	Maize
Nadowli	Unknown	Maize
Jirapa	Vingving biriyeree farmer's group	Maize
Jirapa	Vingving naugbeg katetasagebelle farmer's group	Maize
Jirapa	Vingving songbaala women's group	Maize
Jirapa	Vingving tietaa-maale women's group	Maize
Wa east	Wminesingtaa group	Maize
Wa east	Wminesombo	Maize
Jirapa	Zinkpeni farmer's association	Maize

Annex 5 List of Aggregators

Aggregators in the Northern Region

District	First Name	Middle Name	Last Name	Gender	Age	Community	Phone	Commodity
Gushiegu	Hawa		Abubakari	Female	40	Gushegu	0245037490	Rice
Gushiegu	Iddi		Sumaila	Male	37	Gushegu	0243056781	Rice
Tamale Metropolis	Yusif		Kasim	Male		Aboabo	0246707818	Rice
Tamale Metropolis	Haruna	Abdul	Fataw	Male		Nyohini	0240124914	Rice
Tamale Metropolis	Adam		Alhassan	Male		Kpalsi	0540451940	Rice
Tamale Metropolis	Saibu	Abukari	Tabuni	Male	34	Kpanshegu	0248276630	Rice
Tamale Metropolis	Alhaji	Imoro	Alhassan	Male	42	Choggu Yapalsi	0243703295	Rice
Tamale Metropolis	Mohammed		Mohammed	Male		Malung Electoraclara	243787934	Rice
Tamale Metropolis	Tommy		Musah	Male		Gumo	0267737267	Rice
Tamale Metropolis	Abdulai		Memunatu	Female	48	Tamale	0245954190	Rice
Tamale Metropolis	Sadiq		Yussif	Male	22	Choggu Yapalsi	0204109707	Rice
Tamale Metropolis	Fuseini		Abdul-Razak	Male	32	Tamale	0246202655	Rice
Tamale Metropolis	Alhaji	Fuseini	Fuseini	Male	42	Tamale	0243660628	Rice
Tamale Metropolis	Moazu		Sibawesu	Male		Tamale	0268650539	Rice
Tamale Metropolis	Abdulai		Danaa	Male	45	Nyohini	0205161740	Rice
Tamale Metropolis	Mohammed	Yakubu	Mohammed	Male	43	Nalung-Tamale	0546285054	Rice
Tamale Metropolis	Alhassan		Tanko	Male	25	Choggu Yapalsi	0266755612	Rice
Tamale Metropolis	Abubakari		Alhassan	Male		Nyohini	0266233250	Rice
Tamale Metropolis	Alhaji		Abdul-Razak	Male		Aboabo	0208258817	Rice
Tamale Metropolis	Issahaku		Atta	Male	31	Builpela	0242007151	Rice
Tamale Metropolis	Fuseini		Alhassan	Male	45	Builpela	0245123334	Rice
Tamale Metropolis	Baba		Abdulai	Male		Yapala	0246740217	Rice

District	First Name	Middle Name	Last Name	Gender	Age	Community	Phone	Commodity
Tamale Metropolis	Moammadu		Bawa	Male		Lamashegu	0248300139	Rice
Tamale Metropolis	Mohammed		Haruna	Male		Vitting	0243028143	Rice
Tamale Metropolis	Abdul-Somed		Iddrisu	Male		Nyohini	0248793668	Rice
Tamale Metropolis	Christiana		Diduei	Female	45	Damango	0249559330	Maize
Tamale Metropolis	Veronica		Oppong	Female	43	Damango	0243715121	Maize
Tamale Metropolis	Apam		Letitia	Female	36	Tamale	246285500	Soyabeans

Aggregators Operating in the Brong Ahafo and Northern Region

First Name	Last Name	Gender	Age	Community	Phone	Education Level	Commodity
Edward	Boateng	M	52	Abease	(054) 525-8062	Middle School	Maize
Ramatu	Bukari	F	55	Aframso	(054) 746-1621	None	Rice
Mariama	Ammadu	F	32	Aframso	(020) 945-1474	None	Rice
Hawa	Seidu	F	45	Aframso	(024) 817-2939	None	Rice
Agnes	Fokuo	F	45	Agyina	(024) 287-7330	Secondary	Maize
Sadia	Awuni	F	44	Alabar	(024) 205-5696	Secondary	Rice
Martha	Adam	F	48	Anyima	Null	Primary	Maize
Kojo	Fosu	M	41	Apesika	(027) 401-9596	Secondary	Maize
Kwadwo	Fosu	M	48	Apesika	(024) 481-0822	Tertiary	Maize
Gabriel	Boakye	M	40	Badu	(027) 104-2932	Primary	Maize
Peter	Okrah	M	40	Badu	(020) 829-9440	Primary	Maize
Dora	Yeboah	F	50	Bantama	(054) 967-5419	Secondary	Maize
Kate	Achiaa	F	52	Domeabra	(024) 402-4499	Secondary	Rice
Kate	Dufei	F	54	Dormaa Akwamu	Null	Secondary	Rice
Ajara	Ibrahim	F	55	Ejura	(024) 857-6029	None	Rice
Ajara	Alhassan	F	43	Ejura	Null	None	Rice
Amina	Seidu	F	35	Ejura	Null	None	Rice
Hanatu	Ibrahim	F	40	Ejura	(020) 514-1164	Primary	Rice
Lawuratu	Ibrahim	F	38	Ejura	Null	Non-Formal Education	Rice
Leyla	Abu	F	35	Ejura	(024) 171-1275	Primary	Rice
Mariama	Kaasim	F	40	Ejura	Null	None	Rice
Alimatu	Issaka	F	38	Ejura	(026) 943-2573	None	Rice
Edward	Sarfo	M	47	Jama	(050) 415-0845	Secondary	Maize
Rukaya	Issah	F	33	Jema	(024) 167-7776	Primary	Maize
Agnes	Boahemaa	F	55	Kintampo	(027) 397-8949	Primary	Maize

First Name	Last Name	Gender	Age	Community	Phone	Education Level	Commodity
Alhaji	Issakah	M	56	Kintampo	(024) 357-5771	Secondary	Maize
Ibrahim	Tanko	M	42	Kintampo	(024) 270-3994	Secondary	Maize
Charles	Jasaak	M	52	Kobeda No.2	(024) 044-0184	None	Maize
Margaret	Boateng	F	50	Kumasi	(027) 741-5866	Primary	Maize
Hajia	Salamatu	F	49	Kumasi	(024) 375-0367	None	Rice
Kwadjo	Matu	M	48	Kwabia	(054) 074-8325	Primary	Maize
Grace	Manu	F	45	Kwame Danso	(024) 353-2283	Primary	Maize
Mohammed	Amaria	M	54	Kwame Danso	Null	Middle School	Maize
Alhassan	Umoro	M	41	Kwame Danso	(027) 500-5666	Primary	Rice
Yaw	Prombey	M	52	Kwayase	(020) 050-4178	None	Maize
Jiga	Ali	M	38	Lemu	(054) 603-3793	None	Maize
Bawa	Italin	M	79	Parambo	(024) 805-2416	None	Rice
Samuel	Opoku	M	35	Seikwa	(024) 202-1929	Secondary	Maize
Margaret	Darko	F	37	Yeji Kwaiasi	(020) 845-4738	Secondary	Maize
Diana	Gbor	F	46	Yeji Kwaiasi	(020) 969-3335	Primary	Rice

Aggregators in the Upper East Region

First Name	Last Name	Gender	Age	District	Community	Phone
Mary	Anabiga	F	56		Garu	0242887611
Haruna	Mariama	F	29		Bolgatanga	0203684461
Poodoh	Nsiah	M	53		Kumasi	0243280132
Ayiestetu	Mahamadu	F	45		Zebilla	0248744621
Alice	Atindana	F	46		Navrongo	0246031836
Maggie	Boateng	F	52		Kumasi	0261443930
Angelina	Aporo	F	39		Navrongo	NULL
Sadia	Awuni	F	43		Ejura	0242055696

Annex 6 Market Locations

Information on Market Locations

Town Name	Market Name	District	Region	Market Type
Pom		Akuapem North	Eastern	Rural
Hani		Wenchi	Brong Ahafo	Rural
Zebila Natinga		Bawku West	Upper East	Rural
Soro No 1		Central Gonja	Northern	Rural
Nyankpala South		Tolon Kumbungu	Northern	Rural
Nyankpala North		Tolon Kumbungu	Northern	Rural
Lonto Jalai		Kpandai	Northern	Rural
Lonto Konkomba		Kpandai	Northern	Rural
Katani		Gushiegu	Northern	Rural
Langbinsi		East Mamprusi	Northern	Rural
Bimbila		Kpandai	Northern	Rural
Tatali		Zabzugu Tatale	Northern	Rural
Yendi	Yendi	Jasikan	Volta	Rural
Nandom	Nandom Market	Lawra	Upper West	Rural
Piina	Piina Market	Lambussie_Karni	Upper West	Rural
Babile	Babile Market	Lawra	Upper West	Rural
Bugubelle	Bugubelle Market	Sissala East	Upper West	Rural
Karni	Karni Market	Jirapa Lambussie	Upper West	Rural
Jirapa	Jirapa Market	Jirapa Lambussie	Upper West	Rural
Funsi	Funsi Market	Wa	Upper West	Rural
Kundungu	Kunduku Market	Wa	Upper West	Rural
Dorimon	Dorimon Market	Wa	Upper West	Rural
Vieri	Vieri Market	Wa	Upper West	Rural

Town Name	Market Name	District	Region	Market Type
Wechiau	Wechaw Market	Wa	Upper West	Rural
Gwallu	Gwollu Market	Sissala West	Upper West	Rural
Fielmon	Fielmuo Market	Sissala West	Upper West	Rural
Bussie	Bussie Market	Nadowli	Upper West	Rural
Daffiama	Daffiama Market	Nadowli	Upper West	Rural
Tangasia	Tangasia Market	Nadowli	Upper West	Rural
Sankana	Sankana Market	Nadowli	Upper West	Rural
Jang	Jang Market	Nadowli	Upper West	Rural
Kaleo	Kaleo Market	Nadowli	Upper West	Rural
Fumbisi	Fumbisi Market	Builsa	Upper East	Rural
Pelungu	Pelingu Market	Talensi-Nandam	Upper East	Rural
Sandema	Sandema Market	Builsa	Upper East	Rural
Jang	Jang	Sawla Tuna Kalba	Northern	Rural
Tabiere	Tabiese	Sawla Tuna Kalba	Northern	Rural
Sabonjida	Sabonjida	Zabzugu Tatale	Northern	Rural
Busunu	Busunu	West Gonja	Northern	Rural
Tari No.2	Tar No.2	West Gonja	Northern	Rural
Disa	Disa	West Gonja	Northern	Rural
Kumbungu	Kumbungu Market	Tolon Kumbungu	Northern	Rural
Zoggu	Zoggu Market	Savelugu Nanton	Northern	Rural
Saboba	Saboba Market	Zabzugu Tatale	Northern	Rural
Sabonjida	Sabonjida	Nanumba North	Northern	Rural
Saboba	Saboba Market	Zabzugu Tatale	Northern	Rural
Sabonjida	Sabonjida	East Gonja	Northern	Rural
Jimbale	Jimbale	Bunkpkugu Yunyoo	Northern	Rural
Sabonjida	Sabonjida	East Gonja	Northern	Rural
Loloto	Loloto	Kpandai	Northern	Rural

Town Name	Market Name	District	Region	Market Type
Bladjai	Bladjai	Kpandai	Northern	Rural
Kpandai	Kpandai	Kpandai	Northern	Rural
Kpalba	Kpalba Market	Saboba	Northern	Rural
Demon	Demong Market	Saboba	Northern	Rural
Zabzugu	Zabzugu	Zabzugu Tatale	Northern	Rural
Yendi	Yendi	Yendi	Northern	Rural
Walewale	Walewale Market	West Mamprusi	Northern	Rural
Damongo	Damongo	West Gonja	Northern	Rural
Savelugu	Savelugu Market (Yoo Yili)	Savelugu Nanton	Northern	Rural
Gushiegu	Gushegu Market	Gushiegu	Northern	Rural
Gbintiri	Gbintiri Market	East Mamprusi	Northern	Rural
Salaga	Salaga Market	East Gonja	Northern	Rural
Kumbungu	Kumbungu Market	Tolon Kumbungu	Northern	Rural
Kumbungu	Kumbungu Market	Tolon Kumbungu	Northern	Rural
Kumbungu	Kumbungu Market	Tolon Kumbungu	Northern	Rural
Kumbungu	Kumbungu Market	Tolon Kumbungu	Northern	Rural
Kumbungu	Kumbungu Market	Tolon Kumbungu	Northern	Rural
Nakpanduri	Nakpanduri	Bunkpkugu Yunyoo	Northern	Rural
Jimbale	Jimbale	Bunkpkugu Yunyoo	Northern	Rural
Jimbale	Jimbale	East Mamprusi	Northern	Rural
Jimbale	Jimbale	East Mamprusi	Northern	Rural
Diari	Diare Market	Savelugu Nanton	Northern	Rural
Gbangbanpon	Gbangbapong Market	Saboba	Northern	Rural
Saboba	Saboba Market	Saboba	Northern	Rural

Town Name	Market Name	District	Region	Market Type
Tampion	Tampion Market	Savelugu Nanton	Northern	Rural
Nanton	Nanton Market	Savelugu Nanton	Northern	Rural
Nyankpala	Nyankpala Market	Tolon Kumbungu	Northern	Rural
Sankpala	Sankpala Market	Central Gonja	Northern	Rural
Bimbila	Bimbilla Market	Nanumba North	Northern	Rural
Sabonjida	Sabonjida	Nanumba North	Northern	Rural
Katiejeli	Katiejeli	Kpandai	Northern	Rural
Wa	Wa	Techiman	Brong Ahafo	Urban
Lawra	Lawra Market	Lawra	Upper West	Urban
Wa	Wa Market	Wa	Upper West	Urban
Tumu	Tumu Market	Sissala East	Upper West	Urban
Navrongo	Navrongo Market	Kassena Nankana	Upper East	Urban
Bolgatanga	Bolga Market	Bolgatanga Municipal	Upper East	Urban
Bawku	Bawku Market	Bawku Municipal	Upper East	Urban
Bawku	Bawku	Central Gonja	Northern	Urban
Tamale	Aboabo	Tamale Municipality	Northern	Urban
Navrongo	Navrongo	Jomoro	Western	Urban

Annex 7 Ware House Locations and Capacity

Warehouse Location (Community) and Holding Capacity mt.

Warehouse Holding Capacity (Mt)	Number in community			
	Northern	Upper East	Upper West	Grand Total
5000 mt.	**2**	**1**		**3**
Bolgatanga Municipal		1		1
Yendi Municipal	2			2
3000 mt.		**2**	**1**	**3**
Bawku Municipal		1		1
Bolgatanga Municipal		1		1
Lawra			1	1
2000 mt.		**1**		**1**
Bolgatanga Municipal		1		1
1400 mt.		**1**		**1**
Kassena/Nankana		1		1
1000 mt.		**1**		**1**
Bawku Municipal		1		1
500 mt.	**1**	**48**	**14**	**63**
Bawku Municipal		6		6
Bawku West		4		4
Bolgatanga Municipal		3		3
Builsa		12		12
Chereponi new	1			1
Garu-Tempane		6		6
Jirapa			3	3
Kassena Nankana West new		4		4
Kassena/Nankana		7		7
Lawra			2	2
Nadowli			5	5
Sissala East			1	1
Talensi-Nabdam		6		6
Wa East			1	1
Wa West			2	2
400 mt.		**1**		**1**
Kassena/Nankana		1		1
270 mt.	**1**			**1**
Yendi Municipal	1			1
250 mt.	**2**	**2**		**4**
Builsa		1		1
Chereponi new	1			1
Garu-Tempane		1		1
Yendi Municipal	1			1
200 mt.	**2**	**1**	**3**	**6**
Bawku West		1		1
Chereponi new	1			1
Nadowli			1	1

Warehouse Holding Capacity (Mt)	Number in community			
	Northern	Upper East	Upper West	Grand Total
Saboba	1			1
Sissala East			2	2
170 mt			**2**	**2**
Lawra			1	1
Sissala East			1	1
150 mt.		**1**	**3**	**4**
Jirapa			1	1
Kassena/Nankana		1		1
Sissala West			1	1
Wa West			1	1
100 mt.		**6**	**1**	**7**
Bawku West		4		4
Jirapa			1	1
Talensi-Nabdam		2		2
50 mt			**1**	**1**
Wa East			1	1
30 mt	**1**			**1**
Yendi Municipal	1			1
25 mt		**1**		**1**
Bawku West		1		1
20 mt.	**3**			**3**
Saboba	1			1
Yendi Municipal	2			2
5 mt	**1**			**1**
Chereponi new	1			1
Grand Total	**13**	**66**	**25**	**104**

Annex 8 Irrigation Projects in Growth Pole Area

Region	District	Town	Project Description	Year	Water Source	Irrigation System	Present Status	Irrigated Area (ha)	Cultivated Area(ha)	Crops	Beneficiary community
Northern	Central Gonja	Mpaha	pump+pipes+canal	1964, 1995-7	Volta	furrow	prefeasibility	5,500		vegetable/rice	
Northern	West Gonja	Yapei	pump+pipes		White Volta	furrow	under construction	183		vegetable/ rice	Yapei
Northern	West Gonja	Buipe	pump+pipe		Black Volta	furrow	under construction	110		vegetable/rice	Buipe
Northern	Savelugu-Nant	Dingo	pump+pipe		White Volta	furrow	under construction	86		vegetable/rice	Dingo
Northern	Savelugu-Nanton	Sogo	pump+pipe		White Volta	furrow	under construction	125		vegetable/rice	Sogo
Northern	Savelugu-Nanton	Dipali	pump+pipe		White Volta	furrow	under construction	157		vegetable/rice	Dipali
Northern	North Tongu	Dordorkope	pump+pipe+lined canal		Volta	furrow	Contract problem	101		vegetable/rice	Dordorkope
Northern	Tamale	Wambong	dam+lined canal	2006	Kulda	furrow	rehabilitation contract problem	4+		vegetable	Wambong
Northern	West Mamprusi	Karimenga	pump+pipes	2009*		furrows	under construction	4		vegetable	Karimenga
Northern	Tolon Kumbungu	Bontanga	dam+canal	1983	Bontanga	gravity	rehabilitation	570	450	rice vegetables	
Northern	Tolon Kumbungu Savelugu-Nanton	Golinga	dam+canal	1974	Kornin	gravity	active	100	40	rice	Golinga
Northern		Libga	dam+canal	1980	Perusun	gravity	active	20	16	Rice+vegetable.	Libga
Northern Total								**6,956**	**506**		
Upper East	Bolgatanga	Pwalugu	pump+pipes	1964	Volta	furrow	prefeasibility	4,050		vegetable/rice	
Upper East	Bawku West	Tiego	pump+pipes	2009*	White Volta	furrow	under construction	190		vegetables/ rice	Tiego, Kobore & Yarugu
Upper East	Bawku West	Gogo	dam+lined canals	2009*	Sambolekuliga	furrow	under construction	48		vegetables/ rice	Gogo

