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# Poverty and Expenditure in Northern Ghana in 2015 – Upper West Conversations

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Presented at the 2016 PBS Meeting  
Nuoyong Empire Hotel, Upper West  
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## Context

Feed the Future Initiative is USG food security and poverty alleviation program driven by country strategic plans

FTF Initiative tracks intervention investments' performance using a number of indicators

Ghana's baseline indicators established in 2012 and midline study tracking progress conducted in 2015

This meeting is reporting progress and providing new information at the district level



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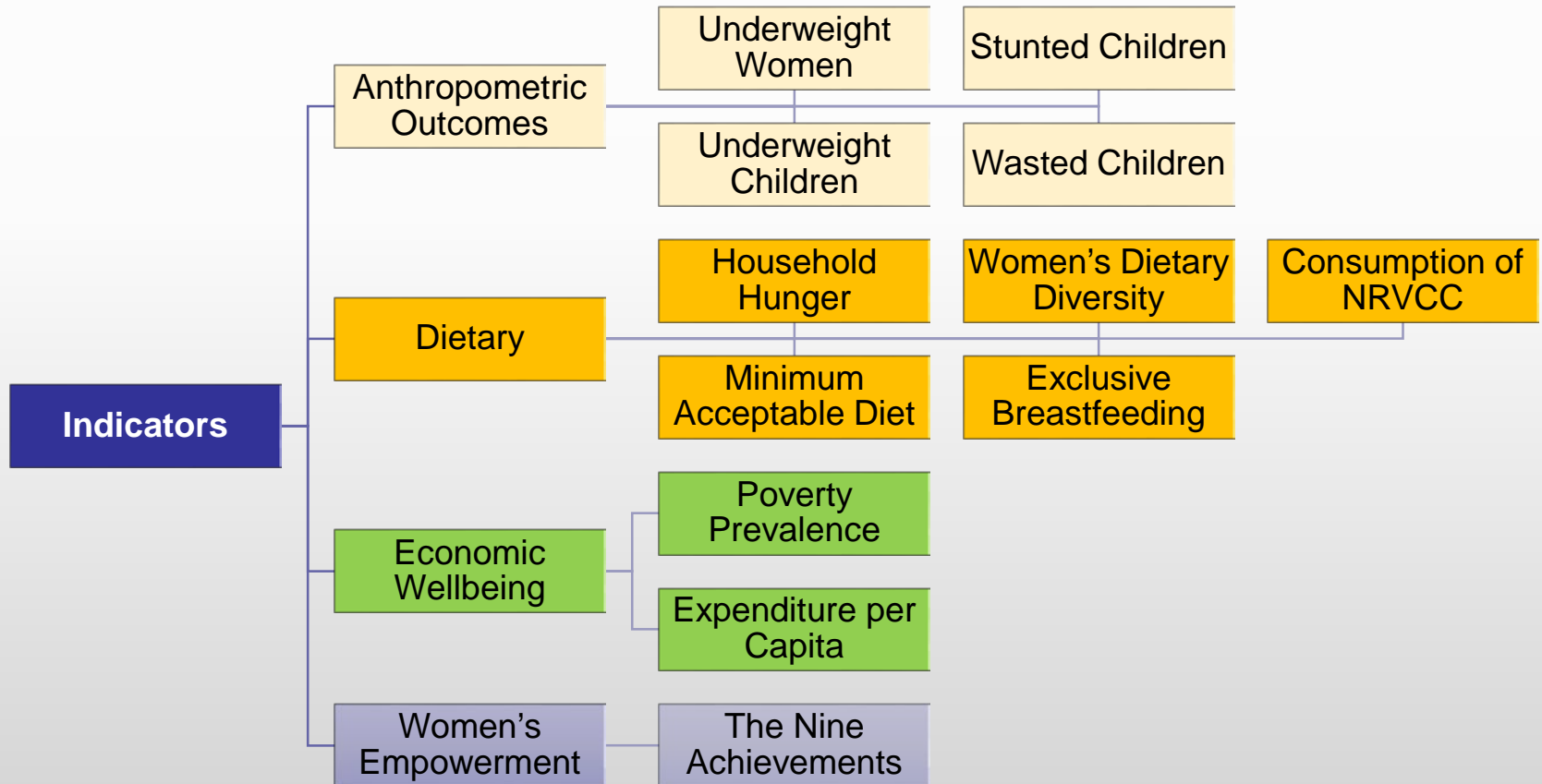
## 2015 Survey Structure

