MULTIDIMENSIONAL POVERTY - GHANA

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Prepared by: Francis Bright Mensah, John Foster Agyaho, Dr. Raymond Elikplim Kofinti, and Dr. Joshua Sebu

Edited by: Dr. Ewura-Adwoa Ewusie

Chief Editor: Prof. Samuel Kobina Annim

PREFACE AND ACKNOWLEDGEMENT

This report presents Ghana's Multidimensional Poverty Index (MPI), which complements the monetary poverty by providing an assessment of deprivation of basic survival needs. The complementarity engenders the deployment of diverse and targeted social and monetary interventions to deprived populations, especially the poorest of the poor. The criticality of an MPI assessment of poverty is the pervasiveness of an unequal and varied level of lack of access to basic survival needs across different population groups and more importantly, the indispensability of public services notably on issues in the domain of health and education policy needs. The computational process draws on multiple national level datasets and benchmarks the analytical procedures with internationally recognized methods of accessing multidimensional poverty.

The GSS wishes to acknowledge the invaluable contribution of Francis Bright Mensah, John Foster Agyaho, both from GSS, and Raymond Elikplim Kofinti and Joshua Sebu of the University of Cape Coast for engaging with the data, analysis and report writing. The technical support and dedication of Christian Oldiges, Corinne Mitchell and Davina Governance Osei (all from the Oxford Poverty and Human Development Initiative) in the process of conceptualization, analytical validation and report writing are very much appreciated. The Ghana MPI team is particularly grateful to the MPI National Steering Committee, especially, Mary Mpereh of the National Development Planning Commission, Paul Nkegbe (University of Development Studies), Jamil Seini (Ministry of Finance), Shirazu Inusah (Local Government Authority), Gertrude Elleamoh, Verena Goranko and Isabel Rodde (Agenda 2030, GIZ Ghana), Kordzo Sedegah, Radhika Lal and Frederick Mugisha (United Nations Development Programme (UNDP), Ghana) and Abena Osei-Akoto (GSS), for their guidance and support. A special appreciation goes to UNDP Ghana and the German Federal Government through GIZ, for providing both financial and technical support.

Prof. Samuel Kobina Annim
(Government Statistician and National Project Director)

FOREWORD

Who is poor in Ghana? What does it mean to be poor, and how can we best combat poverty and inequality?

The first Multi-dimensional Poverty Index (MPI) Report for Ghana provides in-depth insights to answer these crucial questions. By using multiple dimensions to measure poverty, it provides a better understanding of the various deprivations that the poor in the country battle with. Ghana has made impressive strides in its economic development. Yet, inequality is on the rise and large parts of the population are at risk of being left behind. The recent outbreak of COVID-19 has demonstrated once again that it is the most disadvantaged who pay the highest price in times of a crisis. To better protect them, not just in times of crises, high quality data on their living situation is urgently needed. However, too often, it is precisely them who remain uncounted and unaccounted for.

The MPI Ghana constitutes an important milestone, as it provides disaggregated data that sheds light on the realities of the most vulnerable in the different regions. This information is key for identifying and tailoring effective interventions that reflect the development needs of all Ghanaians. The eradication of poverty and inequality in all its forms and dimensions, as addressed by the Sustainable Development Goals (SDGs), is an overarching goal of German Development Cooperation. GIZ Ghana´s engagement, in this respect, includes support of the Government of Ghana in improving the management of domestic revenues and expenditures to finance inclusive development.

The Agenda 2030 Project is partnering with a variety of governmental and non-governmental actors to strengthen the data-ecosystem to better track Ghana's progress in the implementation of the SDGs. The cooperation with Ghana Statistical Service (GSS), aiming at closing the existing data gaps for effective monitoring and planning, has been particularly fruitful. The MPI Ghana is yet another significant achievement to provide "better data for better decisions".

I thank GSS, the University of Cape Coast, the University of Development Studies, the Oxford Poverty and Human Development Initiative and all other partners for this pioneer work. Let´s all use this data to inform inclusive policies and ensure that no one will be left behind.

Regina Bauerochse,
Country Director GIZ Ghana

FOREWORD

This report on Multi-Dimensional Poverty Index for Ghana comes at the time when the world is experiencing the coronavirus pandemic that is negatively impacting lives and livelihoods. The report tells an important success story and provides a baseline for us to understand the impact of COVID-19 once future estimates are computed to provide a basis for building back better.

I want to thank the Ghana Statistical Service (GSS) and GIZ for their continued partnership with us at the United Nations Development Programme (UNDP), which again has resulted in this important report.

It is welcoming news that for the past 7 years, between 2011 and 2018, according to the report, multidimensional poverty, its incidence and severity have reduced across the country, with significant improvements in electricity, cooking fuel and school attainment. What is even more heartening is that the former Northern region (present day Northern, Savannah, and North East) had the greatest improvement. However, the report reveals inequalities, particularly relating to rural/urban and geographical divides, with rural areas and the former Northern region having relatively higher levels of multidimensional poverty.

While celebrating the success chalked in the report, we must keep our eyes on the Sustainable Development Goals (SDGs) to address the remaining challenges, especially given that we have only 10 years to the 2030 deadline. It is important to note that UNDP's Human Development Report Office has warned that global human development – which can be measured as a combination of the world's education, health and living standards – could decline this year for the first time since the concept was introduced in 1990, due to COVID-19. For the story to be different for Ghana, we must continue to work together to reach those being left behind.

It is our hope that these results will help inform our response to the pandemic and policies for recovery post-COVID-19. We look forward to nurturing our partnerships with the GSS, GIZ and all stakeholders towards SDGs achievement.

Gita Welch
UNDP Resident Representative

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LIST OF ABBREVIATIONS

AF	Alkire-Foster
AR	Ashanti Region
BAR	Brong-Ahafo Region
BCG	Bacille Calmette Guerin
CR	Central Region
DPT	Doctor of Physical Therapy
ER	Easter Region
FAO	Ghana Food and Agricultural Organisation
GAR	Greater Accra Region
GIZ	German Agency for International Cooperation
GLSS	Ghana Living Standards Survey
GSM	Global System for Mobile Communication
GSS	Ghana Statistical Service
HDRO	Human Development Report Office
ICT	Information and Communication Technology
MICS	Multiple Indicator Cluster Surveys
MPI	Multidimensional Poverty Index
NDPC	National Development Planning Commission
NR	Northern Region
OPHI	Oxford Poverty and Human Development Index
SDGs	Sustainable Development Goals
SE	Standard Error
TV	Television
UER	Upper East Region
UN	United Nations
UNICEF	United Nations Children's Fund
UWR	Upper West Region
VR	Volta Region
WR	Wester Region

EXECUTIVE SUMMARY

This report presents Ghana's official national Multidimensional Poverty Index (MPI) using the seventh round of the Ghana Living Standards Survey conducted between 2016/2017 survey periods. The report also employed a strict harmonised dataset from the Ghana Multiple Indicator Cluster Surveys conducted in 2011 and 2018 for trend analyses. The Alkire-Foster methodology was used to measure the MPI for the country. Following the three broad dimensions of the global MPI in Health, Education and Living Standards, twelve (12) respective indicators were used to reflect national priorities in the MPI structure.

Our results show that 45.6 percent of Ghana's population are multidimensionally poor. The indicators that contribute most to multidimensional poverty in Ghana are lack of health insurance coverage, undernutrition, school lag and households with members without any educational qualification. The intensity of poverty is 51.7 percent, meaning that poor people experience, on average, more than half of the weighted deprivations. The MPI, which is the product of the incidence and intensity of poverty, is 0.236.

Comparing the incidence of Ghana's multidimensionally poor of 45.6 percent to the incidence of consumption expenditure poverty of 23.4 percent revealed a difference of 22.2 percentage points. A scrutiny of both estimates, however, revealed that 19.3 percent of the population are both multidimensionally and consumption expenditure poor; 4.1 percent are consumption expenditure poor but not MPI poor; and 26.3 percent are MPI poor but not consumption expenditure poor. The analysis, therefore, suggests that a majority, constituting approximately 82.3 percent of people who are monetary poor are also MPI poor. The reverse, however, is not true. A greater proportion of the MPI poor (26.3%) are not monetary poor and would thus be excluded from any poverty policy initiative based on the monetary measure.

As expected, the rural-urban differences are evident, with 64.6 percent of the rural population and 27.0 percent of the urban population being multidimensionally poor. Our computations indicate that Northern Region recorded the highest rate of multidimensional poverty - with every eight out of ten persons being multidimensionally poor (80.0%), followed by the Upper East Region- with close to seven out of every ten persons being multidimensionally poor (68.0%).

From the trend analyses, we found substantial progress in multidimensional poverty reduction. Ghana reduced its incidence of multidimensional poverty by nine percentage points from 55 percent in 2011 to 46 percent in 2017. The intensity of poverty also reduced (from 54.2% in 2011 to 51.7% in 2017), showing that the improvement is 'pro-poor'. The MPI reduced by 0.062 from 0.298 in 2011 to 0.236 in 2017. The differences observed in the incidence and intensity of multidimensional poverty are statistically significant, indicating substantial progress in multidimensional poverty reduction over time in the country. We also observed statistically significant progress being made across all of the 12 indicators of multidimensional poverty among the poor except inadequate housing and school attendance.

Based on our results, it is paramount that resources are allocated to the Health Sector (health insurance coverage and nutrition) and efforts coordinated to increase school attainment among the populace and reduce the number of school-age children that are not in school and their counterparts who are two or more years behind in school. Complementary policies should also be adopted to reduce the co-occurrence of multidimensional and consumption expenditure poverty in the country. Going forward, the Ghana 2020 Population and Housing Census will engender MPI analyses at the district/municipal and locality levels to inform specific and efficient allocation of resources.

CHAPTER ONE
INTRODUCTION

1.0 Background

This report presents for the first time the results of Ghana's official National Multidimensional Poverty Index (MPI). The purpose of Ghana's National MPI is to have a measure to complement monetary poverty, enabling a more comprehensive understanding of the simultaneous deprivations faced by the poor and providing evidence for more targeted and efficient poverty reduction policies. As an official national statistic, it is owned by the people of Ghana and is, in its final structure, the result of a process led by the Ghana Statistical Service (GSS) and the Steering Committee, with representation from the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), United Nations Development Programme (UNDP), University of Cape Coast, University of Development Studies, Oxford Poverty and Human Development Initiative (OPHI), National Development Planning Commission (NDPC), Local Government Authority and Ministry of Finance. Ghana's National MPI was computed using data from the Ghana Living Standards Survey (GLSS) 2016/2017, a nationally-owned survey with context-specific variables which permits the measurement of multidimensional poverty in Ghana. In order to assess trends in multidimensional poverty over time, the report also draws on the 2011 and 2018 Ghana Multiple Indicator Cluster Surveys (MICS).

Given Ghana's history and its trajectory of social indicators, instituting a multidimensional poverty measure represents a natural progression in thought, policy analysis, and statistical application. This chapter serves as an introduction to Ghana's first official national Multidimensional Poverty Index (MPI). It has the following sections:

- Why Multidimensional Poverty?
- The Purpose of Ghana's MPI

1.1 Why Multidimensional Poverty?

Multidimensional poverty considers the many overlapping deprivations that poor people experience. People living in poverty often refer to lack of education, poor health and nutrition, ramshackle housing, and unsafe water as examples of their disadvantages to a meaningful standard of. These deprivations reflect the lived experiences of many poor people and the obstacles they face in pursuing and achieving valuable capabilities. The presence and shared experiences of multiple deprivations, therefore, motivate the urgency to focus on the Sustainable Development Goals (SDGs), especially Goal 1, which calls for an end to poverty in all its forms everywhere.

A Multidimensional Poverty Index (MPI) makes visible the joint distribution of deprivations, starting with a profile of each person's simultaneous challenges, in order to measure non-monetary poverty. Overall, MPIs provide not only a headline figure, but also an associated information platform on national and subnational conditions across population groups and joint deprivations in different dimensions of poverty. The Oxford Poverty and Human Development Initiative (OPHI) at the University of Oxford and the United Nations Development Programme's Human Development Report Office (HDRO) jointly compute and publish a global MPI that compares acute multidimensional poverty across more than 100 countries. However, this measure is intended for international comparability and is not adapted for the specific circumstances of a given country. Thus, many countries have developed their own national MPIs, in much the same way that they use national monetary poverty lines as well as the $1.90/day measure.

National MPIs are increasingly being adopted as official permanent poverty statistics, which provide a more detailed exposition of the various dimensions of people's living standards to complement monetary poverty statistics. These MPIs are tailored to the particular contexts and priorities of the country and reflect national understandings of poverty. Updated regularly, national MPIs are used to shape and energize effective policy actions. They are also reported against SDG Indicator 1.2.2 – to reduce, by 2030, the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions.

In Ghana, poverty has been measured using a monetary metric up until now. For the first time, Ghana's National MPI captures the overlapping deprivations experienced by poor people in the country, using 12 non-monetary indicators across the three dimensions - education, health, and living standards. Given the importance of other non-monetary dimensions in the understanding and alleviation of poverty, the Ghana National MPI is a powerful tool for both poverty analysts and policymakers. It allows social planners to target those who are most affected by multiple disadvantages simultaneously and enables concerted policy-efforts across sectors and departments.

1.2 Purpose of Ghana's MPI

The purpose of Ghana's National MPI is to monitor key simultaneous disadvantages that affect multidimensionally poor people. The indicators constituting Ghana's MPI reflect national priorities. Ghana's MPI will be used to monitor and evaluate progress across a set of interlinked and policy-responsive Sustainable Development Goals and targets that are of recognised national and global importance. Detailed MPI analysis, such as that presented in this report, will be used to support more effective integrated and multi-sectoral policies at both national and regional levels, including budget allocation and targeting. Analysis of MPI by region, age cohort, and other characteristics would help identify the poorest groups and specific areas of deprivation to ensure effective prioritisation and inclusion of all disadvantaged people.

CHAPTER TWO
METHODOLOGY AND DATA

This chapter presents how multidimensional measures are constructed, a description of the data used in this report, and an explanation of the structure of Ghana's national MPI. It has three sections which are Alkire-Foster Method, Data and Structure of the Measure.

2.1 Alkire-Foster Method

The Ghana national MPI and all results presented in this report are calculated using the Alkire-Foster (AF) method for multidimensional poverty measurement. The AF method allows for the construction of individual and household level deprivation profiles that can then be used to identify multidimensionally poor people. It first identifies who is poor, by summing up the deprivations each person experiences in a weighted deprivation score, and then aggregates this information into a headline and associated information platform for a given population. This methodology for multidimensional poverty measurement has come to be widely used because of its simple, yet specific approach. There are three key features for any MPI:

- **Incidence** or **headcount ratio (H)** which is the proportion of the population who are multidimensionally poor.
- **Intensity (A)** is the share of weighted indicators multidimensionally poor people are deprived in on average.
- **MPI** or **adjusted headcount ratio** is the multidimensional poverty index, which is the product of incidence and intensity (**MPI = H × A**).

The MPI can be equivalently computed as the weighted sum of censored headcount ratios – which shows the percentage of people who are identified as poor and are also deprived in an indicator. The MPI is always broken down by indicator to show the composition of multidimensional poverty. This feature of dimensional detail brings added policy relevance to the analysis. In addition, the MPI can be disaggregated by different population groups, such as, urban/rural areas, age groups, and subnational regions.

HOW TO INTERPRET THE MPI

IS THE MPI JUST ONE NUMBER? Sometimes people presume that the MPI is "just" an index – a single number – showing the level of poverty. However, the MPI is much more than that. It unfolds into an **associated information platform** of sub-indices. Below is an example of the information contained in the MPI and its information platform.

INCIDENCE (WHO IS POOR): This is perhaps, the most familiar number: the percentage of people who are MPI poor? This is called the headcount ratio, incidence of poverty, or poverty rate.

DISAGGREGATION: Additionally, the MPI is **disaggregated** – by age group, location (urban/rural), and (data permitting) by subnational regions or districts – to examine poverty variations within a society.

INTENSITY (HOW POOR ARE THEY?): This is the average deprivation score among the poor or the average share of deprivations that poor people experience.

Prevalence of deprivation (HOW THEY ARE POOR): The **censored headcount ratio** of an indicator is the percentage of the total population – or one of its subsets – who are MPI poor and deprived in that particular indicator. The MPI is the weighted sum of the censored headcount ratios. What this means is that a decrease in any deprivation of any poor person will decrease poverty as measured by the MPI. It is important to note that the censored headcount ratios only count a deprivation when the person who experiences it is also multidimensionally poor. The uncensored headcount ratio of an indicator is the percentage all people – poor and non-poor – who are deprived in that particular indicator.

COMPOSITION OF POVERTY: The **percentage contribution of an indicator** shows how much it contributes to the overall MPI of a given population. It depends on both the censored headcount ratio and the weight of that indicator. Using this measure – often visualised as a striped bar – we can immediately compare the indicators that most contribute to the MPI for different population groups within the country.

THE MPI (Adjusted Headcount Ratio): This is the product of incidence and intensity. It shows the share of possible deprivations that poor people experience. MPI ranges from zero to one, and a higher number signifies greater multidimensional poverty.

HOW TO REDUCE THE MPI: Because the MPI is made up of two sub-indices – incidence and intensity – it goes down if either of these decreases. So, if a poor person becomes non-poor, the MPI will decline. And if a poor person becomes non-deprived in an indicator in which they were previously deprived, the MPI will also fall. Put simply, if any deprivation of any poor person is removed, then the MPI always reduces. The MPI thus tracks not just movement over the poverty line but also improvements among the poor, thus, providing an ideal reference point and an impetus for monitoring interventionist policies that target the poorest of the poor.

The AF method allows for the structure of an MPI - dimensions, indicators, weights, and cut offs to be adapted to the specific purposes and contexts. The structure of Ghana's National MPI is presented below.

2.2 Data

Ghana's National MPI is designed to facilitate its computation from as many data sources as possible to enable regular (annual or biennial) updates that can be used for continuous policy evaluation and improvement. This report draws on data from the seventh round of the Ghana Living Standards Survey (GLSS), a household survey, representative at the national level and for each of Ghana's ten subnational regions. The GLSS is one of the country's most important tools to inform national policies on poverty reduction and for the country's monetary poverty measurement.

In addition to providing Ghana's National MPI results for 2016/17, which are computed from the GLSS data, this report also presents results for trends in multidimensional poverty in Ghana. For intertemporal comparability, the trend analyses have been computed using data from the 2011 and 2017/18 rounds of the Multiple Indicator Cluster Survey (MICS), an international household survey developed by UNICEF. Data from the 2011 and 2017/18 rounds of the Multiple Indicator Cluster Survey (MICS), an international household survey developed by UNICEF, were used for the trend analysis to enable an intertemporal comparison of multidimensional poverty.

The fieldwork for the 2016/17 round of GLSS was conducted by the Ghana Statistical Service over a period of 12 months, from October 2016 to October 2017, and gathered information from 14,009 households and 59,864 individuals. It was the first round of the GLSS to collect anthropometric data, though this exercise is expected to constitute a regular component of subsequent rounds. MICS 2011 and MICS 2017/18 were also carried out by the Ghana Statistical Service, from September-December 2011 and October 2017-January 2018, respectively. MICS 2011 interviewed 11,925 households, 10,627 women aged 15-49; 7,550 children below the age of 5; and 3,321 men aged 15-59; MICS 2017/18 interviewed 12,886 households; 14,374 women aged 15-49; 8,870 children below the age of 5; 323 men aged 15-49, and 8,946 children aged 5-17.

2.3 Structure of the Measure

Ghana´s National MPI has three dimensions – health, education and living standards – and 12 indicators. It uses the same dimensions as the global MPI produced by OPHI and UNDP but adjusts the indicators to better reflect the specific context and priorities of the country.

2.3.1 Unit of Identification and Analysis

The unit of identification refers to the entity that is identified as poor or non-poor – usually the individual or the household. In the case of Ghana's MPI, the unit of identification is the household, which considers information of all household members. This acknowledges intra-household caring and sharing – for example, educated household members reading for other members or multiple

household members being affected by a child's malnutrition. In addition, it allows the measure to include indicators that are specific to certain age groups (for instance, school attendance).

The unit of analysis which refers to how the results are reported and analysed is the individual person. It forms the basis of the analysis and subsequently informs the reporting of results, as is customary for monetary poverty statistics. This means that, for instance, the headcount ratio is the percentage of people who are identified as poor.

2.3.2 Dimensions, Indicators and Deprivation Cut-offs

Ghana's MPI employs the three dimensions of the global MPI. The choice of indicators reflects the country's context within data constraints. The selection of dimensions, indicators, and cut-offs was determined through a consultative process of the Steering Committee, drawing on expertise from many different sectors and reflecting national plans and priorities. The living standards indicators are largely similar to the global MPI, with the addition of an indicator on overcrowding.

The overcrowding indicator captures households with a large number of people per sleeping room, following the UN-Habitat guidelines. The cooking fuel indicator is intended to highlight the type of fuel and cooking space used, which is linked to the quality of ventilation and respiratory health. The water indicator is based on SDG 6 and the global MPI indicator for drinking water. The assets indicator measures asset ownership, which is indicative of improvement in living standards. The deprivation cut-off (Table 2.1) is similar to that of the global MPI. The housing indicator measures the quality of materials used in the flooring and walls of the house. The cut-off is also similar to the global MPI except that it does not consider roofing materials, as these are not as relevant for identifying poverty in Ghana. The electricity indicator captures households without access to electricity. The sanitation indicator is similar to that of the global MPI and is intended to measure households with inadequate toilet facilities.

The education dimension has three indicators: school attendance, school attainment, and school lag. School attendance measures households in which a school-age child is not attending school. School attainment captures households in which no member has received an educational qualification, equivalent to completing at least basic education. The school lag variable captures pupils who are two or more years behind the grade they should be in, based on their age.

The health dimension has two indicators: nutrition and health insurance. The nutrition indicator measures children under 5 years old who are underweight or stunted. The health insurance indicator measures households in which any member is not covered by the national health insurance scheme. Members of the household may be registered with the health insurance scheme, but the indicator measures the coverage of the scheme.

Table 2.1: Ghana's national MPI – indicators, deprivation cut-offs and weights

Dimension	Indicator	Deprivation cut-off definition	Weight
Living Standards	Cooking fuel	Deprived if household uses solid fuels and cooking is not done outside the house or in the open/ or cooking is undertaken in enclosed spaces	1/21
	Water	Deprived if a household's drinking water is from an unclean source (tanker supply/vendor provided; unprotected well; unprotected spring; river/stream; dugout/pond/lake/dam/canal; other) or a round trip distance to collect water takes 30 minutes or more	1/21
	Assets	Deprived if household does not have more than one small asset (radio, TV, telephone, bike, motorbike, refrigerator, or computer) and does not own a car	1/21
	Housing	Deprived if household uses inadequate flooring (earth/mud, other) or walls (earth/mud, palm leaves/thatch (grass/raffia), other)	1/21
	Overcrowding	Deprived if household has more than 3 people per sleeping room, on average	1/21
	Electricity	Deprived if household does not have electric power	1/21
	Sanitation	Deprived if household has no toilet facilities, uses bucket/pan, public toilet, shared toilet outside the house, other	1/21
Education	School attendance	Deprived if any school-age child (4-15years) in the household is not attending school	1/9
	School attainment	Deprived if no household member has received an educational qualification	1/9
	School lag	Deprived if household has any member who is 2 or more years behind in school	1/9
Health	Nutrition	Deprived if household has any child under 5 who is undernourished (underweight or stunted)	1/6
	Health insurance	Deprived if anyone in the household is not covered by the national health insurance scheme	1/6

Note for Table 2.1:

a. Children are considered malnourished if their z-score of weight-for-age is below minus two standard deviations from the median of the reference population.

A household suffers in bearing the medical bills if a single member is not covered. The global MPI uses an indicator on child mortality, but this was not considered useful for the Ghana National MPI

because the GLSS has a shorter recall period, so only captures deaths in the twelve months prior to the interview.