Region	District	Town	Project Description	Year	Water Source	Irrigation System	Present Status	Irrigated Area (ha)	Cultivated Area(ha)	Crops	Beneficiary community
Upper East	Bolgatanga	Baare	dam+lined canal	2009*	Baarebok a	furrows	rehabilitation	6+		Vegetable.	Baare
Upper East	Kass. Nan.	Tono	dam+canal	1965	Tono	gravity	active	3,840	2490	rice+vegetable + soya bean	
Upper East	Bongo	Vea	dam+canal	1980	Yarigatanga	gravity	active	850	468	rice+vegetable	Vea
Upper East Total								**8,978**	**2,958**		
Upper West	Lawra	kamba	pump+pipes	1964	Black Volta	furrow	prefeasibility	4,050		vegetable/rice	Lawra & others
Upper West	Wa	Sing-Bakpong	dam+canal network		R. Behebor	gravity	Contractual Problem.	116(6)	50	vegetables	Sing-Bakpong
Upper West	Jirapa-Lambussie	Tizza	dam+canal		R. Kolan Dualan	gravity	Contractual Problem.	83		vegetable/rice	Tizza
Upper West	Sissala	Jawia	dam+canal		Chammuafua	gravity	Contractual Problem.	40		vegetables	Jawia
Upper West	Wa	Belebor	dam+canal		Bele	gravity	contractual pr.	120		vegetable	Belebor
Upper West Total								**4,293**	**50**		
			pump+pipes+canal	1964, 1995-7	Volta	furrow	Pre-feasibility	5,500		vegetable/rice	Tokpo

	BASIC DATA ON ALL GIDA IRRIGATION PROJECTS IN GHANA							
1	**Project Name**	**Ashaiman**	**Anum Valley**	**Sata**	**Weija**	**Afife**	**Aveyime**	**Kpando Torkor**
2	**Project Description**	Dam & lined canal	Weir, pump+ Canal	Weir+canal	pump+ pipe+sprin	dam+canal network	pump+ canal	pump+ pipe
3	**Project Number**	GAR/001	AR/001	AR/002	GAR/002	VR/001	VR/002	VR/003
4	**Town**	Ashaiman	Nobewan	Sataso	Kokrobite / Tuba	Avalavi	Aveyime	Kpando-Torkor
5	**District**	Tema Municipality	Asante Akim N. Ejisu-Juaben		Ga West	Ketu	North Tongu	Kpando
6	**Region**	Greater Accra	Ashanti	Ashanti	Greater Accra	Volta	Volta	Volta
7	**Established Year**	1968	1991	1994	1984	1982	1975	1976
8	**Consultant and Contr.**	IDA	Chinese Co	RDC/IDA Yiadom/ A Lang	Tahal Asakum/kinsman	Shandong Geo.Kufkak Enter	Nippon Koei	IDA/ Aram-Al-Enter
9	**Water Source**	Gyorwulu River	Anum & Oweri Rivers	Sata	Densu Res	Kplikpo Agali	Volta	Volta lake
10	**Irrigation System Type**	Gravity	Gravity+ pump	Weir+ canal network	pump+ Sprinkler	gravity	pump+ gravity	pump+ sprinkler
11	**Present Status**	Active	Active	rehabilitation	rehabilitation	rehabilitate	rehabilitation	rehabilitation
12	**Total Irrigated Area(ha)**	130	88	56	1500	950	150	350

	BASIC DATA ON ALL GIDA IRRIGATION PROJECTS IN GHANA							
1	**Project Name**	**Ashaiman**	**Anum Valley**	**Sata**	**Weija**	**Afife**	**Aveyime**	**Kpando Torkor**
13	**Present Cultivated Area(ha)**	56	70	34	200	880	59	70
14	**Crops**	Rice & Vegetables	Rice vegetables	vegetables	vegetables	rice+vegetable	rice	vegetables
15	**Beneficiary community.**	Ashaiman, Adjei Kojo	Nobewan	Satso. Adidwain	Tuba/ Kokrobite	Avalavi, Afefe	Aveyime Battor	Torkor, Dzigbe
16	**Dis.proj. to H/Off.(km)**	40	230	380	30	165	60	240
17	latitude	5° 43' 10" N/5°40'15'	6°34'34"	7° 14' 19"		6°04'/6°08'		6°59'-
18	Longitude	0°01"05'/0°01"07'	10°15'49"	1° 22' 22"		0°45/0°55		0°15'-0°20'

	BASIC DATA ON GIDA IRRIGATION PROJECTS IN GHANA								
1	**Project Name**	**Subinja**	**Tanoso**	**Bontanga**	**Golinga**	**Libga**	**Tono**	**Vea**	**Dromankesse**
2	**Project Description**	weir+pump	pump	dam+canal	dam+canal	dam+canal	dam+canal	dam+canal	
3	**Project Number**	BAR/001	BAR/002	NR/002	NR/002	NR/003	UER/OO1	UER/002	BAR/003
4	**Town**	Subinja	Tanaso	Bontanga	Golinga	Libga	Tono	Vea	Dromankesse
5	**District**			Tolon Kumbungu	Tolon Kumbungu Savelugu-Nanton		Kass. Nan.	Bongo	Nkoranza
6	**Region**	Brong - Ahafo	Brong Ahafo	Northern	Northern	Northern	Upper East	Upper East	B/A
7	**Established**	1976	1984	1983	1974	1980	1965	1980	
8	**Consultant and Contr.**	IDA/Kilam	IDA/Maymen Const. Wks	Taylow-Woodr Munisco Ltd(rehab)	IDA/ Sayima	IDA AA Mahama	Taylow Woo	Taylow W Woodrow	
9	**Water Source**	Subin River	Tano	Bontanga	Kornin	Perusun	Tono	Yarigatanga	
10	**Irrigat. System Type**	pump+sprinkler	pump+sprinkler	gravity	gravity	gravity	gravity	gravity	furrow
11	**Present Status**	rehabilitation	rehabilitation	rehabilitation	active	active	active	active	design review
12	**Total Irrigated Area(ha)**	60	64	570	100	20	3840	850	110
13	**Present Cultivated. Area(ha)**	18	74	450	40	16	2490	468	
14	**Crops**	tomatoes	tomatoes	rice+vegetable	rice	rice+vegetables	rice+vegetables soya bean	rice+vegetable	
15	**Beneficiary community.**	Subinja	Tanoso		Golinga	Libga		Vea	Dromankesse
16	**Dis.proj. to H/Off.(km)**	430	350	684	670	684	855	825	468
17	latitude	7°47'-7°48'	7°25'-7°28'	9° 36' 13"	9° 22' 10"	9° 30' 0"	10°40'N	10°45'	7°04"
18	Longitude	2°W	1°56'-2°	1° 01' 55"	0° 58' 38"	0° 58' 38"	1°W	1°W	1°32' W

	BASIC DATA ON GIDA IRRIGATION PROJECTS IN GHANA								
1	**Project Name**	***Adiembra***	***Aponapon***	***Kokroko***	***Nobeko***	***Akurobi***	***Moseaso***	***Kaniago***	***Dadiesoaba***
2	**Project Description**	pump+pipes	pump+pipes	pump+pipes	pump+ canals	weir+ pipes	pump+ pipes	weir+canal	pump+pipes
3	**Project Number**	AR/004	WR/002	BAR/004	BAR/005	BAR/006	WR/OO3	BAR/007	BAR/008
4	**Town**	Adiembra	Datano	Kokroko	Nobeko	Akurobi	Moseaso	Techiman	Dadiesoaba
5	**District**	Atwima Mponua	Sefwi-Wiawso	Techiman	Asunafo-South	Wenchi	Wassa - Amenfi	Techiman	Asutifi
6	**Region**	Ashanti	Western	Brong Ahafo	Brong Ahafo	Brong Aha	Western	B/A	B/A
7	**Established Year**	2009*	2009*	2009*	2009*	2009*	2009*	2009*	
8	**Consultant and Contr.**	Sabbour/ Noosae	Sabbour/ Noosae	Sabbour/ Noosae	Sabbour/ Noosae	Sabbour/ Noosae	Sabbour/ Noosae	Sabbour/ Noosae	Sabbour /Noosae
9	**Water Source**	Multi Tridax Offin	A.Kanni n Tano	China Zhong Hao Subin	Nyagsi Tano	Brazz Con. Yoyo	Justmoh Ltd Tano	Fia	Tano
10	**Irrigat. System Type**	furrow	furrow	Sprinkler	furrow	sprinkler	furrow		furrow
11	**Present Status**	started	started	started	started	started	started	design	design
12	**Total Irrigated Area(ha)**	45	50	66	60	55	48	66	
13	**Present Cultivated Area(ha)**								
14	**Crops**	vegetables	vegetables	vegetables	vegetables	Vegetable.	Vegetable.	Vegetable.	vegetables
15	**Beneficiary community.**	Adiembra	Datano, Aponapon	Kokroko	Nobeko	Akurobi	Moseaso	Techiman/ Kaniago	Asutifi
16	**Dis.proj. to H/Off.(km)**	302	460	410	420	437	417	413	480
17	latitude	6°35'30"	6°16'00"	7°41' 00"	6°38'23"	7°43'53" N	5°50'00" N	7°33'00"	
18	Longitude	2°04"30" w	2°28'04" w	2°03' 00"w	2°24'00" W	2°08'19" W	2°31'00" W	1°52'30"	

	BASIC DATA ON GIDA IRRIGATION PROJECTS IN GHANA								
1	**Project Name**	***Sing-Bakpong***	***Tizza***	***Jawia***	***Belebor***	***Koloe-Dayi***	***Tordzinu***	***Asuoso***	***Baafikrom***
2	**Project Description**	dam+canal network	dam+canal	dam+canal	dam+canal	pump+pipes	pump+pipes	shallow	borehole+pump
3	**Project Number**	UWR/001	UWR/002	UWR/003	UER/004	VR/004	VR/005	AR/005	CR/003
4	**Town**	Sing-Bakpong	Tizza	Jawia	Belebor	Koloenu	Tordzinu	Asuoso	Bafikrom
5	**District**	Wa	Jirapa-Lambussie	Sissala	Wa	Hohoe	Akatsi	Offinso	Mfantsiman
6	**Region**	Upper West	Upper West	Upper West	Upper West	Volta	Volta	Ashanti	Central
7	**Established Year**					2004	2004	2004	2004
8	**Consultant and Contr.**	Karico/LD	Karico/LD	Karico/LD	Karico	Karico/LD	Karico/LD	Karico/LD	Karico/LD
9	**Water Source**	Ussuya Ltd R. Behebor	Ussuya Ltd R. Kolan Dualan	Ussuya Ltd Chammuafua	Ussuya Bele	Desicon Eng. Koloe	Desicon Ltd Tordzi	Unique sco Ltd ground water	Legna Construction Ltd
10	**Irrigat. System Type**	gravity	gravity	gravity	gravity	furrow	furrow	gravity+furrow	pump+sprinkler
11	**Present Status**	Contractual Problem.	Contractual Problem.	Contractual Problem.	Contractual Problem.	active	active	active	active
12	**Total Irrigated Area(ha)**	116(6)	83	40	120	24	4	10	2
13	**Present Cultivated Area(ha)**	-50							
14	**Crops**	vegetable	vegetable/rice	vegetables	vegetable				
15	**Beneficiary community.**	Sing-Bakpong	Tizza	Jawia	Belebor	Koloenu/Darfor	1 private farmer	Asuoso	Baafikrom
16	**Dis.proj. to H/Off.(km)**	751	771	869	725	221	143	337	102
17	**latitude**								
18	**Longitude**								

	BASIC DATA ON GIDA IRRIGATION PROJECTS IN GHANA								
1	**Project Name**	***Ekotsi***	***Agorvem e***	***Tiego Yarugu***	***Gogo***	***Baare***	***Wambon g***	***Karamen ga***	***Asantek waa***
2	**Project Description**	pump+pipes	pump+pipes	pump+pipes	dam+lined canals	dam+lined canal	dam+lined canal	pump+pipes	weir+pipe+ canal
3	**Project Number**	CR/004	VR/006	UER/003	UER/004	UER/005	NR/OO4	NR/010	BAR/009
4	**Town**	Ekotsi	Adidome	Tiego	Gogo	Baare	Wambong	Karimenga	Asantekwaa
5	**District**	Mfantsiman	North Tongu	Bawku West	Bawku West	Bolgatanga	Tamale	West Mamprusi	Kintampo
6	**Region**	Central	Volta	Upper East	Upper East	Upper East	Northern	Northern	B/A
7	**Established Year**	2008	2007	2009*	2009*	2009*	2006	2009*	2007
8	**Consultant and Contr.**	Karico/LD	Karico/LD	Karico/LD	Karico/LD	Karico /LD	Karico/LD	Karico/LD	Karico/LD
9	**Water Source**	Legna Construction Ltd Ochinakwa	Rich Bebe Volta	Erdmac Co Ltd White Volta	China Zhong Sambolekuliga	China Zhong Baare boka	Ussuya Kulda	Ussuya Ltd	Brazz Oyoko/Tanko
10	**Irrigat. System Type**	furrow	pump+furrows	furrow	furrow	furrows	furrow	furrows	furrow
11	**Present Status**	started	under construction	under construction	under construction	rehabilitation	rehabilitation Contractual problem	under construction	under construction
12	**Total Irrigated Area(ha)**	110	86	190	48	6+	4+	4	210
13	**Present Cultivated Area(ha)**								
14	**Crops**	vegetables	rice/vegetables	vegetables/rice	vegetables/rice	Vegetable.	Vegetable.	vegetables	vegetables
15	**Beneficiary community.**	Ekotsi	Agorvem e & Adidome	Tiego, Kobore & Yarugu	Gogo	Baare	Wambong	Karimenga	Asantekwaa
16	**Dis.proj. to H/Off.(km)**	90	141						520
17	**latitude**								
18	**Longitude**								

	BASIC DATA ON GIDA IRRIGATION PROJECTS IN GHANA								
1	**Project Name**	***New Longoro***	***Yapei***	***Buipe***	***Dingo***	***Sogo***	***Dipali***	***Gyadem***	***Dordorkope 1***
2	**Project Description**	weir+lined canal	pump+pipes	pump+pipe	pump+pipe	pump+pipe	pump+pipe	pump+pipe+ lined canal	pump+pipe+ lined canal
3	**Project Number**	BAR/010	NR/005	NR/006	NR/007	NR/008	NR/009	ER/003	VR/007
4	**Town**	New Longoro	Yapei	Buipe	Dingo	Sogo	Dipali	Gyadem	Dordorkope
5	**District**	Kintampo	West Gonja	West Gonja	Savelugu-Nant	Savelugu-Nanton	Savelugu-Nant	Oda	North Tongu
6	**Region**	Brong Ahafo	Northern	Northern	Northern	Northern	Northern	Eastern	Northern
7	**Established Year**								
8	**Consultant and Contr.**	Karico/LD Uniquesco Ltd	Karico/LD Hawkrad	Karico/LD Hawkrad	Karico/LD Uniquesco Ltd	Karico/LD Uniquesco Ltd	Karico/LD Ussuya Ltd	Karico/LD Plant pool	Karico/LD Plant pool
9	**Water Source**	Sambel/ Chiridi	White Volta	Black Volta	White Volta	White Volta	White Volta	Birim	Volta
10	**Irrigat. System Type**	gravity+ furrow	furrow	furrow	furrow	furrow	furrow	furrow	furrow
11	**Present Status**	under construction	Under construction.	under construction	Under construction	under construction	Under construction	Contractual problem	Contractual problem
12	**Total Irrigated Area(ha)**	198	183	110	86	125	157	82	101
13	**Present Cultivated Area(ha)**								
14	**Crops**	vegetables/rice	vegetables/rice	vegetable/rice	vegetable/rice	vegetable/rice	vegetable/rice	vegetable/rice	vegetable/rice
15	**Beneficiary community.**	New Longoro	Yapei	Buipe	Dingo	Sogo	Dipali	Gyadem	Dordorkope
16	**Dis.proj. to H/Off.(km)**	497	624	590				160	100
17	**latitude**		9 11	8 43					
18	**Longitude**		1 09	1 37					

	BASIC DATA ON GIDA IRRIGATION PROJECTS IN GHANA								
1	**Project Name**	***Accra Plains (GAR)***	***Aveyime***	***Mpaha***	***Kamba***	***Kpong Left bank***	***b***	***ank***	***Afrancho***
2	**Project Description**	pump+pipes +canal	***Accra plains*** pump+pipes+canal	pump+pipes+canal	pump+ pipes	pump+ pipes	pump+pipes	pump+pipes	dam+ canal
3	**Project Number**	GAR/PF/001	VR/PF/ 001	NR/PF/ 001	UWR/ PF/001				AR/PF/001
4	**Town**		Aveyime & others	Mpaha	kamba	Torkpo	Torkpo	Torkpo	Afrancho
5	**District**	NT,Tema, Dangbe West	Dangbe West		Lawra	Dangbe West	Dangbe West	Dangbe West	Offinso North
6	**Region**	GAR/VR	Volta	Northern	Upper West	Greater Accra	Greater Accra	Greater Accra	Ashanti
7	**Established Year**	1960 & 1980	1964	1964, 1995-7	1964	1964	1964	1964	1964
8	**Consultant and Contr.**	Kaiser Engineers	Nippon Koei	FAO	Nippon Koei	Sir Macdonald & Partners	Nippon Koei	Nippon Koei	IDA
9	**Water Source**	Volta	Volta	Volta	Black Volta	Volta	Volta	Volta	DRY VALLEY
10	**Irrigat. System Type**	furrow	furrow	furrow	furrow	furrow	furrow	furrow	furrow
11	**Present Status**	Pre-feasibility	Pre-feasibility	Pre-feasibility	Pre-feasibility	under constr.	Under construction.	Under construction.	PREFEASIBILITY
12	**Total Irrigated Area(ha)**	120000	7600	5500	4050	1500	7600	32000	7600
13	**Present Cultivated Area(ha)**								
14	**Crops**	vegetable/rice	vegetable/rice	vegetable/rice	vegetable/rice	vegetable/rice	vegetable/rice	vegetable/rice	vegetable/rice
15	**Beneficiary community.**				Lawra & others				
16	**Dis.proj. to H/Off.(km)**	100	130			130	130	130	130
17	**latitude**								
18	**Longitude**								

	BASIC DATA ON GIDA IRRIGATION PROJECTS IN GHANA				
1	**Project Name**	***Avu- Keta***	***Tubewell***	***Lamasa***	***Pwalugu***
2	**Project Description**	***Abor - Akatsi - V.R*** pump+pipes	***proper (Nation'l)*** pump+pipes	pump+pipes+canal	pump+pipes
3	**Project Number**	VR/PF/002	NA/PF/001		
4	**Town**	Xavi,	National		Pwalugu
5	**District**	Akatsi	National		Bolgatanga
6	**Region**	Avu Lagoon	National;		Upper East
7	**Established Year**	1960 & 1980		1964, 1995-7	1964
8	**Consultant and Contr.**	Kaiser Engineers	Acres Inter., Wapcos	FAO	Nippon Koei
9	**Water Source**	Avu Lagoon	Ground water	Volta	Volta
10	**Irrigat. System Type**	furrow	furrow	furrow	furrow
11	**Present Status**	prefeasibility	prefeasibility	prefeasibility	prefeasibility
12	**Total Irrigated Area(ha)**	120000	7600	5500	4050
13	**Present Cultivated Area(ha)**				
14	**Crops**	vegetable/rice	Vegetable.	vegetable/rice	vegetable/rice
15	**Beneficiary community.**	Xavi		Tokpo	
16	**Dis.proj. to H/Off.(km)**				
17	**latitude**				
18	**Longitude**				

