FEED THE FUTURE INDICATORS FOR BRONG AHAFO REGION, GHANA 2015

DISTRICT BASELINE ESTIMATES

USAID-METSS

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List of Acronyms

5DE	5 Domains Empowerment
BMI	Body Mass Index
CDC	Center for Disease Control
DANIDA	Danish International Development Agency
DRIC-UCC	Directorate of Research, Innovation & Consultancy-University of Ghana
EA	Enumeration Area
EU	European Union
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agricultural Organization
FHI360	Family Health International 360
FTF	Feed the Future
FTFMS	Feed the Future Monitoring System
GHS	Ghana Health Service/Ghanaian cedi
GIZ	Gesellschaft für Internationale Zusammernarbeit
GLSS6	Ghana Living Standards Survey 6
GoG	Government of Ghana
GPI	Gender Parity Index
GSS	Ghana Statistical Services
HHS	Household Hunger Scale
IMF	International Monetary Fund
IPs	Implementing Partners
JICA	Japan International Cooperation Agency
KSU	Kansas State University
LSMS	Living Standards Measurement Survey
MDG	Millennium Development Goals
MDD-W	Women's Minimum Dietary Diversity
MDG	Millennium Development Goal
METSS	Monitoring Evaluation and Technical Support Services
MoFA	Ministry of Food and Agriculture
PBS	Population Based Survey
PPP	Purchasing Power Parity
PSU	Primary Sampling Unit
SD	Standard Deviation
SSU	Secondary Sampling Unit

UCC	University of Cape Coast
UNDP	United Nations Development Program
UNICEF	United Nations Children's Emergency Fund
USAID	United States Agency for International Development
USD	United States Dollar
USG	United States Government
WEAI	Women's Empowerment in Agriculture Index
WDDS	Women's Dietary Diversity Score
WHO	World Health Organization
ZOI	Zone of Influence

Introduction and Background

In 2009, the U.S. Government launched its Feed the Future (FTF) initiative in response to pressing global hunger and food security challenges. The Feed the Future initiative aims to sustainably reduce global hunger and poverty. The initiative tackles their root causes and employs proven strategies for achieving large scale and lasting impacts. It encourages improved agricultural productivity by supporting better government response to anticipated climate change, improved women's and children's nutrition, and enhanced economic development through gender equity and regional balance. Improvements in the livelihoods of participating households are measured by their economic wellbeing; hunger and dietary diversity; women and children anthropometry; and women's empowerment (Zereyesus et al. 2016).

In Ghana, the initiative started in mid-2011 in Northern Region, Upper East Region, Upper West Region, and selected areas in Brong Ahafo Region lying above the Latitude 8°N. This area, referred to as the USAID Zone of Influence (ZOI), was selected because of the relatively higher incidences of poverty, malnutrition, and stunting among children aged less than five years compared to the rest of the country (Zereyesus et al. 2016).

Feed the Future seeks to bring about positive changes in the economic, food security and nutritional status in the ZOI in Ghanaian households. By implementing activities in northern Ghana where prevalence of poverty, underweight, and stunting among children below five years of age are higher than the national average, USAID aims to bring significant changes in the population. USAID|Ghana has already engaged some Implementing Partners (IPs) to execute activities in the Feed the Future ZOI. The IPs undertake activities to contribute to the achievement of the high level Feed the Future indicators at the goal and first level objectives. These indicators are: prevalence of stunted, wasted and underweight children under five years of age; prevalence of underweight women; prevalence of poverty (percent of people living on less than $1.25/day); daily per capita expenditure (as a proxy for income) in U.S. Government (USG) assisted areas; and Women's Empowerment in Agriculture Index (USAID 2014)

USAID leads the execution of the Feed the Future initiative by leveraging the resources and capabilities of other U.S. Government agencies to achieve the initiative's objectives. Some of the U.S. Government agencies involved in the Feed the Future initiative are the Department of State, Peace Corps, Millennium Challenge Corporation, Department of Treasury, U.S. Trade Representative, Overseas Private Investment Corporation, U.S. African Development Foundation, and the U.S. Department of Agriculture. USAID|Ghana is also working closely with the Government of Ghana, local non-governmental organizations, private sector organizations, and international development partners (World Bank, World Health Organization (WHO), the International Monetary Fund (IMF), the German Organization for International Cooperation (GIZ - Gesellschaft für Internationale Zusammernarbeit), the Danish International Development Agency (DANIDA), European Union (EU) Micro Project, and the Japan International Cooperation Agency (JICA)) to efficiently achieve the objectives of the Feed the Future initiative by avoiding

duplications in efforts and activities. To monitor the initiative's activities in the ZOI at the household level, it became important to collect district level data.

Purpose of Report

This report is designed to provide point estimates of the Feed the Future indicators at the district level for the Feed the Future ZOI. The document provides information that could be used to assess progress of Feed the Future interventions, primarily aimed at achieving its poverty reduction and food security enhancement objectives at the district level where the relevant indicators have not been adequately analyzed and reported before. District level reports are prepared for all the districts in the four regions involved in the Feed the Future initiative. This report focuses on districts in Brong Ahafo Region. Therefore, when "the region", "Brong Ahafo Region", or "the regional average" is discussed in this report, it is only in reference to the nine districts in Brong Ahafo Region that are included in the Feed the Future ZOI.

Profile of Brong Ahafo Region

Brong Ahafo Region is the second largest region in Ghana with a land area of 39,557 square kilometres, which represents about 17 percent of the country's total land area. Based on the 2010 Population and Housing Census, the regional population is 2,310,983 and contributes about 9.4 percent to the national population (GSS 2013). The region shares borders with Northern Region to the north, Ashanti and Western Regions to the south, Volta Region to the east, Eastern Region to the southeast and Cote d'Ivoire to the west. It has 27 administrative districts, with Sunyani as the regional capital. Overall, Akan is the predominant ethnic group in the region, followed by the Mole-Dagbon ethnic group (GSS 2013). Ghana's Feed the Future initiative activities are focused solely on the northern nine districts in Brong Ahafo Region: Banda, Jaman North, Kintampo North, Kintampo South, Pru, Sene East, Sene West, Tain and Wenchi Municipal.

The region has an overall tropical climate with high temperatures averaging 24°C. Annual average rainfall ranges from 1,000 millimetres in the northern areas of the region and 1,400 millimetres in the southern areas. Brong Ahafo Region is known for its favorable climatic conditions and fertile soils, which make it an ideal area for cash and food crop production. The majority of the population is engaged in agricultural activities. In fact, this region is considered the 'bread basket' of Ghana, and it contributes about 30 percent of the country's domestic food requirements (GSS 2013). Cocoa, cashews, timber, coffee, rubber and tobacco are the main cash crops produced in the region, and the main food crops are maize, cassava, plantain, yam, cocoyam, rice, and tomatoes (GSS 2013). Fishing is an important activity for the livelihoods of the people in the region. The capital of Pru District, Yeji, is known as major inland supplier of smoked/salted fish (GSS, 2014).

This document is organized into eight sections, this background section (Section 1), a survey methods section (Section 2), household demographics and dwelling characterictics (Section 3). The following four sections are devoted to each of the principal indicator groups: Household Economic Status; Hunger and Dietary Intake; Health Status of Women and Children; Women's Empowerment in Agriculture. The last section (Section 8) provides the summary and conclusions.

Survey Method

Survey Design

The practical demand for representative district level data has been the main driving force for the collection of the district level data and analysis. To meet this demand, the interim PBS 2015 was framed to allow collection of representative samples at the district level. This was done by calculating the required sample of households using the prevalence of poverty indicator as the primary survey design indicator. Other indicators are not considered as design indicators at the district level due to the required large number of sample sizes and the ensuing high cost implications. This implies that individual level indicators such as stunting and wasting will only be included in the analyses and reported if statistically reliable number of observations are available in the data.

In order to arrive at the effective sample size at the district level, standard sample size calculation was adopted. A two stage sampling design was followed with the designation of the EA as the Primary Sampling Units (PSU) and the households as the Secondary Sampling Units (SSU). The following assumptions were made with respect to the variables used to determine the sample size:

1. A poverty prevalence rate of 20 percent at the household level (this is the mean value of the poverty indicator estimated based on the average Feed the Future 2015 target using 2012 baseline values)
2. A 10 percent margin of error
3. A design effect of 2.37 (based on the 2012 PBS ZOI Deff)
4. A significance level of 95 percent
5. A 5 percent non-response rate

With the forgoing assumptions, the computational formula used in determining the district level required sample size for the poverty indicator is given by equation 1 as follows:

$$N = Deff \frac{(Z_{\alpha/2})^2 (p(1-p))}{M^2} \qquad (1)$$

where N is the sample size, $Deff$ is the design effect, $Z_{\alpha/2}$ is the Z value (1.96 for 95 percent confidence level), p is the proportion of poverty, and M is the proportion margin of error. The mean value of M for the poverty indicator is estimated based on the average Feed the Future 2015 target. Based on the assumptions and using equation 1, the sample size was calculated to be 150 as shown in Table 1.

Table 1: Effective Sample Sizes for Poverty Indicator in each District

Design Indicators	Mean	Margin of error (M)	DEFF	Nominal N	5 % Non-Response Inflation Rate	Effective N
Poverty	0.20	0.10	2.37	143	7	150

Source: District Level Survey Data, Ghana 2015

Survey Implementation

The survey field work was conducted by the Directorate of Research, Innovation and Consultancy of the University of Cape Coast (DRIC-UCC) supported by Kansas State University (KSU) and USAID- METSS staff. Listing and respondent verification support were provided by the GSS. District assembly representatives and staff facilitated community entry for enumerators, improving household participation and response rates.

As mentioned in the survey design section, the implementation of the district level data collection was coordinated together with the interim PBS 2015 data collection exercise. Since the sampling design for at the ZOI level and not at the district level, the allocation of households in each district is not uniform. While some districts have been allocated with more than 150 households, others have been allocated with less than 150 households. The implementation strategy of the district level data collection is to ensure that at least 150 households are allocated in each district. Thus, once the baseline households were interviewed, non-baseline households were added, if needed, to ensure that at least 150 households were interviewed in each district. However, there will be districts that have more than 150 households because of the sampling design for the interim PBS 2015. The sample size in each district, the actual responses, and the response rates are in Table 2. The list of districts shown is based on the most recent administrative classification and shows a total of 9 districts. Out of these, Banda district is newly formed. Two districts (Sene East and Sene West) were split from Sene District. The rest of the districts remained the same. The response rates are generally high. However, the sampling sizes and responses for the new districts (Banda, Sene East and Sene West) are low and irregular. Pru district is the only one that was oversampled.