Although it remains a crucial issue for human development, child mortality rates have been declining in Ghana over the years. However, affordability is a crucial factor for accessing health care services and is vital for ensuring a higher probability of survival. Currently, ill or injured people are not consulting a doctor as in previous years and since 2005, there has been a continual decline in those who consulted a chemist or pharmacist (GSS, 2018). The foregoing justifies the essence of the 'affordability factor' and the implementation of a national health insurance scheme which ensures that people can access minimum health care services despite their economic background. Hence, the health insurance indicator is currently a critical measure of multidimensional poverty in Ghana.

Figure 2.1: National uncensored headcount ratios, 2017

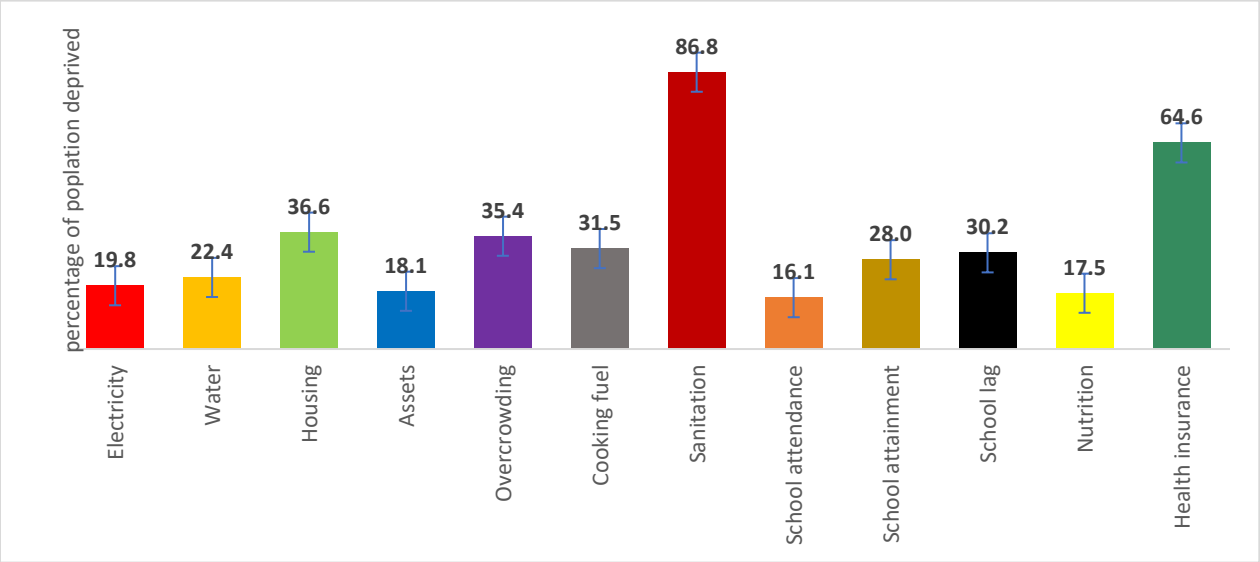


Figure 2.1 shows the level of deprivations in each of the twelve MPI indicators in 2016/17. The 'uncensored headcount ratio' of each indicator represents the proportion of the total population of Ghana who are deprived in that particular indicator, irrespective of their poverty status. The highest deprivations are engendered by sanitation (with 86.8% of the population deprived in this indicator) and health insurance (64.6%), with moderate deprivations recorded for housing (36.6%), overcrowding (35.4%), cooking fuel (31.5%) and school lag (30.2%). Low levels of deprivations were recorded for school attendance (16.1%), and nutrition (17.5%).

2.3.3 Weights and Deprivation Scores

The weighting system adopted for Ghana's MPI is the 'nested weights' approach, implying that each of the three dimensions is equally weighted—one-third of the total weight is assigned to education, health, and living standards—and each component indicator is equally weighted within its dimension. For each dimension, there is a possible variation in the number of indicators. Subsequently, indicators in the health dimension receive a weight of 1/6, each education indicator has a weight of 1/9, and the living standards indicators are given a weight of 1/21. Overall, the weights add up to 100 percent. The deprivation score is the sum of the weights of the indicators in which the person is deprived and shows the percentage of total possible deprivations that the person experiences.

2.3.4 Poverty Cut-off

For Ghana's MPI the cut-off is specified at one-third of the indicators; that is, a person whose deprivation constitute at least 33 percent of the weighted indicators is identified as multidimensionally poor. The chosen cut-off reflects the global MPI, which suggests that a person must be deprived in at least one full dimension's worth of indicators to be considered multidimensionally poor. A person deprived in 20-33.3 percent of the weighted indicators is considered 'vulnerable to poverty' and a person deprived in at least 50 percent of the weighted indicators is identified as being in severe poverty.

CHAPTER THREE
RESULTS AND DISCUSSIONS

This chapter provides a detailed analysis of the national MPI results for Ghana using the seventh round of the Ghana Living Standards Survey conducted between 2016/2017. The chapter specifically presents results on the three main statistics of the MPI; namely, the headcount (H), intensity (A) and the adjusted headcount ratio (MPI). The results are presented nationally and across three main group variables; geographical groupings (residence, ecological zone and administrative regions), age groups and gender of household head. The percentage contributions of each indicator to MPI are also discussed. Finally, the incidence of multidimensional poverty is compared with the conventional money-metric consumption-based poverty.

3.1 The Level of Multidimensional Poverty in Ghana

Table 3.1 shows Ghana's National MPI for 2017, as well as its partial indices: the incidence of poverty (the proportion of people identified as multidimensionally poor –H) and the intensity of poverty (the average proportion of weighted indicators in which the poor are deprived – A). The incidence of multidimensional poverty is 45.6 percent. This means that at least two out of every five Ghanaians are identified as multidimensionally poor. Based on the 95 percent confidence interval, the true multidimensional poverty headcount ratio is between 43.7 percent and 47.5 percent of the population.

The intensity of poverty, which reflects the share of deprivations each poor person experiences on average, is 51.7 percent. That is, each poor person is, on average, deprived in about 52 per-cent of the weighted indicators–implying that a multidimensionally poor person is deprived in six of the 12 weighted indicators, on average. For example, a person may be deprived in two of the five education and health indicators, in addition to four living standards indicators. The National MPI, which is the product of the incidence and intensity of poverty, has a value of 0.236. This means that multidimensionally poor people in Ghana experience about 24 percent of the weighted deprivations out of the total possible deprivations that could be experienced.

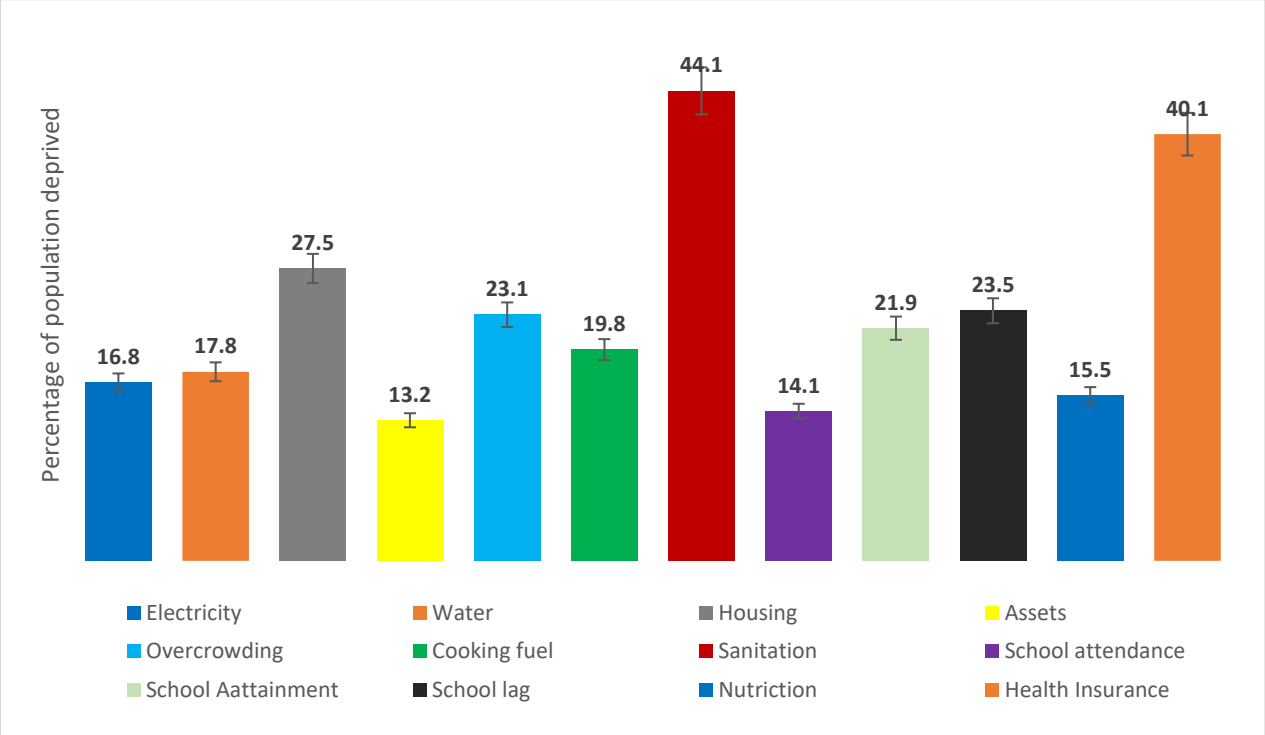
Table 3.1: Incidence, intensity and multidimensional poverty Index (MPI), 2017

Poverty cut-off (k)	Index	Value	95% Confidence interval	
	MPI	0.236	0.224	0.2485
k-value=33%	Headcount ratio (H, %)	45.6	43.7	47.5
	Intensity (A, %)	51.7	51	52.5
k=20% to 33.3%	Percentage of population vulnerable to poverty	31.0	29.3	32.6
k = 50%	Percentage of population in severe poverty	21.4	19.7	23.0

The percentage of the population that are vulnerable to multidimensional poverty is 31 percent and 21.4 percent of the population are considered to be in severe poverty.

As previously discussed, the MPI is a composite index. Hence, to determine the specific indicators contributing the most to deprivation, the index is examined at a disaggregated level. Figure 3.1 presents the censored headcount ratio of each indicator used in the composite index. Each bar represents the share of the population that is multidimensionally poor and also deprived in that indicator. This implies that the MPI can also be calculated as the summation of the weighted censored headcount ratios. Figure 3.1 shows the contribution of individual indicators to multidimensional poverty. For policy purposes, it clearly depicts the indicators which engender the largest deprivation for poor people in Ghana and any effort -to reduce deprivation in the affected areas will lead to a fall in the MPI.

Figure 3.1: National censored headcount ratios, 2017



The largest censored headcount ratio is found in the sanitation indicator (44.1%). About 40 percent of the population are multidimensionally poor and are not covered by any form of health insurance. Additionally, 27.5 percent are both multidimensionally poor and deprived in modern housing features (flooring and wall). However, it is evident that few people are multidimensionally poor and deprived in the ownership of small assets (13.2%). This share of the population does not have more than one small asset (radio, TV, telephone, bike, motorbike, refrigerator, or computer) and do not own a car.

3.2 MPI across Large Area Aggregates

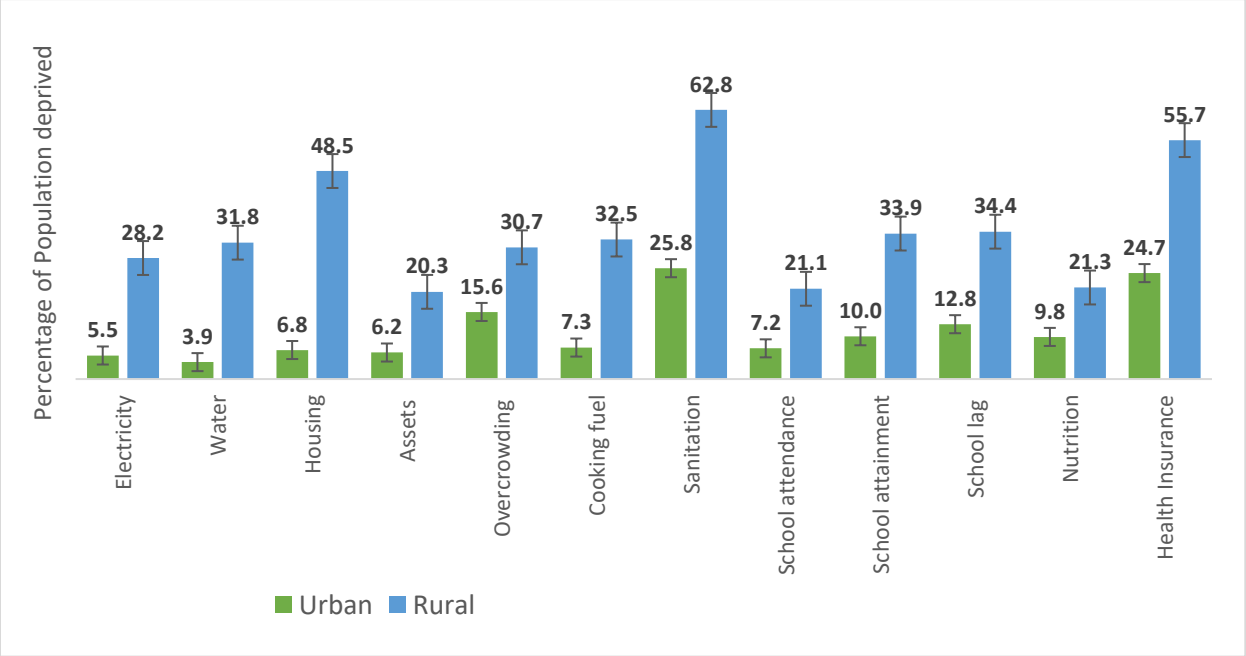
To appreciate the disparities in the distribution of multidimensional poverty across Ghana, the profile disaggregated the levels of poverty by rural and urban areas, the three ecological zones, and the administrative regions of the country (Table 3.2). The incidence of multidimensional poverty in the rural area (64.6%) is more than twice that of the urban areas (27.0%) and accounts for 49.6 percent of the incidence and intensity of poverty of the population.

Table 3.2: Multidimensional poverty by rural/urban areas, 2017

Area	Population share (%)	MPI			Incidence (%)			Intensity (%)		
		Value	Confidence interval		Value	Confidence interval		Value	Confidence interval	
Rural	49.59	0.349	0.331	0.366	64.6	61.9	67.2	54.1	53.1	55.1
Urban	50.41	0.124	0.113	0.136	27.0	24.7	29.2	46.3	45.4	47.1
National	100	0.236	0.220	0.246	45.6	43.7	47.5	51.7	50.9	52.5

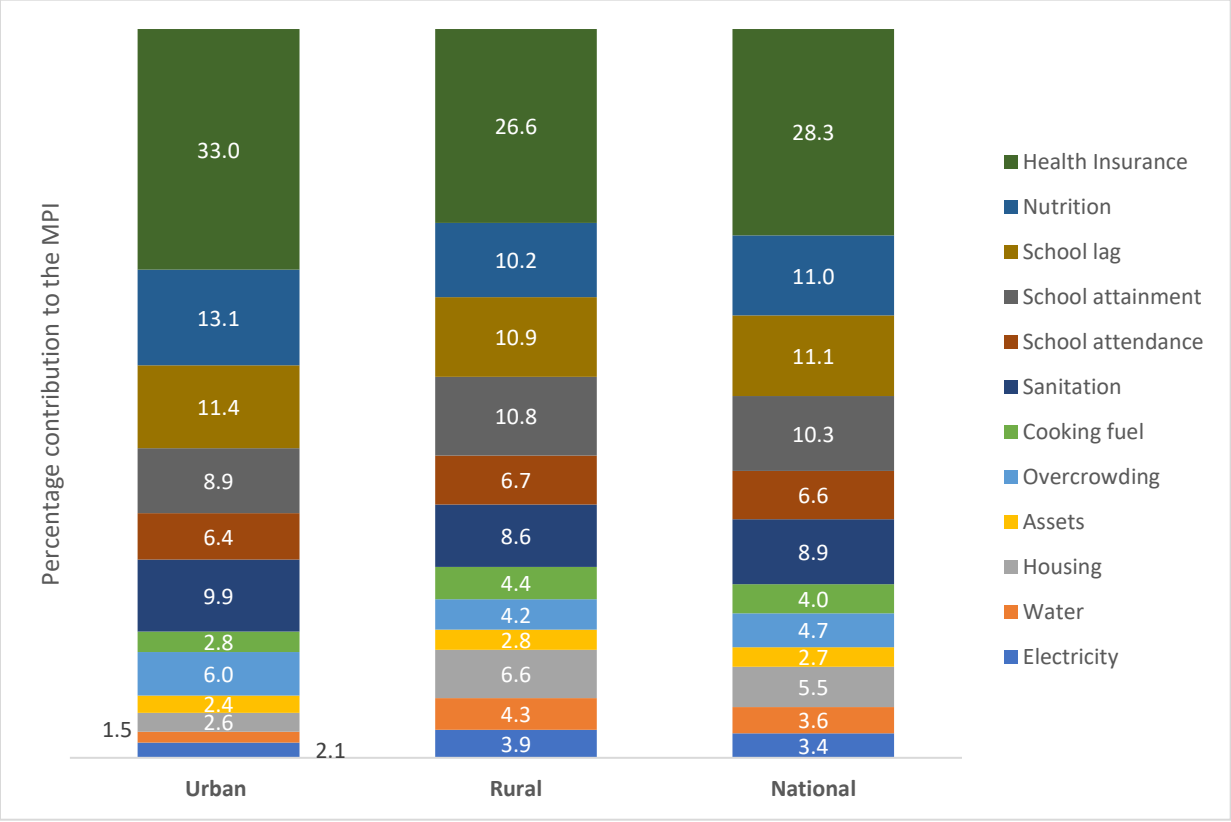
Figure 3.2 presents the levels of deprivation suggested by indicators depicting multidimensional poverty in rural and urban areas. From the figure, the largest differences are observed in the housing (42 percentage points), sanitation (37 percentage points) and health insurance (31 percentage points) indicators.

Figure 3.2: Censored headcount ratios by urban and rural areas, 2017



The percentage contribution of each indicator to the MPI within rural and urban areas is shown in Figure 3.3. The results suggest some minor differences in each indicator's contribution to the MPI in these specific localities. For example, the indicators with the highest contribution to MPI in rural areas are health insurance (26.6%), school lag (10.9%), school attainment (10.8%) and nutrition (10.2%). In the urban areas, health insurance (33.0%) contributes the highest deprivation to the MPI, followed by nutrition (13.1%) and school lag (11.4%).

Figure 3.3: Percentage contribution of each indicator to rural and urban MPI



Comparing the dimension of living standards between rural and urban areas, water contributes 1.5 percent to MPI of urban areas and contributes more than a double (4.3%) to the MPI in the rural areas. A similar trend is observed with the contribution of the housing indicator.

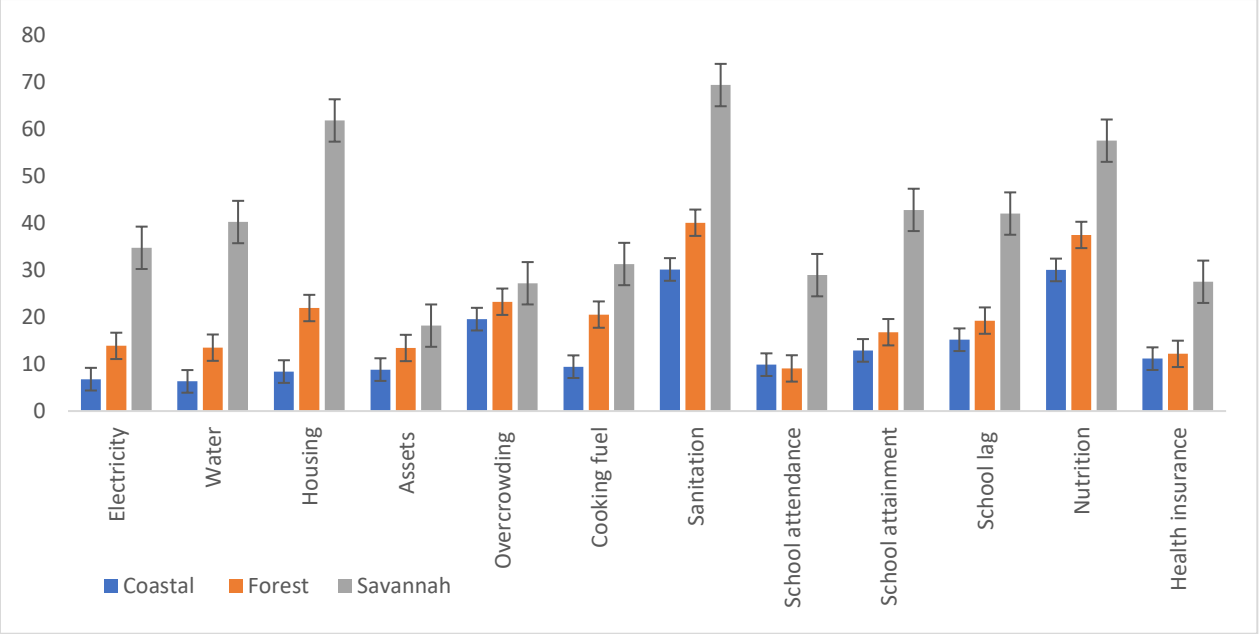
Table 3.3 shows the estimates for the National MPI, incidence of poverty, and intensity of poverty by ecological zone. The distribution suggests that the savannah zone has the highest level of MPI (0.403), incidence of poverty (70.9%) and intensity (56.8%), whiles the coastal zone registers the lowest levels of MPI (0.154), incidence (32.0%) and intensity (47.9%) of poverty. In all estimates, the analysis suggests an increasing trend in the distribution of the MPI, incidence and intensity of multidimensional poverty from the coastal to the savannah zones. The differences between ecological zones are statistically significant.