	BASIC DATA ON GIDA IRRIGATION PROJECTS IN GHANA		
1	**Project Name**	***Kolor***	***Tokpo***
2	**Project Description**	pump+pipes	pump+pipes
3	**Project Number**	VR/OO8	GAR/004
4	**Town**	Kolo	Torkpo
5	**District**	North Tongu	Dangbe West
6	**Region**	Volta	Greater Accra

	BASIC DATA ON GIDA IRRIGATION PROJECTS IN GHANA		
1	**Project Name**	***Kolor***	***Tokpo***
7	**Established Year**		
8	**Consultant and Contr.**	Karico/LD China Chang Chang	Karico/LD Brazz
9	**Water Source**	Volta	Volta
10	**Irrigat. System Type**	furrow	furrow
11	**Present Status**	under construction	Under construction.
12	**Total Irrigated Area(ha)**	206	88
13	**Present Cultivated Area(ha)**		
14	**Crops**	vegetable/rice	vegetable/rice
15	**Beneficiary community.**	Korlor	Tokpo
16	**Dis.proj. to H/Off.(km)**	166	130
17	**latitude**		
18	**Longitude**		

Annex 9 Northern Road Conditions /Classification

Table of Road Statistics of Northern Ghana classified by condition mix and surface type

	Total Length	CONDITION MIX OF ROADS			SURFACE TYPE OF ROAD		
	(kilometres)	Good (km)	Fair (km)	Poor (km)	Bitumen (km)	Gravel (km)	Earth (km)
Bawku East	606.56	258.20	216.93	131.43	4.40	352.63	249.53
Bawku West	279.42	187.83	68.44	23.15	10.00	220.44	48.98
Bole	591.57	165.22	260.94	165.41	-	347.03	244.54
Bolgatanga	431.80	284.50	90.02	57.28	2.28	296.43	133.09
Bongo	155.28	122.48	30.93	1.87	-	97.68	57.60
Builsa	360.20	239.09	78.41	42.70	-	232.96	127.24
East Gonja	833.09	427.40	348.31	57.39	-	509.42	291.67
East Mamprusi	293.49	71.39	184.61	37.48	-	160.59	132.90
Gushiegu Karaga	434.89	202.08	127.72	105.09	-	379.74	21.34
Jirapa Lambussie	558.90	434.00	79.80	45.10	-	491.30	67.60
Klassena Nankana	322.73	193.58	91.37	37.78	5.25	201.61	115.87
Lawra	238.30	148.50	78.60	11.20	-	210.00	28.30
Nadowli	549.68	205.58	129.25	214.85	-	477.48	72.20
Saboba Chereponi	393.62	144.09	195.47	54.06	-	199.89	193.72
Savelugu Nanton	375.05	36.28	152.72	186.05	-	268.22	106.83
Sissala	703.10	147.52	204.80	350.78	-	527.45	175.65
Tamale	225.43	98.87	93.06	28.50	-	162.14	63.30
Tolon Kumbungu	383.89	1.06	147.81	235.02	-	209.12	174.77
Wa	1,104.84	445.33	361.28	297.84	0.70	701.34	402.40
West Gonja	789.59	334.52	403.96	51.12	-	340.37	449.22
West Mamprusi	369.21	129.13	172.25	67.83	-	201.51	167.70
Yendi	727.74	172.24	424.08	131.41	-	234.70	493.04
Zabzugu Tatele	481.15	198.60	220.37	62.18	-	199.15	282.00

Source: Department of Feeder Roads, Ministry of Roads and Highways, Accra

Almost all feeder roads in the North have either gravel or earth surfaces. These become impossible to traverse during rainy seasons. Apart from the poor state of the feeder roads, several areas have no access to markets. A similar pattern can be observed for Tain, Kintampo South, Kintampo North, Pru and Sene in the Brong Ahafo Region and Krachi West and Nkwanta in the Volta Region.

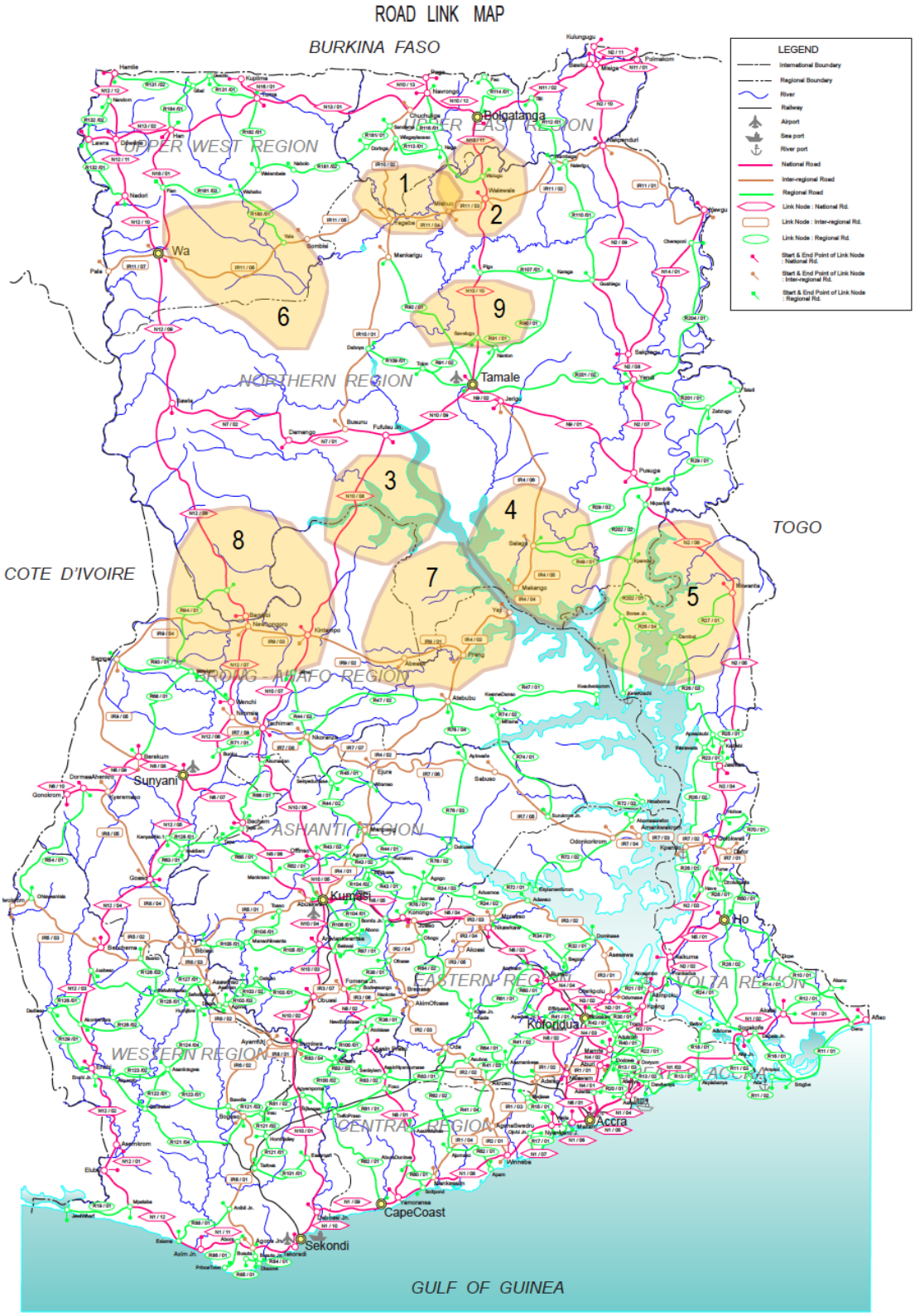
Strategy
The key strategy is to develop a feeder road network that connects settlements to major market centres.

Annex 10 Districts Located close to Growth Poles

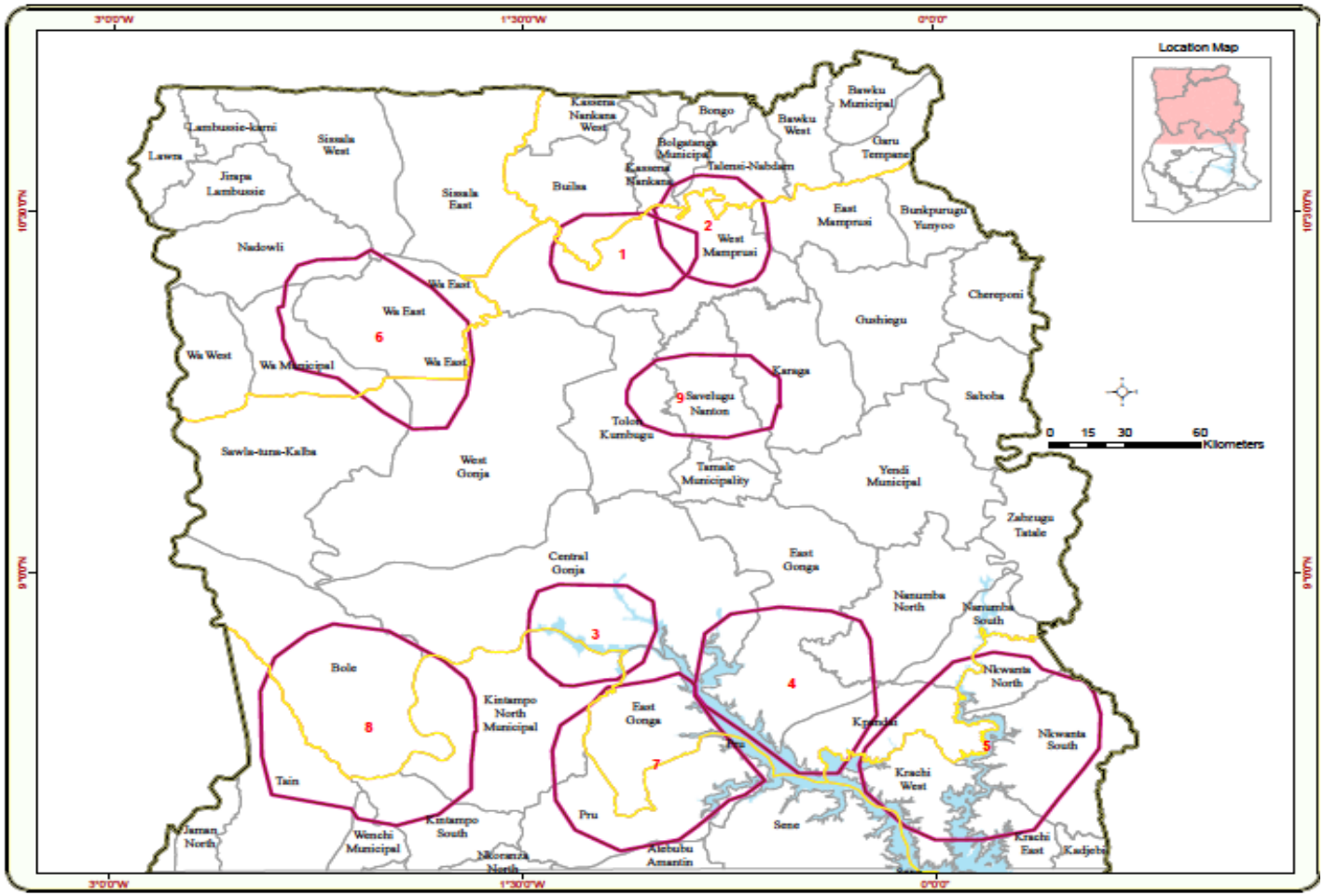
Growth Pole ID	Districts Located close to the Growth Pole Area	District Capital
1. Sisili Kulpawn Valley	1. Builsa 2. Mamprugu Moaduri 3. West Mamprusi	Sandema Yagaba Walewale
2. Pwalugu Area	1. Bolgatanga Municipal 2. East Mamprusi 3. Kassena Nankana 4. Talensi Nabdam 5. West Mamprusi	Bolgatanga Walewale
3. Buipe Area	1. Central Gonja 2. Kintampo North Municipal	Buipe Kintampo
4. Daka/Katanga Valley	1. East Gonja 2. Kpandai 3. Nanumba North	Salaga Kpandai
5. Oti River Basin	1. Kpandai 2. Krachi East 3. Krachi West 4. Krachi-Nchumuru Chinderi 5. Nanumba South 6. Nkwanta North 7. Nkwanta South	Kpandai Kete-Krachi
6. Fumsi Valley	1. Sawla-Tuna-Kalba 2. Wa East 3. Wa Municipal 4. West Gonja	 Funsi Wa
7. Kabaka Gorge	1. East Gonja 2. Kintampo North Municipal 3. Pru	Salaga Yeji
8. Bui Development Area	1. Bole 2. Kintampo North Municipal 3. Kintampo South 4. Tain 5. Wenchi Municipal	Bole Kintampo Jema Nsawkaw Wenchi
9. Nasia Valley	Karaga Kumbungu Savelugu Nanton Tolon	Karaga Savelugu
10. Kamba Dam	Lawra	
11. Bontaga Dam	Tolon Kumbungu	

Annexes 11 MAPS

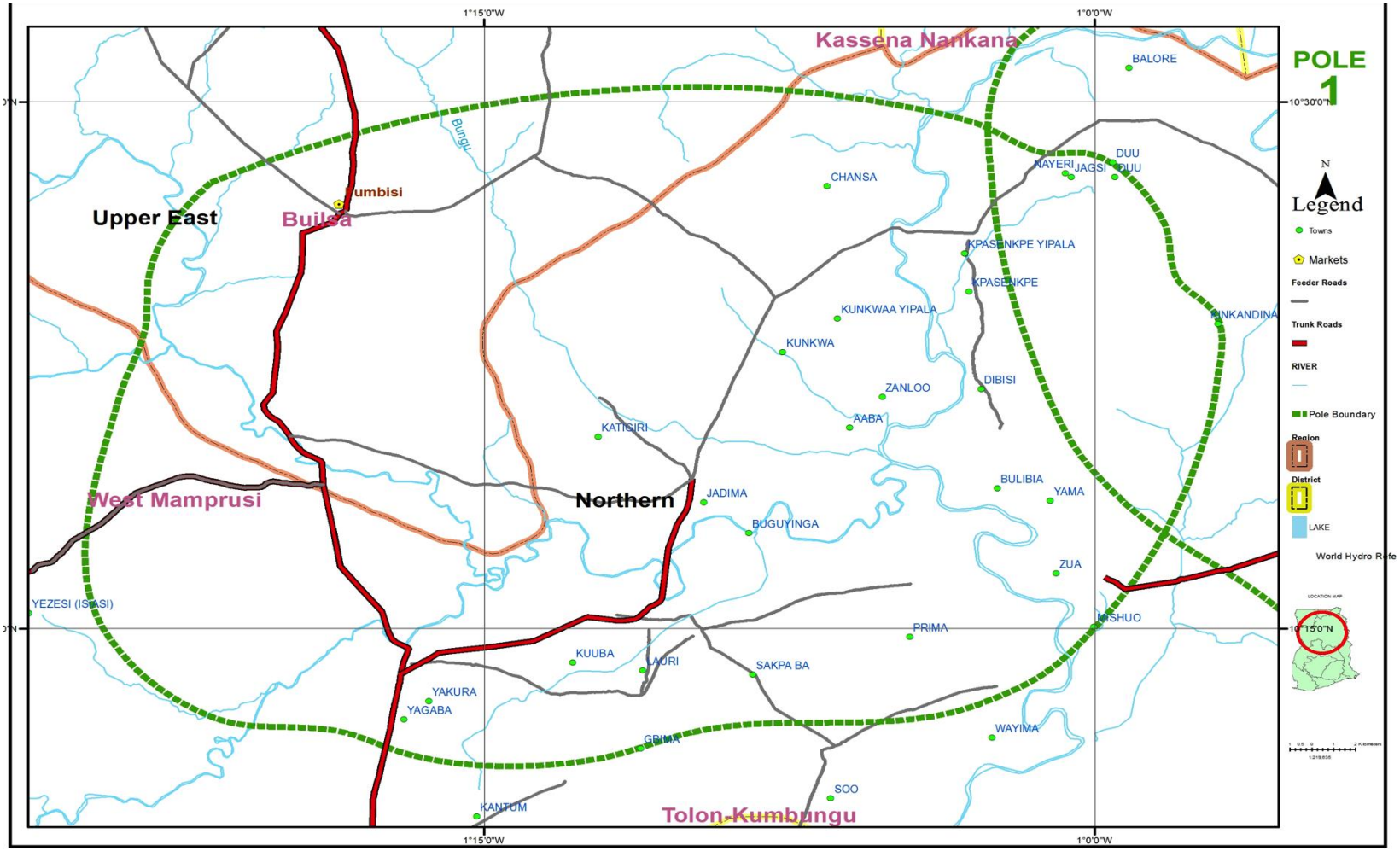
1.1 Annex Growth Pole Area MAPS- Road Map