Table 2: Sample Size, Sample Responses, and Responses Rate by District

District	Sample size	Responses	Response Rates
Banda	^	45	^
Jaman North	150	149	99.3
Kintampo North Municipal	150	135	90.0
Kintampo South	150	141	94.0
Pru	150	156	104.0
Sene East	150	88	58.7
Sene West	^	74	^
Tain	150	100	66.7
Wenchi Municipal	150	132	88.0

^ Data not available for newly formed or newly split districts.
Source: District Level Survey Data, Ghana 2015.

Challenges and Limitations

The problem of household head's names differing from their official names on record, encountered in 2012, remained a challenge in the 2015 verification process for the 2012 households. Although this was not a problem for the new districts, this problem re-emerged because the corrected names collected during the 2012 baseline survey did not become the official names in the Ghana Statistical Service' records and these records were the ones used for the listing and verification of households. Enumerators ended up using multiple identification characteristics to confirm or re-confirm household identities, delaying the commencement of interviews and putting pressure on enumerators. Also, not all households had been verified because there were instances where households had moved away from the community or where people had died. In fact, one enumeration team walked into the funeral of a household head who had died the day before its arrival. These uncomfortable situations were addressed as respectfully and gracefully as possible.

The electricity problem identified during the 2012 survey remained a challenge during 2015. Cognizant of this challenge, the management team provided extra computers to supervisors as well as cash so that they could bring computers with depleted power to neighboring towns to be recharged and returned to enumerators. As a final backstop to the power problem, enumerators were provided with copies of the paper questionnaires to use in case their computer failed and they could not get access to another computer.

There are a couple challenges worth noting regarding the survey implementation. First, the sampling of non-baseline households followed a simple random sampling rather than a two stage sampling. Because of the difference in the sampling approach between the baseline and non-baseline households, it is not possible to safely apply sampling weights while reporting estimates. Because of this, the district report is prepared without the application of sampling weights. Second, the listing of households in the field for the purpose of sampling was implemented using the 'old' districts' administrative classification. This has imposed shortage of sample size for those newly formed districts as well those districts that are split. The low and irregular number of households reported in Table 2 are as a result of such limitations.

Household Demographics and Dwelling Characteristics

Household Demographics

Table 3 presents the demographic characteristics in Brong Ahafo Region by district. The sub-population categories correspond to the disaggregates for the Feed the Future indicators, which encompassed children by specific age range and women of reproductive age. The average household size is five members. Districts with household size averaging less than five are Banda, Kintampo South, Sene East, Tain and Wenchi Municipal.

The estimated population for adult females ranges from 44.5 percent in Kintampo North Municipal to 62.2 percent in Tain District. Children between the ages of 5 to 17 years comprise the majority of the children – averaging 1.9 per household. Households in Sene West, Kintampo North Municipal, and Pru have at least two children in this age group.

Table 3: Household size and Age Distribution by District

District	Size	Children <2yrs	Children 0-4yrs	Children 5-17yrs	Adult Females[1]	Percent of Adult Females	n[2]
Banda	4.1	0.4	1.2	1.4	0.9	58.9	45
Jaman North	4.9	0.2	0.6	1.9	1.4	59.9	149
Kintampo North Municipal	5.1	0.4	1.1	2.1	1.0	44.5	135
Kintampo South	4.7	0.2	0.8	1.7	1.0	44.9	141
Pru	6.3	0.3	0.9	2.4	1.6	55.4	156
Sene East	4.3	0.3	0.8	1.5	1.0	48.7	88
Sene West	5.3	0.3	1.1	2.0	1.2	45.5	74
Tain	4.2	0.1	0.5	1.9	1.1	62.2	100
Wenchi Municipal	4.7	0.4	0.8	1.8	1.2	53.5	132
Brong Ahafo Region	**5.0**	**0.3**	**0.8**	**1.9**	**1.2**	**52.7**	**1,020**

[1] An adult is defined as an individual age 18 or older. Females age 15-17 are of reproductive age, but are not considered adults by this definition.
[2] Sample n is the unweighted count of all households that responded to the survey.
Source: District Level Survey Data, Ghana 2015.

Table 4 presents the distribution of adult respondents by their educational level. More than half (65 percent) of the members have received no formal education in all the districts. Tain District has the lowest number of members (49.7 percent) who did not have formal education followed by Jaman North District (53.1 percent). The regional average of household's adult members who attained secondary education is 19.3 percent. The district with the lowest rate of secondary educational attainment is Kintampo North Municipal (9.1 percent) and Tain is the district with the highest rate of secondary educational attainment (26.4 percent).

Table 4: Adult Education Attainment by District

District	Adult's Educational Attainment			n
	No education	Primary	Secondary	
Banda	74.2	14.6	11.1	38
Jaman North	53.1	22.2	24.7	143
Kintampo North Municipal	76.6	14.3	9.1	102
Kintampo South	72.9	9.4	17.7	125
Pru	63.1	15.3	21.7	152
Sene East	63.2	16.9	19.9	77
Sene West	74.1	8.4	17.4	64
Tain	49.7	23.9	26.4	84
Wenchi Municipal	67.6	13.8	18.5	120
Brong Ahafo Region	**65.0**	**15.7**	**19.3**	**905**

Source: District Level Survey Data, Ghana 2015.

Household Dwelling Characteristics

Table 5 shows dwelling characteristics of the households Brong Ahafo Region. The characteristics of the households are evaluated based on sources of water, energy, waste disposal, cooking fuel source, and number of people per sleep room. On average, 73.3 percent of the households have access to improved water sources. Sene East District has the lowest rate (49.3 percent) of households with access to improved water sources while 99.2 percent of households in Jaman North District have access to improved water sources. The percentage of households with improved sanitation is below 50.0 percent for all households, and it ranges from 29.6 percent in Kintampo North Municipal District to 47.4 percent in Jaman North District.

The average number of persons per sleep room is 2.4 persons. Pru is the only district with approximately 3 persons per sleep room. Tain has the lowest number of person per sleep room with 1.6 persons. Almost all households (96.9 percent) use solid sources of fuel for cooking, with those in Sene East and Sene West exclusively using solid fuels for cooking. On average, 57.3 percent of the households have access to electricity. The access to electricity ranges from 40.9 percent in Pru to 93.2 percent in Jaman North.

Table 5: Dwelling Characteristics by District

District	Water source[1]	n	Sanitation[2]	n	Persons per sleep room[3]	n	Solid fuel[4]	n	Electricity	n
Banda	^	^	^	^	^	^	^	^	^	^
Jaman North	99.2	133	47.4	133	2.3	133	97.0	133	93.2	133
Kintampo North Municipal	85.2	54	29.6	54	2.9	54	98.1	54	46.3	54
Kintampo South	61.0	105	30.8	104	2.4	97	97.1	105	42.9	105
Pru	63.1	149	41.5	147	3.1	133	96.6	149	40.9	149
Sene East	49.3	67	43.8	64	2.2	64	100.0	67	41.8	67
Sene West	62.1	58	36.8	57	2.2	55	100.0	58	56.9	58
Tain	92.5	67	35.8	67	1.6	67	94.0	67	82.1	67
Wenchi Municipal	64.8	108	40.0	105	2.3	102	94.4	108	47.2	108
Brong Ahafo Region	**73.3**	**741**	**38.3**	**731**	**2.4**	**705**	**96.9**	**741**	**57.3**	**741**

^ Results not statistically reliable, n<30.

[1] Improved water sources include *piped water into the dwelling, piped water into the yard, a public tap/standpipe, a tube well/borehole, a protected dug well, a protected spring,* and *rainwater* (WHO and Unicef, 2009). The proportion of the population with sustainable access to an improved water source is the 2015 Millennium Development Goals (MDG) indicator #30 (UNDP, 2003); however, as in most major international survey programs, the measure reported here reflects only access to an improved water source, and not the sustainability of that access.

[2] Improved sanitation facilities are those that separate human excreta from human contact and include the categories *flush to piped sewer system, flush to septic tank, flush/pour flush to pit, composting toilet, ventilated improved pit latrine,* and a *pit latrine with a slab*. Because shared and public facilities are often less hygienic than private facilities, shared or public sanitation facilities are not counted as improved (WHO and Unicef, 2009). The proportion of the population with access to improved sanitation is the 2015 MDG indicator #31 (UNDP, 2003).

[3] The average number of persons per sleeping room is a common indicator of crowding (UNDP, 2003).

[4] Solid fuel is defined as *charcoal, wood, animal dung,* and *agriculture crop residue.* The proportion of the population using solid fuels is MDG indicator #29 (UNDP, 2003). The *other* and *no food cooked in household* categories are removed from percentages.

Source: District Level Survey Data, Ghana 2015.

Household Economic Status Indicators

Household economic status is measured by per capita household expenditures and the prevalence of poverty, using the consumption expenditure method. The Household Consumption Expenditure modules of the population-based survey questionnaire were used to collect the data necessary to calculate the per capita expenditures and prevalence of poverty indicators. These modules are similar to those in the Living Standards Measurement Survey (LSMS) of the World Bank. The modules collect information on households' consumption expenditure on various food and non-food items as a proxy for household income. Deaton (2008) has argued that expenditure data are less prone to error, easier to recall in survey situations, and more stable over time than income data. These observations are valid and using expenditures as a proxy for income may be fairly accurate for poor people because the income elasticity of consumption is near unity. However, the effectiveness of the proxy deteriorates as incomes increase and the income elasticity of consumption ceases to be unity. After estimating total household expenditure on an annual basis, it is converted into a daily and per capita basis by dividing by 365 days and then by the number of household members.

Daily Per Capita Expenditure in 2010 USD Constant Prices.

The indicator developed to provide the primary information on household economic well-being in the report is the average household daily per capita expenditure[1] expressed in 2010 U.S. dollars (USD) after adjusting for the 2005 Purchasing Power Parity (PPP)[2]. Table 6 presents average household daily per capita expenditure for all districts in Brong Ahafo Region. The average household daily per capita expenditure is $6.23. The overall daily per capita household expenditure ranges from $3.27 in Kintampo North Municipal District to $9.28 in Tain District. Seven out of the nine districts in the region have daily per capita expenditures that exceed $5.00 USD. The two districts with daily per capita expenditure of less than $5.00 USD are Banda ($4.15) and Kintampo North Municipal ($3.27).