Table 3.3: Multidimensional poverty by ecological zones, 2017

Ecological zone	Population share (%)	MPI			Incidence (H) (%)			Intensity (A) (%)		
		Value	Conf. interval		Value	Conf. interval		Value	Conf. interval	
Coastal	29.5	0.154	0.138	0.169	32.0	29.1	35.0	47.9	46.8	49.0
Forest	46.7	0.203	0.188	0.217	41.3	38.5	44.0	49.2	48.3	50.0
Savannah	23.8	0.403	0.377	0.429	70.9	67.5	74.4	56.8	55.4	58.3
National	100	0.240	0.220	0.250	45.6	43.7	47.5	51.7	50.9	52.5

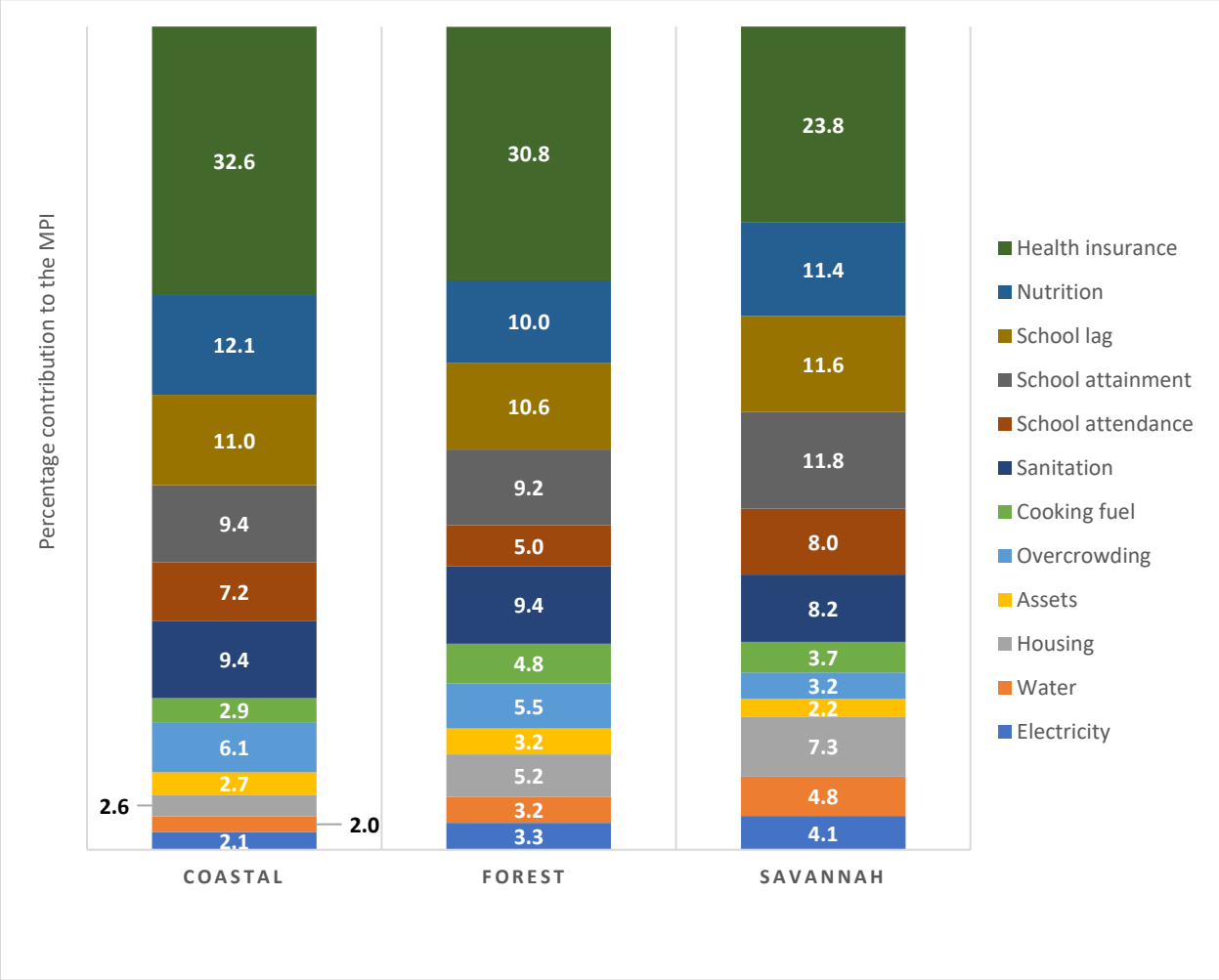
The levels of deprivation of all indicators are higher in the savannah compared to the remaining two ecological zones. However, deprivations are lower in almost all the indicators in the coastal zone except for school lag which is lowest in the forest zone. It can be deduced from Figure 3.4 that the levels of deprivation in the coastal and forest zones are similar (no statistically significant differences), except in housing, water, electricity, cooking fuel, and sanitation. This is not the case when a comparison from the two zones are carried out with the savannah zone: statistically significant differences exists in all the indicators except for asset and overcrowding indicator.

Figure 3.4: Censored headcount of indicators across ecological zones



The percentage contributions of each indicator to the MPI for each of the ecological zones (Figure 3.5) reveal that health insurance, nutrition, and school lag are the indicators that contribute the most to the MPI in each of the zones. In the case of the coastal zone, the percentage contribution of water is the lowest, whereas the asset indicator provides the lowest contribution to the MPI in the forest and the savannah zones.

Figure 3.5: Percentage contribution of each indicator to MPI for ecological zones, 2017



3.3 Multidimensional Poverty by Region

The regional distribution of incidence and intensity of poverty are presented in Table 3.4 and Figure 3.8. The incidence of multidimensional poverty is highest in the Northern region (80.8%). The broad pattern suggests that the Northern, Upper East and Upper West Regions have the highest levels of MPI and incidence and intensity of poverty. For these regions, the MPI is (0.491, 0.359 and 0.348, respectively, while the Greater Accra and the Ashanti Regions registered the lowest levels of poverty (MPI of 0.102 and 0.147 respectively).

Table 3.4: Regional distribution of incidence of poverty and intensity

Region	MPI	Confidence Interval		Headcount (%)	Confidence Interval		Intensity (%)	Confidence Interval	
Western	0.235	0.203	0.267	47.6	42.2	53.1	49.4	47.7	51.1
Central	0.239	0.211	0.267	47.6	42.5	52.7	50.1	48.8	51.5
Greater Accra	0.102	0.083	0.121	22.5	18.5	26.4	45.5	43.9	47.1
Volta	0.306	0.253	0.360	58.2	50.6	65.8	52.7	49.7	55.7
Eastern	0.217	0.191	0.242	44.0	39.1	48.9	49.3	47.5	51.1
Ashanti	0.147	0.125	0.170	31.1	26.5	35.6	47.5	46.1	48.9
Brong Ahafo	0.255	0.222	0.288	49.4	44.1	54.7	51.6	49.7	53.5
Northern	0.491	0.454	0.527	80.8	76.9	84.7	60.7	58.3	63.2
Upper East	0.359	0.327	0.391	68.0	62.6	73.4	52.8	51.3	54.3
Upper West	0.348	0.307	0.389	65.5	59.9	71.1	53.1	50.6	55.7

Figure 3.6 presents the regional share of the population and the corresponding percentage of the poor in each region. With a population share of 18.5 percent, the Ashanti Region has 13 percent of the multidimensionally poor people in Ghana. The Northern Region has the largest proportion (17%) of the poor and has a population share of 9.3 percent. The lowest proportion of the poor lives in the Upper West region and the regions has a population share of 2.9 percent.

Figure 3.6: Population share and composition of the poor per region

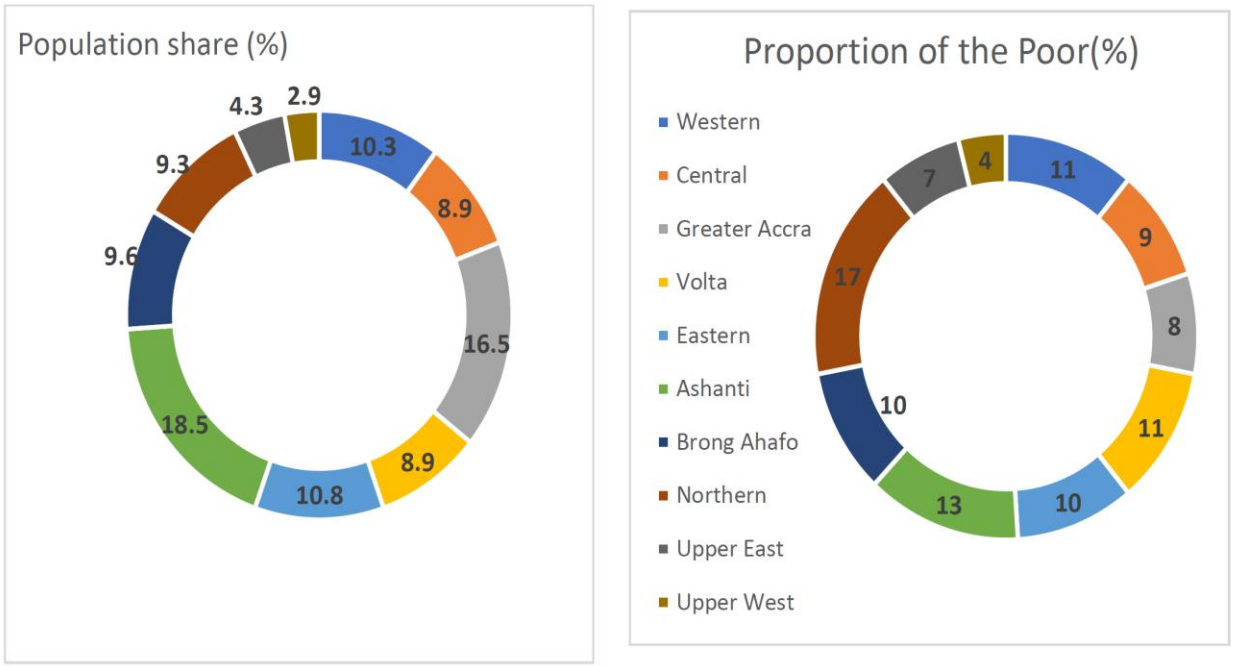


Figure 3.7: Spatial distribution of poverty incidence and poverty intensity by region

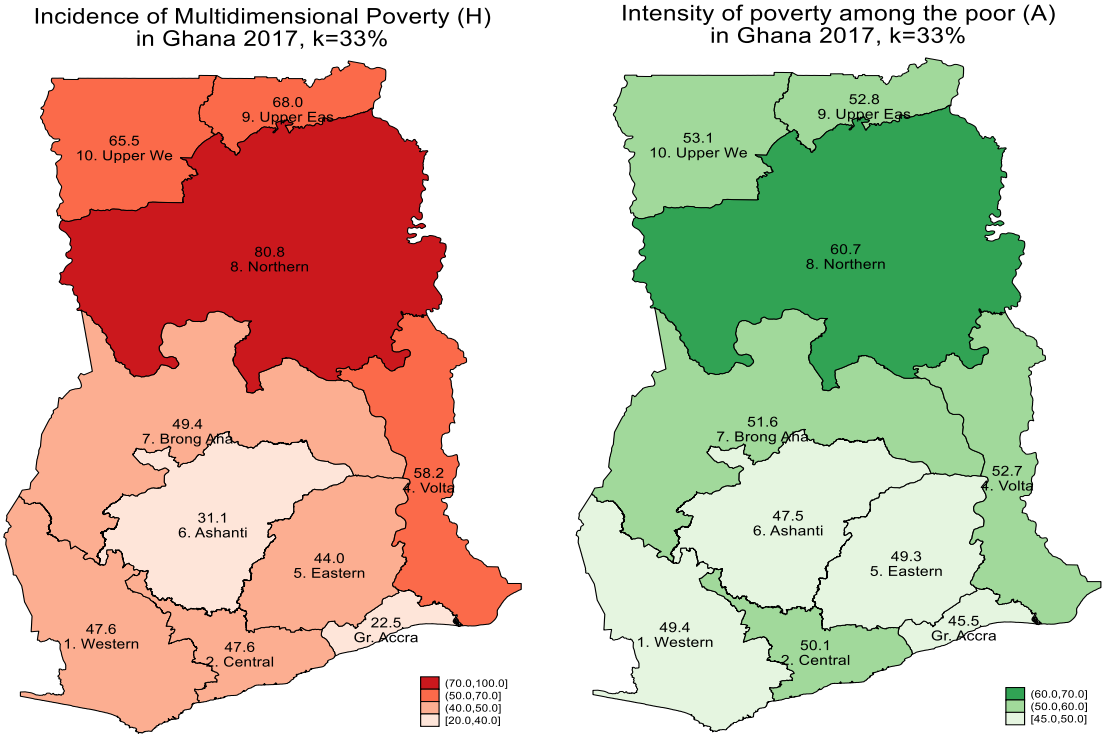
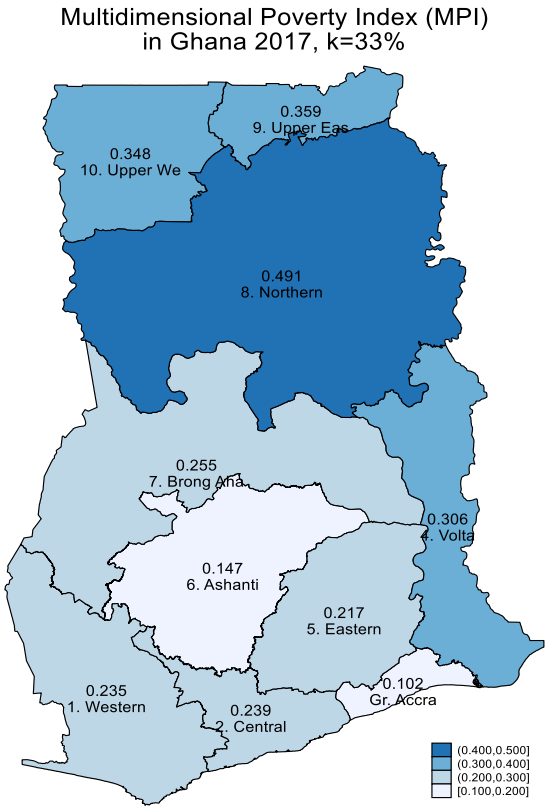
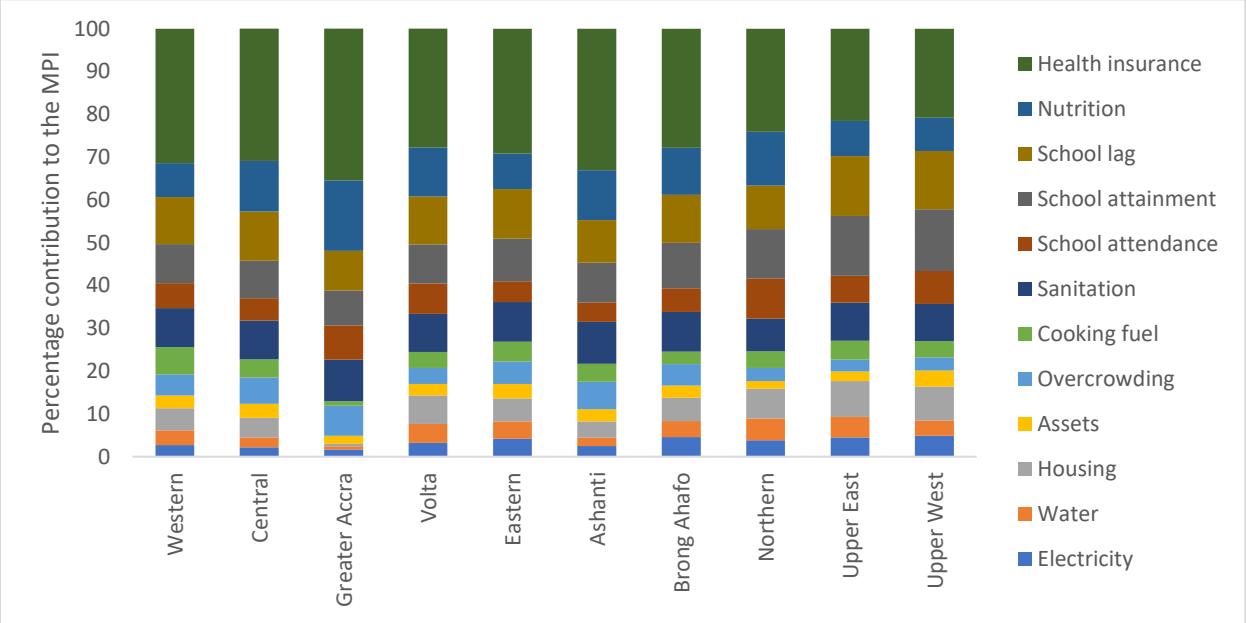


Figure 3.7a: Spatial distribution of MPI by region



The distribution of percentage contribution of each indicator to the regional MPI reveals a similar pattern across all the ten regions. The pattern generally indicates that health insurance, nutrition, school attainment, school lag and sanitation are the indicators that contribute most to MPI in each of the ten regions. Alternatively, assets, electricity and water contribute less to the MPI across all the ten administrative regions.

Figure 3.8: Percentage contribution of each indicator to the regional MPI



3.4 MPI by Gender and Age of the Head of Household

In Table 3.5, the MPI, incidence and intensity of poverty are shown for male and female headed households. The male headed households' headcount ratio is about 7 percentage points higher than that of the female headed households. Similarly, the distribution shows clear evidence of male headed households being more multidimensionally poor than their female counterparts. However, it is worth noting that almost 71 percent of households in Ghana are headed by males.

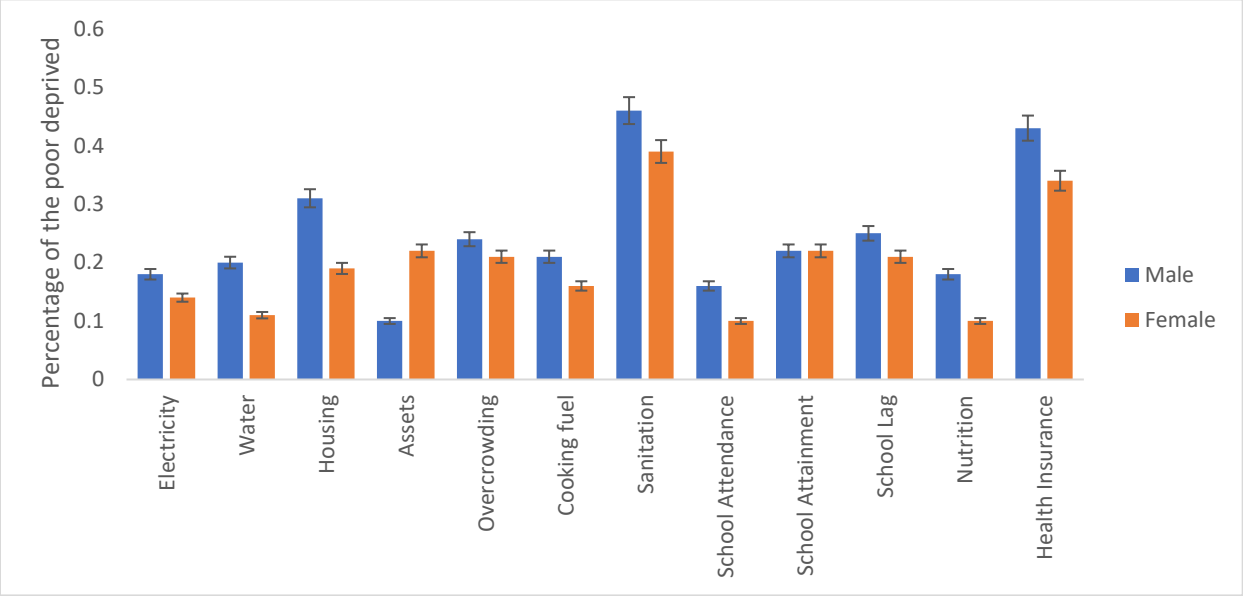
Table 3.5: Multidimensional poverty by gender, 2017

	Male				Female			
Index	Population share (%)	Value	Confidence Interval (95%)		Population share (%)	Value	Confidence Interval (95%)	
MPI		0.251	0.237	0.265		0.199	0.186	0.212
Incidence (H)	71%	47.7%	45.4%	49.9%	29%	40.6%	38.1%	43.2%
Intensity (A)		52.7%	51.7%	53.7%		49.0%	48.2%	49.8%

Figure 3.9 presents the MPI distribution for each indicator across the male and female headed households. For the female distribution, the sanitation indicator contributes the most to

deprivation, followed by health insurance. However, for the male distribution, there is no clear-cut difference between sanitation and insurance due to their overlapping confidence intervals.

Figure 3.9: Censored headcount ratios by gender of the household head, 2017

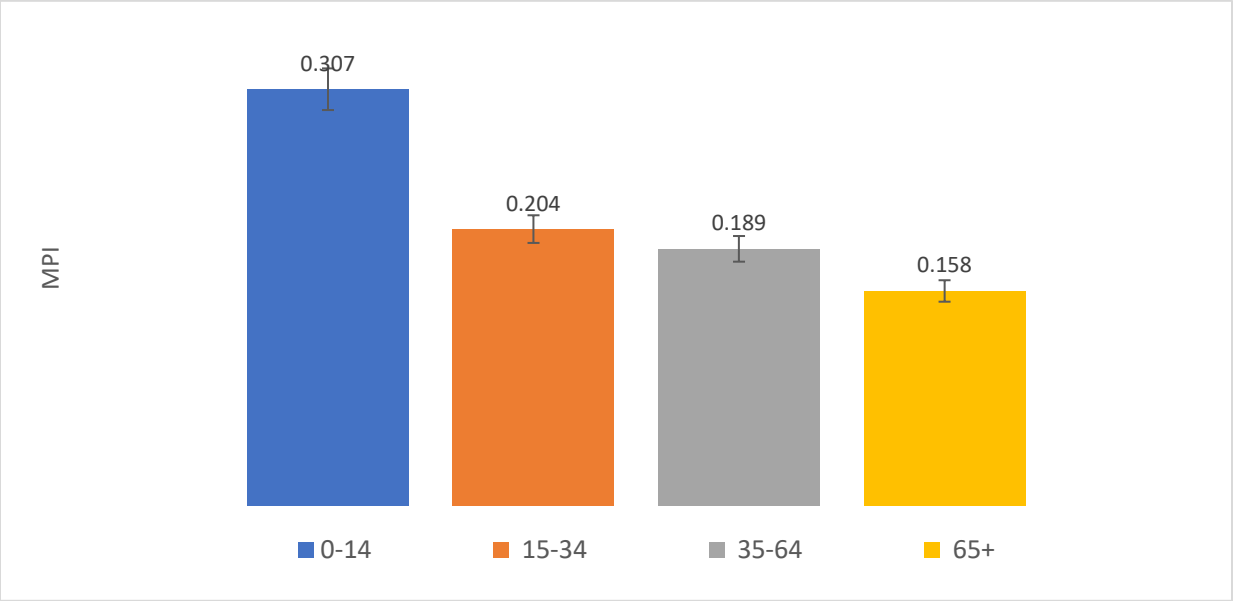


School attainment is equal for both gendered headed households, while female headed households seem to be less deprived in all other indicators, except for assets where male headed households are extremely less deprived than their female counterparts.

3.5 MPI by Age Decomposition

This section presents analysis of multidimensional poverty across age categories. As suggested by Figure 3.10, multidimensional poverty is prevalent among children under 15 years, with an MPI of 0.307. The outcome may appear contrary to the belief that the risk of poverty is prevalent among the elderly. The results suggest that households without a child are likely to be less poor.

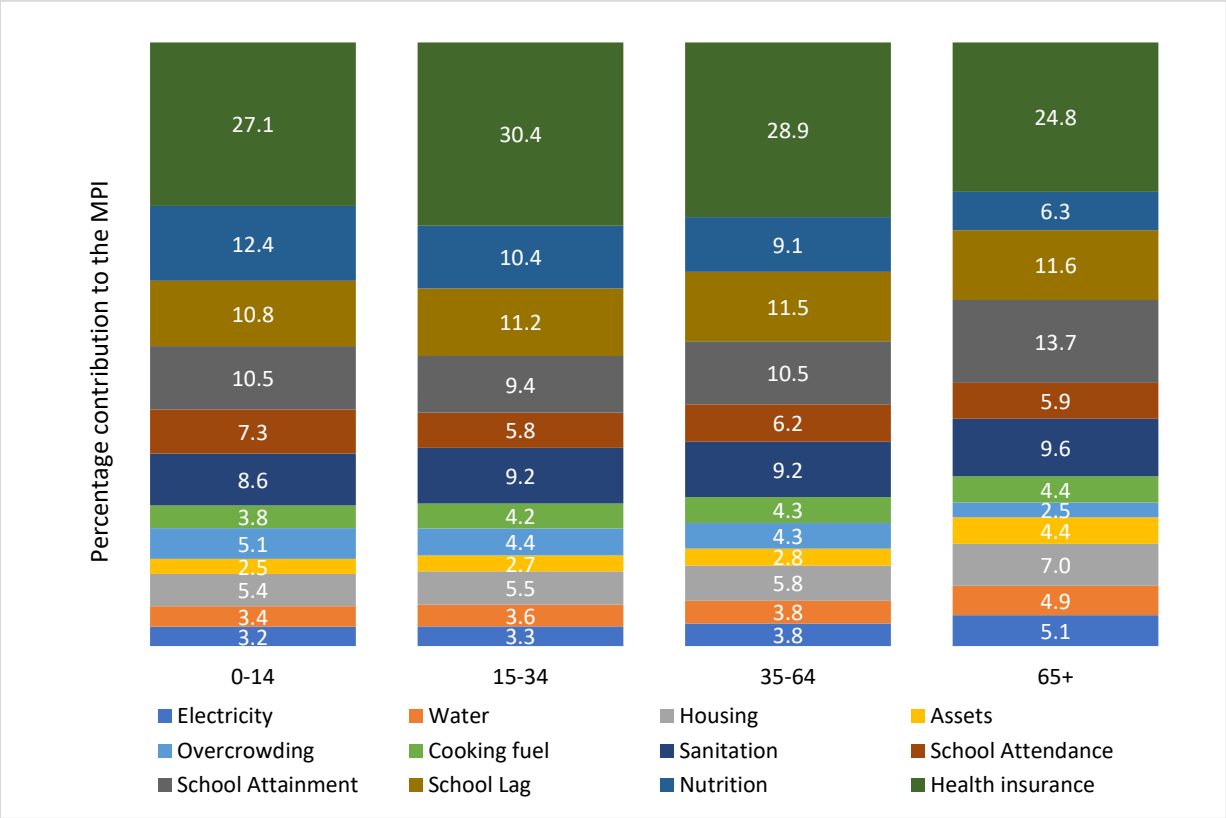
Figure 3.10: Multidimensional poverty by age groups



The elderly (persons aged 65+) are the least poor with an MPI of 0.158 while the working age category (persons aged 35-64 years) also have a relatively low MPI of 0.189. Undoubtedly, the result shows that children are mostly affected by multidimensional poverty.