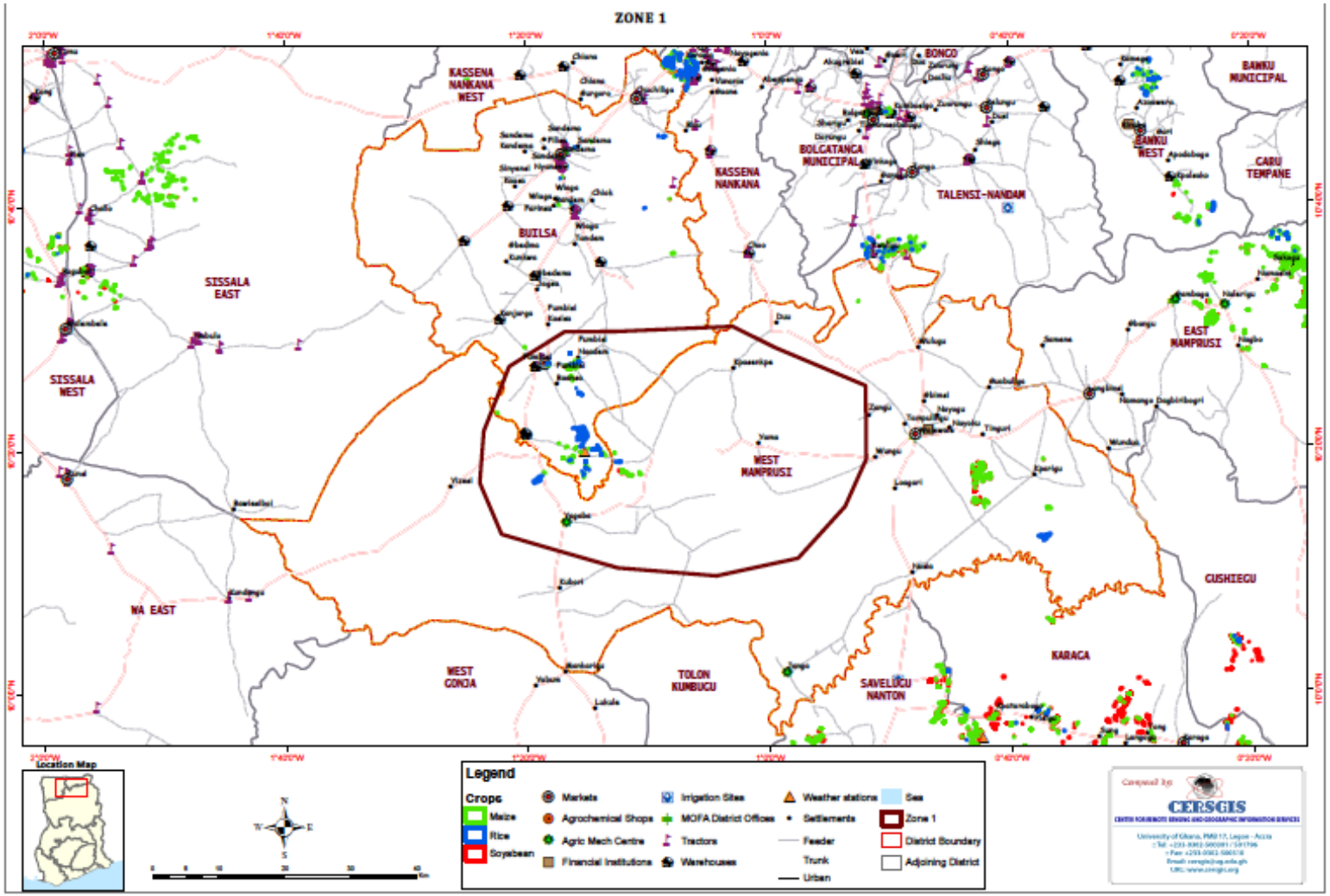


1.2 Growth Pole District Map Link

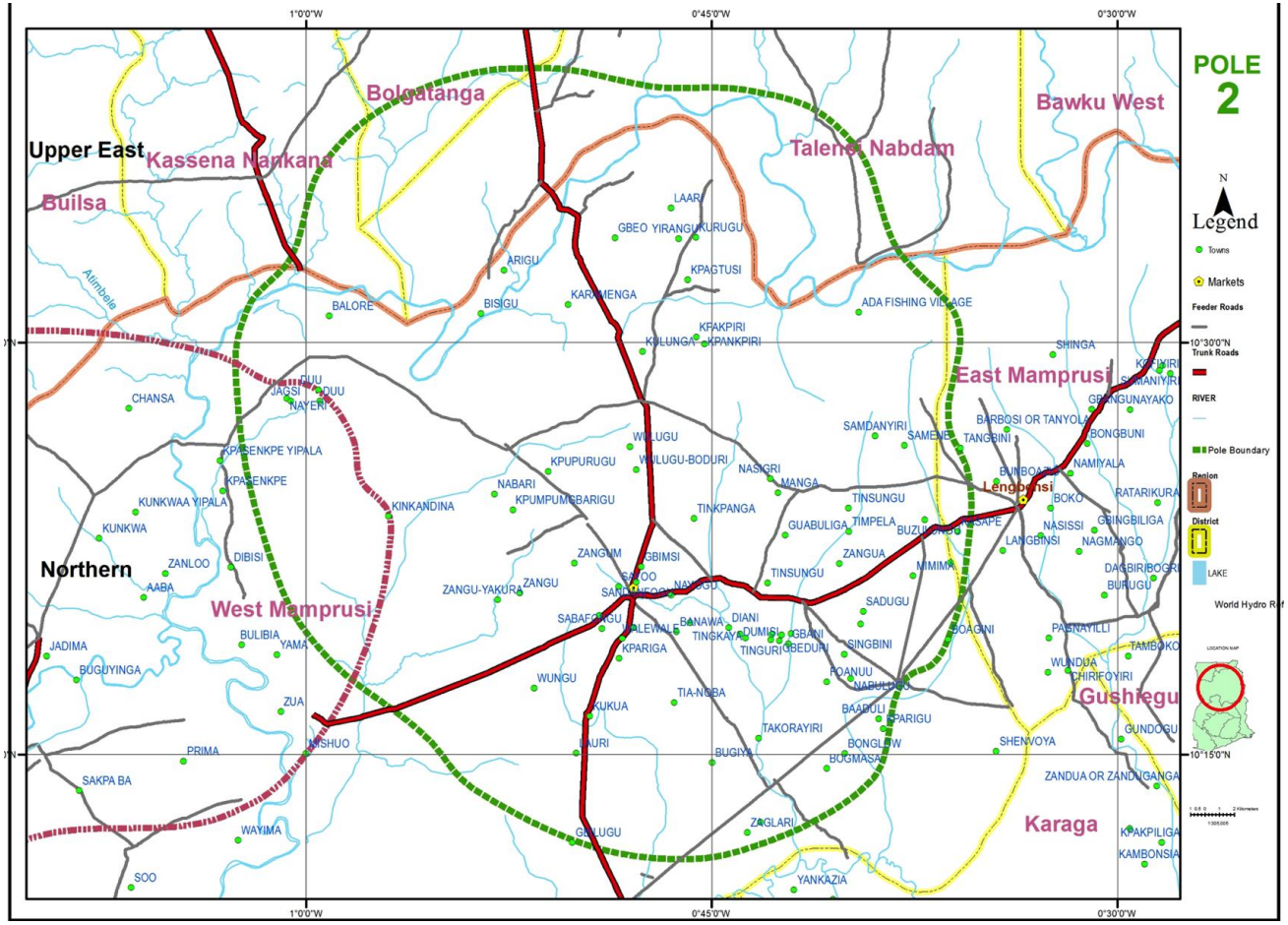


1.3 Growth Pole # 1. Sisili Kulpawn Valley

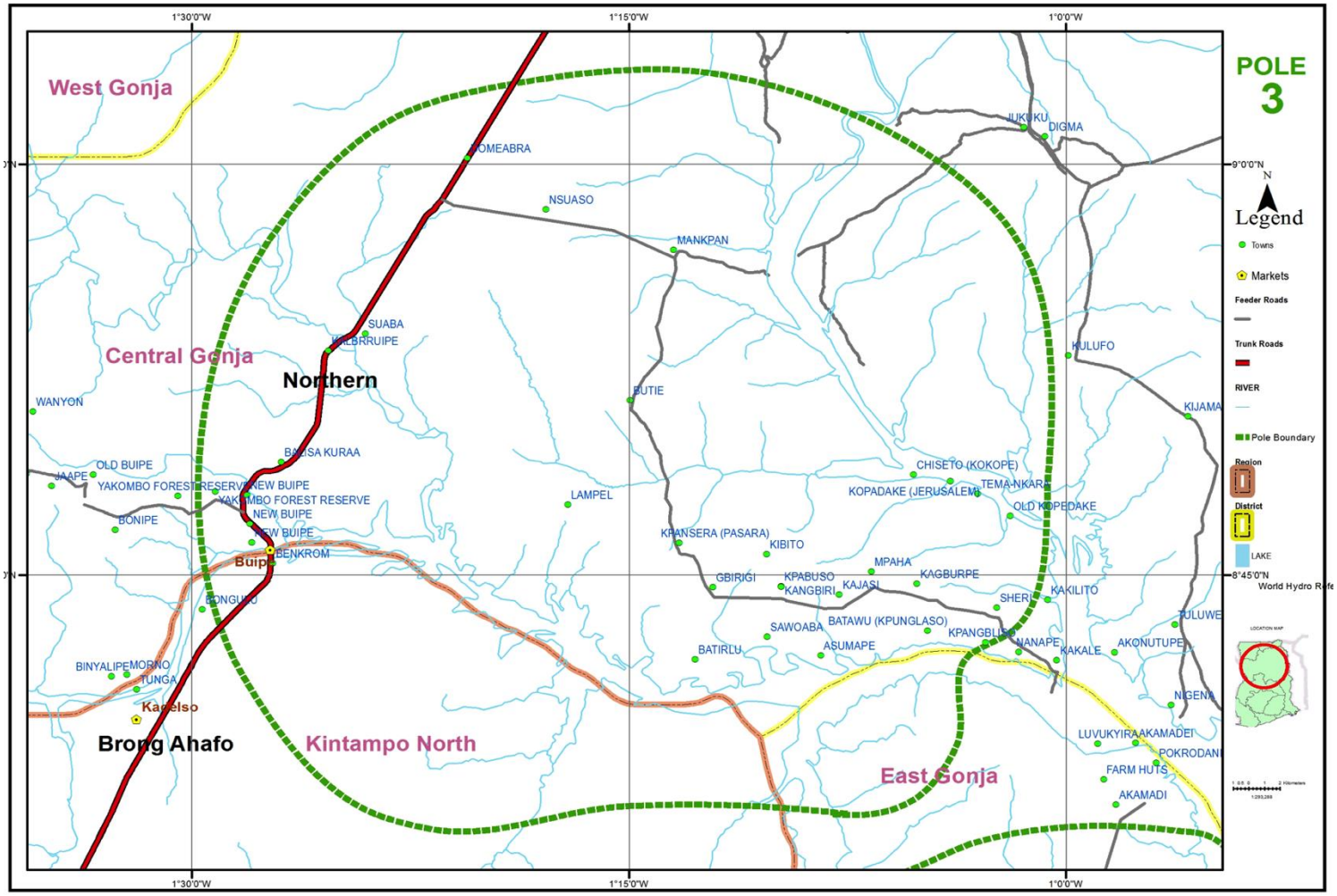



ZONE 1
KASSENA NANKANA WEST
KASSENA NANKANA
BOLGATANGA MUNICIPAL
BONGO
BANKU MUNICIPAL
BANKU WEST
CAMU TEMPANE
TALENSI-NANDAM
BUILSA
SISSALA EAST
SISSALA WEST
EAST MAMPRUSI
WEST MAMPRUSI
NA EAST
WEST GONJA
TOLON KUMBUGU
SAVELUGU NANTON
KARAGA
GUSHIEGU
Location Map
Legend
Crops
Maize
Rice
Soyabean
Markets
Agrochemical Shops
Agric Mech Centre
Financial Institutions
Irrigation Sites
MOFA District Offices
Tractors
Warehouses
Weather stations
Settlements
Feeder
Trunk
Urban
Sea
Zone 1
District Boundary
Adjoining District
CERSGIS