[1] Note that expenditure data are not collected at the individual level but rather at the household level; individuals' per capita expenditures are then derived by dividing total household expenditures by the number of household members.

[2] Adjustments are made according to PPP conversions. These conversions are established by the World Bank to allow currencies to be compared across countries in terms of how much an individual can buy in a specific country. The $1.25 in 2005 PPP means that $1.25 could buy the same amount of goods in another country as $1.25 could in the United States in 2005.

Table 6: Mean Daily per Capita Expenditure (in 2010 USD) by District

District	Per Capita Expenditure	n
Banda	4.15	45
Jaman North	8.55	141
Kintampo North Municipal	3.27	123
Kintampo South	5.55	134
Pru	5.42	148
Sene East	6.23	79
Sene West	8.34	72
Tain	9.28	98
Wenchi Municipal	5.37	125
Brong Ahafo Region	**6.23**	**965**

Source: District Level Survey Data, Ghana 2015.

Prevalence and Depth of Poverty

International Poverty Line

The international poverty line of $1.25 USD in 2005 PPP represents extreme poverty and is used to estimate the prevalence of poverty and the depth of poverty (World Bank 2011). The prevalence of poverty, sometimes called the poverty headcount ratio, is measured by determining the proportion of households living below an established poverty threshold. For this study, the poverty threshold is set at $1.25 in 2005 PPP. Depth of poverty, or poverty gap index, measures the extent to which those households classified as poor fall below the poverty line (World Bank, 2011).

Table 7 presents the overall poverty prevalence estimates at the $1.25 per day (2005 PPP) threshold and the overall depth of poverty for the districts in Brong Ahafo Region. The regional average poverty prevalence rate is 13.1 percent and the depth of poverty is 5.0 percent. Kintampo North Municipal District has the highest prevalence of poverty rate with 26.8 percent of the households in the district falling below the $1.25 poverty line, while Jaman North District has the lowest and rate at 6.4 percent. These two districts also have the highest and lowest poverty depth rates with Kintampo North Municipal District reporting 12.4 percent and Jaman North District with a rate less than 1 percent. Maps representing the geographical distribution of poverty prevalence and depth of poverty rates by district is presented in the Appendix 2.

Table 7: Poverty at the $1.25 (2005 PPP) by Districts

District	Prevalence of Poverty[1]		Depth of Poverty[2]	
	Percent of Population	n	Percent of Poverty line	n
Banda	24.4	45	9.9	45
Jaman North	6.4	141	0.9	141
Kintampo North Municipal	26.8	123	12.4	123
Kintampo South	16.4	134	6.1	134
Pru	9.5	148	3.2	148
Sene East	7.6	79	3.9	79
Sene West	8.3	72	2.8	72
Tain	13.3	98	4.7	98
Wenchi Municipal	9.6	125	3.6	125
Brong Ahafo Region	**13.1**	**965**	**5.0**	**965**

[1] The prevalence of poverty is the percentage of households living below the national poverty line. Poverty prevalence is sometimes referred to as the poverty incidence or poverty headcount ratio.

[2] The depth of poverty, or poverty gap, is the average consumption shortfall multiplied by the prevalence of poverty.

Source: District Survey Data, Ghana 2015

National Poverty Line

National poverty lines for Ghana are based on the Ghana Living Standards Survey 6 (GLSS6), which was conducted in 2012/2013 by the GSS (2012). It makes use of a consumption-based standard of living measure as is the practice in many country statistics services. An absolute poverty line can be defined as that value of consumption necessary to satisfy minimum subsistence needs. In the case of food consumption, nutritional requirements in terms of daily calorie intake can be used as a guide. GSS (2014) calculated the average expenditure of the food consumption basket for the bottom 50 percent of individuals ranked by the standard of living measure, and derived the amount of calories in this basket. The price of one calorie was then calculated by dividing the adult equivalent expenditure of the food basket by the amount of adult equivalent calories provided by the basket. This calorie price was representative of the price paid by a typical household in the bottom 50 percent. This price was then multiplied by 2,900 calories, which was used to calculate the poverty lines for the 2012/13 survey. Expenditure on non-food consumption, determined by household whose total food expenditure was at or near the level of the extreme poverty line (10 percent of individuals below and above the line), was added to the poverty line.

Two nutritionally-based national poverty lines are:

- The national extreme poverty line: This is the lower poverty line of GHS 792.05 per adult equivalent per year. It corresponds to GHS 2.17 per day per adult equivalent expenditure. It focuses on what is needed to meet the nutritional requirements of household members. Individuals whose total expenditure falls below this line are considered to be in extreme poverty. They are unable to purchase or consume enough food to supply them with the minimum daily per-capita energy requirement for a good healthy life. If they allocated their entire budget to food, they would not be able to meet their minimum nutrition

requirements (which Ghana selected to be 2,900 calories). These are also the individuals who do not have enough resources to consume or purchase both adequate food and non-food items and are forced to sacrifice food items to obtain essential non-food items. GSS placed this line as 27 percent of the mean consumption level in 2012/13.

- The national absolute poverty line: This is the upper poverty line of GHS 1,314 per adult equivalent per year was also established. This corresponds to GHS 3.60 per day per adult equivalent expenditure. This line incorporates both essential food and non-food consumption. Individuals consuming above this level may be considered able to purchase enough food to meet their nutritional requirements and their basic non-food needs. This line is 45 percent of the mean consumption level in 2012/13.

Using the national absolute poverty line as described above, the mean percentage of households below the GHS 3.60 daily per capita expenditure threshold is 38.9 percent and ranges from 29.1 percent in Jaman North and Sene East to 55.3 percent in Kintampo North Municipal. The poverty prevalence rates at the national absolute poverty line are, on average, three times as high as the poverty prevalence rates at the $1.25 international poverty line. However, the pattern of the national absolute poverty prevalence rates is similar to the $1.25 international poverty prevalence rates. The lowest and the highest depths of poverty are in Jaman North (9.8 percent) and Kintampo North Municipal (25.7 percent), respectively.

Table 8: Poverty at the National Absolute Threshold of GHS 3.60 (2012/13) by District

	Prevalence of Poverty[1]		Depth of Poverty[2]	
District	Percent of Population	n	Percent of Poverty line	n
Banda	42.2	45	19.9	45
Jaman North	29.1	141	9.8	141
Kintampo North Municipal	55.3	123	25.7	123
Kintampo South	40.3	134	17.4	134
Pru	42.6	148	16.2	148
Sene East	29.1	79	12.2	79
Sene West	40.3	72	12.1	72
Tain	32.7	98	14.2	98
Wenchi Municipal	36.8	125	12.2	125
Brong Ahafo Region	**38.9**	**965**	**15.5**	**965**

[1] The prevalence of poverty is the percentage of households living below the national poverty line. Poverty prevalence is sometimes referred to as the poverty incidence or poverty headcount ratio.

[2] The depth of poverty, or poverty gap, is the average consumption shortfall multiplied by the prevalence of poverty.

Source: District Survey Data, Ghana 2015

Extreme National Poverty Line

The estimates of the prevalence of poverty and depth of poverty based on the extreme national poverty lines (2.17 GHS per adult per day measured in 2012/13) are shown in Table 9. The rates based on the national poverty lines generally seem to give slighter higher estimates compared to rates based on the international poverty lines. On average, 19.2 percent of the households in the region fall below the poverty line of 2.17 GHS per adult per day. The regional

average for depth of poverty based on the national extreme threshold is 6.5 percent. Jaman North District has the lowest prevalence of poverty and depth of poverty, 11.3 percent and 2.2 percent, respectively, while Kintampo North Municipal District has the highest rates for these poverty measures, 33.3 percent and 14.3 percent, respectively.

Table 9: Poverty at the National Extreme Threshold of 2.17 GHS (2012/13) by District

District	Prevalence of Poverty[1]		Depth of Poverty[2]	
	Percent of Population	n	Percent of Poverty Line	n
Banda	26.7	45	10.1	45
Jaman North	11.3	141	2.2	141
Kintampo North Municipal	33.3	123	14.3	123
Kintampo South	22.4	134	8.3	134
Pru	18.9	148	5.5	148
Sene East	16.5	79	5.6	79
Sene West	16.7	72	3.6	72
Tain	17.3	98	6.1	98
Wenchi Municipal	12.8	125	4.4	125
Brong Ahafo Region	**19.2**	**965**	**6.5**	**965**

[1] The prevalence of poverty is the percentage of households living below the national poverty line. Poverty prevalence is sometimes referred to as the poverty incidence or poverty headcount ratio.

[2] The depth of poverty, or poverty gap, is the average consumption shortfall multiplied by the prevalence of poverty.

Source: District Survey Data, Ghana 2015

Hunger and Dietary Diversity Indicators

Household Hunger Scale

The Household Hunger Scale (HHS) is used to calculate the prevalence of households experiencing moderate or severe hunger. The HHS was developed by the USAID-funded Food and Nutrition Technical Assistance II Project (FANTA-2/FHI 360) in collaboration with the United Nations Food and Agriculture Organization. It has been cross-culturally validated to allow comparison across different food-insecure contexts. The HHS is used to assess, geographically target, monitor, and evaluate settings affected by substantial food insecurity. The HHS is used to estimate the percentage of households affected by three different severities of household hunger: little to no household hunger (HHS score 0-1); moderate household hunger (HHS score 2-3); and severe household hunger (HHS score 4-6). The HHS should be measured at the same time each year, and ideally at the most vulnerable time of year (such as right before the harvest or during the dry season) (Deitchlert al. 2011)[3].

The results for households with moderate to severe hunger are presented in Table 10. On average, 21.6 percent of households in Brong Ahafo Region experience moderate to severe hunger. Pru Districts has the highest percentage of households with severe to moderate hunger (44.8 percent). The district with the second highest rate is Tain with 29.9 percent. Two districts have rates that are less than 10 percent: Kintampo South District (5.5 percent) and Kintampo North Municipal (7.8 percent).