It is very useful to have the MPI broken down across indicators for policy intervention. This disaggregation shows that children are deprived most in access to health insurance (27.1%), Nutrition (12.4%), School lag (10.8%) and school attainment (10.5%). As indicated by Figure 3.11, children additionally experience more deprivation in overcrowding (5.1%) compared to the youth (15-34 years), the adult (35-64 years) and the aged (65+ years). The three upper categories have a deprivation rate of 4.4 percent, 4.3 percent and 2.5 percent respectively. Access to health insurance remains the most deprived indicator across all the age categories. The aged are the most deprived in sanitation facility (9.6%). There is the need to review the type of sanitation facilities available to the aged.

Figure 3.11: Percentage contribution of indicators across age groups



3.6 Monetary Poverty vs Multidimensional Poverty

Given that monetary poverty assessment using consumption expenditure has been the conventional measure of poverty in Ghana, it is crucial to compare the two measures in this contextual analysis. This section presents the comparisons of the distributions and patterns of the MPI with consumption expenditure poverty estimates at different levels of disaggregation. The analyses are conducted at two levels. First, the national overview indicates how the two measures intersect. The second focuses on the broader area aggregates (rural, urban, ecological zones), and the administrative regions of the country. Figure 3.12 indicates that the national incidence of multidimensional poverty of 45.6 percent is almost twice the national incidence of consumption expenditure poverty of 23.4 percent. It is interesting to note from Figure 3.13 that 19.3 percent of Ghanaians are concurrently poor in both measures of poverty. Figure 3.14 compares the levels of multidimensional and monetary poverty across large area aggregates of the country. The figure shows substantial differences in the levels of the two measures of poverty. As indicated by the error bars, the differences are statistically significant across all the areas.

Figure 3.12: Comparison between monetary and non-monetary poverty

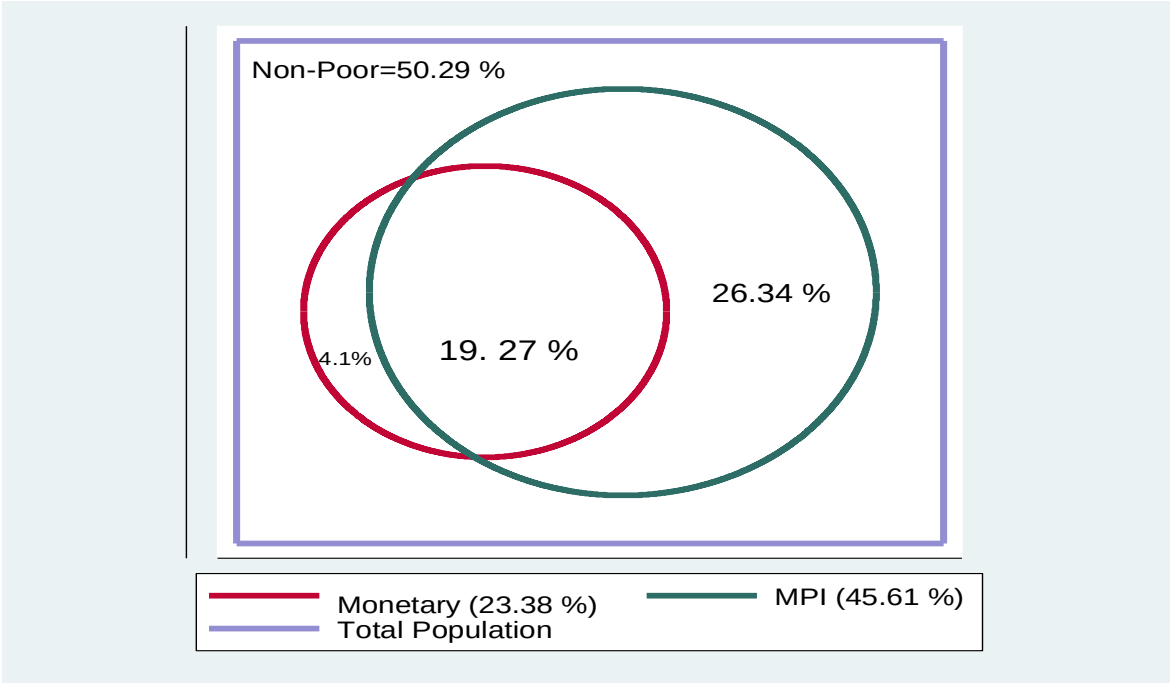
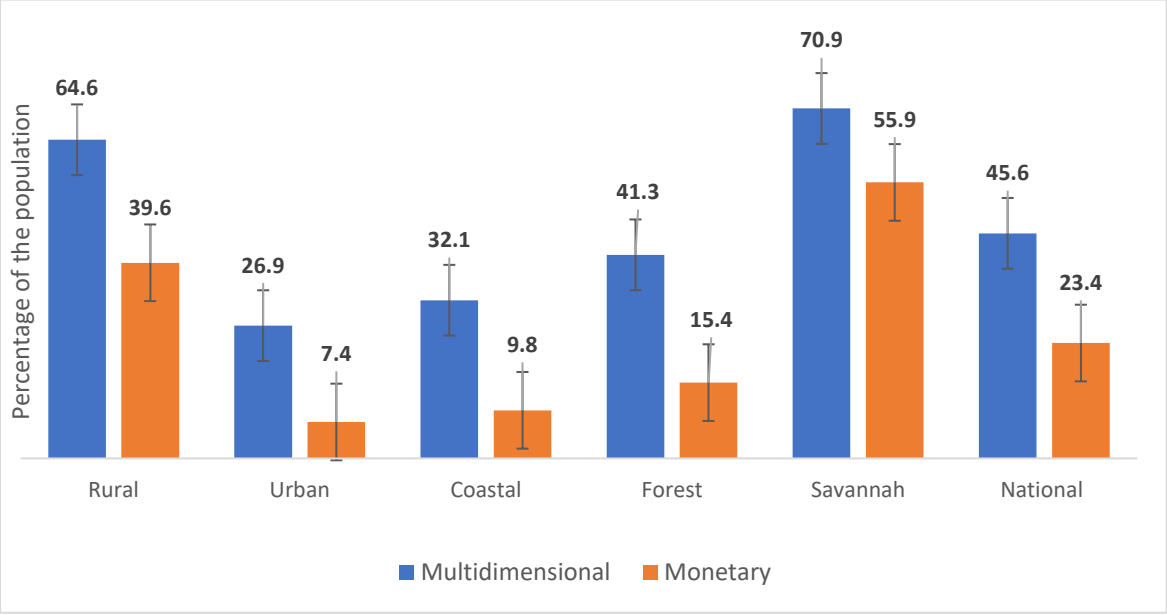


Figure 3.13: MPI and monetary poverty across area aggregates



The comparison of the two measures of poverty across administrative regions depicts broader similarities in the general pattern of poverty, albeit with some notable differences. For instance, both poverty measures suggest that Northern, Upper East and Upper West Regions have the

highest poverty levels, followed by the Volta and Brong-Ahafo Regions. Greater Accra and Ashanti Regions also registered the least poverty levels using the two approaches. However, using the MPI, the Northern region is the poorest, while by monetary poverty, the poorest region is the Upper West. Additionally, while the income-based measure illustrates that the Central Region has a lower level of poverty compared to the Western Region, the MPI index suggests that the two regions have the same levels of multidimensional poverty. Overall, the monetary and non-monetary measures indicate that there are substantial differences in the regional levels of poverty with multidimensional poverty being generally higher than the income measure. The error bars indicate statistically significant differences among eight regions of the country except for Upper East and Upper West Regions.

The spatial distribution of the population that experience conjoined poverty are also shown in Figure 3.15. As expected, regions with higher incidence of both measures of poverty recorded higher incidence of the double burden of monetary and multidimensional poverty.

The Northern Region has the highest proportion of population that are jointly poor (57.7%) and followed by the Upper East Region (54.3%).

Figure 3.14: Multidimensional and monetary poverty across administrative regions

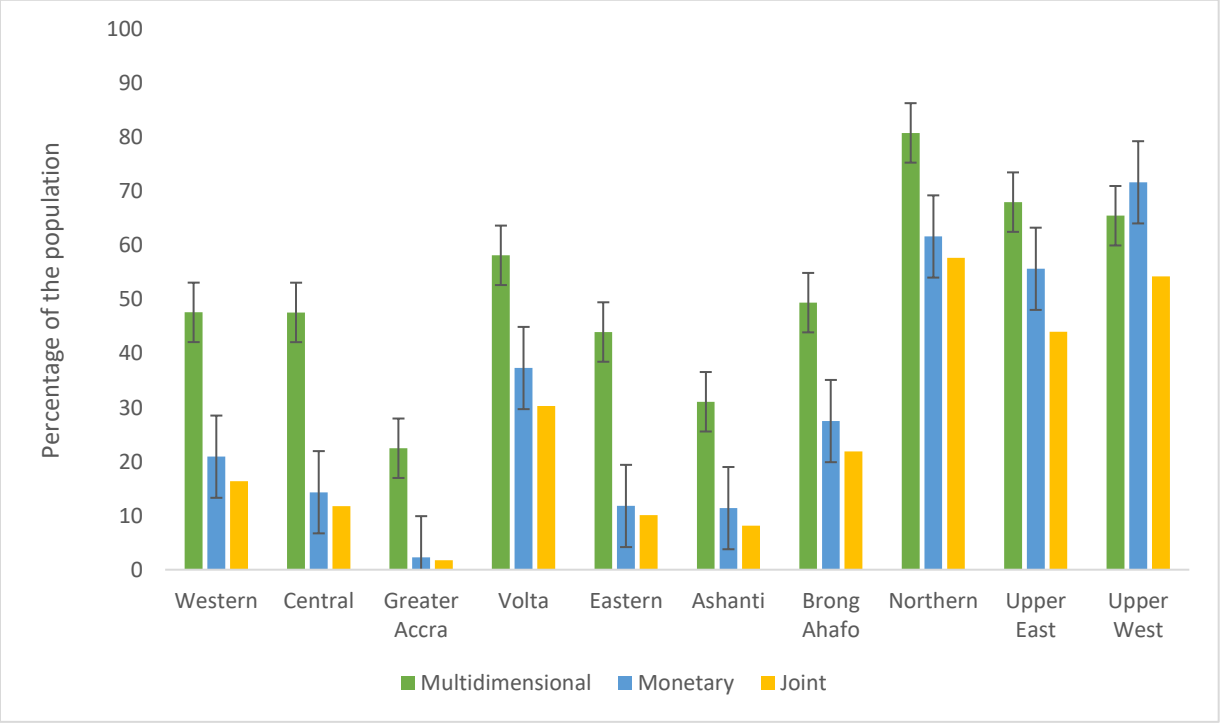
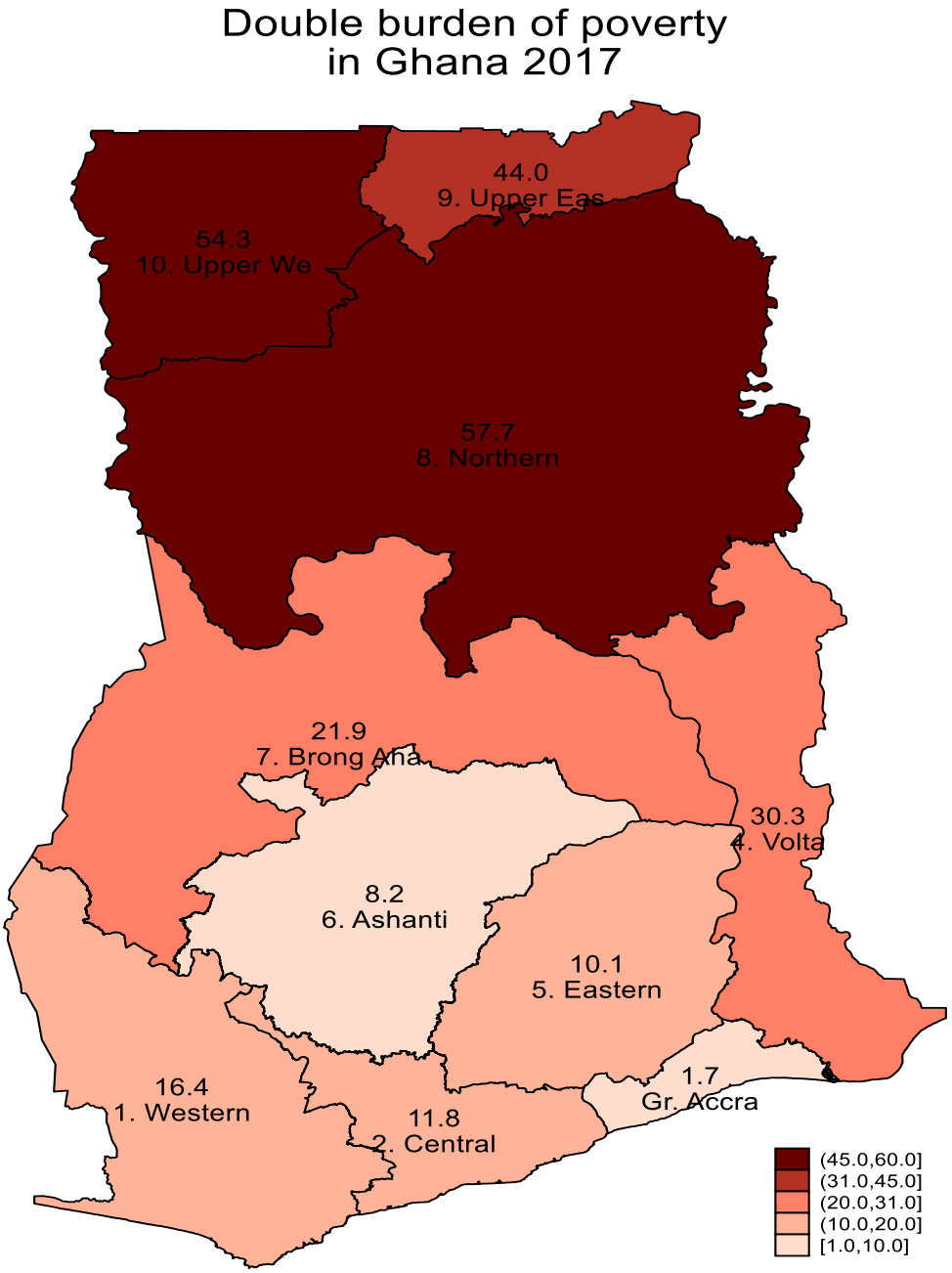


Figure 3.15: Distribution of double burden of poverty by region



CHAPTER FOUR
REGIONAL ANALYSES

This chapter examines the regional distribution of multidimensional poverty in Ghana.

4.1 Western Region

Western Region has an MPI of 0.235 which is almost the national MPI of 0.236. and approximately 48 percent of the population are multidimensionally poor. However, the incidence of multidimensional poverty is 2.0 percentage points more than the national value. The intensity of poverty in the region is about 49.4 percent implying that the population identified to be multidimensionally poor is deprived, on average, in 49.4 percent of the weighted indicators. This is about 2.3 percent lower than the national percentage. The Western region is the fourth most populated region in the country with 10.3 percent of the population, following the Ashanti (18.5%), Greater Accra (16.5%), and Eastern (10.8%) regions. Approximately 1.51 million MPI poor people reside in the region. This represents 10.7 percent of all MPI poor people in Ghana.

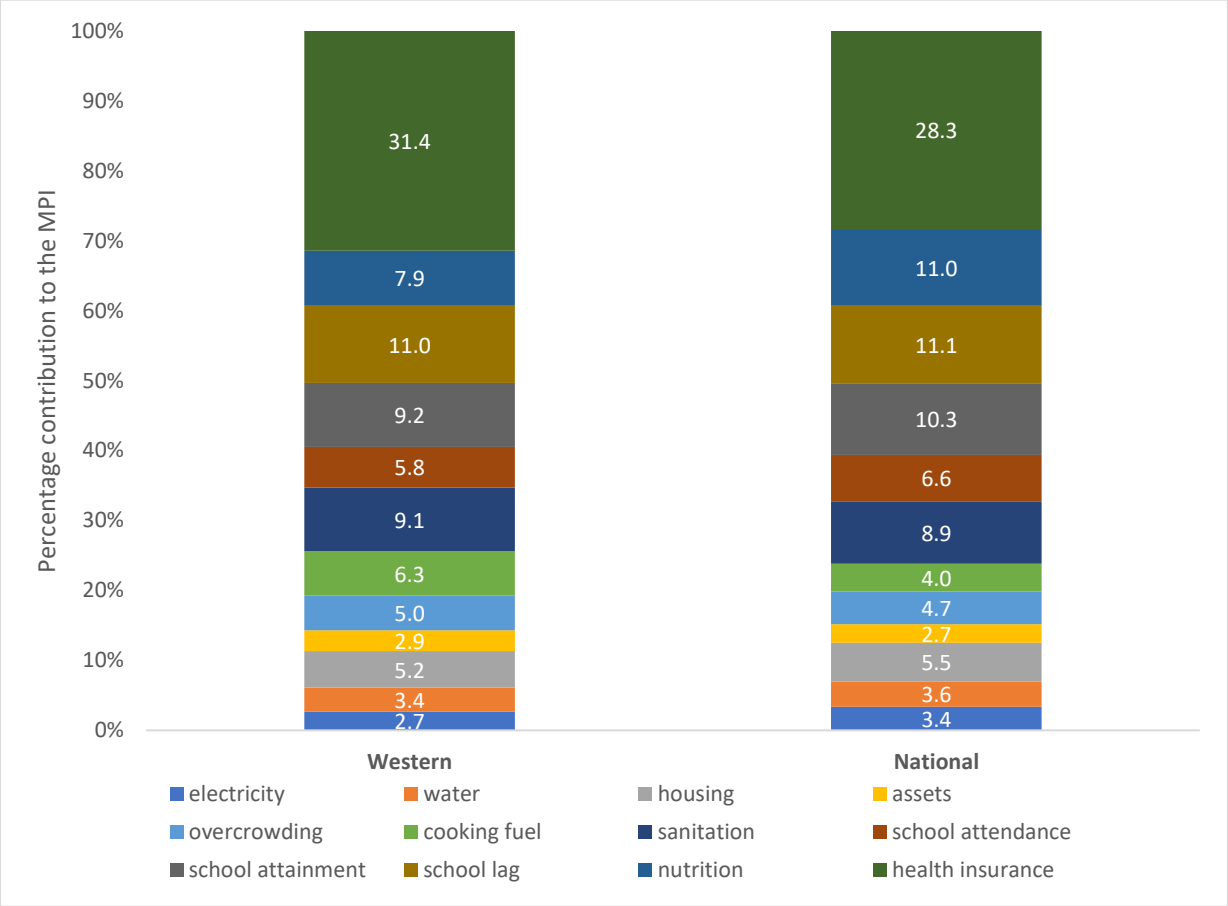
Table 4.1: MPI, headcount ratio and intensity - Western Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	**0.235**	**47.6**	**49.4**
Central	0.239	47.6	50.1
Greater Accra	0.102	22.5	45.5
Volta	0.306	58.2	52.7
Eastern	0.217	44.0	49.3
Ashanti	0.147	31.1	47.5
Brong Ahafo	0.255	49.4	51.6
Northern	0.491	80.8	60.7
Upper East	0.359	68.1	52.8
Upper West	0.348	65.5	53.1

The insurance indicator (31.4%) contributes the most to multidimensional poverty in the Western Region. Although health insurance is the largest contributor to deprivation at the national level, it contributes more to poverty in the Western Region. The indicator is weighted at 1/6 of the measure but is responsible for about 31percent of the total MPI for the region, which is almost twice its weight. Other indicators with high contributions to poverty in the region include school lag (11%), school attainment (9.2%), sanitation (9.1%) and nutrition (7.9%). Electricity contributes the least to the MPI in the Western Region with 2.7 percent. This is followed by assets (2.9%) and water (3.4%). From a descending order, school lag, nutrition, school attendance, housing, water and electricity contribute more to the national MPI compared to their corresponding contribution to the region's MPI.

Between 2011 and 2017, the proportion of MPI poor people in the Western Region reduced by 11.2 percentage points, from 58.8 percent in 2011 to 47.6 percent in 2017. This reduction is statistically significant at 1 percent level. Using 2020 projected regional population figure, the decline represents an exit from poverty for nearly a third of a million people from the Western Region. There is also a statistically significant decrease in the MPI, as well as a statistically significant fall in the intensity of poverty.

Figure 4.1: Percentage contribution by indicator - Western Region



There was a statistically significant improvement in indicators such as electricity, water, cooking fuel, sanitation, school attainment, school lag, nutrition and health insurance between 2011 and 2017. The greatest improvement was in electricity, which suggests that the percentage of poor people who lacked electricity reduced by more than 24 percentage points. However, the same period recorded a worsening of deprivation in housing, with the percentage of people who were deprived increasing by almost 3 percentage points, although not significant. Despite the general improvement in the reduction in multidimensional poverty in the Western Region, more needs to be done to reduce further, the millions of people in the region who are MPI poor.

4.2 Central Region

Similar to the Western region, the MPI for the Central Region is also close to that of the National MPI. The headcount ratio of multidimensional poverty, however, is just 0.01percent less than that of the Western Region but 2 percent more than the national rate. With a headcount ratio of 47.6 percent, the Central Region has approximately 48 percent of its population being multidimensionally poor. The intensity of poverty (50.14%) in the region is slightly less than the national level (51.74%) and exceeds that of the Western Region (49.4%) by just 0.74 percent. The intensity implies that those who are multidimensionally poor in the Central Region are deprived, on average, in 49.4 percent of the weighted indicators. The population share of the Central Region to the total population is 8.9 percent. According to the headcount ratio, about 1.24 million MPI poor people reside in the region. This represents about 8.8 percent of all the MPI poor people in Ghana.

In the Central Region, insurance (30.9%) contributes the most to the MPI. This is close to thrice the contribution of the next most deprived indicator, nutrition. Nutrition contributes 11.8 percent to MPI in the region, closely followed by school lag (11.5%). Other indicators that contribute moderately to MPI include sanitation (9.0%), school attainment (8.7%), overcrowding (6.2%) and school attendance (5.3%). Similar to the Western Region, electricity (2.2%) contributes the least to the region's MPI. This is followed by access to potable water (2.4%) and assets (3.0%). Compared to the national figures, insurance, nutrition, school lag, overcrowding, cooking fuel and assets have relatively higher contributions to the Central Region's MPI than to the national MPI.