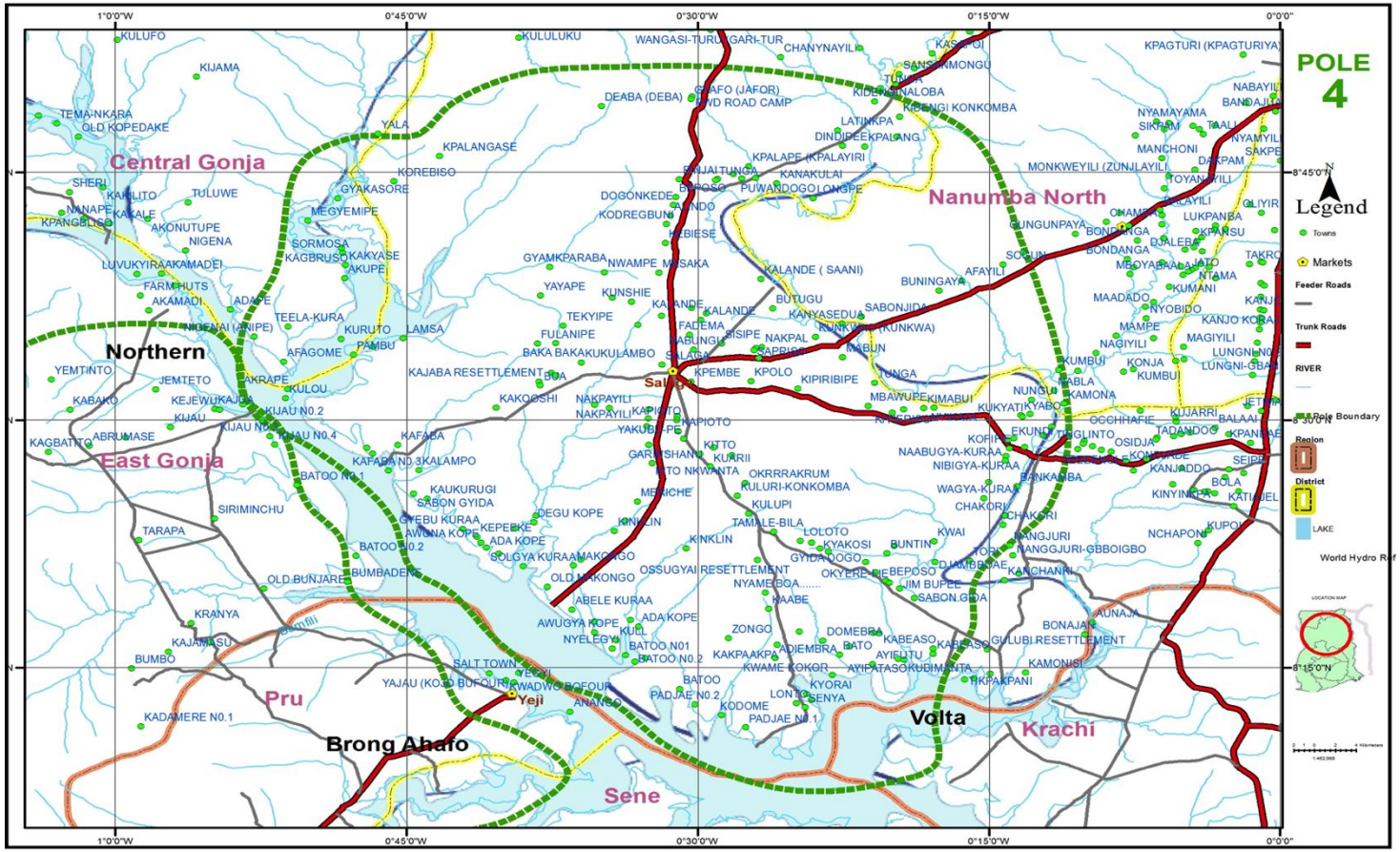
1.4 Growth Pole # 2 Pwalugu Area

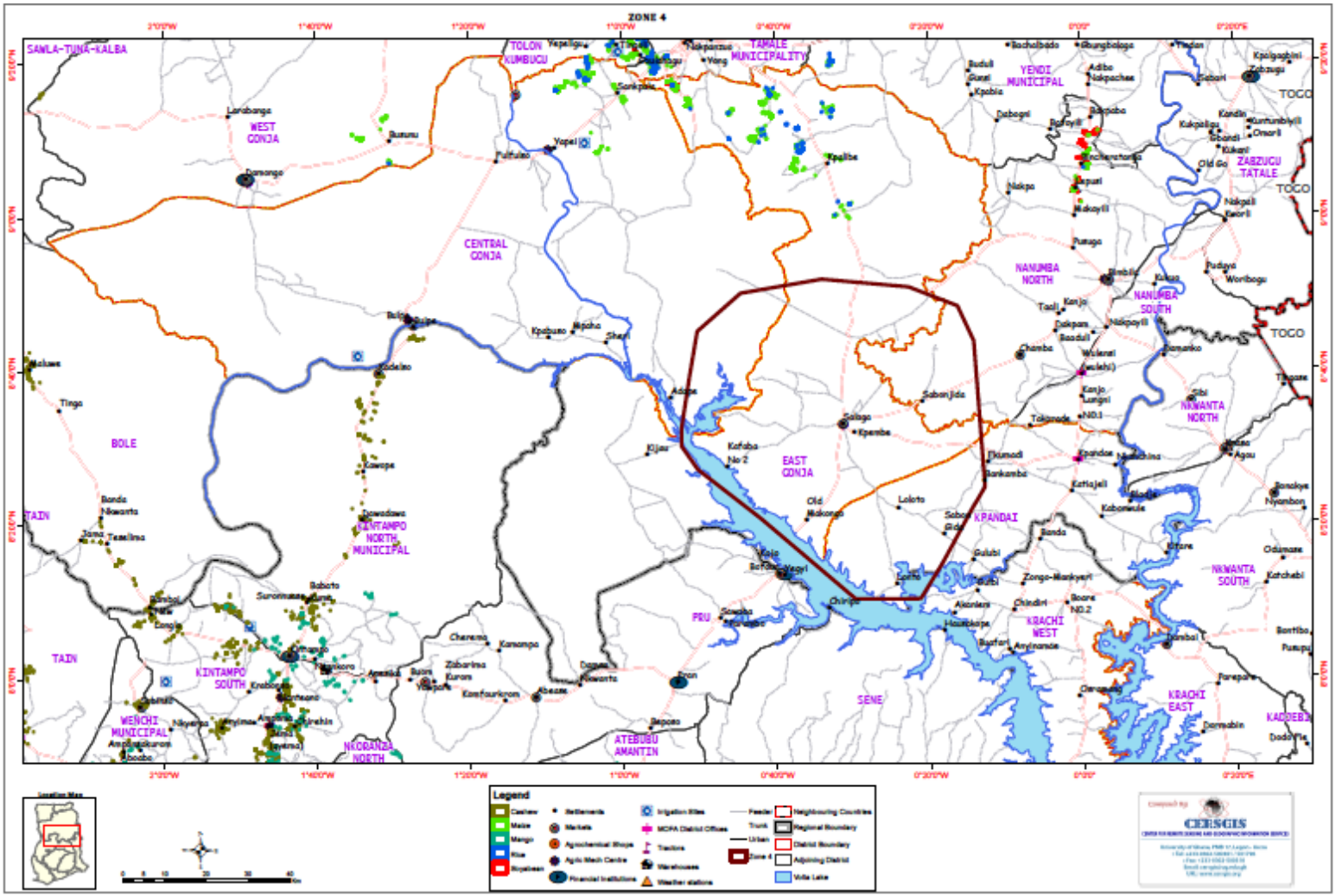


1.5 Growth Pole # 3 Buipe Area

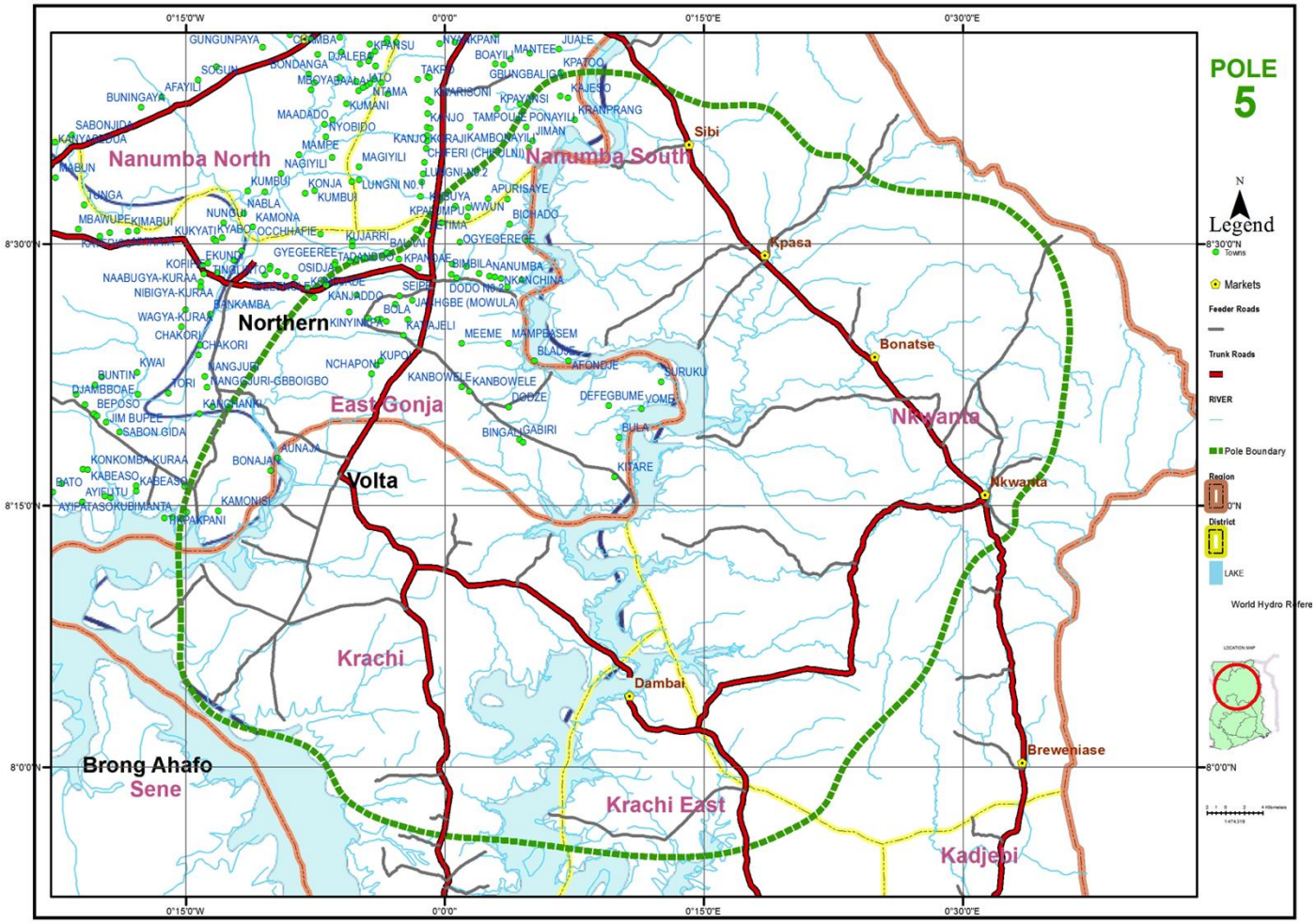


1.6 Growth Pole # 4 Katanga Area

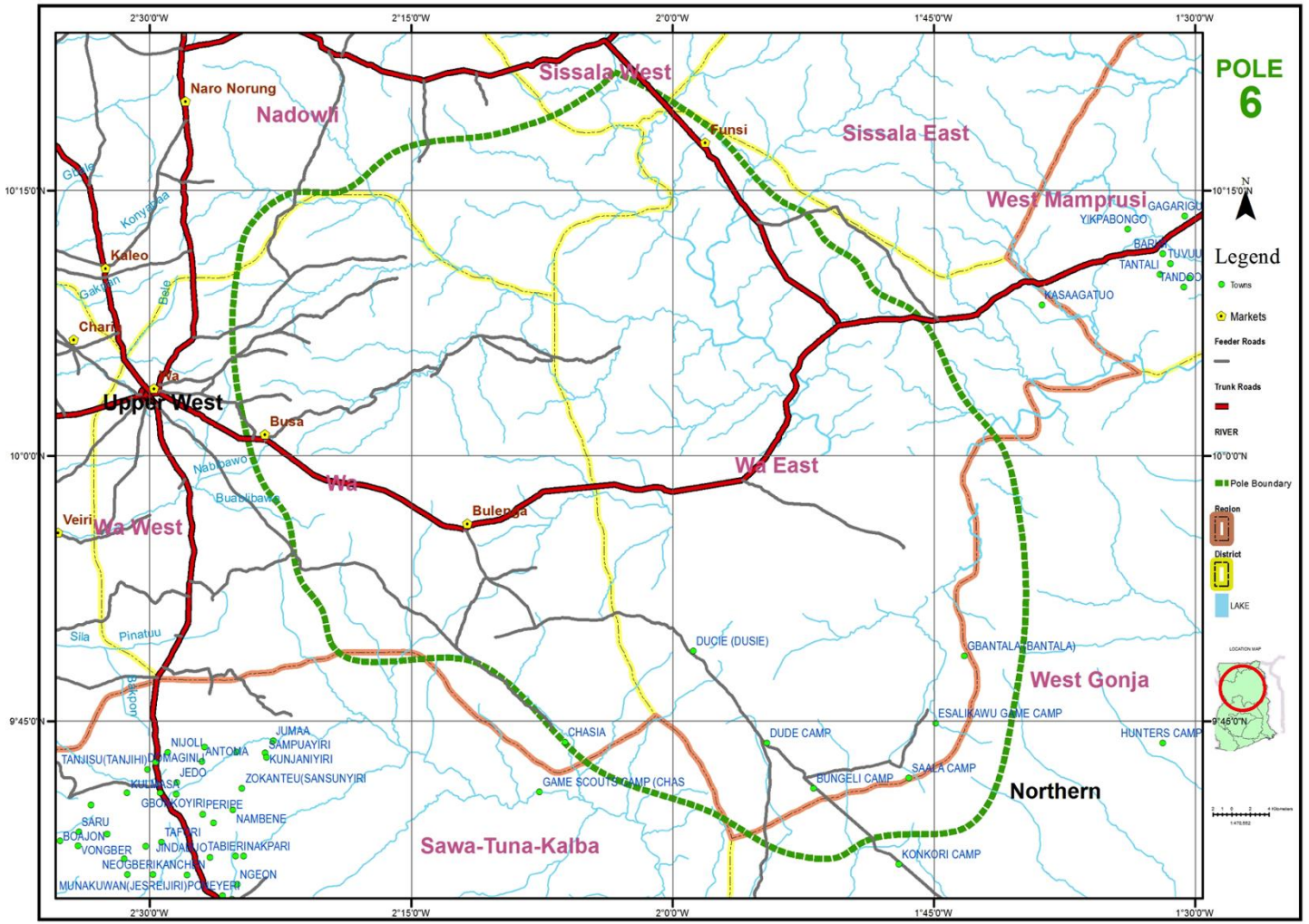


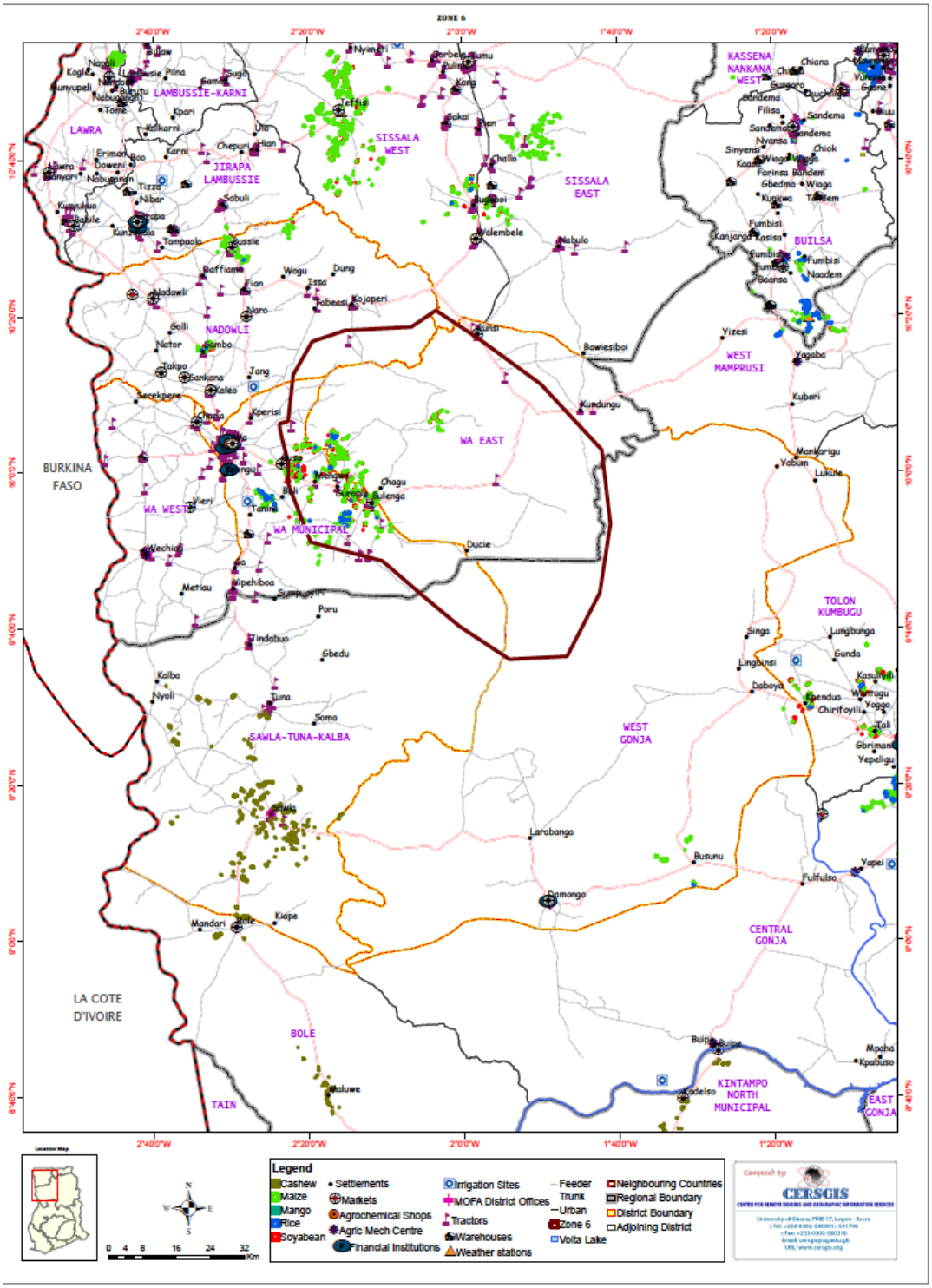

ZONE 4
SAWLA-TUNA-KALBA
WEST GONJA
CENTRAL GONJA
EAST GONJA
TOLON KUMBUGU
TAMALE MUNICIPALITY
YENDI MUNICIPAL
ZABZUGU TATALE
NANUMBA NORTH
NANUMBA SOUTH
NKWANTA NORTH
NKWANTA SOUTH
KRACHI WEST
KRACHI EAST
KADJEBI
KPANDAI
BOLE
TAIN
KINTAMPO NORTH MUNICIPAL
KINTAMPO SOUTH
WENCHI MUNICIPAL
NKORANZA NORTH
ATEBUBU AMANTIN
PRU
SENE
TOGO
Legend
Cashew
Maize
Mango
Rice
Soybean
Settlements
Markets
Agrochemical Shops
Agric Mech Centre
Financial Institutions
Irrigation Sites
MOFA District Offices
Tractors
Warehouses
Weather stations
Feeder
Trunk
Urban
Zone 4
Neighbouring Countries
Regional Boundary
District Boundary
Adjoining District
Volta Lake
CERSGIS