Table 10: Percentage of Households with Moderate to Severe Hunger by District

District	Moderate to severe hunger	n
Banda	^	^
Jaman North	21.7	143
Kintampo North Municipal	7.8	51
Kintampo South	5.5	109
Pru	44.8	145
Sene East	12.1	66
Sene West	23.7	59
Tain	29.9	67
Wenchi Municipal	13.9	108
Brong Ahafo Region	**21.6**	**748**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

[3] For further description of the household hunger indicator and its calculation, please refer to the Feed the Future (2014) Indicator Handbook, available at http://feedthefuture.gov/resource/feed-future-handbook-indicator-definitions.

Dietary Diversity in Women

Two indicators are used to measure women's dietary diversity: Women's Dietary Diversity Score (WDDS) and Women's Minimum Dietary Diversity (MDD-W). The WDDS is based on nine food groups: (1) Grains, roots, and tubers; (2) Legumes and nuts; (3) Dairy products; (4) Organ meat; (5) Eggs; (6) Flesh food and small animal protein; (7) Vitamin A-rich dark green leafy vegetables; (8) Other vitamin A-rich vegetables and fruits; and (9) Other fruits and vegetables. A woman's score is based on the sum of different food groups consumed in the 24 hours prior to the interview. The mean of this count across respondents produces the average WDDS. The WDDS is an indicator of the micronutrient adequacy of women's diets based on the diversity of the diet (FAO 2011). Women's Minimum Dietary Diversity (MDD-W) represents the proportion of women consuming a minimum of five food groups out of the possible ten food groups based on their dietary intake within the 24 hours preceding the survey interview (FAO and FHI 360 2016). Table 11 represents the differences between the food groups for WDDS and MDD-W.

Table 11: Differences in Food Groups between WDDS and MDD-W

WDDS	MDD-W
Group 1: Starchy staples	Group 1: All starchy staple foods
Group 2: Legumes, nuts and seeds	Group 2: Beans and peas Group 3: Nuts and Seeds
Group 3: Milk and milk products	Group 4: Dairy
Group 4: Meat and Fish Group 5: Organ Meat	Group 5: Flesh Foods
Group 6: Eggs	Group 6: Eggs
Group 7: Dark green leafy vegetables	Group 7: Vitamin A–rich dark green leafy vegetables
Group 8: Other Vitamin A–rich vegetables and fruits	Group 8: Other Vitamin A–rich vegetables and fruits
Group 9: Other vegetables and fruits	Group 9: Other vegetables Group 10: Other fruit

Source: Adopted from FAO (2011) and FAO and FHI 360 (2016).

Women's Dietary Diversity Score

The mean and median values for Women's Dietary Diversity Score (WDDS) by district for women of reproductive age are presented in Table 12. The mean WDDS across the districts is 3.6 and the median is 4.0. The WDDS ranges between 3.1 in Tain District to 4.1 in Kintampo North Municipal District.

Table 12: Women's Dietary Diversity Score by District

District	Mean	Median	n
Banda	^	^	^
Jaman North	3.9	4.0	134
Kintampo North Municipal	4.1	4.0	48
Kintampo South	3.8	4.0	96
Pru	3.3	3.0	176
Sene East	3.8	4.0	45
Sene West	3.4	3.0	55
Tain	3.1	3.0	50
Wenchi Municipal	3.8	4.0	87
Brong Ahafo Region	**3.6**	**4.0**	**691**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

Women's Minimum Dietary Diversity

Table 13 shows the percentage of all women of reproductive age who have achieved the minimum dietary diversity threshold. Approximately 46 percent of women in the region consume at least five of the ten food groups. Less than half of the women of reproductive age in five of the nine districts achieve MDD-W. Tain District has the lowest rate of women achieving MDD-W with only 22.0 percent. Kintampo North Municipal has the highest rate of women meeting the minimum dietary diversity threshold (64.6 percent), followed by Kintampo South (55.2 percent).

Table 13: Women's Minimum Dietary Diversity by District

District	Percent	n
Banda	^	^
Jaman North	53.7	134
Kintampo North Municipal	64.6	48
Kintampo South	55.2	96
Pru	39.2	176
Sene East	46.7	45
Sene West	41.1	56
Tain	22.0	50
Wenchi Municipal	48.3	87
Brong Ahafo Region	**46.2**	**692**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

Health Status of Women and Children

The nutritional status of children and women are measured by four indicators, three indicators for children and one for women. The three anthropometric measurements used for children measures the prevalence of stunted, wasted and underweight children under 5 years old. Standardized Z-scores for these measurements have been developed in reference to a healthy population of children, which took into account age and gender. If the Z-score of the measurements are below -2 standard deviations (<-2 SD) of the median z-score measurement for the reference group, then a child is considered as stunted, wasted and underweight, respectively. Severe stunting, wasting or underweight are associated with measurement below -3 standard deviations (<-3 SD). A mean Z-score of less than 0 (i.e., a negative value for stunting, wasting, or underweight) suggests that the distribution of an index has shifted downward and, on average, children in the population are less well-nourished than the reference group (WHO 2006). Appendix 2 has maps presenting the geographical distribution of stunted, wasted and underweight children by district.

Stunted Children

Stunting, or height-for-age, is an indicator of linear growth retardation, most often due to a prolonged inadequate diet and poor health. Reducing the prevalence of stunting among children, particularly age 0-23 months, is important because linear growth deficits accrued early in life are associated with cognitive impairments, poor educational performance, and decreased work productivity as adults (Black, et al., 2008; Victora, et al., 2008). Table 14 shows the prevalence rates of stunted (<-2SD) and severely stunted (<-3SD) children ages 0 to 59 months.

The district with the highest prevalence of stunting is Pru (37.5 percent). The lowest level of stunting is 24.1 percent in Kintampo South District. Severe stunting averages 17.2 percent. The levels range from 11.4 percent in Wenchi Municipal District to 23.6 percent in Pru District. The Mean Z-score for stunting averages -0.9. It ranges between -1.4 and -0.8.

Table 14: Prevalence of Stunting among Children under 5 Years Old by Districts

District	% Stunted (<-2 SD)	% Severely Stunted (<-3 SD)	Mean Z score	n
Banda	^	^	^	^
Jaman North	29.5	13.1	-0.8	61
Kintampo North Municipal	^	^	^	^
Kintampo South	24.1	20.7	-0.8	58
Pru	37.5	23.6	-1.4	72
Sene East	^	^	^	^
Sene West	^	^	^	^
Tain	^	^	^	^
Wenchi Municipal	25.7	11.4	-0.8	35
Brong Ahafo Region	**28.2**	**17.2**	**-0.9**	**226**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

Wasted Children

Wasting, or low weight-for-height, is an indicator of acute malnutrition. Children who are malnourished face a higher risk of mortality than well-nourished children (ICF Macro 2010). This indicator also provides the prevalence rate for children with a high weight-for-height measurement, and are considered overweight and obese. Table 15 presents the mean Z-scores for children 0-59 months, along with the percentage of children who are acutely malnourished (<-2SD), severely wasting (<-3SD), overweight (>+2SD) and obese (>+3SD).

The prevalence of wasting is shown in Table 15. On average, 7.1 percent of the children aged 0-59 months in the region are wasted compared to 9.6 percent who are overweight. Kintampo South District has the lowest prevalence rate of wasted children (1.7 percent). Jaman North District has the highest rate of wasted children (10.0 percent) and severely wasted children (3.3 percent). No severely wasted children are reported for Kintampo South, Wenchi Municipal and Pru Districts. Wenchi Municipal District has the highest rate of overweight children (22.9 percent), which is twice the rate of the second highest prevalence rate (10.3 percent for Kintampo South). Wenchi Municipal also has the highest rate of obesity (8.6 percent), followed by Sene East (4.2 percent) and Kintampo South (3.5 percent). The mean Z-scores for wasting is zero and it ranges between -0.3 and 0.4.

Table 15: Prevalence of Wasting among Children under 5 Years Old by District

District	% Wasted (<-2 SD)	% Severely Wasted (<-3 SD)	% Overweight (>+2 SD)	% Obese (>+3 SD)	Mean Z score	n
Banda	^	^	^	^	^	^
Jaman North	10.0	3.3	6.7	1.7	-0.3	60
Kintampo North Municipal	^	^	^	^	^	^
Kintampo South	1.7	0.0	10.3	3.5	0.3	58
Pru	6.9	0.0	6.9	4.2	-0.0	72
Sene East	^	^	^	^	^	^
Sene West	^	^	^	^	^	^
Tain	^	^	^	^	^	^
Wenchi Municipal	5.7	0.0	22.9	8.6	0.4	35
Brong Ahafo Region	**7.1**	**1.5**	**9.6**	**4.0**	**0.0**	**225**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

Underweight Children

Underweight, weight-for-age, is a reflection of acute and/or chronic undernutrition. The prevalence of children aged 0-59 months who are underweight (<-2SD) and severely underweight (<-3SD) are presented in Table 16, along with their mean Z-scores. The average prevalence of underweight children in Brong Ahafo Region is 13.8 percent. Approximately 5 percent of children are underweight in Kintampo South District compared to 18.1 percent in Pru District. Only two districts report having severely underweight children: Pru (6.9 percent) and Jaman North (1.6 percent). The mean Z-scores for underweight average -0.9 and range between -0.8 and -1.4.

Table 16: Prevalence of Underweight among Children under 5 Years Old by District

District	% Underweight (<-2 SD)	% Severely Underweight (<-3 SD)	Mean Z score	n
Banda	^	^	^	^
Jaman North	18.0	1.6	-0.8	61
Kintampo North Municipal	^	^	^	^
Kintampo South	5.2	0.0	-0.8	58
Pru	18.1	6.9	-1.4	72
Sene East	^	^	^	^
Sene West	^	^	^	^
Tain	^	^	^	^
Wenchi Municipal	5.7	0.0	-0.8	35
Brong Ahafo Region	**13.8**	**1.8**	**-0.9**	**226**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

Anthropometry for Women of Reproductive Age

An individual's health can be assessed by her Body Mass Index (BMI), which is a simple, unobtrusive and inexpensive anthropometric measure. BMI is defined as the ratio of an individual's weight in kilograms to her height in meters squared (kg/m^2) (WHO 2014, CDC 2014). BMI is a reliable measure of body composition and it is used widely in health screenings of adults to identify potential health problems associated with body weight. An individual can be classified into four different body mass composition categories based on their BMI score: (1) underweight (BMI <18.5); (2) normal weight (18.5 ≤ BMI < 25.0); (3) overweight (25.0 ≤ BMI < 30.0); and (4) obese (BMI ≥ 30.0.