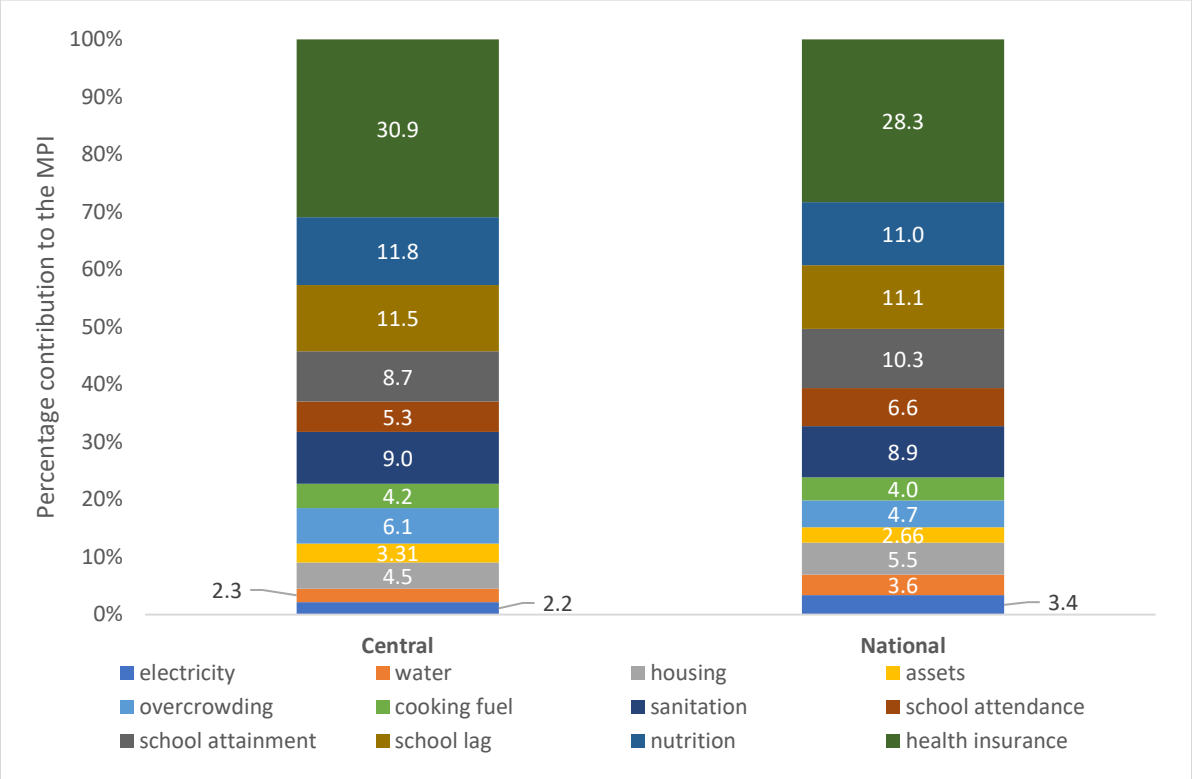
Between 2011 and 2017, the proportion of MPI poor people in the Central Region reduced by 9.3 percentage points, from 56.9 percent in 2011 to 47.6 percent in 2017. This reduction is statistically significant at 1 percent level. Using 2020 projected regional population figure, approximately a quarter of a million people escaped poverty in the region.

Table 4.2: MPI, headcount ratio and intensity - Central Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	0.235	47.6	49.4
Central	**0.239**	**47.6**	**50.1**
Greater Accra	0.102	22.5	45.5
Volta	0.306	58.2	52.7
Eastern	0.217	44.0	49.3
Ashanti	0.147	31.1	47.5
Brong Ahafo	0.255	49.4	51.6
Northern	0.491	80.8	60.7
Upper East	0.359	68.1	52.8
Upper West	0.348	65.5	53.1

There was a statistically significant decrease in the MPI by 5.1 percentage points while the intensity of poverty fell by 0.8 percentage points. The decline, however, was not statistically significant. A number of indicators suggest some statistically significant improvement over the period. These include: electricity, water, assets, cooking fuel, sanitation, school attainment, school lag and health insurance. The cooking fuel indicator had the highest significant decrease by almost 16 percentage points. This is followed by electricity and water which have 14.5 and 13.1 percentage points decrease in deprivation. Housing, school attendance and nutrition, had an increase in the number of people who were deprived in these indicators. However, only housing was statistically significant with a 10.6 percentage points increase in deprivation.

Figure 4.2: Percentage contribution by indicator - Central Region



4.3 Greater Accra Region

With an MPI of 0.102, 10.2 percent the regional capital of Ghana has the lowest MPI of all the regions in Ghana. The figure is also much lower than the national MPI of 0.236. The headcount ratio of multidimensional poverty in the Greater Accra Region is 22.5 percent implying that about 23 percent of the region's population is multidimensionally poor. This is also well below the national headcount ratio of 45.6 percent and lower than all other regions. The intensity of poverty in the region is 45.5 percent, meaning that those who have been identified as multidimensionally poor are deprived, on average, in 45.5 percent of the weighted indicators. The region's intensity of poverty is the lowest among all regions and also lower than the national figure. The Greater Accra region has the second largest population share (16.5%) after the Ashanti region (18.5%). It

is estimated that more than 1.14 million MPI poor people live in the Greater Accra region, which represents about 8 percent of all MPI poor people in Ghana.

Similar to its high contribution to deprivations in the previous regions, insurance continues to be the indicator that contributes most to the MPI in the Greater Accra Region (35.5%). This contribution is much greater than the national estimate of 28.3 percent. Nutrition (16.4%) constitutes a little under half of the contribution by the insurance indicator. The nutritional deprivation of the region is also greater than its national contribution. Other moderate contributors to the region's MPI include sanitation (9.7%), school lag (9.3%), school attainment (8.2%), school attendance (7.9%) and overcrowding (7%). Housing (0.6%) contributes the least to the region's MPI followed by access to potable water (0.8%).

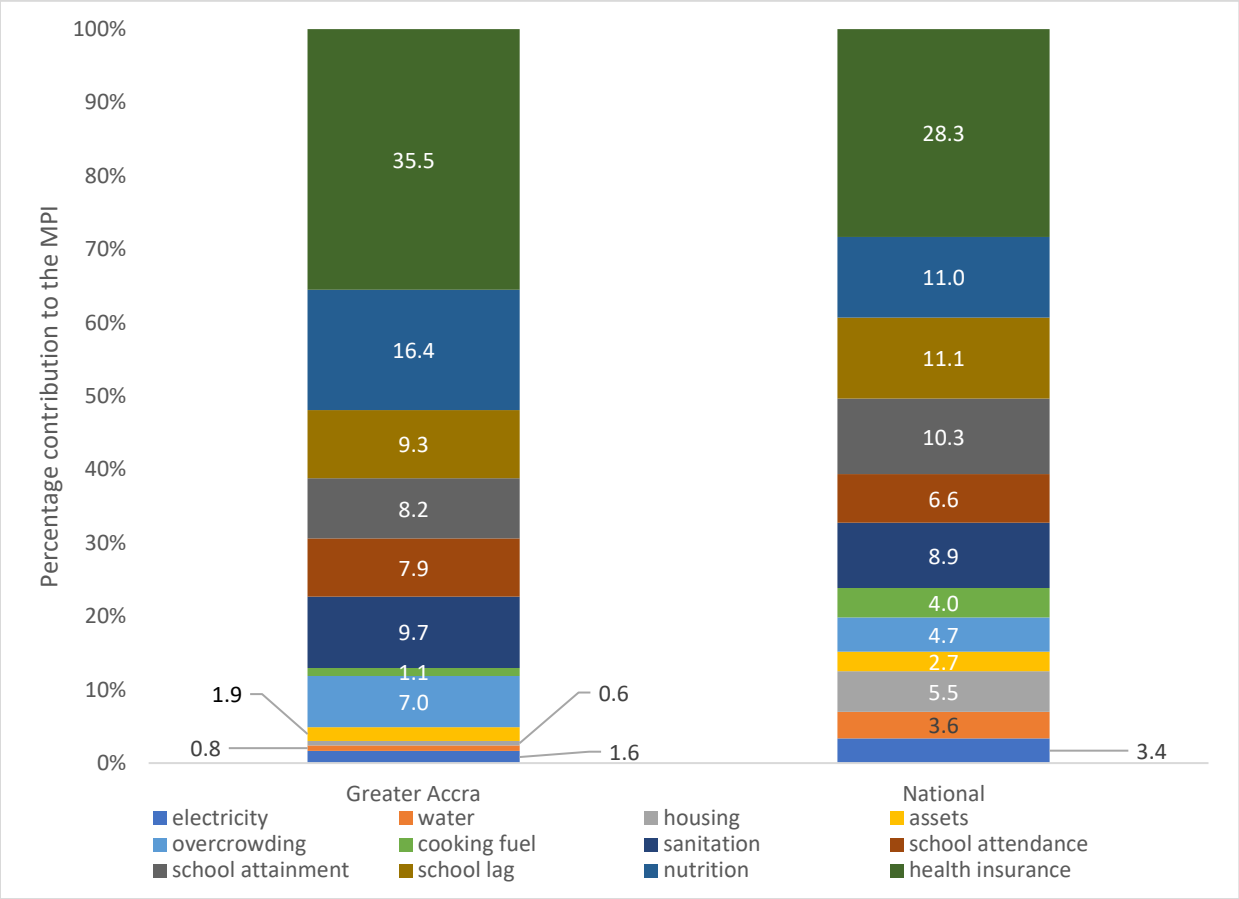
Table 4.3: MPI, headcount ratio and intensity - Greater Accra Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	0.235	47.6	49.4
Central	0.239	47.6	50.1
Greater Accra	**0.102**	**22.5**	**45.5**
Volta	0.306	58.2	52.7
Eastern	0.217	44.0	49.3
Ashanti	0.147	31.1	47.5
Brong Ahafo	0.255	49.4	51.6
Northern	0.491	80.8	60.7
Upper East	0.359	68.1	52.8
Upper West	0.348	65.5	53.1

The Greater Accra region experienced 4.7 percentage points fall in MPI poor people from 27.2 percent to 22.5 percent between 2011 and 2017. However, the decline was statistically insignificant. This 4.7 percentage points fall represents about 238,000 people in the region who have been lifted out of poverty. The MPI also decreased by just 2.2 percentage points while the intensity of poverty also decreased by 0.3 percentage points. These were however statistically insignificant.

Over the six-year period (2011-2017), there has been a statistically significant improvement in deprivation indicators such as electricity, assets, cooking fuel, school attainment, and school lag in the Greater Accra region. Of these, the cooking fuel indicator recorded the highest improvement with the percentage of poor people who use solid fuels in enclosed spaces reducing by 8.2 percentage points. School attendance is the only indicator which suggests a statistically significant increase. Thus, between 2011 and 2017 school attendance worsened by close to 3.6 percentage points.

Figure 4.3: Percentage contribution by indicator - Greater Accra



4.4 Volta Region

The Volta Region is one of the four regions with an MPI greater than the national MPI. The MPI for the region is 0.306 which is about 0.07 percent above the national MPI. The headcount ratio of multidimensional poverty in the Volta Region is 58.2 percent. This implies that 58.2 percent of the region's population is multidimensionally poor. The figure exceeds the national and Greater Accra rates by about 12.6 percent and 35.7 percent respectively. The intensity of poverty in the region is 52.7 percent, which means that those who were identified to be multidimensionally poor are deprived, on average, in six of the 12 weighted indicators. With a population share of 8.9 percent, there are about 1.6 million inhabitants who are multidimensionally poor. This represents about 11 percent of all MPI poor people in Ghana.

The indicator with the highest contribution to the region's MPI is health insurance (27.8%). Other indicators contributing significantly to the region's MPI include nutrition (11.5%), school lag (11.2%), school attainment (9.2%), sanitation (8.9%) and school attendance (7.1%). The least contributing indicator is assets (2.7%). Electricity (3.3%), cooking fuel (3.7%) and overcrowding (3.7%) also contribute relatively little to the regions MPI. The contribution of health insurance to

the region's MPI (27.7%) is relatively lower than its contribution to the national MPI (28.3%), although, only less than a percentage (0.54%) difference. Other indicators that contribute less to the region's MPI than to the national MPI include school attainment (9.2%), cooking fuel (3.7%), overcrowding (3.73%) and electricity (3.3%)

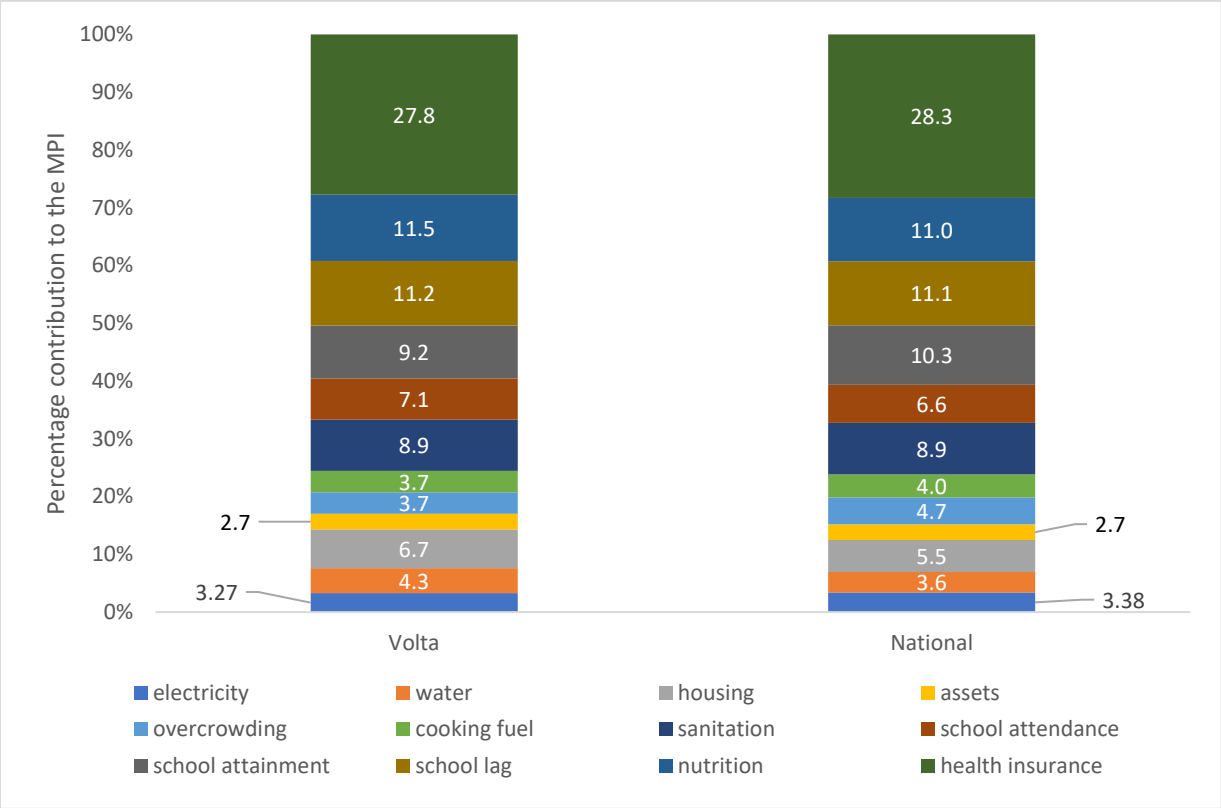
Although not statistically significant, the proportion of MPI poor people in the Volta Region reduced by 6.8 percentage points, from 65 percent in 2011 to 58.2 percent in 2017. This represents an escape from poverty for about 183,000 people in the Volta region. The MPI and intensity of poverty fell by 4.0 and 0.6 percentage points respectively and these were however statistically insignificant.

Table 4.4: MPI, headcount ratio and intensity - Volta Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	0.235	47.6	49.4
Central	0.239	47.6	50.1
Greater Accra	0.102	22.5	45.5
Volta	**0.306**	**58.2**	**52.7**
Eastern	0.217	44.0	49.3
Ashanti	0.147	31.1	47.5
Brong Ahafo	0.255	49.4	51.6
Northern	0.491	80.8	60.7
Upper East	0.359	68.1	52.8
Upper West	0.348	65.5	53.1

Similar to other regions, not all indicators saw an improvement in deprivation. The indicators that improved and were also statistically significant included electricity, water, assets, cooking fuel and school attainment. The greatest improvement was in electricity in which the percentage of poor people who lack electricity was reduced by about 20.6 percentage points. School attainment and cooking fuel also had reductions of 14.7 and 14.1 percentage points respectively. Indicators such as housing, school attendance and nutrition worsened, thus increasing the percentage of poor people in these indicators in the Volta Region. However, these were not significant.

Figure 4.4: Percentage contribution by indicator - Volta Region



4.5 Eastern Region

The Eastern Region has an MPI estimate of 0.217 which is about 0.019 points below the National MPI. The headcount ratio of multidimensional poverty is almost 44 percent in the region, meaning that at least two out of five people in the Eastern Region are multidimensionally poor. This is also a little below the national headcount ratio of multidimensional poverty of 45.6 percent. The intensity of poverty in the region is about 49.3 percent. This implies that among those who have been identified as multidimensionally poor in the region are deprived, on average, in 49.3 percent of the weighted indicators. This is also below the national rate of 51.7 percent. As the third populous region in the country, the Eastern Region has a population share of 10.8 percent. It is estimated that close to 1.46 million MPI poor people live in the region, which represents about 10.3 percent of the multidimensionally poor in Ghana.

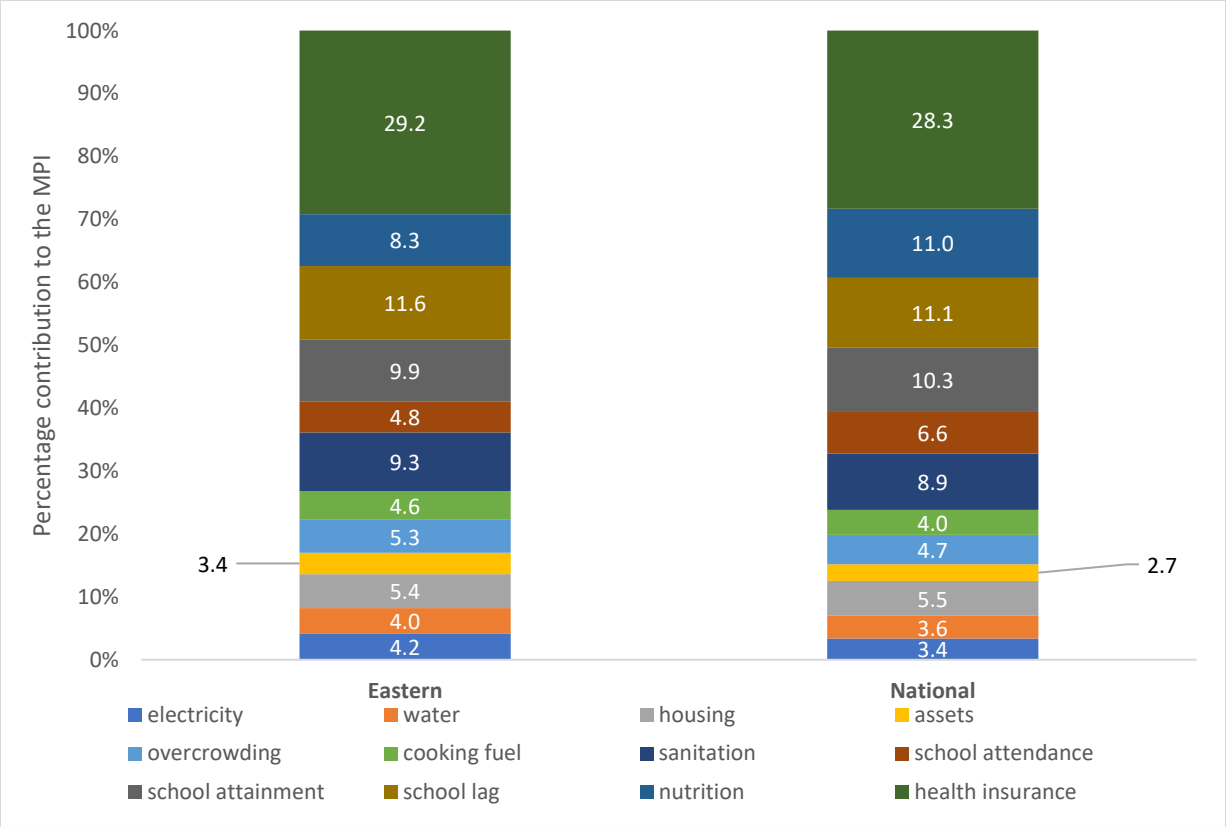
Similar to other regions and following the national trend, insurance remains the indicator with the most contribution to the region's MPI. It contributes approximately 29.2 percent to the region's MPI. Other indicators that contribute relatively more to the region's MPI include school lag (11.6%), school attainment (9.2%), nutrition (8.3%), housing (5.4%) and overcrowding (5.3%). However, assets contributed the least to the region's MPI with a value close to 3.4 percent.

Table 4.5: MPI, headcount ratio and intensity - Eastern Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	0.235	47.6	49.4
Central	0.239	47.6	50.1
Greater Accra	0.102	22.5	45.5
Volta	0.306	58.2	52.7
Eastern	**0.217**	**44.0**	**49.3**
Ashanti	0.147	31.1	47.5
Brong Ahafo	0.255	49.4	51.6
Northern	0.491	80.8	60.7
Upper East	0.359	68.1	52.8
Upper West	0.348	65.5	53.1

Between 2011 and 2017, the proportion of MPI poor people in the region reduced by 5.4 percentage points, from 49.3 percent in 2011 to 44 percent in 2017. This reduction is however statistically insignificant. The decline represents a move out of poverty for nearly 178,000 people from the Eastern Region. The fall in MPI and intensity of poverty in the Eastern Region are also statistically insignificant.

Figure 4.5: Percentage contribution by indicator - Eastern Region



The Eastern Region recorded one statistically significant improvement in deprivation as depicted by the cooking fuel indicator. Among those who were cooking fuel poor, the percentage of poor people who no longer use solid fuels in enclosed spaces was about 16.3 percentage points. Although there were increases in the percentage of those who were poor in housing and school attendance, these were statistically insignificant.

4.6 Ashanti Region

The Ashanti Region is the second most developed region in the country after Greater Accra. It is therefore not surprising that it has the second lowest MPI after the capital region. With an MPI of 0.147, it is about 0.089 below the national MPI and 0.045 above Greater Accra's MPI. The headcount ratio of multidimensional poverty in the Ashanti Region is about 31.1 percent. This, therefore, implies that almost a third of the region's population is multidimensionally poor. This is also significantly lower than the national average (45.6%) and greater than the nation's capital (22.5%). The intensity of poverty in the Ashanti Region is about 47.5 percent, which means that those identified to be multidimensionally poor in the region are deprived in about 47.5 percent of the weighted indicators, on average. With a population of 1.84 million people, the Ashanti Region is the most populous and represents about 13 percent of all poor people in the nation.

The results suggest that a third of households (33.1%) in the Ashanti Region are predominantly deprived in benefiting from health insurance. The deprivation in this area is lower than Greater Accra (35.5%) but higher than the national figure (28.3%). Similar to the Greater Accra Region, nutritional deprivation ranks second in the indicator contributions to the region's MPI, at 11.6 percent. Other relatively high contributors include school lag (10.0%), sanitation (9.8%), school attainment (9.3%) and overcrowding (6.4%). Access to potable water seems to be the least of the region's problem with an MPI of approximately 2.0 percent.

The Ashanti Region experienced a statistically significant fall multidimensionally poor people by 14.6 percentage points from 45.6 percent to 31.1 percent between 2011 and 2017 respectively.