1.7 Growth Pole # 5 Oti River Basin

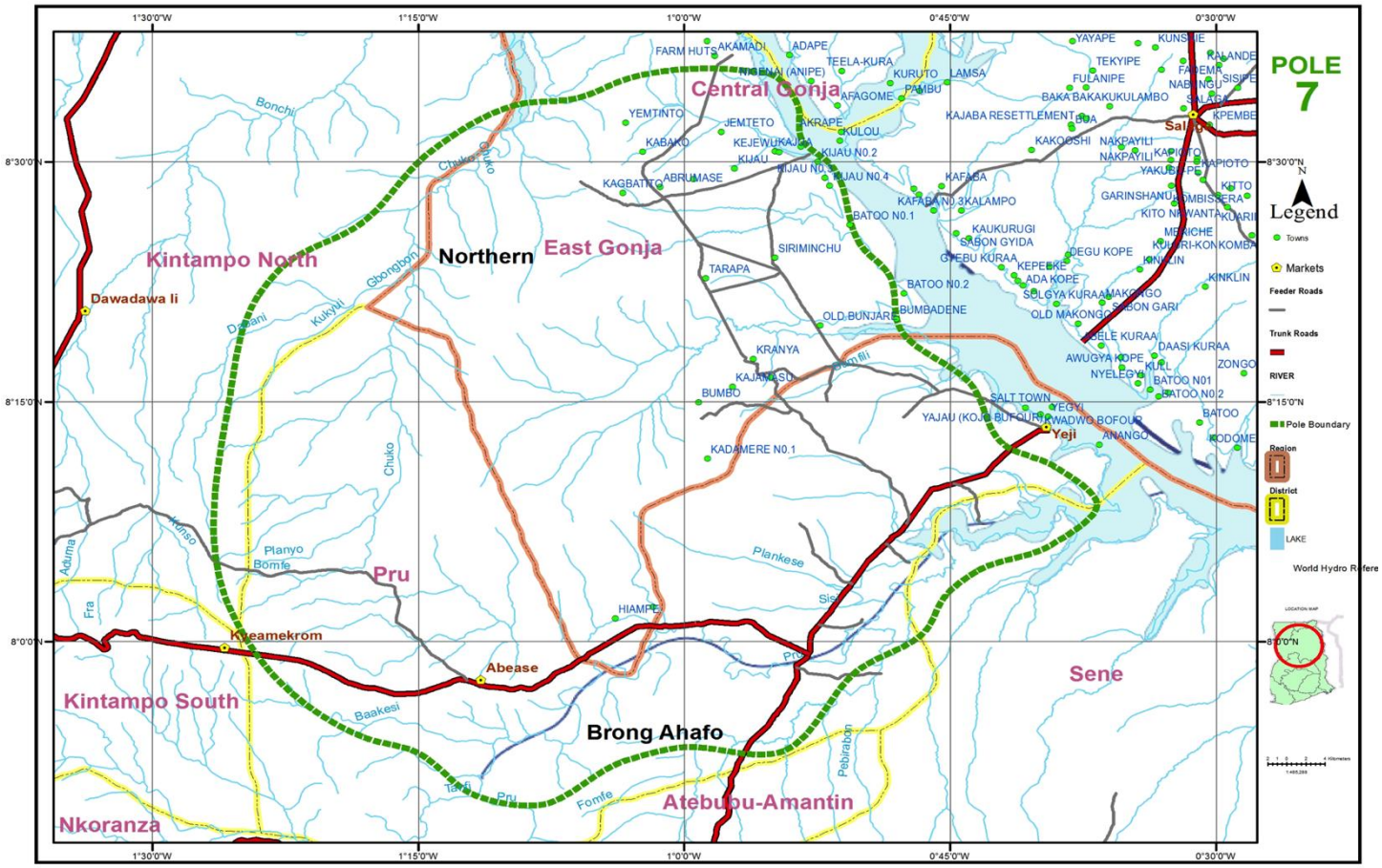


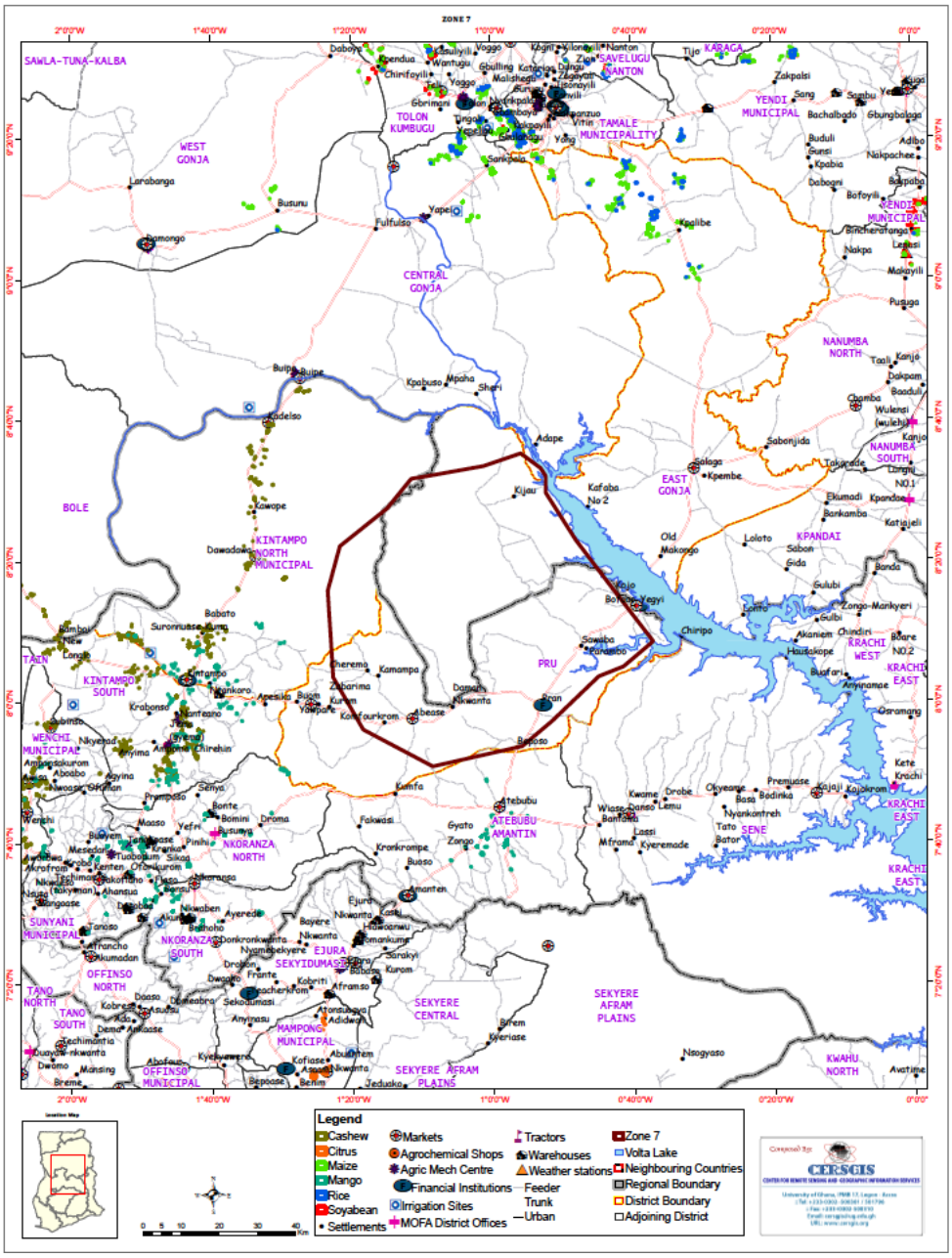
1.8 Growth Pole # 6 Fumsi Valley



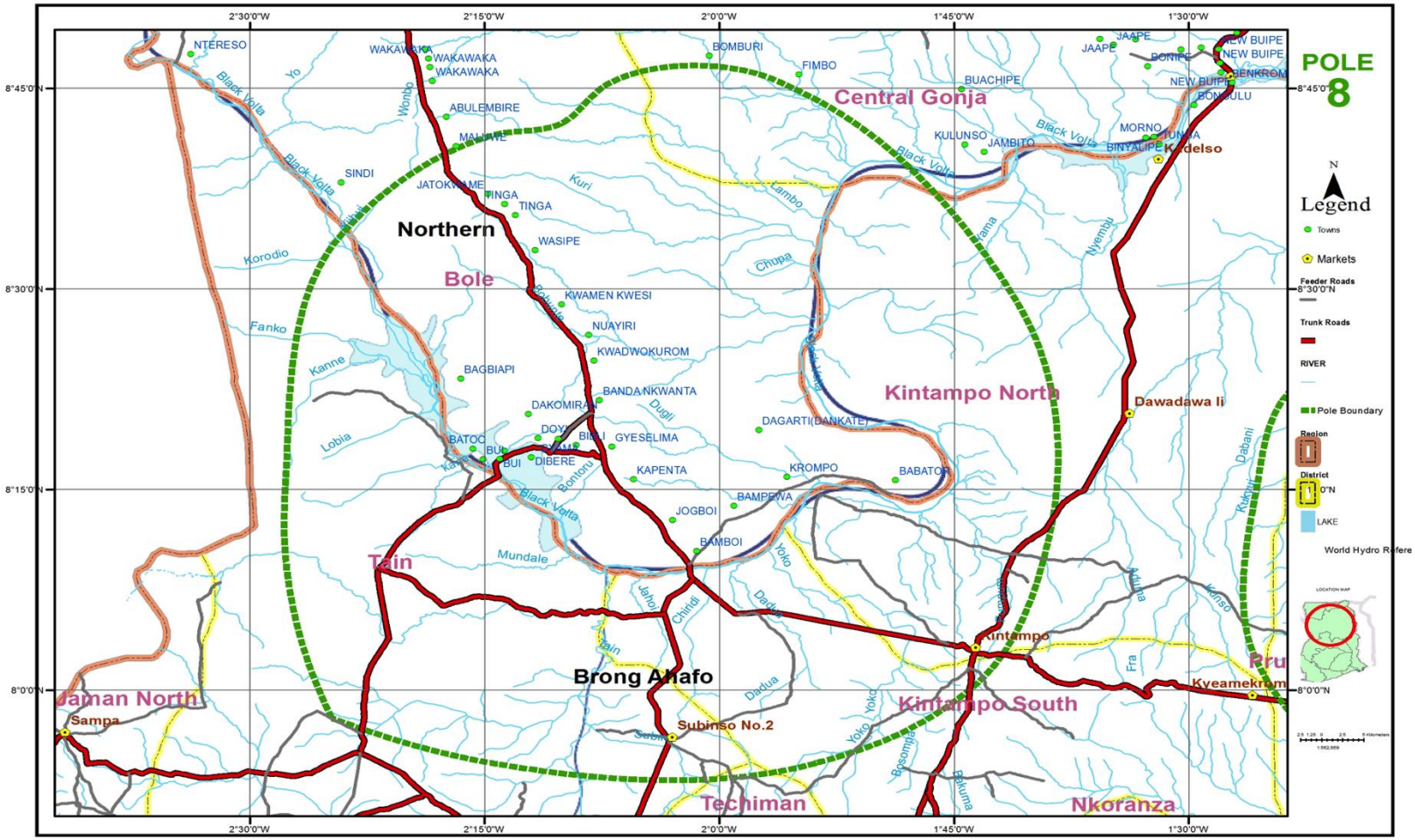

ZONE 6
2°40'0"W
2°20'0"W
2°0'0"W
1°40'0"W
1°20'0"W
10°40'0"N
10°20'0"N
10°0'0"N
9°40'0"N
9°20'0"N
9°0'0"N
8°40'0"N
8°20'0"N
8°0'0"N
LAMBUSSIE-KARNI
LAWRA
JIRAPA LAMBUSSIE
SISSALA WEST
SISSALA EAST
KASSENA NANKANA WEST
BUILSA
NADOWLI
WEST MAMPRUSI
WA EAST
WA WEST
WA MUNICIPAL
BURKINA FASO
SAWLA-TUNA-KALBA
WEST GONJA
TOLON KUMBUGU
CENTRAL GONJA
EAST GONJA
KINTAMPO NORTH MUNICIPAL
LA COTE D'IVOIRE
BOLE
TAIN
Legend
Cashew
Maize
Mango
Rice
Soyabean
Settlements
Markets
Agrochemical Shops
Agric Mech Centre
Financial Institutions
Irrigation Sites
MOFA District Offices
Tractors
Warehouses
Weather stations
Feeder
Trunk
Urban
Zone 6
Volta Lake
Neighbouring Countries
Regional Boundary
District Boundary
Adjoining District
0 4 8 16 24 32 Km
CERSGIS

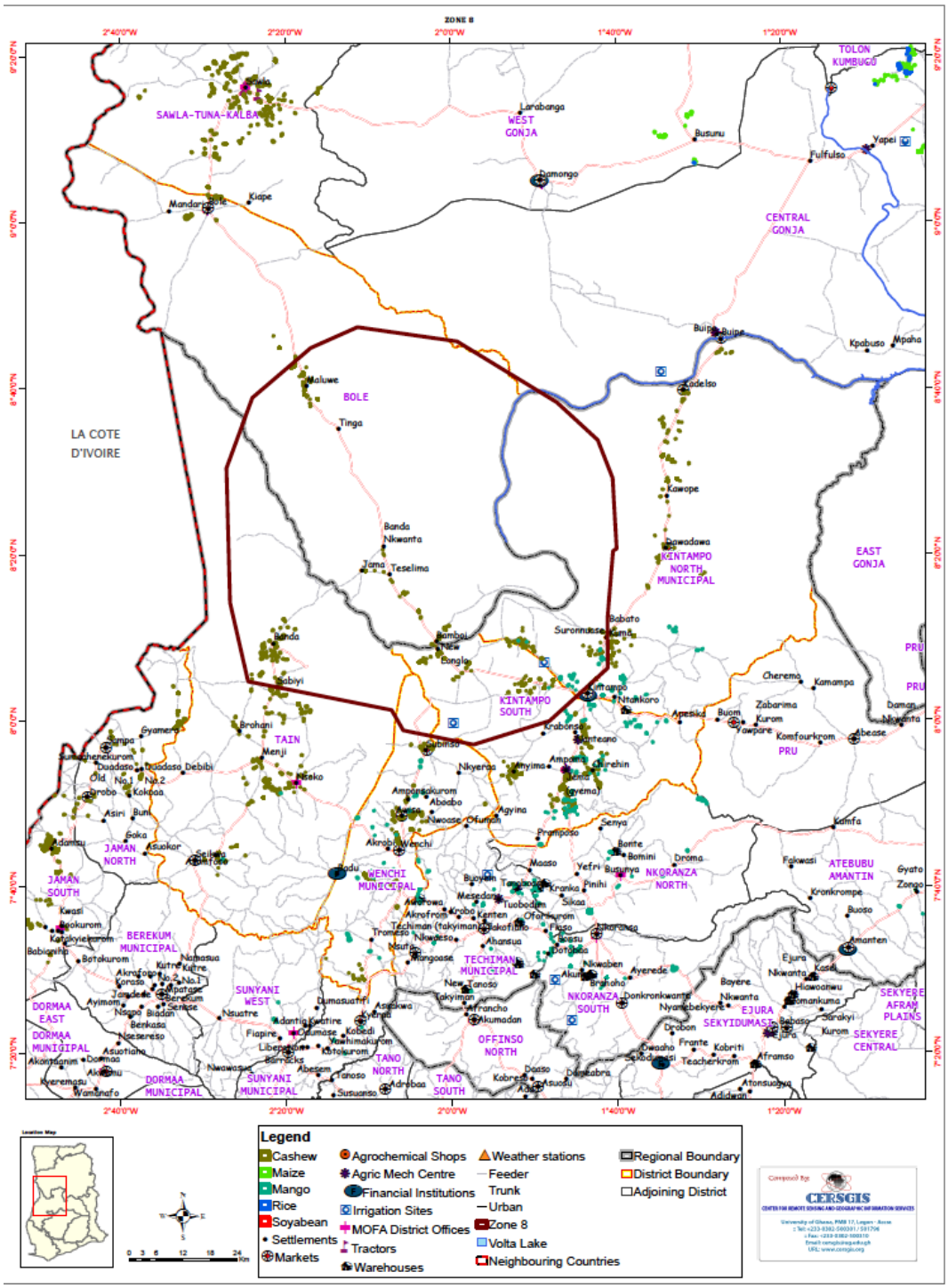
1.9 Growth Pole # 7 Kabaka Gorge



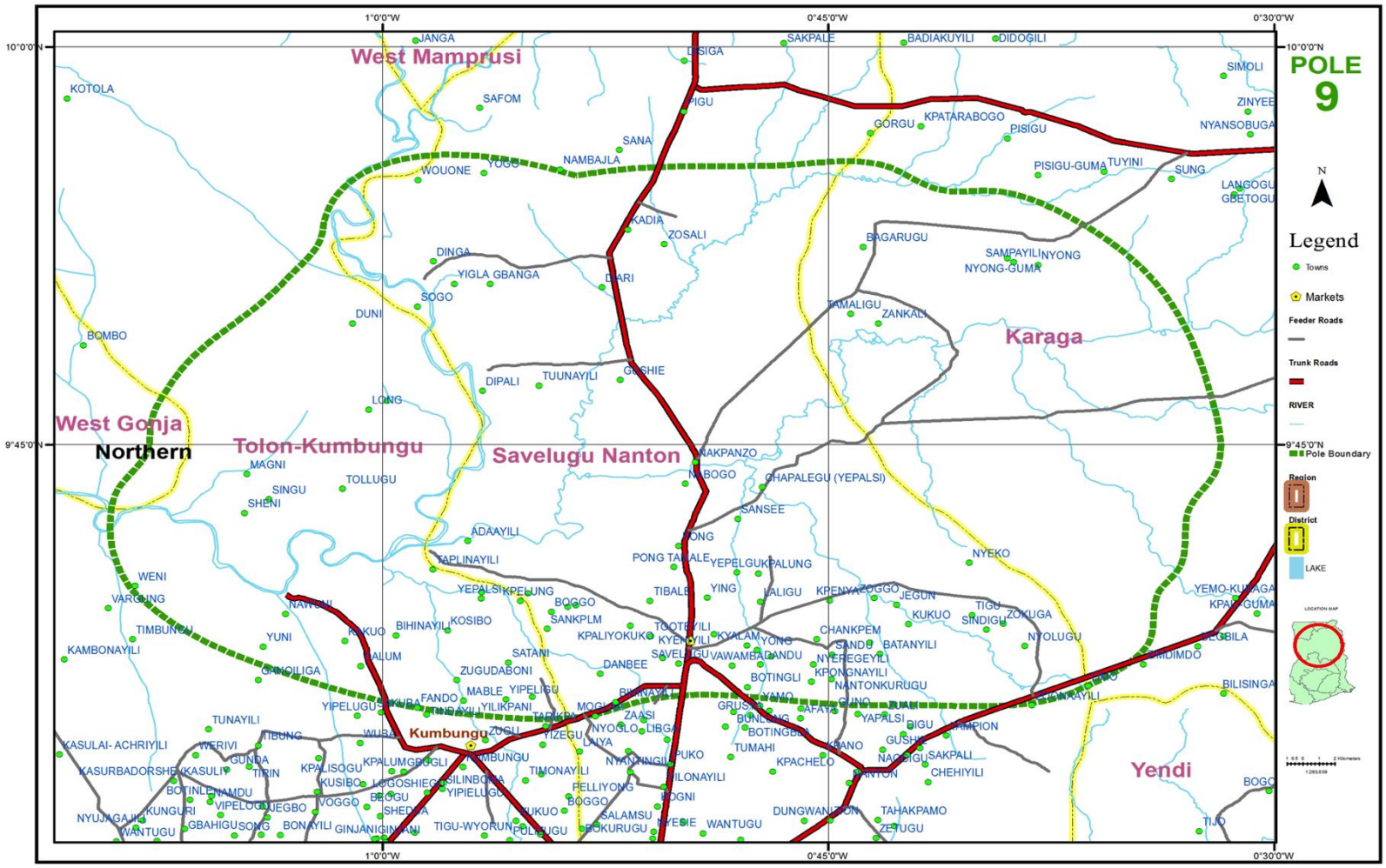

ZONE 7
SAWLA-TUNA-KALBA
WEST GONJA
CENTRAL GONJA
EAST GONJA
BOLE
TAMALE MUNICIPALITY
SAVELUGU NANTON
KARAGA
YENDI MUNICIPAL
TOLON KUMBUGU
NANUMBA NORTH
NANUMBA SOUTH
KPANDAI
KRACHI WEST
KRACHI EAST
KINTAMPO NORTH MUNICIPAL
KINTAMPO SOUTH
TAIN
WENCHI MUNICIPAL
SUNYANI MUNICIPAL
NKORANZA SOUTH
NKORANZA NORTH
EJURA SEKYIDUMASE
ATEBUBU AMANTIN
PRU
SENE
OFFINSO NORTH
OFFINSO MUNICIPAL
TANO NORTH
TANO SOUTH
MAMPONG MUNICIPAL
SEKYERE CENTRAL
SEKYERE AFRAM PLAINS
KWAHU NORTH
Legend
Cashew
Citrus
Maize
Mango
Rice
Soyabean
Settlements
Markets
Agrochemical Shops
Agric Mech Centre
Financial Institutions
Irrigation Sites
MOFA District Offices
Tractors
Warehouses
Weather stations
Feeder
Trunk
Urban
Zone 7
Volta Lake
Neighbouring Countries
Regional Boundary
District Boundary
Adjoining District
CERSGIS

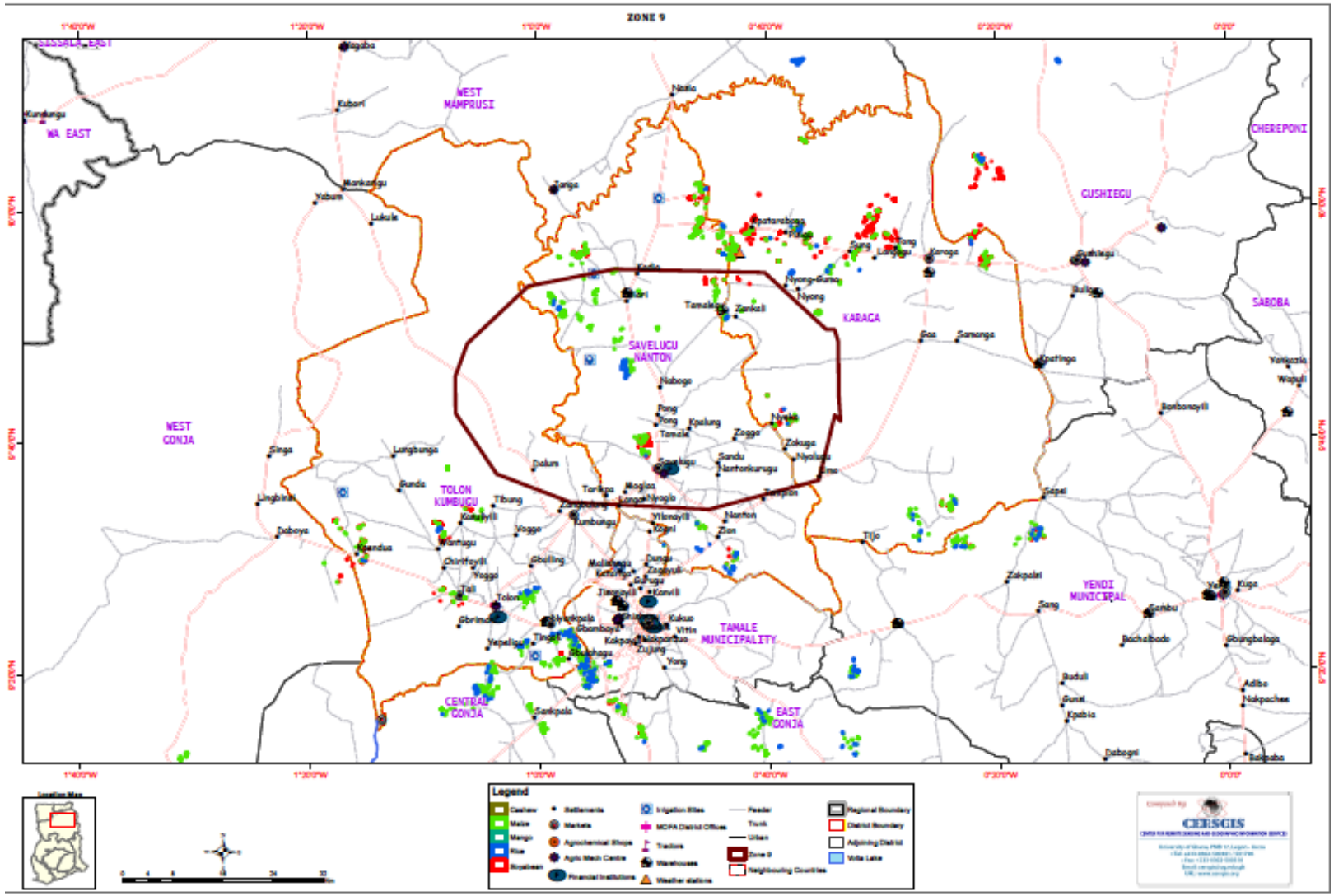
1.10 Growth Pole # 8 Bui Development Area