The average BMI is 23.9 for the region (Table 17), which falls in the range of normal weight. The BMI for all districts ranges between 22.9 and 25.0. Approximately 9 percent of the women are considered underweight. Sene West District has the highest percentage of underweight women (17.0 percent) and Kintampo South has the lowest rate at 3.3 percent. Over half of the women have normal weight based on the BMI classification. In Kintampo North Municipal District, 81.3 percent of the women have normal weight. Twenty-four percent and 9.3 percent of women are classified as overweight and obese, respectively. Kintampo North Municipal has the lowest percentage of overweight and obese women, 8.3 percent and 4.2 percent, respectively, while Kintampo South District has the highest rates; 29.4 percent for overweight women and 14.1 percent for obese women.

Table 17: Prevalence of Underweight, Normal Weight, Overweight, and Obese Women by District

District	Mean BMI	Body Mass Index (BMI) Category (%)				n
		Under-weight	Normal weight	Over-weight	Obese	
Banda	^	^	^	^	^	^
Jaman North	23.7	8.8	59.2	24.8	7.2	125
Kintampo North Municipal	22.9	6.3	81.3	8.3	4.2	48
Kintampo South	25.0	3.3	53.3	29.4	14.1	92
Pru	24.2	9.0	55.7	24.6	10.8	167
Sene East	23.7	10.5	52.6	29.0	7.9	38
Sene West	23.6	17.0	52.8	18.9	11.3	53
Tain	23.4	10.4	54.2	27.1	8.3	48
Wenchi Municipal	23.2	11.1	63.3	16.7	8.9	90
Brong Ahafo Region	**23.9**	**8.9**	**58.4**	**23.5**	**9.3**	**661**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

Women's Empowerment in Agriculture

Women play a prominent role in agriculture. Yet they face persistent economic and social constraints. Women's empowerment is a main focus of Feed the Future in order to achieve its objectives of inclusive agriculture sector growth and improved nutritional status. The WEAI is comprised of two weighted sub-indexes developed by Alkire et al (2013): 5 Domains Empowerment Index (5DE) and Gender Parity Index (GPI). The 5DE examines the five domains of empowerment: production, resources, income, leadership and time. The GPI compares the empowerment of women to the empowerment of their male counterpart in the household. Data collected in this district level survey allows for calculation of the ten individual empowerment indicators in the 5DE for both primary adult female and adult men decision markers[4]. This section presents the results from these empowerment indicators of the 5DE.

The *Production* domain assesses the ability of individuals to provide input and autonomously make decisions about agricultural production. The *Resources* domain reflects individuals' control over and access to productive resources. The *Income* domain monitors individuals' ability to direct the financial resources derived from agricultural production or other sources. The *Leadership* domain reflects individuals' social capital and comfort speaking in public within their community. The *Time* domain reflects individuals' workload and satisfaction with leisure time (Zereyesus et al. 2016).

The production domain includes activities ranging from food and cash crop farming, livestock rearing, fishing, to nonfarm economic activities such as wage and salaried employment. The income domain addresses if there is a sole or joint control over income and expenditure. Table 18 presents the percentage of women who perceive they have input in production decision making, autonomy in production, and control over the use of income. On the average, 81.6 percent of the women are adequate in decision making for agricultural production, which is below the average for men (91.8 percent). The lowest rate of women having input into production decisions is in Sene East District (69.8 percent) while Jaman North District has the highest rate (91.5 percent). Almost fifty-five percent of women and 67.7 percent of men in Brong Ahafo Region perceive to have autonomy in production. Along all the districts men present higher rates of autonomy in production than women. Jaman North District has the highest rate for women (65.6 percent) while Pru District has the highest rate for men (81.5 percent). Sene East is the district with the lowest rate of adequacy on autonomy in production for both women and men, 35.3 percent and 52.8 percent, respectively.

Almost half of the women in Brong Ahafo Region perceive that they have control over the use of income compared to about 82 percent of the men in the region. Sene West District has the lowest percentage of women with perceived control over income (17.8 percent),

[4] The primary adult decision-makers are individuals age 18 or older who are self-identified as the primary male or female decision-maker during the collection of the household roster. These primary decision-makers in the households may not be representative of the entire female and male populations in the surveyed area.

followed by 33.3 percent in Jaman North District and 43.5 percent in Kintampo South District. Sixty percent of women in Tain District have or perceive that they have control over use of income. In Pru District, the percentage of women and men having control over income is relatively similar, 58.6 percent of women compared to 60.9 percent of men.

Table 18: Production and Income Domains by District

District	Input in Production Decisions				Autonomy in Production				Control over Use Household of Income			
	Women	n	Men	n	Women	n	Men	n	Women	n	Men	n
Banda	^	^	^	^	^	^	^	^	^	^	^	^
Jaman North	91.5	59	95.0	60	65.6	61	77.2	57	33.3	60	78.3	60
Kintampo North Municipal	87.2	39	^	^	64.9	37	^	^	52.5	40	90.0	30
Kintampo South	82.4	68	93.2	59	51.5	66	59.6	52	43.5	69	86.7	60
Pru	78.4	116	84.7	72	64.3	115	81.5	65	58.6	116	60.9	69
Sene East	69.8	43	82.1	39	35.3	34	52.8	36	55.8	43	79.5	39
Sene West	77.8	45	95.3	43	46.3	41	64.1	39	17.8	45	90.7	43
Tain	80.0	35	97.2	36	^	^	63.6	33	60.0	35	91.7	36
Wenchi Municipal	85.9	71	95.0	60	55.1	69	75.4	57	57.7	71	80.0	60
Brong Ahafo Region	**81.6**	**476**	**91.8**	**369**	**54.7**	**423**	**67.7**	**339**	**47.4**	**479**	**82.2**	**397**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

Results for the resource domain are in Table 19. The resource domain includes three indicators: asset ownership; decision making power over productive resources such as land, livestock, agricultural equipment, consumer durables and credit or loans; and access to credit. With regards to adequacy in asset ownership, 74.3 percent of women in the region are adequate compared to 91.8 percent of men. Kintampo North Municipal and Wenchi Municipal Districts has the lowest percentages of women adequate in asset ownership, 67.1 percent and 69.6 percent, respectively. Pru District has the lowest rate of men adequate in asset ownership (83.3 percent). Women in Tain District have the highest rate of adequacy in asset ownership (81.9 percent) compared to Kintampo South District for men (98.3 percent).

With regards of right to purchase, sale or transfer assets, Pru District has the lowest level of adequacy for women and men, 58.7 percent and 64.8 percent, respectively; while Sene East District has the highest rates for women (91.6 percent) and Sene West District for men (93.0 percent). Overall, the difference in the percentage of women and men adequate in the right to purchase, sell or transfer of assets is relatively close across the districts, and it is particularly similar in Sene East District, where the difference in the percentages is less than one percent.

Access to credit has the lowest adequacy rates for women and men of the three indicators in the resource domain. The regional average is 16.9 percent for women and 21.9 percent for men. Only 1.2 percent of the women in Kintampo North Municipal District perceive themselves as being adequate in having access to credit. In Kintampo South District, 10.7 percent of men have achieved adequacy in access to credit, which is slightly lower than the percentage of women

with adequacy (11.3 percent). Sene East District has highest level of adequacy for women and men, 28.4 percent and 36.8 percent, respectively.

Table 19: Resource Domain by District

District	Asset Ownership				Right to Purchase, Sale or Transfer Assets				Access to and Decision on Credit			
	Women	n	Men	n	Women	n	Men	n	Women	n	Men	n
Banda	^	^	^	^	^	^	^	^	^	^	^	^
Jaman North	76.1	113	93.9	49	82.1	117	86.3	51	18.8	128	21.7	60
Kintampo N. M	67.1	79	87.1	31	76.3	80	80.6	31	1.2	81	^	^
Kintampo South	76.6	141	98.3	58	76.4	140	89.5	57	11.3	141	10.7	56
Pru	71.8	202	83.3	72	58.7	201	64.8	71	19.0	179	22.6	62
Sene East	78.4	97	90.7	43	91.6	95	92.9	42	28.4	95	36.8	38
Sene West	72.8	92	97.7	43	82.6	92	93.0	43	19.6	97	25.0	40
Tain	81.9	72	94.1	34	80.3	71	84.4	32	23.2	56	^	^
Wenchi Municipal	69.6	125	89.3	56	68.0	128	71.9	57	14.0	107	14.3	49
Brong Ahafo Region	**74.3**	**921**	**91.8**	**386**	**77.0**	**924**	**82.9**	**384**	**16.9**	**884**	**21.9**	**305**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

The leadership domain defines membership in economic or social groups such as agriculture producers', water users, credit or microfinance, mutual help, trade, local government, civic and religious groups. It also defines the level of comfort when speaking in public on issues affecting their communities. Seventy percent of women and 93.4 percent of men in Brong Ahafo are adequate in public speaking (Table 20). Kintampo South District has the lowest level of adequacy for public speaking for women (50.7 percent) compared to 90.2 percent of men Sene East and Sene West Districts. The women and men in Pru District has the highest level of adequacy in public, 82.9 percent and 98.4 percent, respectively.

Table 20: Leadership Domain by District

District	Group membership				Public speaking			
	Women	n	Men	n	Women	n	Men	n
Banda	^	^	^	^	^	^	^	^
Jaman North	87.7	57	86.0	57	80.8	52	92.9	56
Kintampo North Municipal	61.8	34	^	^	57.1	35	^	^
Kintampo South	51.1	47	61.5	39	50.7	67	91.5	59
Pru	81.9	94	74.1	58	82.9	117	98.4	62
Sene East	76.7	30	67.7	31	65.9	41	90.2	41
Sene West	^	^	^	^	65.9	44	90.2	41
Tain	^	^	^	^	74.3	35	94.1	34
Wenchi Municipal	75.0	52	89.1	46	82.1	67	96.4	56
Brong Ahafo Region	**72.4**	**314**	**75.7**	**231**	**70.0**	**458**	**93.4**	**349**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

On average, 72.4 percent of the women in the region perceive they have achieved adequacy in group membership compared to 75.7 percent of the men. Approximately fifty-one percent of women in Kintampo South are adequate in group membership compared to 61.5

percent of the men. Jaman North District has the highest rate of women adequate in group membership (87.7 percent), while Wenchi Municipal District has the highest rate for men (89.1 percent). Three districts have a higher percentage of women adequate in group membership than men: Jaman North, Pru and Sene East.