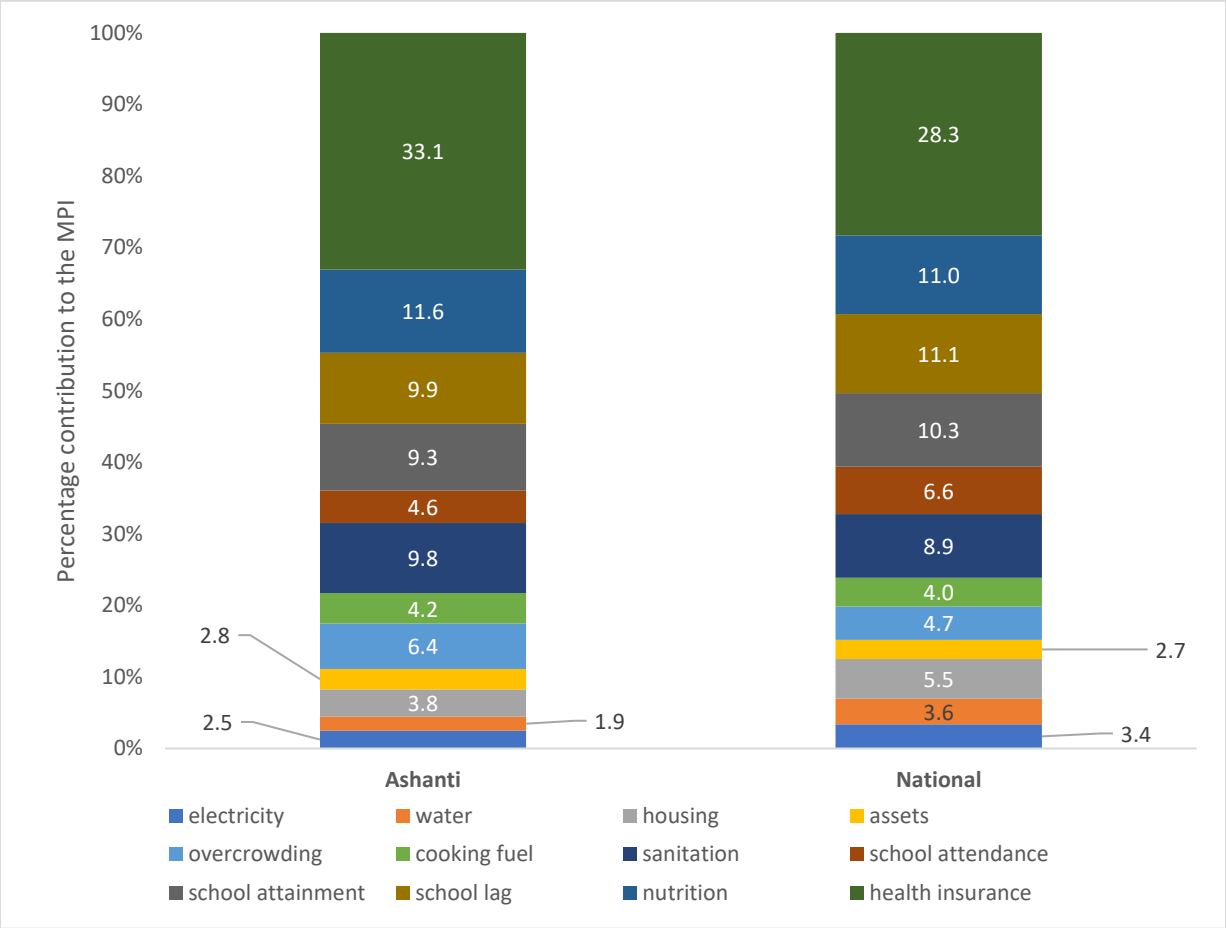
Table 4.6: MPI, headcount ratio and intensity - Ashanti Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	0.235	47.6	49.4
Central	0.239	47.6	50.1
Greater Accra	0.102	22.5	45.5
Volta	0.306	58.2	52.7
Eastern	0.217	44.0	49.3
Ashanti	**0.147**	**31.1**	**47.5**
Brong Ahafo	0.255	49.4	51.6
Northern	0.491	80.8	60.7
Upper East	0.359	68.1	52.8
Upper West	0.348	65.5	53.1

The reduction is statistically significant at 1% level. From the estimated decline in poverty, about 0.86 million people in the Ashanti Region w have been lifted out of poverty. The MPI also plummeted by 8.5 percentage points while the intensity of poverty decreased by 3.5 percentage points. Both estimates are significant at 1 percent and 5 percent respectively.

The Ashanti Region is one of the two regions that experienced an improvement in all indicators between the period 2011 and 2017. However, progress noted in housing and assets deprivations were not significant. The highest reduction in living standard deprivation was due to a decline in the use of non-clean cooking fuels. This constituted about 17.5 percentage point difference.

Figure 4.6: Percentage contribution by indicator - Ashanti Region



4.7 Brong Ahafo Region

The Brong Ahafo Region has an MPI of 0.255. This is just a little over the national MPI of 0.236. The headcount ratio of multidimensional poverty in the region is 49.4 percent which is about 3.8 percent above the national MPI. Hence, the figure indicates that 49.4 percent of people in the region are multidimensionally poor. The intensity of poverty in the region is 51.6 percent. This means that among those that have been identified to be multidimensionally poor in the region, they

are deprived, on average, in 51.6 percent of the weighted indicators. The asset indicator contributes the least to the region's MPI with 2.9 percent while insurance has the highest contribution of 27.8 percent. Other indicators with a relatively higher contribution to the region's MPI include school lag (11.2%), nutrition (11.0%), school attainment (10.7%) and sanitation (9.2%). Brong Ahafo is the fifth largest region in Ghana and almost 1.44 million MPI poor people reside in the region. This represents 10.2 percent of all the multidimensionally poor people in the country.

Between 2011 and 2017, Brong Ahafo Region experienced a reduction in the incidence of multidimensional poverty by 11.2 percentage points, from 60.6 percent in 2011 to 49.4 percent in 2017. This reduction is statistically significant at 5 percent level. The figure implies that nearly a third of a million people in the region have experienced significant improvement in their living standards, which removes them from the poverty bracket. There is also a statistically significant decrease in the MPI by 8.3 percentage points, as well as a statistically significant fall in the intensity of poverty by 4.1 percentage points.

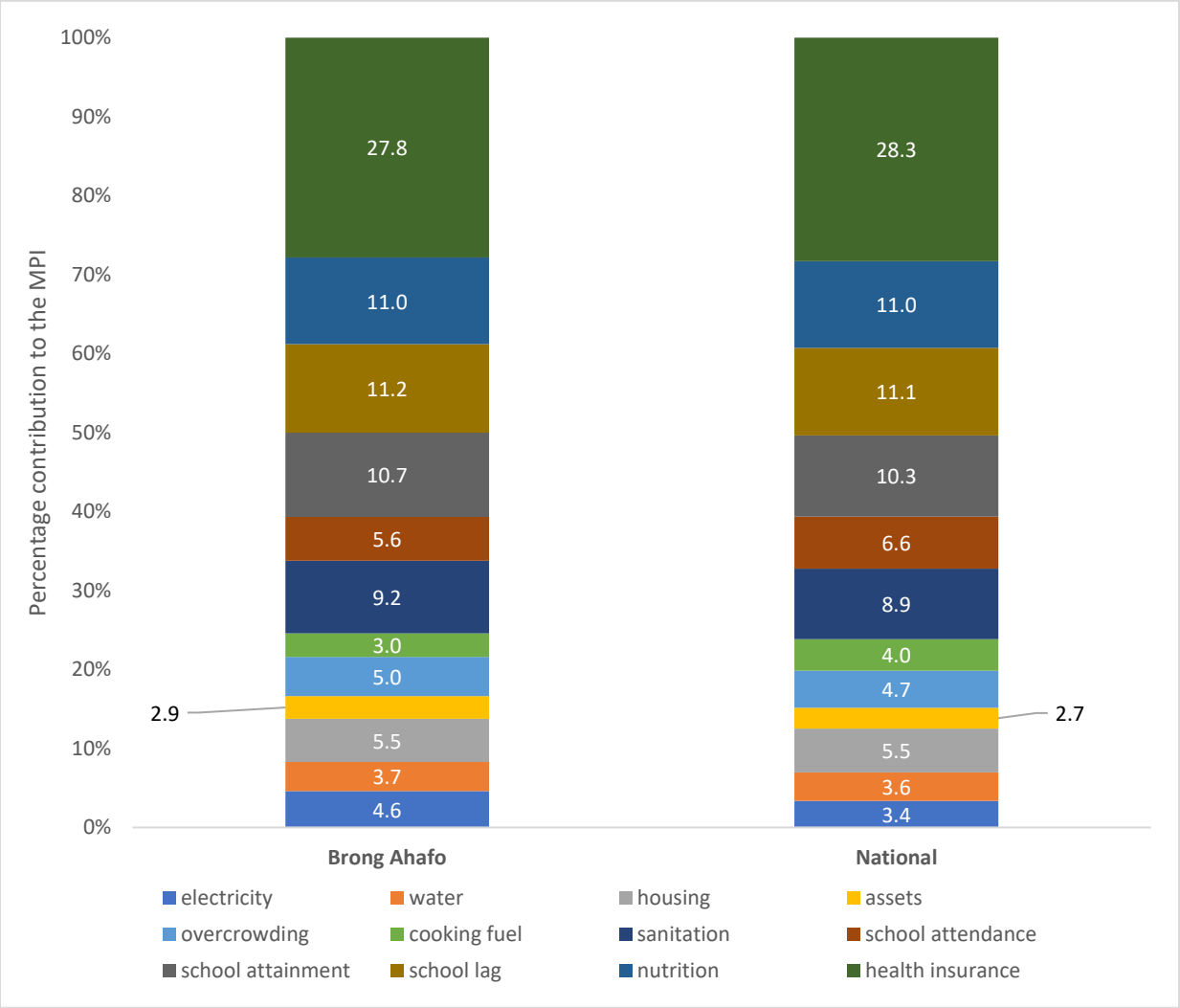
The Brong Ahafo Region was the second region to record an improvement in all indicators. Similar to the Ashanti Region, not all improvements in deprivations were significant. With the exception of housing and sanitation, the indicators which depicted a significant improvement in living standard are: electricity, cooking fuel, sanitation, school attainment, school lag and health insurance.

Table 4.7: MPI, headcount ratio and intensity - Brong Ahafo Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	0.235	47.6	49.4
Central	0.239	47.6	50.1
Greater Accra	0.102	22.5	45.5
Volta	0.306	58.2	52.7
Eastern	0.217	44.0	49.3
Ashanti	0.147	31.1	47.5
Brong Ahafo	**0.255**	**49.4**	**51.6**
Northern	0.491	80.8	60.7
Upper East	0.359	68.1	52.8
Upper West	0.348	65.5	53.1

The greatest improvement in living standards is presented by the cooking fuel indicator, which suggests that the percentage of poor people who lack modern cooking methods reduced by 24 percentage points. Over the period, access to electricity, school attainment, school lag and sanitation depicted an improvement of above 10 percentage points.

Figure 4.7: Percentage contribution by indicator - Brong Ahafo Region



4.8 Northern Region

The Northern Region has the highest multidimensional poverty in Ghana, with an MPI of 0.491. This is twice the national MPI (0.24) and 0.389 percentage points higher than the Greater Accra region, which has the lowest poverty. It is also the region with the highest MPI among the three northern regions. The incidence of multidimensional poverty in the Northern Region is 80.8 percent which is also the largest among all the regions and greater than the national figure (45.6%). This estimate implies that eight out of every ten people in the region are multidimensionally poor. The intensity of poverty in the Northern Region is about 60.7 percent, meaning that the multidimensionally poor person in the region is deprived, on average in seven of the twelve weighted indicators. In Ghana, the average multidimensionally poor person is deprived in six of the weighted indicators; hence, the intensity of deprivation is higher in the Northern Region than nationwide. The Northern region is the sixth largest region in the country with almost 2.53 million

MPI poor people. This represents approximately 17.9 percent of all multidimensionally poor people in the country.

Insurance (24.1%), nutrition (12.6%), school attainment (11.5%), school lag (10.2%) and school attendance (9.44%) are the indicators contributing more to multiple deprivation in the region. Similar to the trend found so far, insurance contributes the most to the region's MPI, although, this is lower when compared to the national figure (28.3%). The number of people who own more than one small asset increased in the region and has the least share of total MPI of 1.8 percent.

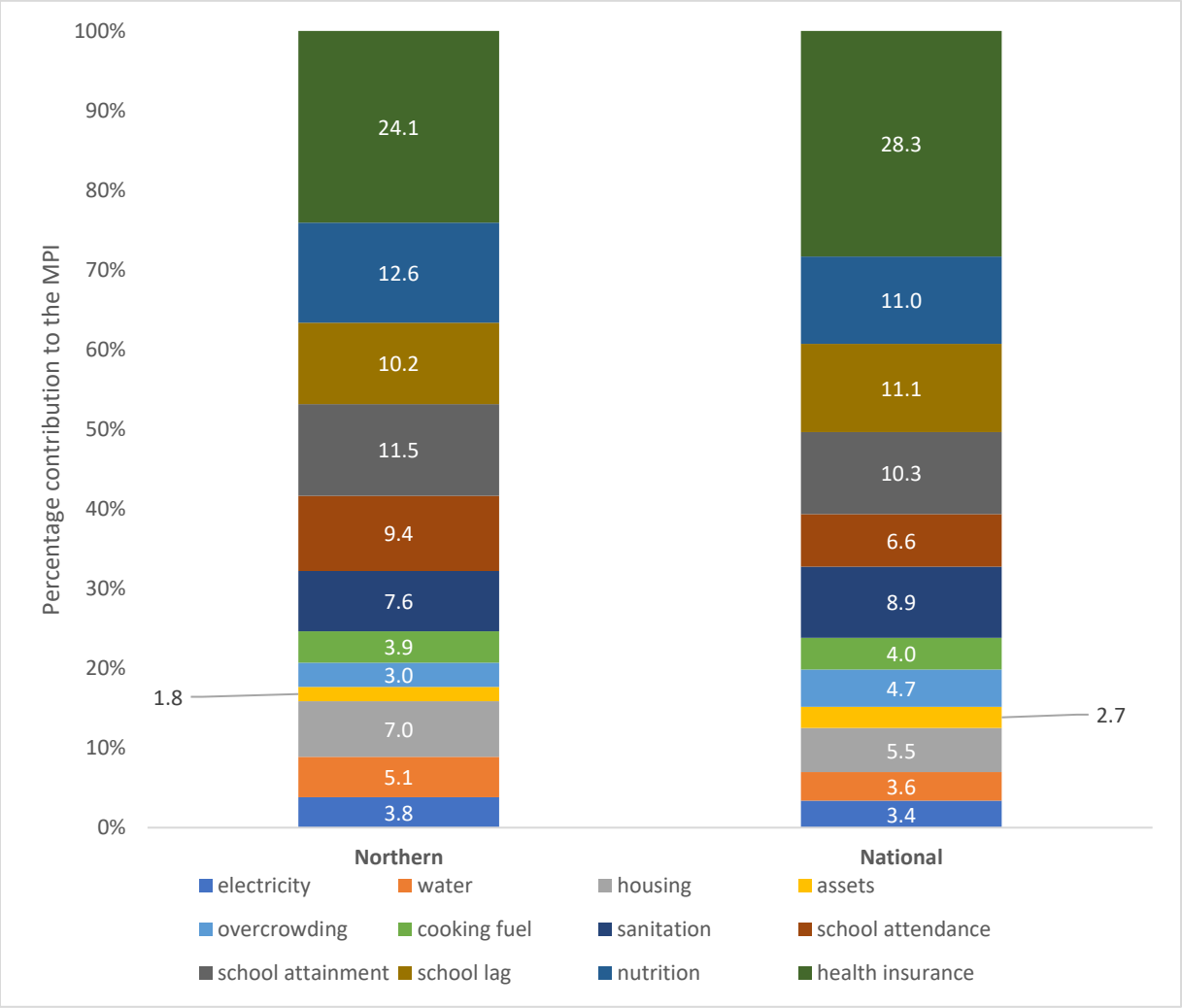
The Northern Region experienced a decrease in the MPI poor people by 2.7 percentage points from 83.5 percent to 80.8 percent between 2011 and 2017 respectively. This fall was however statistically insignificant. The reduction represents about 83,000 people in the Northern Region who have been lifted out of poverty. The MPI also decreased by 3.2 percentage points while the intensity of poverty also fell by 1.9 percentage points but are however statistically insignificant.

Table 4.8: MPI, headcount ratio, and intensity - Northern Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	0.235	47.6	49.4
Central	0.239	47.6	50.1
Greater Accra	0.102	22.5	45.5
Volta	0.306	58.2	52.7
Eastern	0.217	44.0	49.3
Ashanti	0.147	31.1	47.5
Brong Ahafo	0.255	49.4	51.6
Northern	**0.491**	**80.8**	**60.7**
Upper East	0.359	68.1	52.8
Upper West	0.348	65.5	53.1

Statistically significant improvements were made in access to electricity and school attainment deprivations in the Northern Region over the period 2011 and 2017. These deprivations reduced by 20.8 and 20.2 percentage points respectively. In contrast, the housing and overcrowding indicators depicted an increase in deprivations by 10.9 and 7.3 percentage points respectively.

Figure 4.8: Percentage contribution by indicator - Northern Region



4.9 Upper East Region

The Upper East Region is one of the three regions in the northern part of the country. It has the second highest MPI of 0.359 which is 0.132 points below poverty index of the Northern Region. The region's MPI is 0.257 and 0.123 points above the Greater Accra region and the national MPI respectively. Incidence of multidimensional poverty in the Upper East region is 68.0 percent, also the second highest in the country. The figure implies that 68 percent of the population in the Upper East Region are multidimensionally poor, which is 22.4 percent higher than the national multidimensional poverty rate of 45.6 percent. The intensity of poverty in the Upper East region is 52.8 percent, which implies that those who are identified as multidimensionally poor are deprived, on average, in 52.8 percent of the weighted indicators. This, however, is the third-highest region after the Northern and Upper West Regions in terms of intensity of poverty. The Upper East

Region is the second least populated region in the country and has about 885,848 MPI poor people living in the region. This represents about 6.3 percent of all the MPI poor individuals in Ghana.

Like the national scenario, not having a health insurance contribute the highest deprivation to the region's multidimensional poverty (21.5%). However, the figure is relatively lower compared to its contribution to MPI at the national level (28.3%). Other indicators with concerning levels of deprivation in the region are school lag (14.0%), school attainment (13.9%), sanitation (9.0%), housing (8.4%) and nutrition (8.3%). Among all indicators, the lowest levels of deprivation were recorded by the assets (2.2%) and overcrowding (2.7%) indicators.

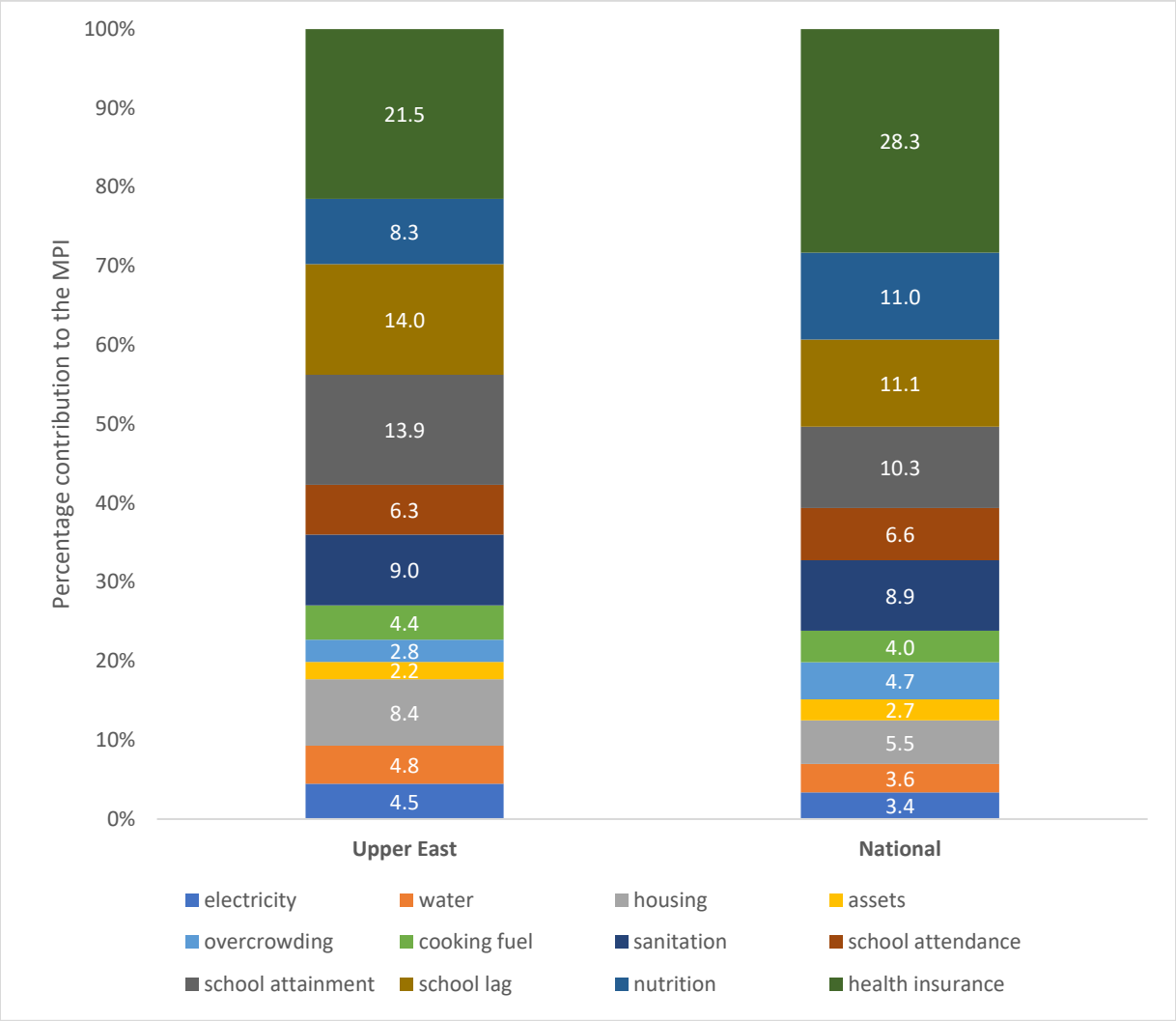
Table 4.9: MPI, headcount ratio, and intensity - Upper East Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	0.235	47.6	49.4
Central	0.239	47.6	50.1
Greater Accra	0.102	22.5	45.5
Volta	0.306	58.2	52.7
Eastern	0.217	44.0	49.3
Ashanti	0.147	31.1	47.5
Brong Ahafo	0.255	49.4	51.6
Northern	0.491	80.8	60.7
Upper East	**0.359**	**68.1**	**52.8**
Upper West	0.348	65.5	53.1

Between 2011 and 2017, Upper East Region had a reduction in the proportion of MPI poor people by as much as 19.4 percentage points, from 87.4 percent to 68.1 percent. This reduction is statistically significant at 1 percent level. The noted reduction implies that nearly 253,000 people have been lifted out of poverty. There is also a statistically significant decrease in the MPI and intensity of poverty by 16.7 and 7.4 percentage points respectively.

In the Upper East Region, ten out of the 12 indicators used for the MPI estimation, revealed statistically significant improvements in deprivations. Improvement in school attendance and the increasing levels of deprivation suggested by overcrowding, were both insignificant. Access to electricity recorded the highest improvement and was closely followed by cooking fuel. The proportion of poor people who lack access to electricity and modern cooking fuel reduced by 44.7 and 43.9 percentage points respectively. School attainment, access to potable water, and modern housing also depicted impressive improvements: 29.3, 24.4 and 20.2 percentage points respectively. Other notable developments are credited to the sanitation and health insurance indicators, which had 19.3 and 17.1 percentage points respectively.

Figure 4.9: Percentage contribution by indicator - Upper East Region



4.10 Upper West Region

The Upper West Region has the third highest MPI in the country, following the Northern and the Upper East Regions. The region's MPI of 0.348 is above the national MPI of 0.112. The headcount ratio of multidimensional poverty in the Upper West Region is 65.5 percent. This implies that about 66 percent of the population are multidimensionally poor. This is the second largest among all the regions and greater than the national rate of 45.6 percent. The intensity of poverty in the region is 53.1percent, which also means that those who are identified to be multidimensionally poor are deprived, on average, in 53.1 percent of the weighted indicators. This is the second-highest intensity of poverty figure recorded among all the regions in Ghana and also a little higher than that of the national rate (51.7%).

The Upper West region is the least populated region in the country. There are about 568,854 MPI poor individuals in the region. This represents only about 4 percent of all multidimensionally poor individuals in the country. The figure shows that the Upper West is the region with the least poor people in the country. Apart from insurance coverage (20.8%), which is the indicator with the largest contribution to MPI in the region, school attainment (14.4%) and school lag (13.7%) also contribute relatively high levels of deprivations to the region's MPI. Others include sanitation (8.7%), housing (7.9%), nutrition (7.8%) and school attendance (7.7%). Overcrowding is the indicator with the lowest contribution to the region's MPI at 3.1percent.