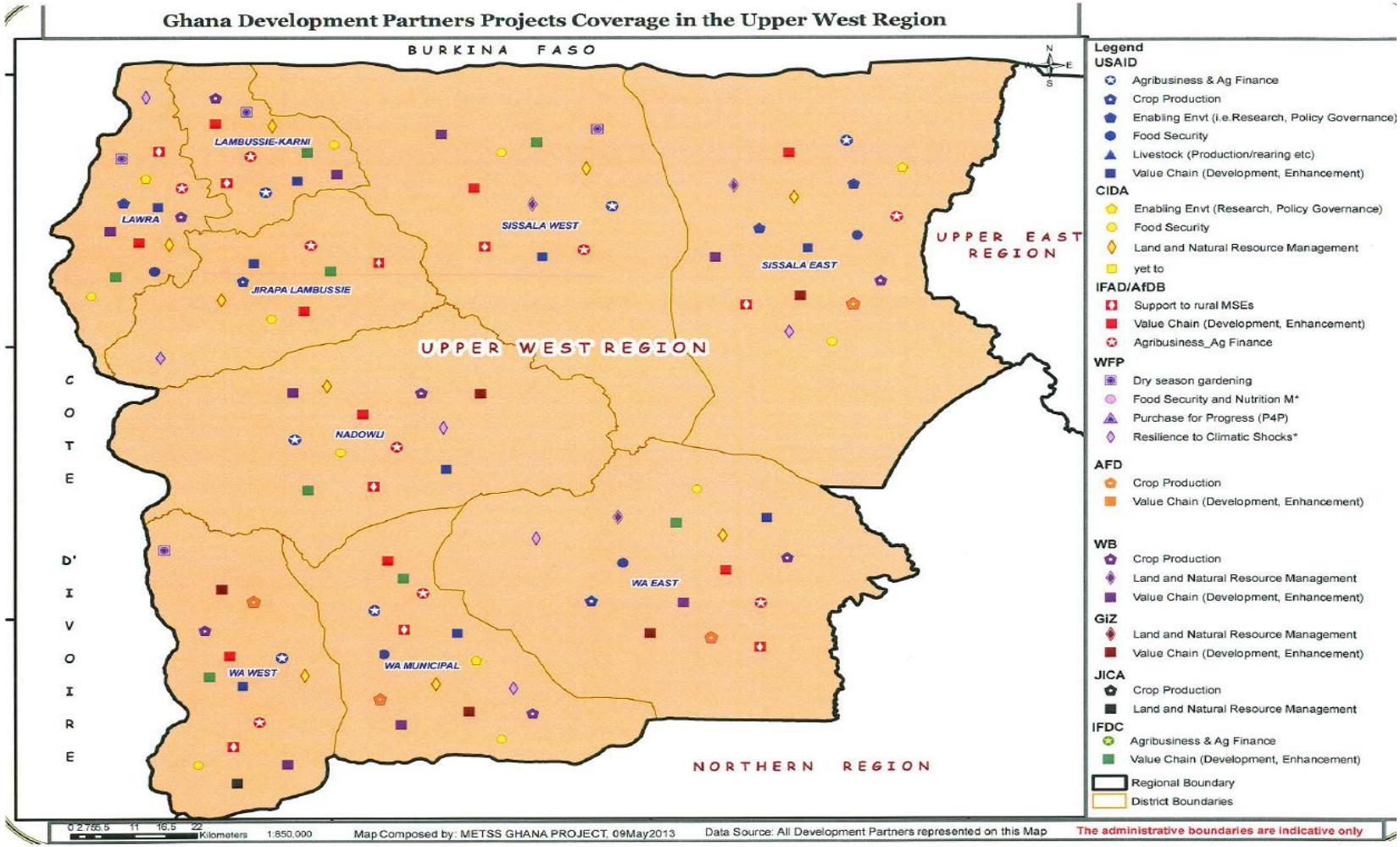

ZONE 8
SAWLA-TUNA-KALBA
WEST GONJA
CENTRAL GONJA
EAST GONJA
TOLON KUMBUGU
BOLE
LA COTE D'IVOIRE
KINTAMPO NORTH MUNICIPAL
KINTAMPO SOUTH
TAIN
JAMAN NORTH
JAMAN SOUTH
BEREKUM MUNICIPAL
WENCHI MUNICIPAL
NKORANZA NORTH
NKORANZA SOUTH
TECHIMAN MUNICIPAL
SUNYANI WEST
SUNYANI MUNICIPAL
DORMAA EAST
DORMAA MUNIGIPAL
DORMAA MUNICIPAL
TANO NORTH
TANO SOUTH
OFFINSO NORTH
ATEBUBU AMANTIN
EJURA SEKYIDUMASE
SEKYERE AFRAM PLAINS
SEKYERE CENTRAL
Legend
Cashew
Maize
Mango
Rice
Soyabean
Settlements
Markets
Agrochemical Shops
Agric Mech Centre
Financial Institutions
Irrigation Sites
MOFA District Offices
Tractors
Warehouses
Weather stations
Feeder
Trunk
Urban
Zone 8
Volta Lake
Neighbouring Countries
Regional Boundary
District Boundary
Adjoining District
CERSGIS

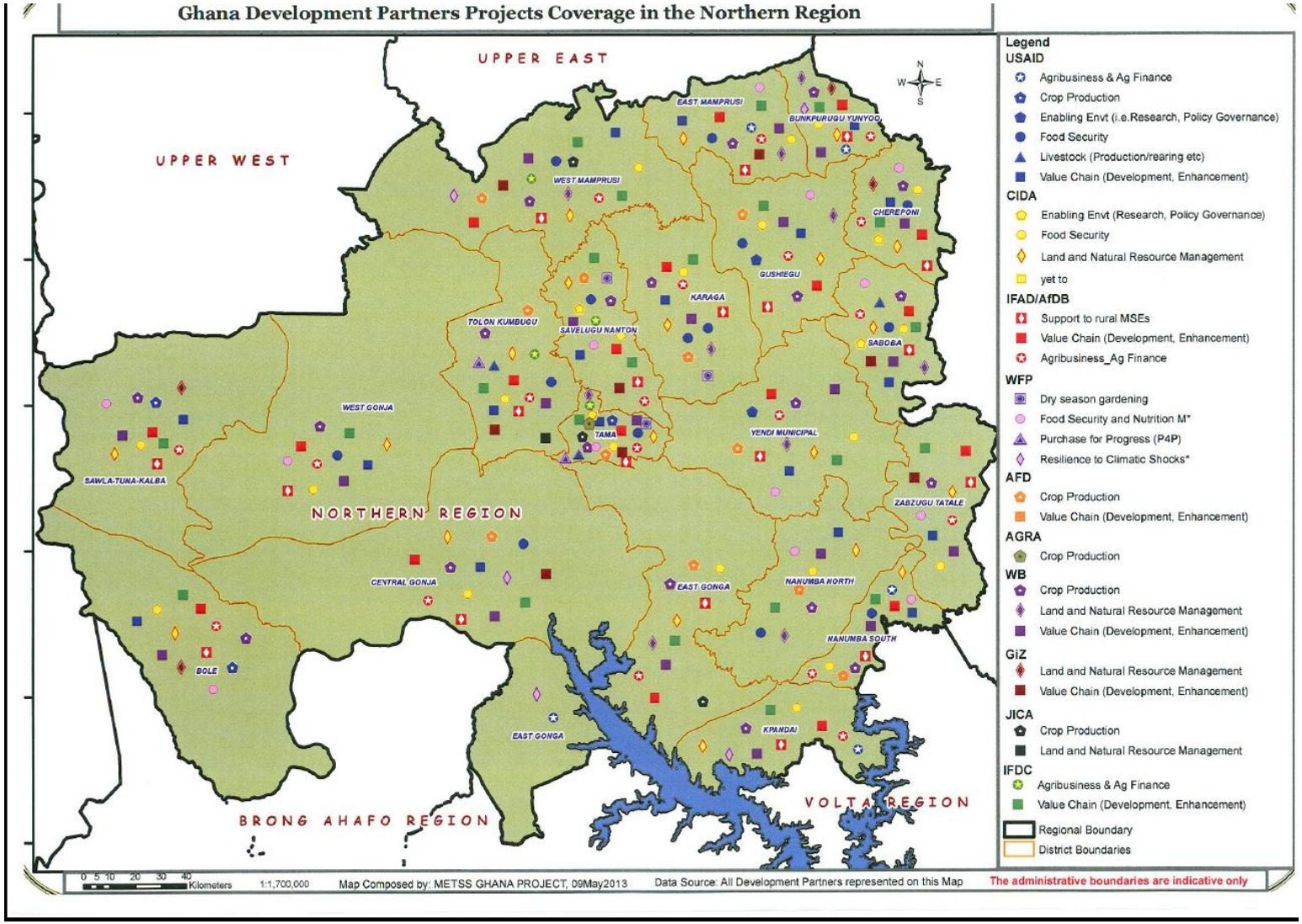
1.11 Growth Pole # 9 Nasia Valley

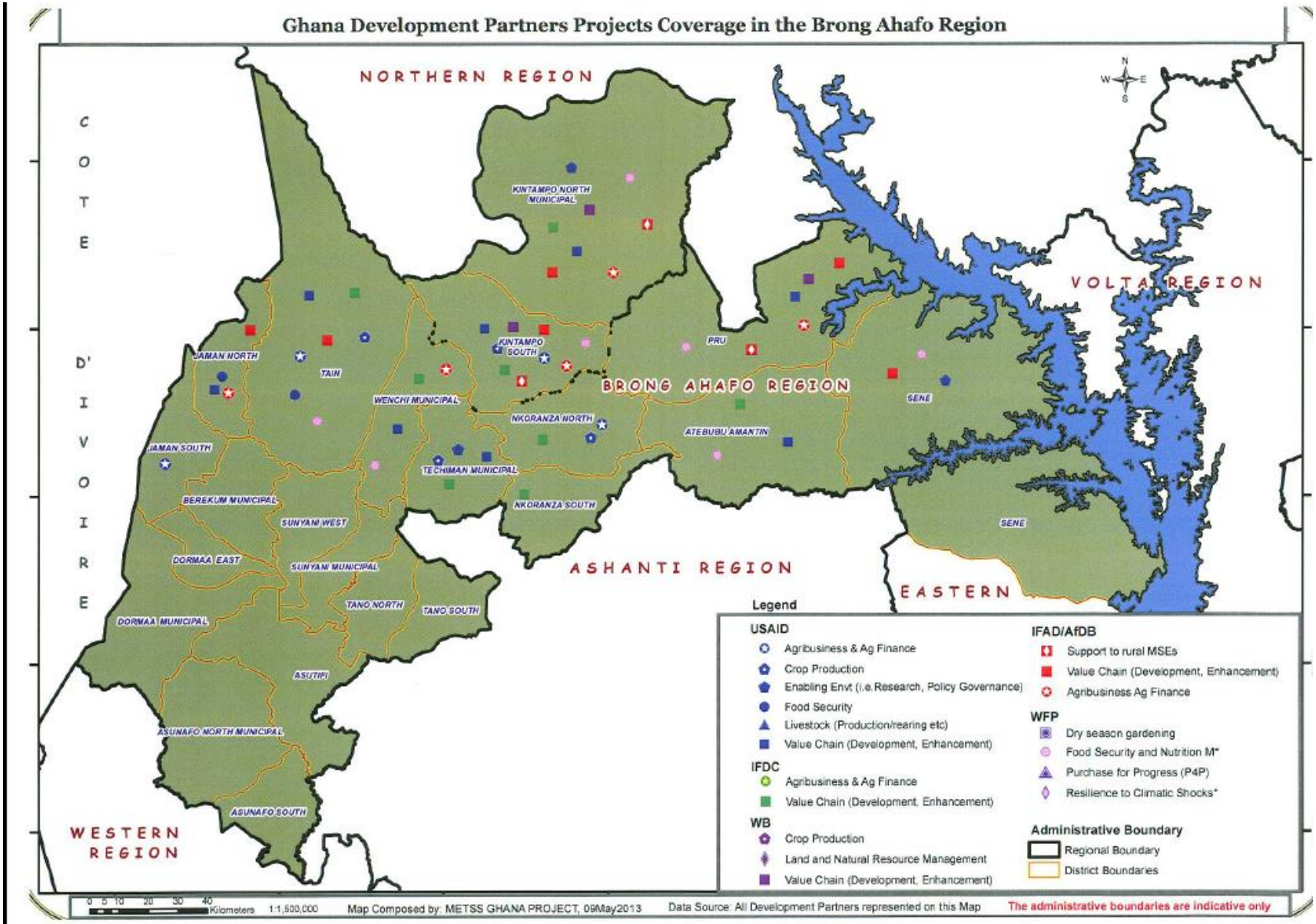


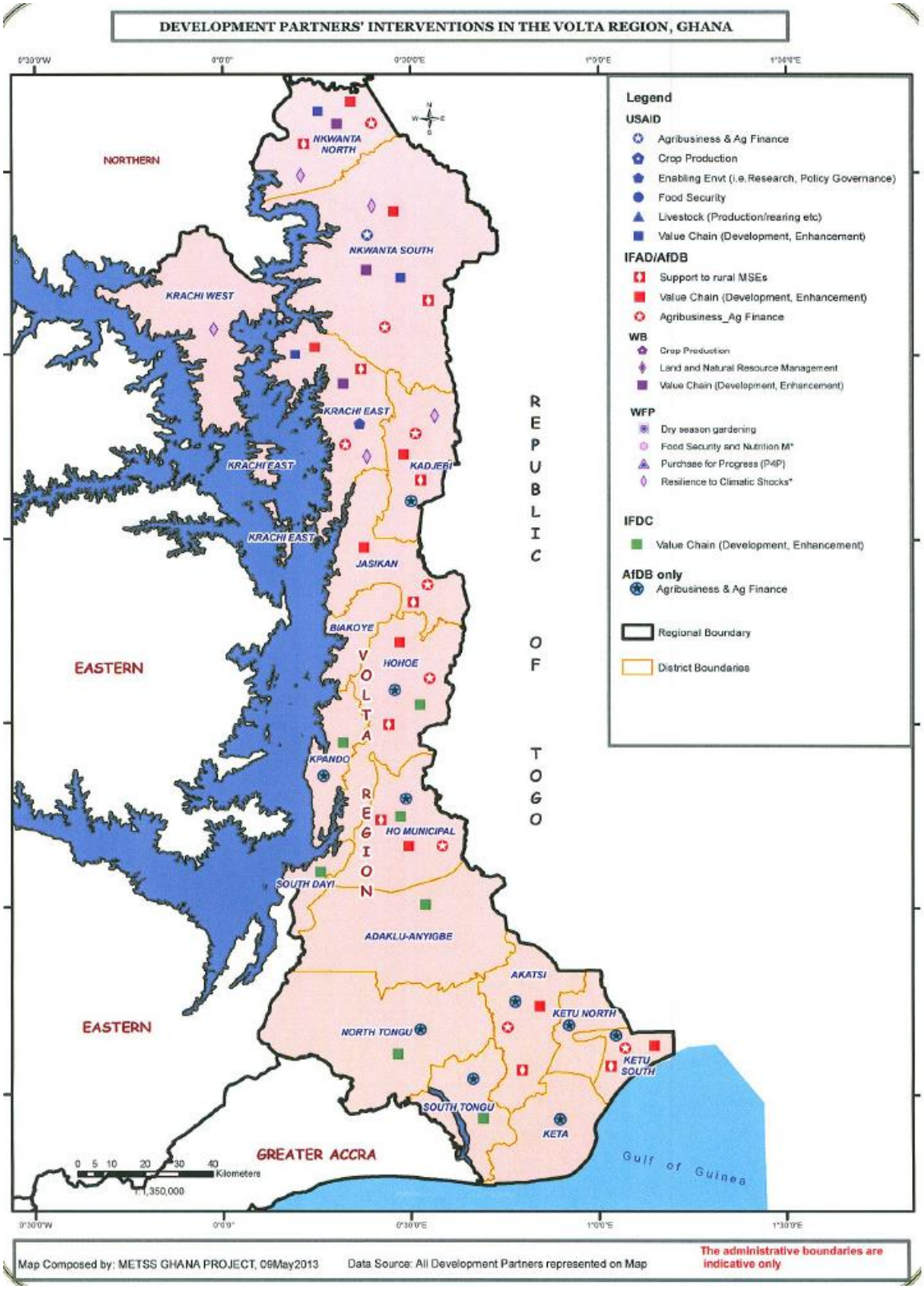

ZONE 9
WEST MAMPRUSI
WA EAST
CHEREPONI
CUSHIEGU
KARAGA
SAVELUGU NANTON
SABOBA
WEST GONJA
TOLON KUMBUGU
TAMALE MUNICIPALITY
YENDI MUNICIPAL
CENTRAL GONJA
EAST GONJA
Legend
CERSGIS

1.12 *Annex 12 Development Partner Intervention MAPS*

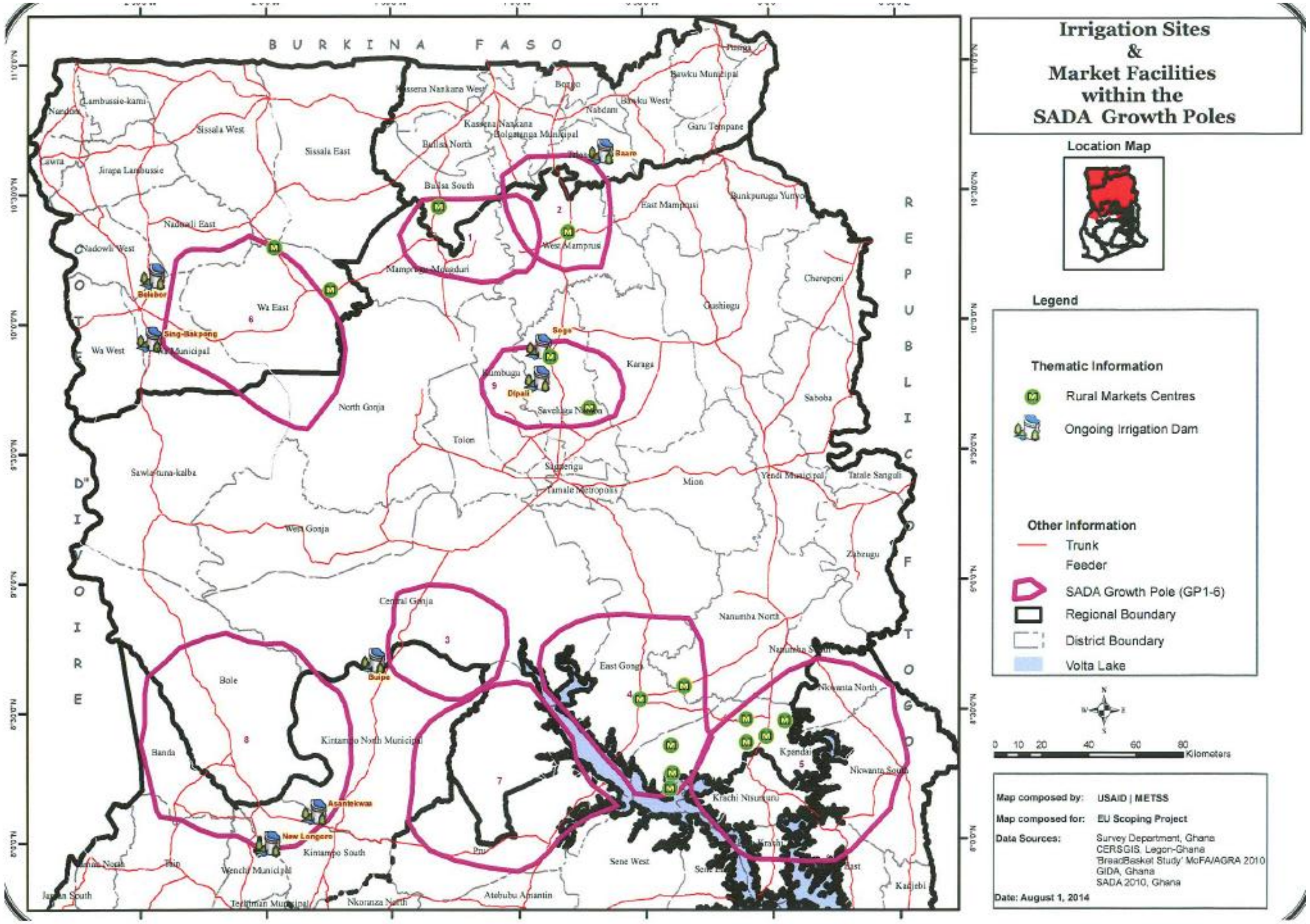



Ghana Development Partners Projects Coverage in the Northern Region
UPPER EAST
UPPER WEST
NORTHERN REGION
BRONG AHAFO REGION
VOLTA REGION
EAST MAMPRUSI
BUNKPURUGU YUNYOO
WEST MAMPRUSI
CHEREPONI
GUSHIEGU
KARAGA
TOLON KUMBUGU
SAVELUGU NANTON
SABOBA
WEST GONJA
TAMA
YENDI MUNICIPAL
SAWLA-TUNA-KALBA
ZABZUGU TATALE
CENTRAL GONJA
EAST GONJA
NANUMBA NORTH
NANUMBA SOUTH
BOLE
EAST GONGA
KPANDAI
N
W
E
S
Legend
USAID
Agribusiness & Ag Finance
Crop Production
Enabling Envt (i.e.Research, Policy Governance)
Food Security
Livestock (Production/rearing etc)
Value Chain (Development, Enhancement)
CIDA
Enabling Envt (Research, Policy Governance)
Food Security
Land and Natural Resource Management
yet to
IFAD/AfDB
Support to rural MSEs
Value Chain (Development, Enhancement)
Agribusiness_Ag Finance
WFP
Dry season gardening
Food Security and Nutrition M*
Purchase for Progress (P4P)
Resilience to Climatic Shocks*
AFD
Crop Production
Value Chain (Development, Enhancement)
AGRA
Crop Production
WB
Crop Production
Land and Natural Resource Management
Value Chain (Development, Enhancement)
GiZ
Land and Natural Resource Management
Value Chain (Development, Enhancement)
JICA
Crop Production
Land and Natural Resource Management
IFDC
Agribusiness & Ag Finance
Value Chain (Development, Enhancement)
Regional Boundary
District Boundaries
0 5 10 20 30 40
Kilometers
1:1,700,000
Map Composed by: METSS GHANA PROJECT, 09May2013
Data Source: All Development Partners represented on this Map
The administrative boundaries are indicative only