The time domain is comprised of two indicators workload and leisure time. Table 21 represents the adequacy level for workload and available leisure time. Workload is measured by determining the time allocation to various activities including: sleeping, personal care, working at a business, farming, watching television, social and activities and hobbies and domestic work. On average, a slightly higher percentage of women are satisfied with their workload than men in Brong Ahafo Region; 80.6 percent of women compared to 79.9 percent men. Only 70 percent of women in Sene East District are satisfied with their workload compared to 73.0 percent of men in Sene West District. Almost 96 percent of men in Jaman North District have workload satisfaction, while nearly 88 percent of women in Pru are satisfied with their workload. In Wenchi Municipal, Sene West and Pru Districts, a higher percentage of women have workload satisfaction than men. Approximately fifty-four percent of the women in the region express satisfaction with the amount of leisure time available compared to 62.0 percent of the men. The percentage of women and men satisfied with their leisure time is relatively the same in Pru, Tain and Sene West, with women only having a slightly higher percentage rate. Jaman North has the highest percentage of women and men satisfied with leisure time, 88.3 percent and 95.0 percent respectively, while Kintampo South has the lowest rate of women and men, 24.3 percent and 35.1 percent, respectively.

Table 21: Time Domain by District

	Satisfaction with Workload				Satisfaction with Leisure Time			
District	**Women**	**n**	**Men**	**n**	**Women**	**n**	**Men**	**n**
Banda	^	^	^	^	^	^	^	^
Jaman North	85.4	41	95.7	46	88.3	60	95.0	60
Kintampo North Municipal	70.3	37	^	^	40.0	40	^	^
Kintampo South	77.4	62	81.8	44	24.3	70	35.1	57
Pru	87.6	113	78.8	52	50.8	124	50.0	70
Sene East	70.0	40	75.0	36	46.5	43	62.5	40
Sene West	82.9	41	73.0	37	44.4	45	43.9	41
Tain	86.7	30	^	^	77.1	35	76.5	34
Wenchi Municipal	84.1	69	75.0	52	62.2	74	71.2	59
Brong Ahafo Region	**80.6**	**433**	**79.9**	**267**	**54.2**	**491**	**62.0**	**361**

^ Results not statistically reliable, n < 30.
Source: District Survey Data, Ghana 2015

Summary and Conclusions

The focus of this district-level assessment was to provide a frame of reference to track the performance of initiatives to reduce poverty and hunger and improve health and nutrition in Brong Ahafo Region, which is part of the study area for Feed the Future Initiative in Ghana. The total number of households involved in this study was 1,020. The study assessed indicators from four major groups: (1) household economic status; (2) hunger and diet diversity; (3) health status of women and children; and (4) women's empowerment. The key findings for the Brong Ahafo Region are summarized in the Appendix. These include:

- The average household size is five members.
- The average adult female population in Brong Ahafo Region is 52.7 percent, and it varies from 44.5 percent to 62.2 percent across the districts.
- Sixty-five percent of the adult household members have no formal education, 15.7 percent have primary education, and 19.3 percent have secondary education.
- About 73 percent of the households in the region have access to improved water sources, 38.3 percent have access to improved sanitation, and 57.3 percent have access to electricity. Almost all households use solid fuel sources for cooking. Across the districts, the average number of persons per sleeping room is about 2.
- The average household per capita daily expenditure is $6.23. Kintampo North Municipal District has the lowest expenditure rate at $3.27. Tain District has the highest at $9.28, followed by Jaman North District ($8.55) and Sene West District ($8.34).
- The average overall prevalence of poverty using the international poverty line of $1.25 is 13.1percent and the poverty depth is 5.0 percent. Kintampo North Municipal and Banda Districts have the two highest poverty rates (26.8 percent and 24.4 percent, respectively), while Jaman North has the lowest at 6.4 percent.
- Based on the national absolute poverty line, approximately 39 percent of households fall below the 3.60 GHS daily per capita expenditure threshold. More than half (55.3 percent) of the households in Kintampo North Municipal District fall below the poverty line. The regional average poverty depth is 15.5 percent.
- The prevalence of poverty and depth of poverty based on the extreme national poverty lines (2.17 GHS) is 19.2 percent for the region and the average poverty depth is 6.5 percent. Kintampo North Municipal and Banda Districts have the two highest poverty rates, 33.3 percent and 26.7 percent, respectively.
- Approximately 22 percent of the households in the region experience moderate to severe hunger. Only 7.8 percent of the households Kintampo North Municipal District experience moderate to severe hunger compared to 44.8 percent in Pru District.
- The mean and median WDDS is 3.6 and 4.0, respectively. On average, about forty-six percent of women of reproductive age achieve minimum dietary diversity. More than half of the women in Jaman North, Kintampo North Municipal, and Kintampo South are

consuming at least five of the ten food groups. Only 22.0 percent of the women in Tain District are achieving MDD-W.

- The prevalence of stunting, wasting, underweight for children 0-59 months old is 28.2 percent, 7.1 percent and 13.8 percent, respectively. Approximately 10 percent are overweight and 4.0 percent are obese.
- The average BMI for women of reproductive age is 23.9 and it ranges from 22.9 in Kintampo North Municipal to 25.0 in Kintampo South. In Brong Ahafo Region, 58.4 percent of the women are considered normal weight, 8.9 percent are underweight, 23.5 percent are overweight and 9.3 percent are obese.
- Based on the 5DE, the majority of women and men are adequate in production decisions (81.6 percent for women and 91.8 percent for men); autonomy in production (54.7 percent for women and 67.7 percent for men); asset ownership (74.3 percent for women and 91.8 percent for men); right to purchase, sell or transfer of assets (77.0 percent for women and 82.9 percent for men); public speaking (70.0 percent for women and 93.4 percent for men); group membership (72.4 percent for women and 75.7 percent for men); satisfaction with workload (80.6 percent for women and 79.9 percent for men); and satisfaction with leisure time (54.2 percent for women and 62.0 percent for men). Women and men have achieved the lowest rate of adequacy in access to credit (16.9 percent for women and 21.9 percent for women).
- The largest difference between the percentage of adequate women and men exists for the control over the use of income. Only 47.4 percent for women are adequate in this indicator compared to 82.2 percent of men.

The indicators in this report are structured to provide a frame of reference to assess and evaluate the impact of current and future initiatives' outcomes and their contributions in achieving the stated objectives of the Feed the Future programs in Ghana's Northern regions. These benchmark results also may enable implementing partners to identify factors that influence these indictor results and can contribute to effective evaluation of project performance in current and planned interventions.

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Appendix 1: Key findings in Brong Ahafo Region

Table A.1 provides the major findings of the principal indicators and some household demographic and dwelling characteristics in Brong Ahafo Region. The table provides the overall regional averages for the indicators. District level results are also presented for the districts that exhibit the minimum and maximum values for these indicators and these values are in parentheses.

A.1 Summary of Key Findings in Brong Ahafo Region

Characteristic	Brong Ahafo Region	District – Min Value		District – Max Value		n
Demographics						
Household Size	5.0	Banda	(4.1)	Pru	(6.3)	1,020
Adult's educational attainment (%)						
No Education	65.0	Tain	(49.7)	Kintampo N.	(76.6)	905
Primary	15.7	Sene West	(8.4)	Tain	(23.9)	905
Secondary	19.3	Kintampo N.	(9.1)	Tain	(26.4)	905
Dwelling						
Water Source (%)	73.3	Sene East	(49.3)	Jaman North	(99.2)	741
Sanitation (%)	38.3	Kintampo N.	(29.6)	Jaman N.	(47.4)	731
Persons per Sleep Room	2.4	Tain	(1.6)	Pru	(3.1)	705
Solid Fuel (%)	96.9	Tain	(94.0)	Sene East&West	(100)	741
Electricity (%)	57.3	Pru	(40.9)	Jaman North	(93.2)	741
Economic Status						
Daily per capita expenditure (in 2010 USD)	6.23	Kintampo N.	(3.27)	Tain	(9.28)	965
Prevalence of poverty ($1.25 2005 PPP)	13.1	Jaman North	(6.4)	Kintampo N.	(26.8)	965
Depth of poverty ($1.25 2005 PPP)	5.0	Jaman North	(0.9)	Kintampo N.	(12.4)	965
Prevalence of poverty (GHS 3.60)	38.9	Jaman N.&Sene East	(29.1)	Kintampo N.	(55.3)	965
Depth of poverty (GHS 3.60)	15.5	Jaman North	(9.8)	Kintampo N.	(25.7)	965
Prevalence of poverty (GHS 2.17)	19.2	Jaman North	(11.3)	Kintampo N.	(33.3)	965
Depth of Poverty (GHS 2.17)	6.5	Jaman North	(2.2)	Kintampo N.	(14.3)	965
Hunger and Dietary diversity						
Prevalence of Severe to Moderate Hunger (%)	21.6	Kintanpo S.	(5.5)	Pru	(44.8)	748
Women's Dietary Diversity Score	3.6	Tain	(3.1)	Kintampo N.	(4.1)	691
Women's Minimum Dietary Diversity (%)	46.2	Tain	(22.0)	Kintampo N.	(64.6)	692
Health Status of Children (%)						
Stunting	28.2	Kintampo S.	(24.1)	Pru	(37.5)	226
Wasting	7.1	Kintampo S.	(1.7)	Jaman N.	(10.0)	225
Underweight	13.8	Kintampo S.	(5.2)	Pru	(18.1)	226