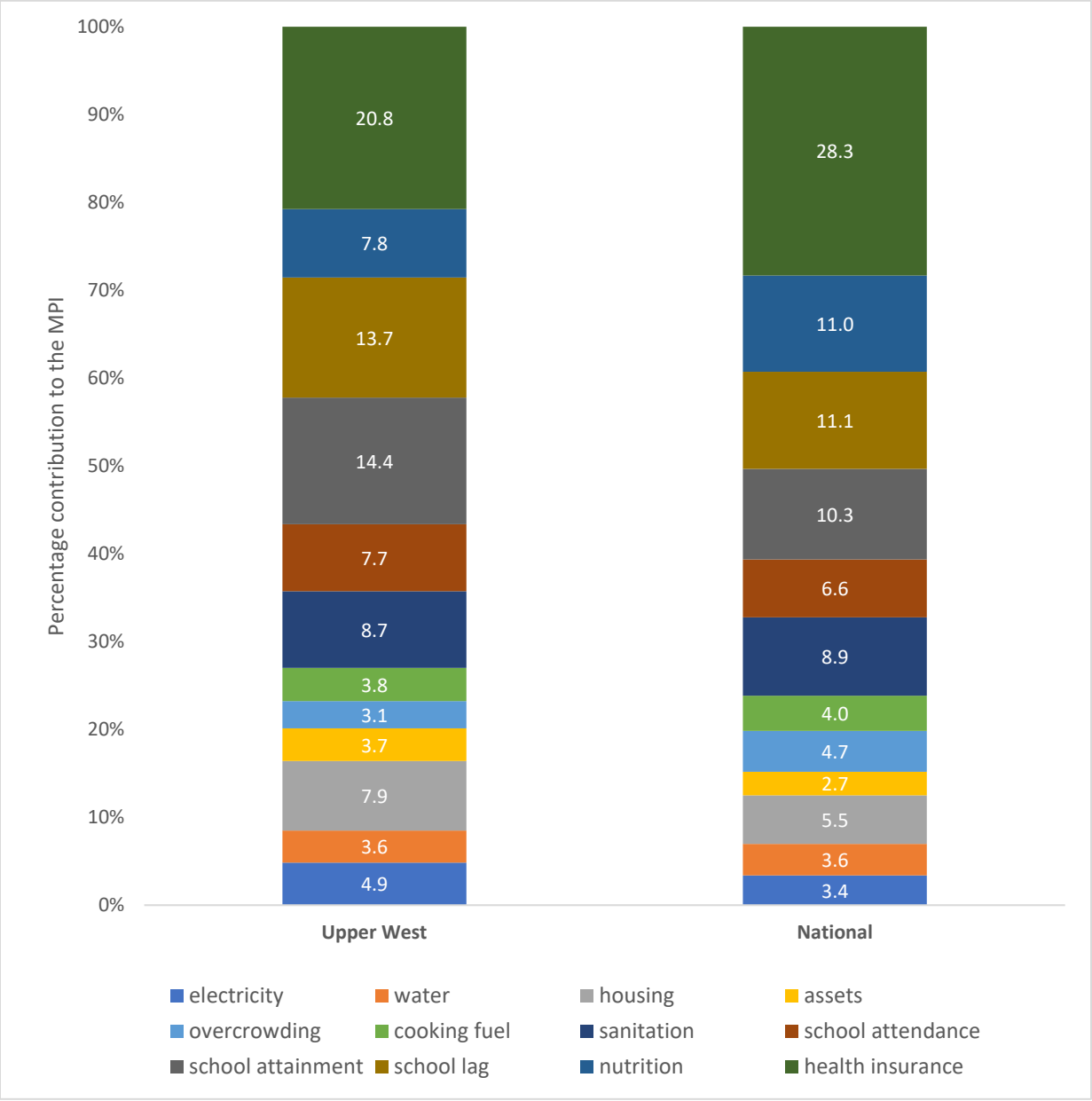
The Upper West Region experienced a statistically significant decrease in the number of people who are multidimensionally poor by 13.9 percentage points from 79.4 percent to 65.5 percent between 2011 and 2017 respectively. This is statistically significant at 1% level. The reduction represents about 121,000 people in the Upper West region who have been lifted out of poverty. The MPI also decreased by 11.2 percentage points while the intensity of poverty also declined by 4.8 percentage points. Both estimates are significant at 1 percent level.

Table 4.10: MPI, headcount ratio, and intensity - Upper West Region

Region	MPI	Incidence (%)	Intensity (%)
National	0.236	45.6	51.7
Western	0.235	47.6	49.4
Central	0.239	47.6	50.1
Greater Accra	0.102	22.5	45.5
Volta	0.306	58.2	52.7
Eastern	0.217	44.0	49.3
Ashanti	0.147	31.1	47.5
Brong Ahafo	0.255	49.4	51.6
Northern	0.491	80.8	60.7
Upper East	0.359	68.1	52.8
Upper West	**0.348**	**65.5**	**53.1**

Statistically significant improvements were made in several indicators in the Upper West Region over the period 2011 to 2017. This included electricity, water, cooking fuel, sanitation, school attendance, school attainment, school lag, nutrition and health insurance. The highest improvement was noted in access to electricity, followed by school attainment and the use of portable water. The percentage of poor people who had deprivations in these indicators reduced by 29.7, 20.9 and 20.4 percentage points respectively. Sanitation also improved by 14.7 percentage points over the same period.

Figure 4.10: Percentage contribution by indicator - Upper West



CHAPTER FIVE
MULTIDIMENSIONAL POVERTY OVER TIME

5.1 Introduction

This chapter examines the trend of multidimensional poverty in Ghana between 2011 and 2018, in an attempt to tackle the critical question on the evolution of poverty over time. Three waves of nationally representative surveys are used for the section, namely the 2011 and 2018 MICS, and the 2016/2017 GLSS. The analyses conducted affirm the existence of multidimensional poverty and depict its underlying variations across the broader dimensions of the phenomenon, using demographic attributes and geographical distributions. The trend analysis would demonstrate the improvements achieved, and most importantly, provide empirical evidence to expedite policy initiatives and interventions for indicators which may have lagged or worsened over time.

Focusing on the three central statistics of the MPI, the analysis suggests that between 2011 and 2018, multidimensional poverty has reduced in Ghana in all the measures. (MPI, incidence and intensity). These reductions are statistically significant for survey periods 2011 to 2017 and 2011 to 2018 but not for survey period 2017 to 2018 (Table 5.1). Figure 5.1 gives a graphical overview of how the incidence and intensity of poverty and the MPI have changed over the three survey periods. It is worth mentioning that the 2017 to 2018 survey period using the 2017 GLSS and the MICS 2018 are not statistically significant. Comparisons in this section focus on the harmonised MICS 2011 and the GLSS 2017 surveys.

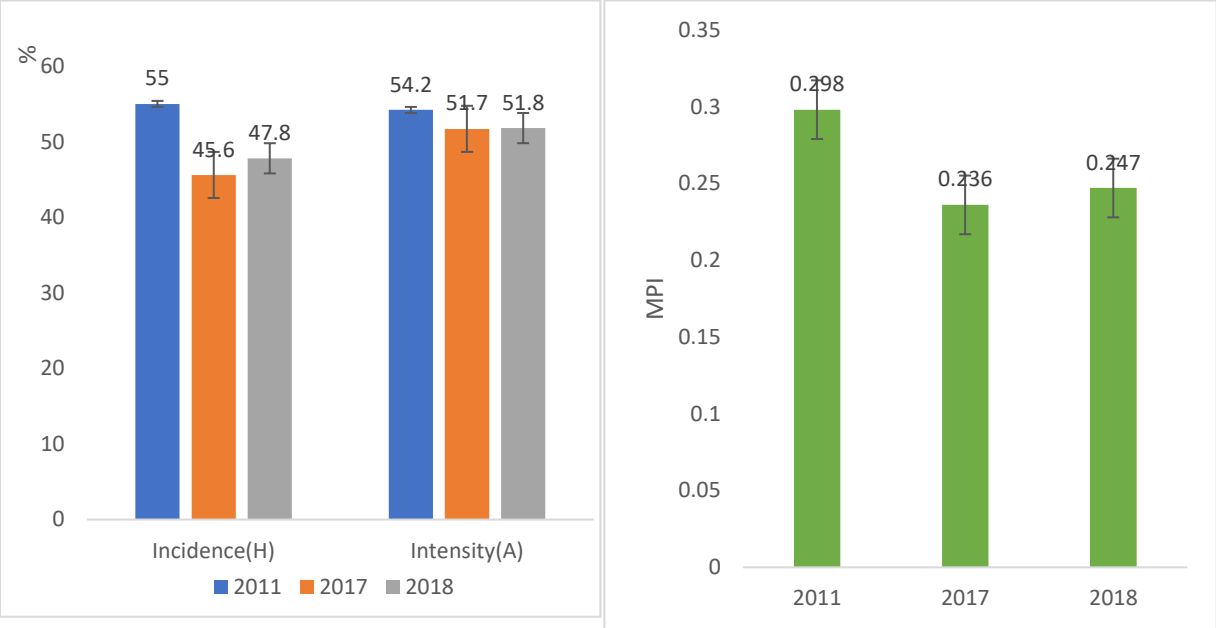
Table 5.1: Change in incidence, intensity and MPI, 2011 to 2018

Cut-off (K=33%)	MPI	Incidence(H)	Intensity(A)
2011	0.298	55	54.2
2017	0.236	45.6	51.7
2018	0.247	47.8	51.8
Change 2017-2011	-0.062	9.4	-2.4
Combined SE	0.009	0.014	0.005
Test Statistic	7.147	6.574	4.568
P-Value	0.000	0.000	0.000
Change 2018-2017	0.011	2.200	0.100
Combined SE	0.010	0.016	0.007
Test Statistic	1.161	1.388	0.032
P-Value	0.246	0.165	0.975
Change 2018-2011	-0.051	-7.2	-2.4
Combined SE	0.010	0.016	0.006
Test Statistic	5.023	4.467	3.885
P-Value	0.000	0.000	0.000

Source: Calculations based on data from MICS 2011, GLSS 2016/2017 and MICS 2018

It is observable that the multidimensional poverty declined between 2011 and 2017, and between 2011 and 2018. The MPI decreased from 0.298 to 0.236 between 2011 and 2017 and the difference is statistically significant at the one percent alpha value. From 2011 to 2018, the MPI decreased from 0.298 to 0.247 registering a statistically significant difference over the years. Though the MPI increased by 0.011 between 2017 and 2018, the increment is not statistically significant. The headcount ratio decreased from 55 percent in 2011 to 46 percent in 2017. This means over the period, the number of people living in multidimensional poverty in Ghana reduced by 14,115,572 people. Additionally, the intensity of poverty (A) declined from 54.2 percent to 51.7 percent. The decline in the incidence and intensity of poverty are both statistically significant.

Figure 5.1: Multidimensional poverty in Ghana, 2011-2018



5.2 National Censored Headcount Ratios - 2011 to 2018

To understand how poverty has decreased and to elicit the particular indicator changes accounting for the reductions, it is essential to break down the change in MPI by each of its component indicators. Figure 5.2 illustrates the drivers of the substantial reduction in multidimensional poverty over time. Censored headcount ratios, which measure the percentage of people who are MPI poor and deprived in the given indicator, are depicted for each of the three survey periods. Except for overcrowding, school attendance, school lag, and nutrition, the censored headcount ratios for all the remaining indicators have declined significantly between 2011 and 2018 with the largest absolute reductions recorded for electricity, cooking fuel, sanitation and water. The increase in housing in 2017 may be a result of different categories available in the survey question in GLSS compared to MICS.

Figure 5.2: National headcount ratios, 2011-2018

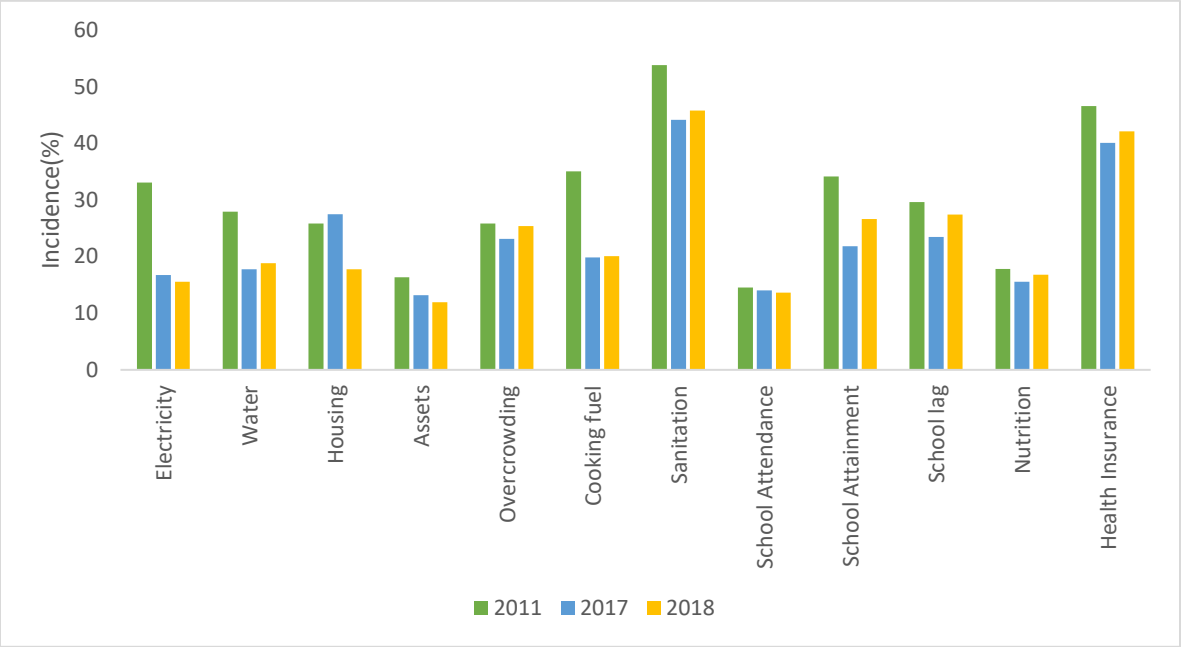
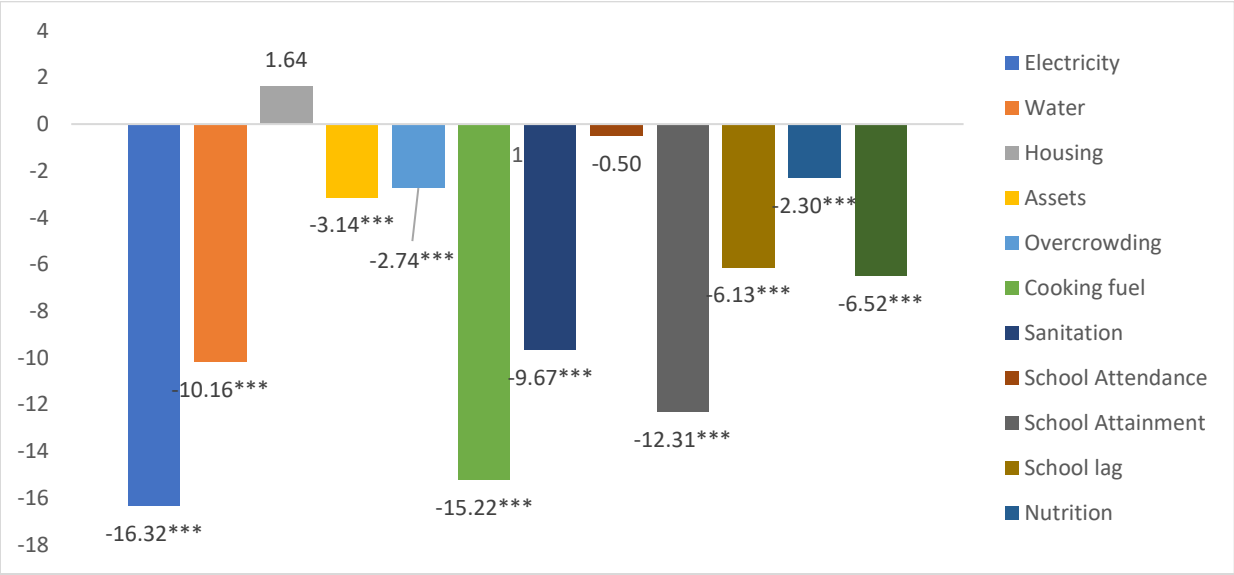


Figure 5.3 depicts, in percentage points, the absolute change in the censored headcount ratios between 2011 and 2017. As can be observed, improvements in electricity (16.3 percentage points), cooking fuel (15.2 percentage points) and school attainment (12.3 percentage points) outperform similarly impressive reductions in the censored headcount ratios of other indicators like nutrition (2.30 percentage points) and school attendance (0.50 percentage points). The figure shows that not all 12 indicators have registered statistically significant improvements over time.

Figure 5.3: Absolute change in censored headcount ratios between 2011 and 2017



*, **, and *** indicate 10%, 5% and 1% levels of significance respectively

The population-wide trends in each indicator included in the MPI are important to analyse to complement the trends in deprivations experienced by multidimensionally poor people. Figure 5.4 presents the proportion of the population deprived in each of the 12 indicators used in the MPI, or the uncensored headcount ratios. Figure 5.4 doesn't show statistical significance.

Figure 5.4: National uncensored headcount ratios, 2011-2018

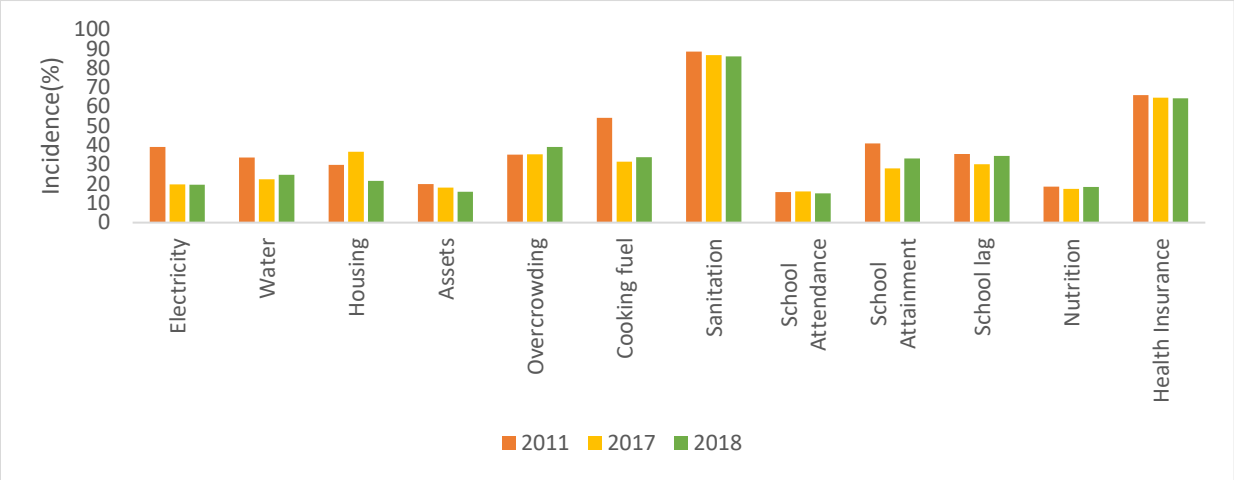
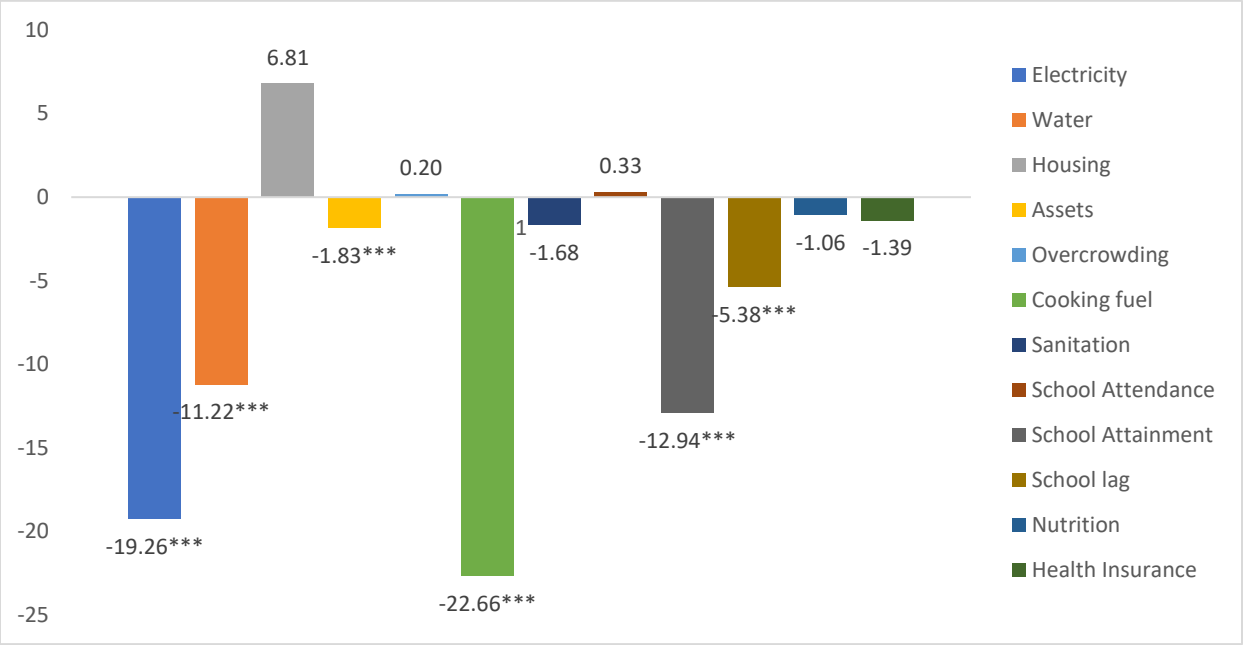


Figure 5.5 displays the absolute change in the uncensored headcount ratios between 2011 and 2017, thereby identifying indicators that recorded statistical significance between the two periods. This figure shows that cooking fuel, electricity, and school attainment are the indicators showing the largest absolute improvements (22.7 percentage points, 19.2 percentage points, and 12.9 percentage points, respectively). However, indicators such as health insurance, nutrition, school attendance and housing were not statistically significant.

Figure 5.5: Absolute change in uncensored headcount ratios 2011-2017



*, **, and *** indicate 10%, 5% and 1% levels of significance respectively

The maps for all the three statistics of the MPI, shown in Figure 5.6, indicate a reduction in poverty levels between 2011 and 2017. To specify how these regions have reduced multidimensional poverty, Figure 5.7 displays the absolute change in regional multidimensional poverty (MPI), incidence (H) and intensity (A) of poverty between 2011 and 2017. Figure 5.8 provides the percentage by which the original level of poverty was reduced between 2011 and 2017.