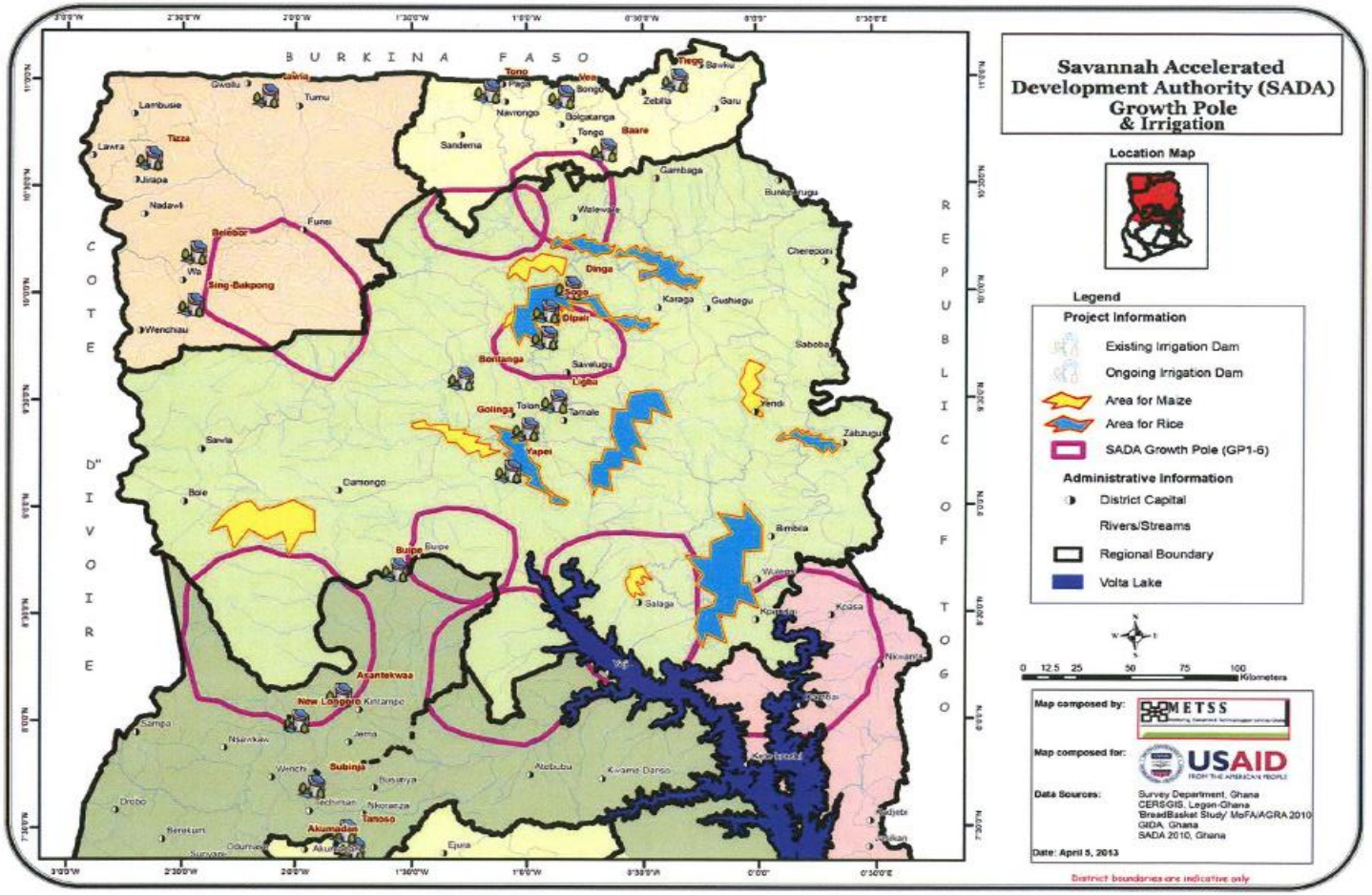

Ghana Development Partners Projects Coverage in the Brong Ahafo Region
NORTHERN REGION
COTE D'IVOIRE
VOLTA REGION
BRONG AHAFO REGION
ASHANTI REGION
EASTERN
WESTERN REGION
KINTAMPO NORTH MUNICIPAL
KINTAMPO SOUTH
JAMAN NORTH
TAIN
WENCHI MUNICIPAL
NKORANZA NORTH
NKORANZA SOUTH
TECHIMAN MUNICIPAL
ATEBUBU AMANTIN
PRU
SENE
JAMAN SOUTH
BEREKUM MUNICIPAL
SUNYANI WEST
SUNYANI MUNICIPAL
DORMAA EAST
DORMAA MUNICIPAL
TANO NORTH
TANO SOUTH
ASUTIFI
ASUNAFO NORTH MUNICIPAL
ASUNAFO SOUTH
Legend
USAID
Agribusiness & Ag Finance
Crop Production
Enabling Envt (i.e.Research, Policy Governance)
Food Security
Livestock (Production/rearing etc)
Value Chain (Development, Enhancement)
IFDC
Agribusiness & Ag Finance
Value Chain (Development, Enhancement)
WB
Crop Production
Land and Natural Resource Management
Value Chain (Development, Enhancement)
IFAD/AfDB
Support to rural MSEs
Value Chain (Development, Enhancement)
Agribusiness Ag Finance
WFP
Dry season gardening
Food Security and Nutrition M*
Purchase for Progress (P4P)
Resilience to Climatic Shocks*
Administrative Boundary
Regional Boundary
District Boundaries
0 5 10 20 30 40 Kilometers
1:1,500,000
Map Composed by: METSS GHANA PROJECT, 09May2013
Data Source: All Development Partners represented on this Map
The administrative boundaries are indicative only


DEVELOPMENT PARTNERS' INTERVENTIONS IN THE VOLTA REGION, GHANA
Legend
USAID
Agribusiness & Ag Finance
Crop Production
Enabling Envt (i.e.Research, Policy Governance)
Food Security
Livestock (Production/rearing etc)
Value Chain (Development, Enhancement)
IFAD/AfDB
Support to rural MSEs
Value Chain (Development, Enhancement)
Agribusiness_Ag Finance
WB
Crop Production
Land and Natural Resource Management
Value Chain (Development, Enhancement)
WFP
Dry season gardening
Food Security and Nutrition M*
Purchase for Progress (P4P)
Resilience to Climatic Shocks*
IFDC
Value Chain (Development, Enhancement)
AfDB only
Agribusiness & Ag Finance
Regional Boundary
District Boundaries
NORTHERN
EASTERN
EASTERN
GREATER ACCRA
NKWANTA NORTH
NKWANTA SOUTH
KRACHI WEST
KRACHI EAST
KRACHI EAST
KRACHI EAST
KADJEBI
JASIKAN
BIAKOYE
HOHOE
KPANDO
HO MUNICIPAL
SOUTH DAYI
ADAKLU-ANYIGBE
AKATSI
KETU NORTH
KETU SOUTH
NORTH TONGU
SOUTH TONGU
KETA
VOLTA REGION
REPUBLIC OF TOGO
Gulf of Guinea
0 5 10 20 30 40 Kilometers
1:1,350,000
Map Composed by: METSS GHANA PROJECT, 09May2013
Data Source: All Development Partners represented on Map
The administrative boundaries are indicative only

1.13 Annex 13 Maps of Irrigation Sites & Market Facilities within SADA Growth Poles



1.14 ***Map of Irrigation sites and Production Areas***



1.15 Annex 14 List of Persons Contacted

List of Municipal/District Assembly Staff Interviewed on Field Trip

District / Municipal Assembly	GP	Name	Position	Tel	e-mail
04/08/14					
Karaga - DA	**2**	Mr. Abdulai A Alhassan	MoFA	024-274-3824	
		Mr. Sulemana Hussein Issah	DCE	024-2887350	nkumagi1@yahoo.com
		Mr. Mahmud M Ozman	DPO	020-852-2318	mahmudmosman@yahoo.com
04/08/14					
Savelugu- MA	**9**	Mr. Issaka B. Basintale	MCD	024-311-4764/ 020-817-0726	basintale06@yahoo.com
		Alhaji Inusah Abukari	MPO	054-087-5117/ 020-540-3367	abukyunus64@gmail.com
04/08/14					
Tolon Kumbungu - Bontanga Dam	**9**				
05/08/14					
West Mamprusi - DA	**2**	Abubakari Inusah Alhaji	DCD		aia1515@yahoo.com
		Alhaji Mohammed Shaibu	DPO		alhajiyasaana@yahoo.com ; alhajibenjay@gmail.com
		Sobul-Haque Fuseini	DDCD		yadaf76@yahoo.com
		Baba Amadu	DAO		ahmed41b@yahoo.com
		Salifu Yidam	DWSTL	020-830-0988	salifu@yahoo.com
		Gaddo Naimatu		024-512-5096	michellenimmy@yahoo.com
		Stephen Mwinayelle		020-888-8828	stephenmwinayelle@gmail.com
		Patrick Antwi		024-476-4816	patrickanewi25@yahoo.com
05/08/14					

District / Municipal Assembly	GP	Name	Position	Tel	e-mail
Mamprugu Moagduri - DA	**1**	Mahama B. Mumuni	DCD	024-456-6410	mumuni1962@yahoo.co.uk
		Sulemanu Musah	DDA	024-572-5600	Msulemanu64@gmail.com
		Issahku Tatadi	DPO	020-355-0314	Jeegh23@yahoo.com
		Adam Mahama		020-254-8654	mahamaadam@gmail.com
05/08/14					
Wa East	**6**	Haruna Amadu Zure	Ag. DCD	024-475-4750	
		David Anabiga	Assistant Director	024-489-8432	
		James Konogine	DDA	024-409-6638	
06/08/14					
Bole	**8**	Robert Asiedu	DDA	050-996-5736	Robertasiedu60@yahoo.com
		deCherq Mensah	DAO	024-254-0357	Rfoi2033@yahoo.com
		Matilda A Rahaman	Assist Director	054-690-6215	Madi.arahaman@yahoo.com
		A.M. Awal Suhuyini	Snr DPO	020-833-8982	Awalsuhuyini.fk@gmail.com
06/08/14					
TAIN	**8**	S. Amoako Koranteng	DCD	024-462-4854	nashkwart@yahoo.com
		Usama Samu	DPO	024-278-7776	usamsamu@yahoo.com
		Daniel Yeboah	DWE	050-260-6960	
		Saaka I. Sadrut	DDCD	0205752622	Isakas24@yahoo.com
07/08/14					
East Gonja DA	**4**	Alhaji Abdul Karim Yahaya	DCD	020-520-2225	Kalee992002@yahoo.co.uk
		Hon. Mohammed Aminu Lukumanu	DCE	024-027-6198	Lukumanu74@yahoo.com

District / Municipal Assembly	GP	Name	Position	Tel	e-mail
		Hon. Mohamed Jakpa	PM	020-828-6373	jakpaibis@???.com
		Mahama Zeukari	DFO	020-816-7910	zeukaria01@yahoo.com
		Inusah Dramani	DFRE	024-395-7885	oldmani@yahoo.com
		Khadid Abubaka Giwah	DPO	020-825-5740	Giwa008@gmail.com
		Alhassan Yakubu	DVO-MoFA	020-981-6975	Yalhassan27@gmail.com
		Bashiru Shaadu	DWST	020-351-4640	Bashmen72@gmail.com
07/08/14	**3**				
Central Gonja DA		Mumuni Shiraz I. Y	DCE	054-063-5448	siorick@yahoo.com
		Alhassan M. Abukari	DCD	024-488-4734	munmikayabo@yahoo.com
		Abubakari Yussif	DDCD	024-489-1166	shishirigagk@yahoo.com
		Stephen Agana	TCPO	024-320-3666	Stephenagana3@yahoo.com
		Alfred Addo	DWE	020-986-6774	ascotfred@yahoo.com
08/08/14					
Kintampo South-DA	**8**	Samuel Abisgo	DPO	020-828-8577	samuelabisgo@yahoo.com
		Prince Godwin Atsembo	AEA	024-353-2506	Princegod2@yahoo.com
		Nabi Matthew	DPO	020-599-2665	matthewnabi@yahoo.com
		Patrick Osafo	DWE	020-851-9739	osalazy@yahoo.com
		Evelyn Ataa Kyerema	ADIIB	020-847-0869	Pee308@yahoo.com
		Baba Iddi	DCD	020-821-6096	babaiddij@yahoo.com
		Daniel Laryea Adjei	DIA	024-029-7121	denodjalaryea@yahoo.com
		Manfred Appiah	DBA	027-829-5306	glnmanf@gmail.com
08/08/14					
PRU	**7**	Opoku Kwame Emmanuel	DCE	024-791-5633	sacheampong@yahoo.com
		Augustine Peprah	DPO	020-236-8407	Augustinepeprah1@gmail.com

District / Municipal Assembly	GP	Name	Position	Tel	e-mail
		Seth Acheampong		020-921-7613	Sacheampong39@yahoo.com
		Eric Hudson Asamani	DDA	024-318-9965	Ehaja2001@yahoo.co.uk
		Gregory Naasag	Station Manager Fisheries	024-998-8425	gnaasag@yahoo.com
		Gilbert Senyo Akude	DDO-Eng	024-708-3566	akudegilbert@yahoo.com
14/08/14	***5***				
Nkwanta South		Ibrahim Yussif	DCD	024-550-7315	Ibyuss11@yahoo.com
		Kobina Takyi Sam	Head DWD	024-408-5720	kobinsam@gmail.com
		Kenneth Y. Ketor	DPO	024-530-7675	Ketoryaoh@gmail.com
		Apepe Amakwata	DDA	024-297-6682	apepamakwata@yahoo.co.uk
14/08/14	***5***				
Nkwanta		Hon. Martin K. Kudor	DCE	050-840-7797	Kidibi1978@gmail.com
		Godwin Tamakloe	DWE	020-799-7477	gtamaloe@gmail.com
		Apodey David	AEO	020-494-1872	apodavid@yahoo.com
		Malcom M .A Aziz	DPO	020-828-3857	Mmohann…..abdulaziz@gmail.com
		Jonanthan Nanevi	DFO	057-305-3301	jnanevi@yahoo.com
15/08/14	***5***				
Krachi West		Philip Akortor	DDA	020-511-3316	philipakortor@yahoo.com
		Issahaku Iddrisu	DPO	023-278-0949	Mydeires86@gmail.com
		Ponge Moses	DCE	027-424-1996	mosesponge@gmail.com
		Abdulai Alhassan Issifu	DCD	024-453-3796	Alhassanabdulai65@yahoo.com
15/08/14	***5***				

District / Municipal Assembly	GP	Name	Position	Tel	e-mail
Krachi- Nchumuru-Chinder		Sidney Kumah	DCDO	024-828-0620	sydkumah@yahoo.com
		Daniel Amenuvor	Acct Officer	024-371-6623	danamenuvor@gmail.com
		Yahuze Dimmie	Asst. Directo	020-896-3596	
		James Awapoayi	DPO	026-479-5843	awapoayi@yahoo.com
		Prosper Senyo Kpoeye	PTO	020-909-2006	Senyo93@gmail.com
		Mensah-Aidemis David Holy	DFO	024-421-9009	visitholy@yahoo.com
		Albert Mensah	DBA	024-487-5705	
15/08/14	***5***				
Krachi East		Yakubu M. Hordi	DPO	024-215-1588	Nkpahimbo1@yahoo.com
		Jamam Dramani	DCD	024-474-2697	atingpoahmed@gmail.com
		Hon. Peter Y. Awuranyi	DCE	024-442-3184	
		Issifu Iddi Zakaria	DE	024-497-0717	zakiddi@yahoo.com
		Cephas Akai		024-626-8618	Cepasyaw61@yahoo.com

Legend

1. DCE District Chief Executive
2. DCD District Coordinating Director
3. DPO District Planning Officer
4. MPO Municipal Planning Officer
5. DDCD Deputy District Coordinating Director
6. DAO District Agric Officer
7. AEA Agric Extension Agent
8. DWE District Works Engineer
9. ADIIB Assistant Director(IIB)
10. DIA District Internal Auditor
11. DBA District Budget Analyst

11th EDF Meeting – on presentation of 8 pre identified concept notes

NAME	ORGANIZATION	POSITION	TEL / MOBILE NO.	EMAIL
Emmanuel Abeereinga	SADA	Director, IDP	0501329534	abeereinga@hotmail.com
Samuel Aggrey	MoFEP	Snr. Economic Officer	0246555533	saggrey@mofep.gov.gh
Godwin J. Brocke	MRH	Director	0302671445	aboretam@hotmail.com
G.A. Aidoo	Dept. of Feeder Roads	Director	0302662125	gaidoo@ymail.com
J. O. Asiedu	DFR	Deputy Director	0208139906	joapat@yahoo.com
Angela Dannson	MOFA	Deputy Director	0208198931	adannson@gmail.com
Dr. Robert B.M. Sogbadzi	MOEP	Deputy Director	0244990938	robertmawuko@gmail.com
Dr Charles Jebuni	SADA	Acting Director	0208161565	Charles@sada.org.gh
Wisdom Ahiatagu-Togobo	MOEP	Director	020 813 9326	wtogobo@gmail.com

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- Millennium Development Authority, (2010*). Annex 2 Soil and Land suitability Assessment: Nasia Scheme*, Final Feasibility Report
- Millennium Development Authority (2010*). Annex 6 Organizational And Management Needs Assessment: Nasia Scheme*, Final Feasibility Report
- Millennium Development Authority, (2010*). Annex 3 Technical Studies: Nasia Scheme*, Final Feasibility Report
- Millennium Development Authority, (2010). *Annex 1 Economic and Financial Project Evaluation: Bontanga Scheme*, Final Feasibility Report
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- Millennium Development Authority, (2010*). Annex 2 Soil and Land suitability Assessment: Ogling Scheme*, Final Feasibility Report
- Millennium Development Authority, (2010*). Annex 6 Organizational And Management Needs Assessment: Libga Scheme*, Final Feasibility Report

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- Millennium Development Authority, (2010*). Annex 3 Technical Studies: Golinga Scheme*, Final Feasibility Report
- Millennium Development Authority, (2010*). Annex 6 Organizational And Management Needs Assessment: Golinga Scheme*, Final Feasibility Report
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