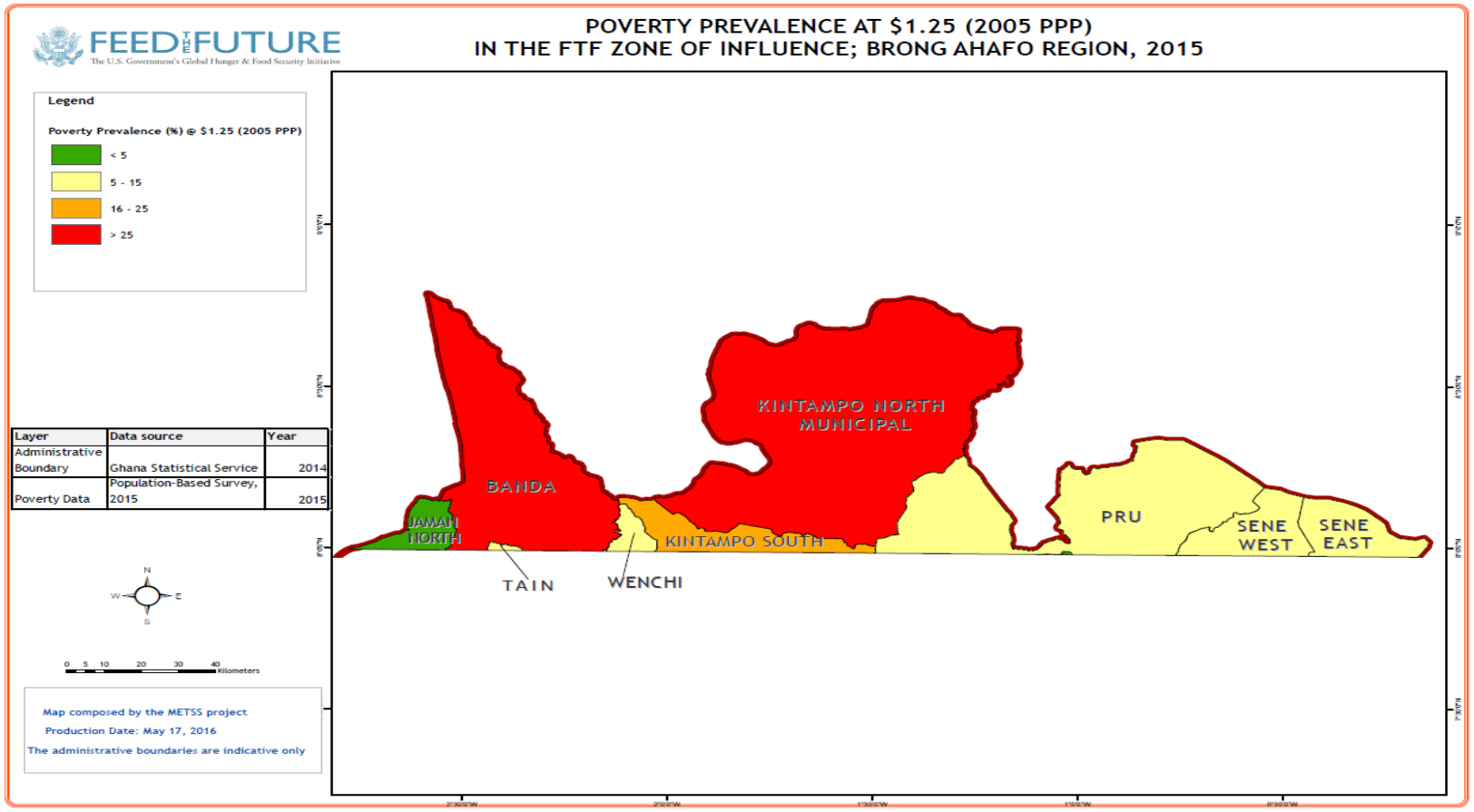
A.1 Summary of Key Findings in Brong Ahafo Region (cont'd)

Characteristic	Brong Ahafo Region	District – Min Value		District – Max Value		n
Anthropometry for Women of Reproductive Age						
BMI	23.9	Kintampo N.	(22.9)	Kintampo S.	(25.0)	661
Underweight (%)	8.9	Kintampo S.	(3.3)	Sene West	(17.0)	661
Normal Weight (%)	58.4	Sene East	(52.6)	Kintampo N.	(81.3)	661
Overweight (%)	23.5	Kintampo N.	(8.3)	Kintampo S.	(29.4)	661
Obese (%)	9.3	Kintampo N.	(4.2)	Kintampo S.	(14.1)	661
Women's Empowerment in Agriculture Index (%)						
Production						
Input Decision Making	81.6	Sene East	(69.8)	Jaman North	(91.5)	476
Autonomy in Production	54.7	Sene East	(35.3)	Jaman North	(65.6)	423
Income						
Control over Use of Income	47.4	Sene West	(17.8)	Tain	(60.0)	479
Resources						
Asset Ownership	74.3	Kintampo N.	(67.1)	Tain	(81.9)	921
Purchase, Sale or Transfer of Assets	77.0	Pru	(58.7)	Sene East	(91.6)	924
Access and Decision to Credit	16.9	Kintampo N.	(1.2)	Sene East	(28.4)	884
Leadership						
Public Speaking	70.0	Kintampo S.	(50.7)	Pru	(82.9)	458
Group Membership	72.4	Kintampo S.	(51.1)	Jaman North	(87.7)	314
Time						
Leisure Time	54.2	Kintampo S.	(24.3)	Jaman North	(88.3)	491
Work Load	80.6	Sene East	(70.0)	Pru	(87.6)	433

Source: District Level Survey Data, Ghana 2015

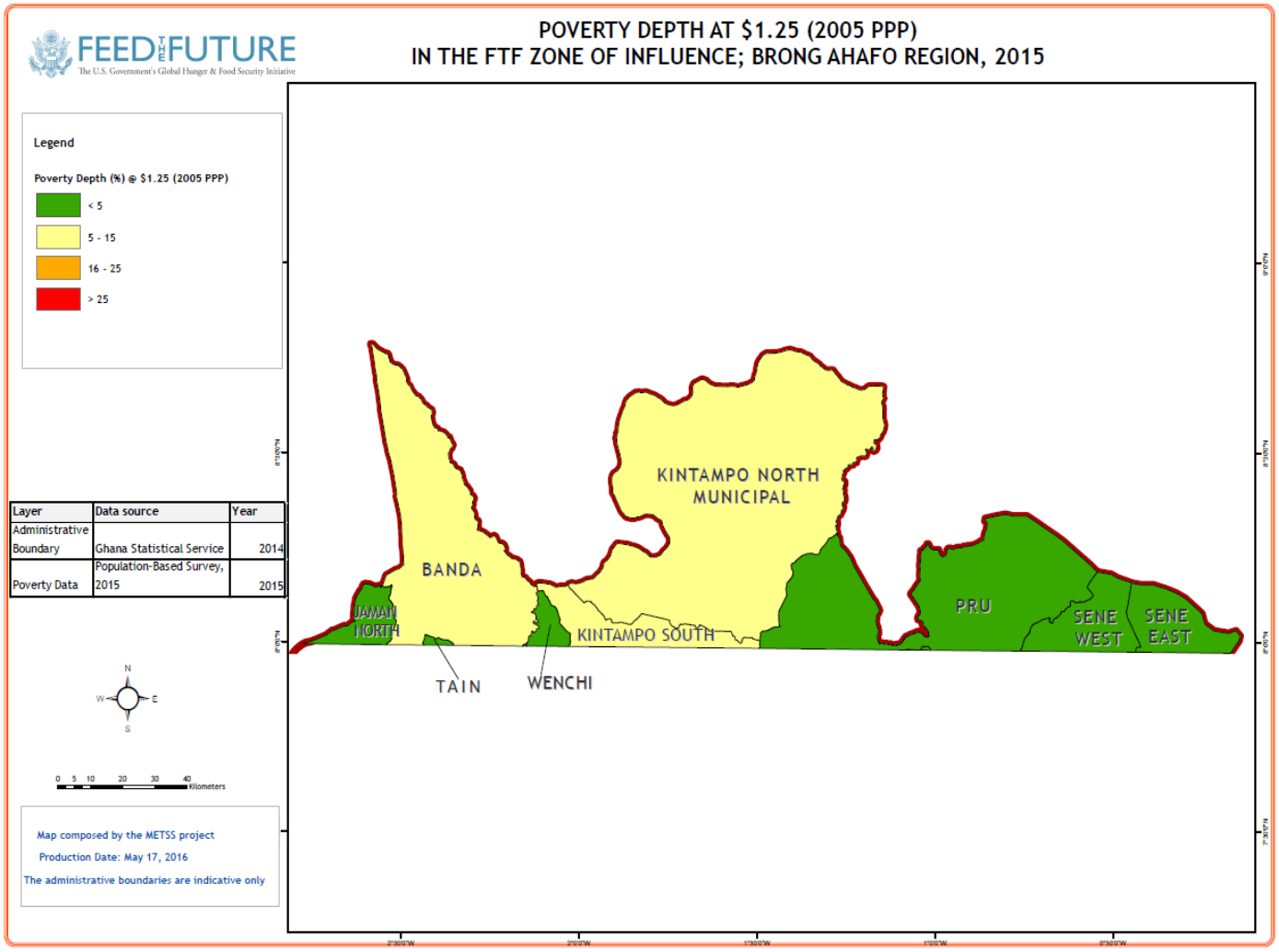
Appendix 2: Geographical Distribution of Poverty and Children's Health Status