Figure 5.6a: Incidence of multidimensional poverty 2011-2017

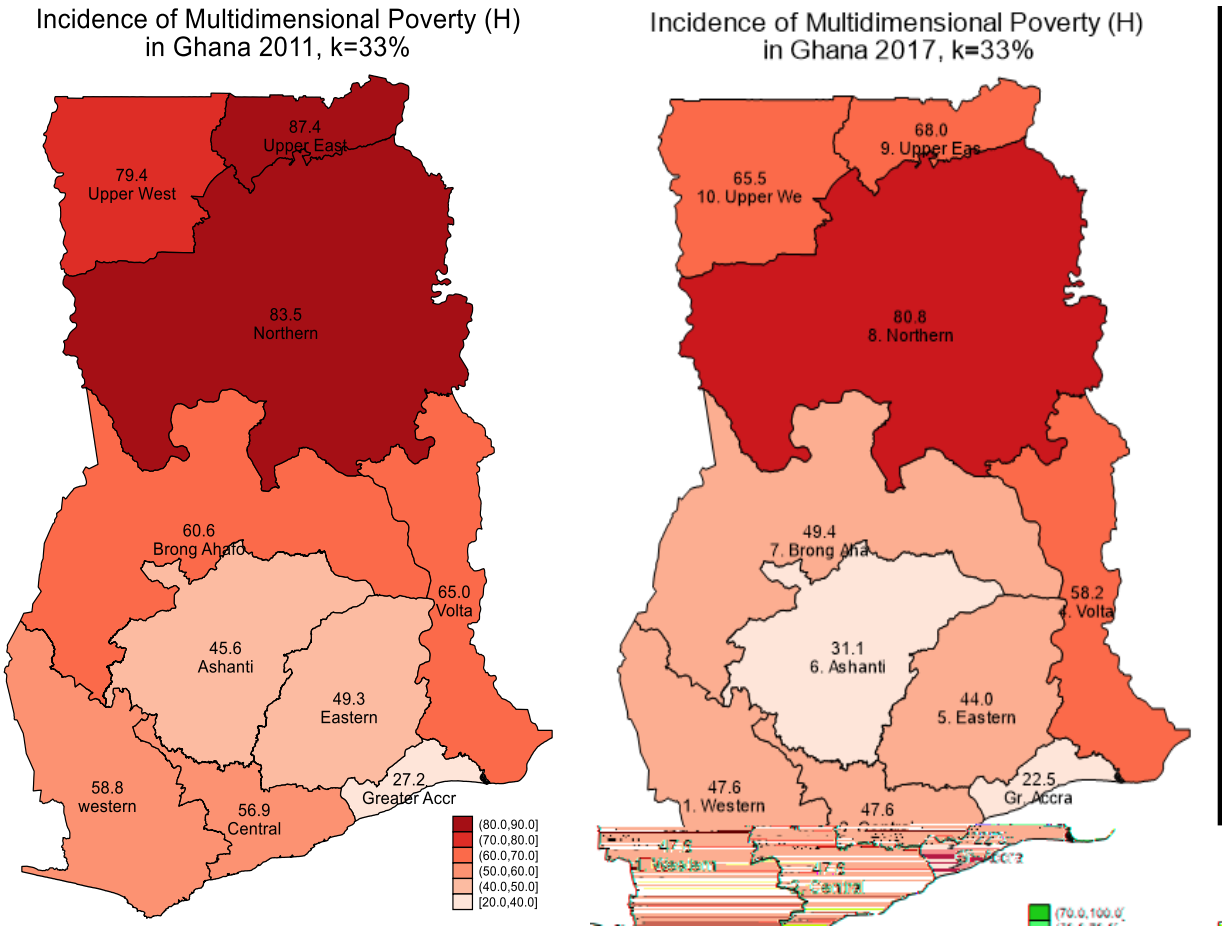
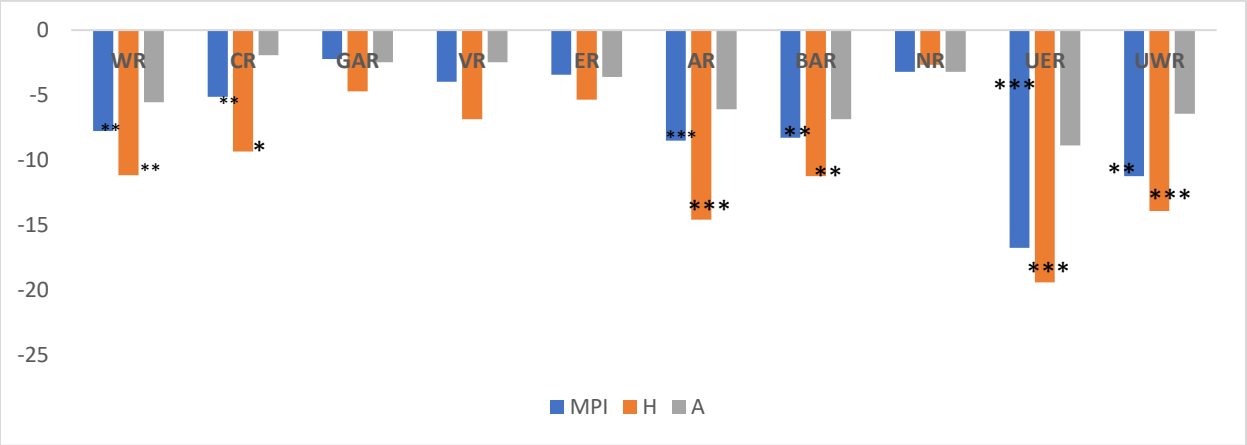


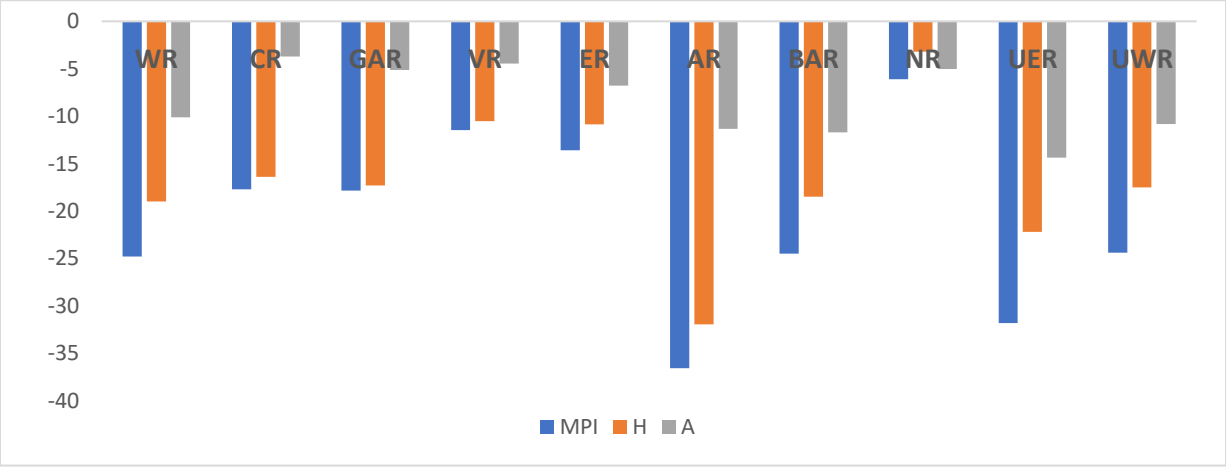
Figure 5.7: Absolute change across regional MPI, 2011-2017



*, **, and *** indicate 10%, 5% and 1% levels of significance respectively

WR=Western Region; CR=Central Region; GAR=Greater Accra Region; VR=Volta Region; ER=Eastern Region; AR=Ashanti Region; BAR=Brong Ahafo Region; NR=Northern Region; UER=Upper East Region; and UWR=Upper West Region

Figure 5.8: Percentage change across regions, 2011-2017

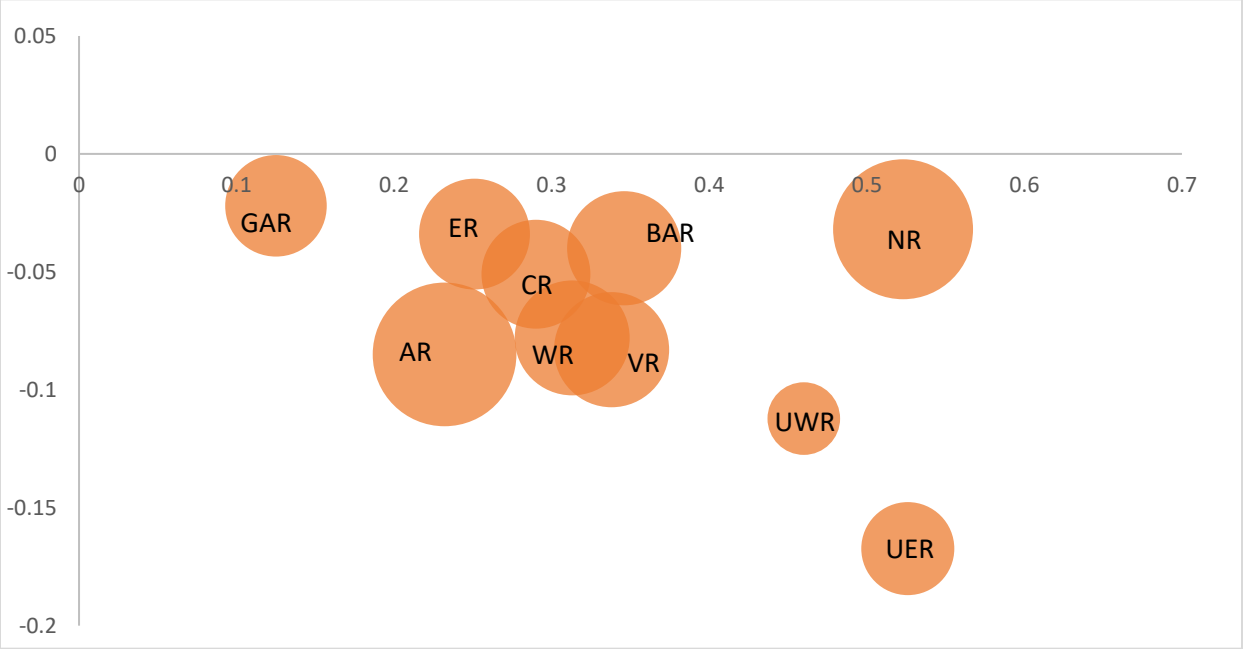


WR=Western Region; CR=Central Region; GAR=Greater Accra Region; VR=Volta Region; ER=Eastern Region; AR=Ashanti Region; BAR=Brong Ahafo Region, NR=Northern Region; UER=Upper East Region; and UWR=Upper West Region

To investigate whether there is a potential catch-up between the poorest and least poor regions in absolute terms, Figure 5.9 plots the absolute change in MPI on the vertical axis against the initial MPI in 2011, for all regions. The size of the bubble shows the initial number of MPI poor people in each of the regions. The size of the bubbles indicates that the Ashanti followed by the Northern Regions have the largest number of MPI poor people of 2,182,167 and 2,069,680 in 2011, respectively. However, the reduction in the in MPI indicating poverty reduction was least in Northern Region compared to all the regions except Greater Accra. Though the reduction in MPI

was impressive in the Ashanti Region, the decrease in the number of the poor is not likely to be pro-poor, given that it is the second least poor region in the country. The Upper West and Upper East Regions, on the other hand, recorded the least number of poor people in absolute terms as depicted by their respective bubbles though poverty reduced steeply in the two regions. The implication of the inconsistent trend between the initial level of MPI and the absolute change is that poverty reduction by poorer regions (Upper West and Upper East) are potentially matched by poverty reduction in least poor regions (Ashanti and Western). Hence, catch-up in absolute terms between poorer and least poor regions does not appear to be forthcoming**.**

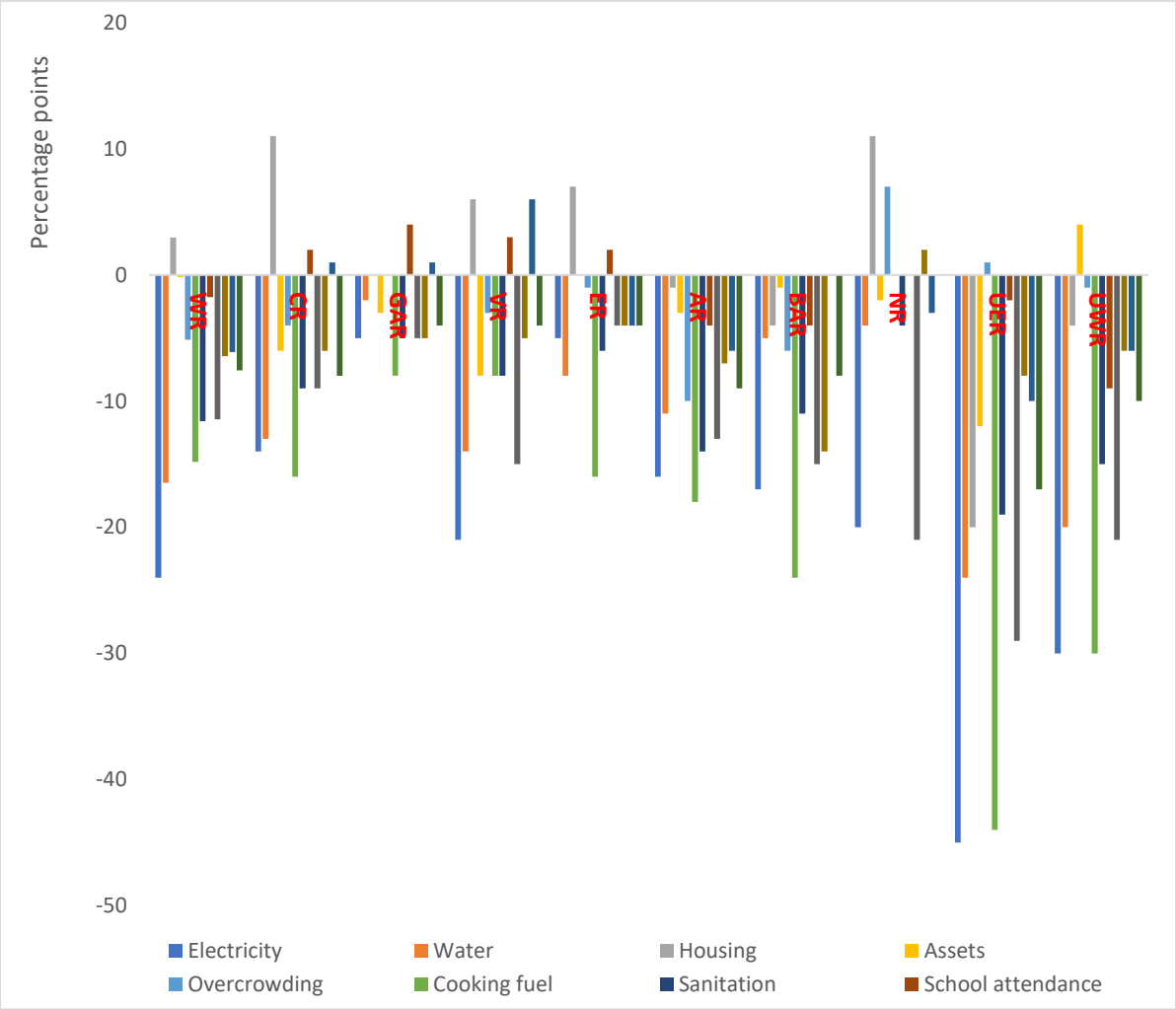
Figure 5.9: Multidimensional poverty reduction across regions, 2011-2017



WR=Western Region; CR=Central Region; GAR=Greater Accra Region; VR=Volta Region; ER=Eastern Region; AR=Ashanti Region; BAR=Brong Ahafo Region; NR=Northern Region; UER=Upper East Region; and UWR=Upper West Region

To further analyse improvements in each of the ten regions of Ghana, Figure 5.10 highlights the changes in censored headcount ratios between 2011 and 2017. A majority of the indicators decreased (reduced deprivation) over the two periods across the ten regions with varying levels of steepness. Notably, cooking fuel and electricity declined by more than 40 percentage points in the Northern and Upper East regions respectively. However, some indicators worsened in specific regions. For instance, deprivation in housing worsened in Western, Central, Volta, Eastern and Northern regions. Also, nutrition worsened in the Greater Accra and Volta regions. Furthermore, school attendance worsened in Central, Greater Accra, Volta and Eastern Regions whereas school lag also worsened in the Northern Region.

Figure 5.10: Absolute change in censored headcount ratios by region, 2011-2017



WR=Western Region; CR=Central Region; GAR=Greater Accra Region; VR=Volta Region; ER=Eastern Region; AR=Ashanti Region; BAR=Brong Ahafo Region=Northern Region; UER=Upper East Region; and UWR=Upper West Region.

CHAPTER SIX
SUMMARY AND POLICY IMPLICATIONS

Non-monetary poverty measurements have received considerable attention in recent years. This is partly in view of the unanimous consensus that the monetary approach to poverty measurement is narrowly focused on consumption expenditure or household income. Non-monetary poverty thus transcends monetary indicators to address other wide areas of wellbeing. This MPI report marks Ghana's commitment to adopting a multidimensional approach to measuring poverty as a complementary measure to the conventional consumption expenditure poverty measure. Both measures provide holistic information for public policy formulation and action.

The results from the MPI are expected to engender the monitoring of social progress of individuals and households towards meeting the Sustainable Development Goals (SDG) in Ghana. With a decade remaining to the closure of the SDG, this report is timely in Ghana and will feed into public policy formulation and retooling to address emerging issues. The results of the National MPI for Ghana reveal significant differences between rural and urban areas, and between the Savannah and the other ecological zones. The national results reveal that multidimensional poor individuals face high levels of deprivation in access to improved sanitation, health insurance coverage and housing.

The results showed that Ghana's multidimensional poverty has decreased significantly between 2011 and 2017; however, the decline in the absolute number of the poor across the poorer and least poor regions of the country does not suggest pro-poor poverty reduction. Also, comparing the incidence of multidimensional poverty on one hand, and consumption expenditure poverty on the other, revealed that the latter registered higher levels compared to the former. Regional rankings of both measures revealed the Northern region as being the poorest in multidimensional poverty, whereas the Upper West is the poorest in terms of consumption expenditure poverty.

It is, therefore, paramount to prioritize the use of resources in order to reduce the high deprivations in the indicators of wellbeing. Against the backdrop that the percentage of multidimensional poor individuals deprived in each of these indicators varies across ecological zones and administrative regions, it is important to prioritize and sequence policy actions as functions of the percentage of individuals and households facing each deprivation. Regarding child indicators, it is pertinent to mention that the government should continue working with the existing institutions on reducing deprivations in school attendance, school lag and child undernutrition. Finally, given that the results of the disaggregation of the MPI revealed that the Upper East, Upper West and Northern regions present the highest incidence of multidimensional poverty, policies and programmes aiming to reduce multidimensional poverty in these regions should generally be given high priority.

APPENDIX

1. Weights and cuts off for candidate indicators

All dimensions have equal weights and all indicators are weighted equally within dimensions.

The deprivation cuts off for candidate indicators are as follows:

Dimension	Indicator	SDG and Target	Options of indicator	Deprivation cut-off	Applicable population
Education	School attendance	4.1.1	Option 1	A household is deprived if any school age child is not attending school	School age children
	Years of schooling or school attainment	4.1.1	Option 1	A household is deprived if no member of the household older than (school age-15) has at least 9 years of education	Members older than school age (Age 15)
	School lag	4.1.1	Option 1	A household is deprived if a child is attending school but s/he is two or more years behind compared to the expected age/grade relationship	School age children
ICT	Computer usage		Option 1	A household is deprived if no one has used a computer (desktop, laptop, tablet or similar (not GSM) from any location in the past three months	Members 12 years or older
	Internet use for different purposes	17.8.1	Option 1	A household is deprived if none of its members 12 years or above have used the internet in the last 3 months	Members 12 years or older
Health	Vaccination	3.B.1	Option 1	A household is deprived if at least one child 5 years or younger has not had all the vaccinations according to his/her age (BCG, DPT and Polio)	Household members younger than 5 years (0-59months)
	Nutrition	2.1.1	Option 1	A household is deprived if at least one child under 5 is underweight or stunted	Children 5 or younger

	Child Mortality	3.2.1	Option 1	A household is deprived if in the last 12 months a child (under 18) has died	Women
	Pre-natal care	Related to 3.1.1	Option 1	A household is deprived if at least one woman was pregnant in the last 12 months and did not receive pre-natal care	Women aged 12-49 years
			Option 2	A household is deprived if at least one woman was pregnant in the last 12 months and did not meet a minimum of 6 pre-natal care visits	
	Postnatal care		Option 1	A household is deprived if at least one woman with a child aged 0-59 months did not receive post-natal care	
	Health insurance		Option 1	A household is deprived if there is any member who has not registered for health insurance (private or national health insurance) OR is not currently covered under a health insurance	All household members
	Food security		Option 1	A household is deprived if household answered "yes "to any of the 8 food insecurity questions	Household
			Option 2	A household is deprived if the household answered "yes" to any of the moderate/severe food insecurity questions	Household
Employment	Unemployment	8.5.2	Option 1	A household is deprived if the members in the labour force are all unemployed	Older than school age
	Child labour	8.7.1	Option 1	A household is deprived if any member 5 to 17 years is employed	Member 5 to 17 years
	Labour conditions				Members in the labour force

Sanitation	Garbage disposal	6.2.1	Option 1	A household is deprived if the rubbish is burnt, public dump or dumped indiscriminately	Household
	Liquid waste disposal	6.2.1	Option 1	A household is deprived if bath or kitchen water is disposed through discharge in open area or other	Household
	Hygiene	6.2.1	Option 1	A household is deprived if there is no water and soap in the hand washing area	Household
	Improved Toilet	6.2.1	Option 1	A household is deprived if household uses bucket/pan, pit latrine, public toilet, no facility or other OR it is shared	Household
Living conditions	Overcrowding	11.1.1	Option 1	A household is deprived if 3 or more members share a bedroom	Household
	Water	6.1.1	Option 1	A household is deprived if the main source of water is unprotected dug well, unprotected spring, tanker-trunk, with small cart/drum, river/stream and other OR the source of water is more than 30 minutes walking distance	
	Housing	11.1.1	Option 1	A household is deprived if the main construction materials of outside walls is burnt bricks, mud & wattle, tarpaulin and corrugated iron sheets OR if the main floor material is earth/mud or other	Household
	Electricity		Option 1	A household is deprived if they have no electric source	Household
	Cooking fuel	7.1.2	Option 1	A household is deprived if the main source of cooking fuel is firewood or charcoal AND the kitchen is indoors	Household
			Option 2	A household is deprived if the main source of cooking fuel is firewood or charcoal AND the kitchen is indoors	Household

	Asset ownership	related to 1.4.2	Option 1	A household is deprived if it does not own at least 2 small assets or 1 big asset (car)	Household
	Bank Account	8.10.2	Option 1	A household is deprived if no adult member has a bank account or is contributing to a saving or loan scheme	All household members aged 5 years and above
Security	Experiencing a crime (security)	11.7.2	Option 1	A household is deprived if at least one member has been a victim of violence in the last 3 years (stealing, sexual offenses, violent assault)	Household

2. Differences in population deprived in living conditions dimension indicators 2011-2018

Indicators	Y1 MICS 2011	Y2 GLSS 2016/17	Y3 MICS 2018	Difference Y2-Y1	Difference Y3-Y2	Difference Y3-Y1
Cooking Fuel	53.6%	31.3%	33.8%	-22.3%	2.5%	-19.8%
Water	33.2%	22.1%	24.8%	-11.1%	2.7%	-8.4%
Assets	20.2%	18.0%	15.9%	-2.2%	-2.1%	-4.3%
Housing	29.2%	36.5%	21.6%	7.3%	-14.9%	-7.7%
Overcrowding	34.8%	36.5%	39.1%	1.7%	2.6%	4.3%
Electricity	38.6%	19.5%	19.6%	-19.1%	0.1%	-19.0%
Sanitation	88.6%	86.9%	86.0%	-1.7%	-0.9%	-2.5%

3 Differences in population deprived in health dimension indicators 2011-2018

Indicators	Y1 MICS 2011	Y2 GLSS 2016/17	Y3 MICS 2018	Difference Y2-Y1	Difference Y3-Y2	Difference Y3-Y1
Nutrition	18%	17%	18%	-0.7%	0.9%	0.3%
Insurance	66%	68%	64%	2.6%	-4.1%	-1.4%
Child Mortality	1%	1%	1%	-0.8%	0.5%	-0.3%

4 Differences in population deprived in education dimension indicators 2011-2018

Indicators	Y1 MICS 2011	Y2 GLSS 2016/17	Y3 MICS 2018	Difference Y2-Y1	Difference Y3-Y2	Difference Y3-Y1
School Attendance	16%	17%	15%	1.4%	-1.7%	-0.3%
School Attainment	41%	28%	33%	-13.1%	5.3%	-7.8%
School Lag	35%	29%	35%	-5.6%	5.1%	-0.5%