Figure 1: Poverty Prevalence at $1.25 (2005 PPP) by District



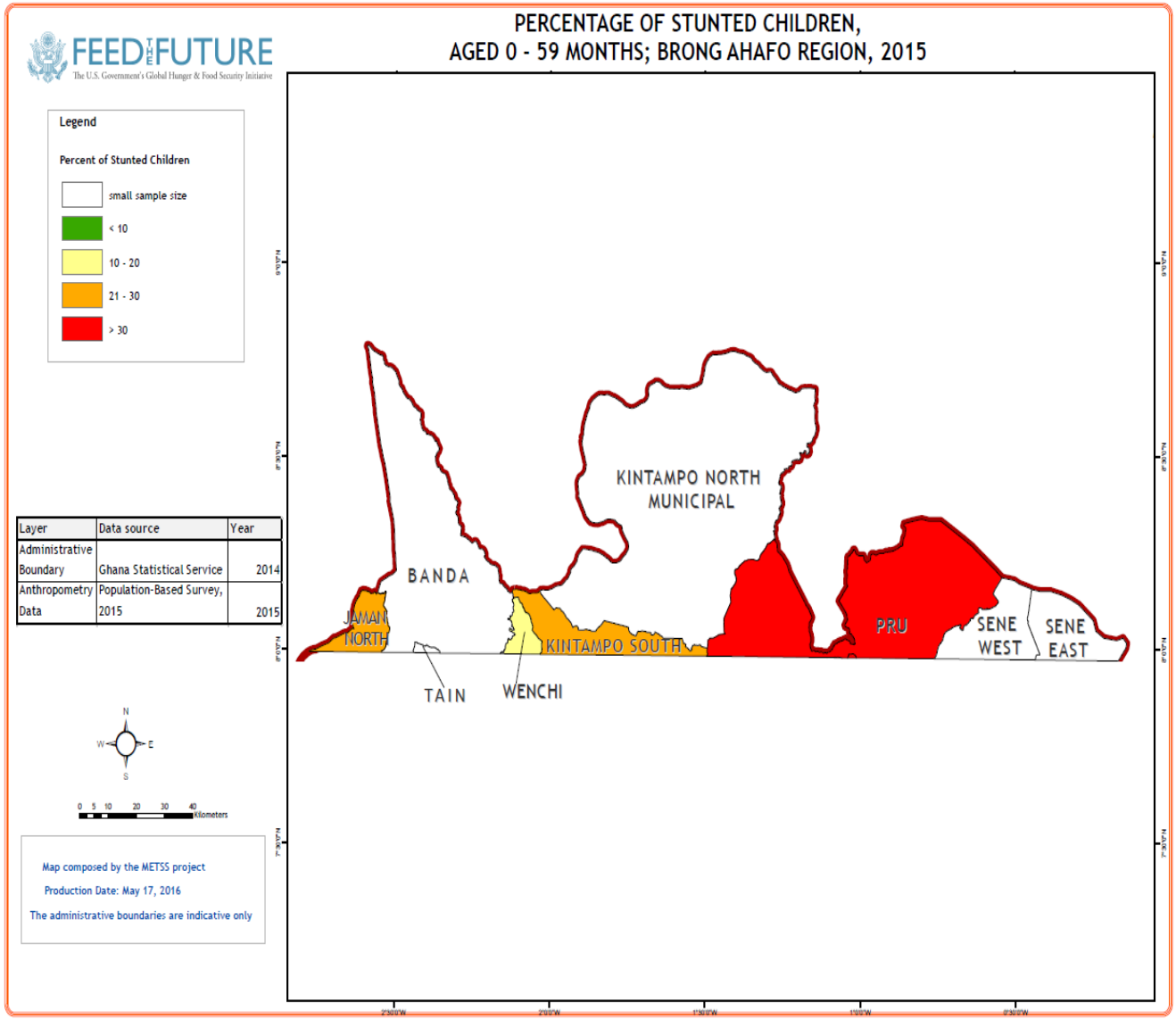
Source: District Survey Data, Ghana 2015

Figure 2: Poverty Depth at $1.25 (2005 PPP) by District



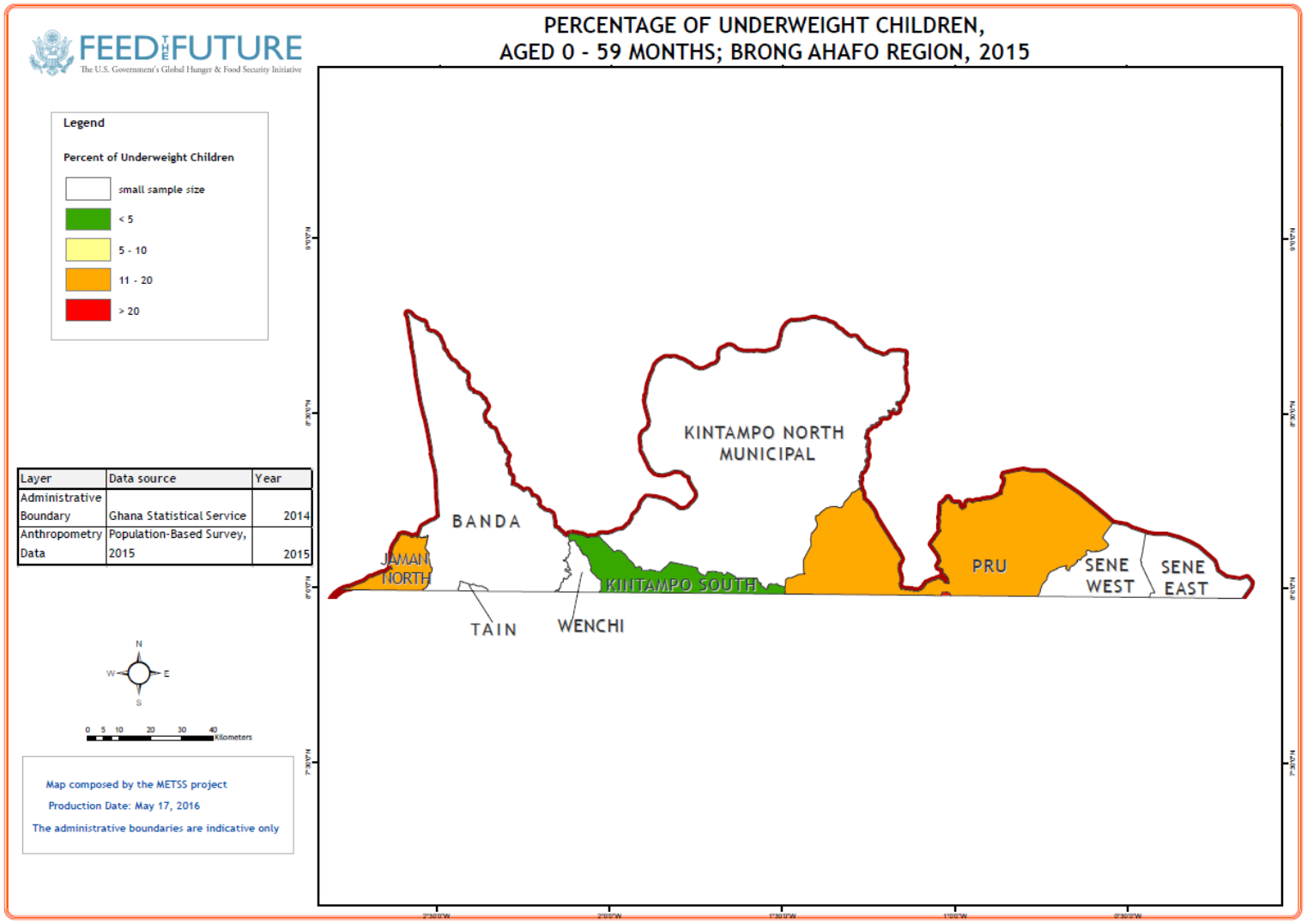
Source: District Survey Data, Ghana 2015

Figure 3: Percentage of Stunted Children (0-59 months) by District



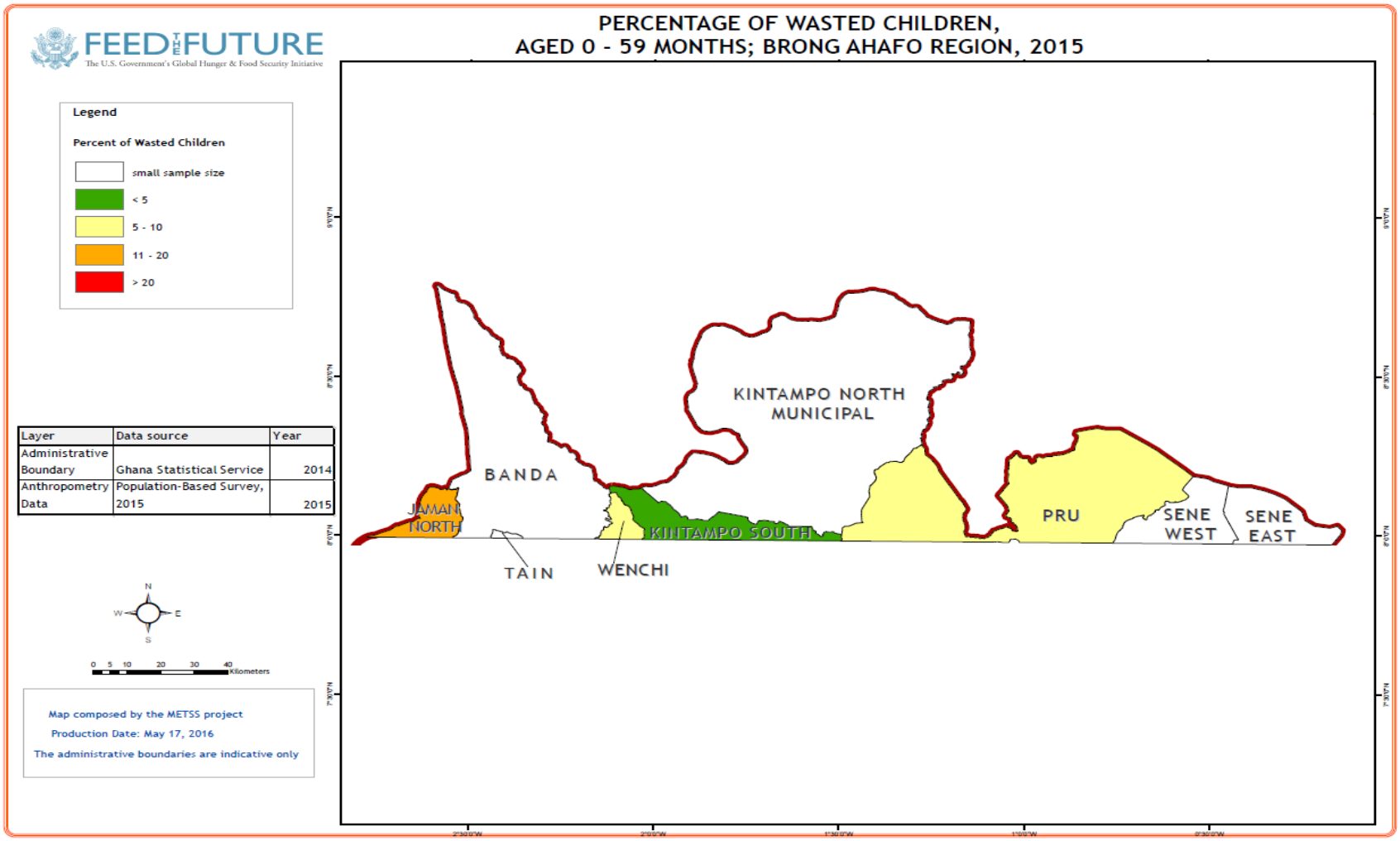
Source: District Survey Data, Ghana 2015

Figure 4: Percentage of Wasted Children (0-59 months) by District



Source: District Survey Data, Ghana 2015

Figure 5: Percentage of Underweight Children (0-59 months) by District



Source: District Survey Data, Ghana 2015