Reporting changes in the indicators from 2012 based on original 4,410 households

Reporting district level results for 6,700 households across the ZOI



# The Feed the Future Indicators





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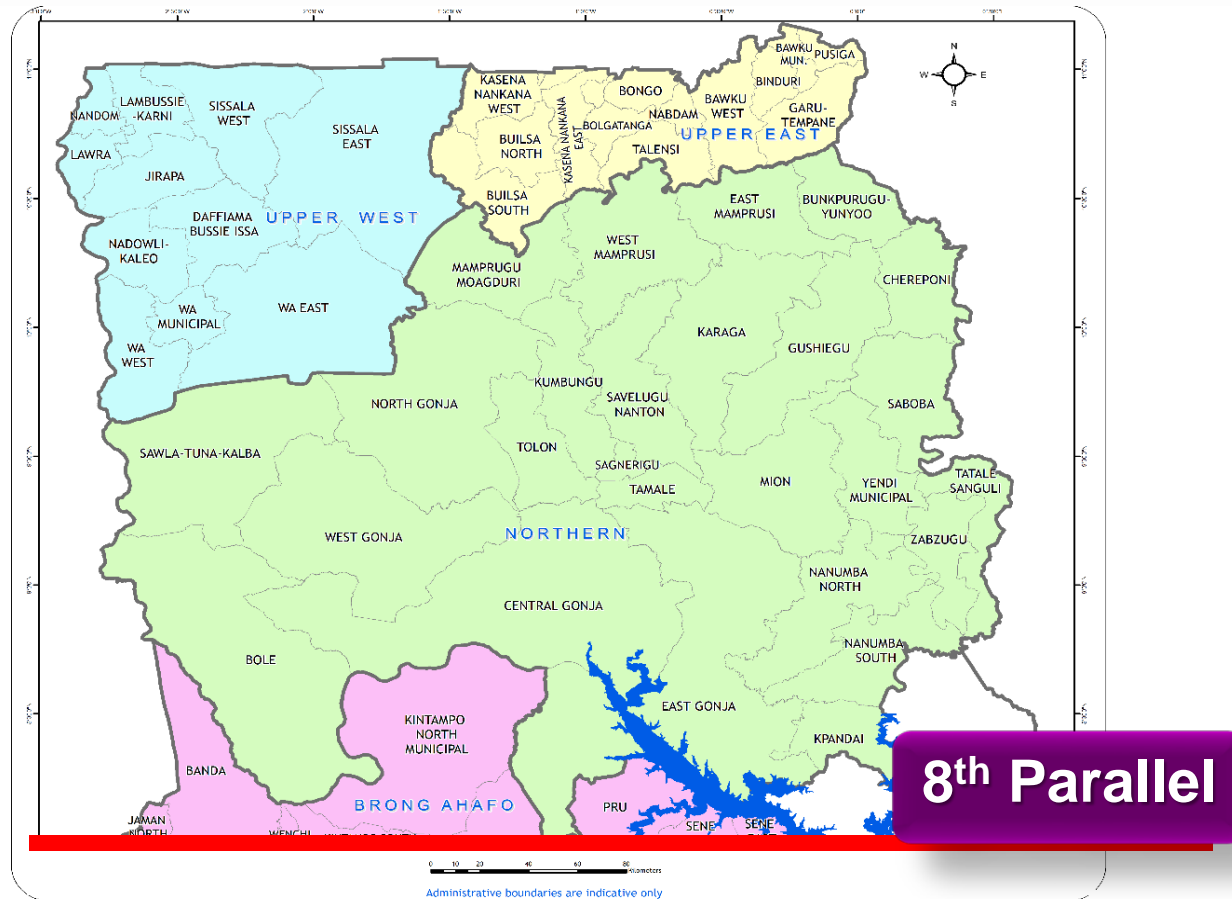
# Summary

# Demographics



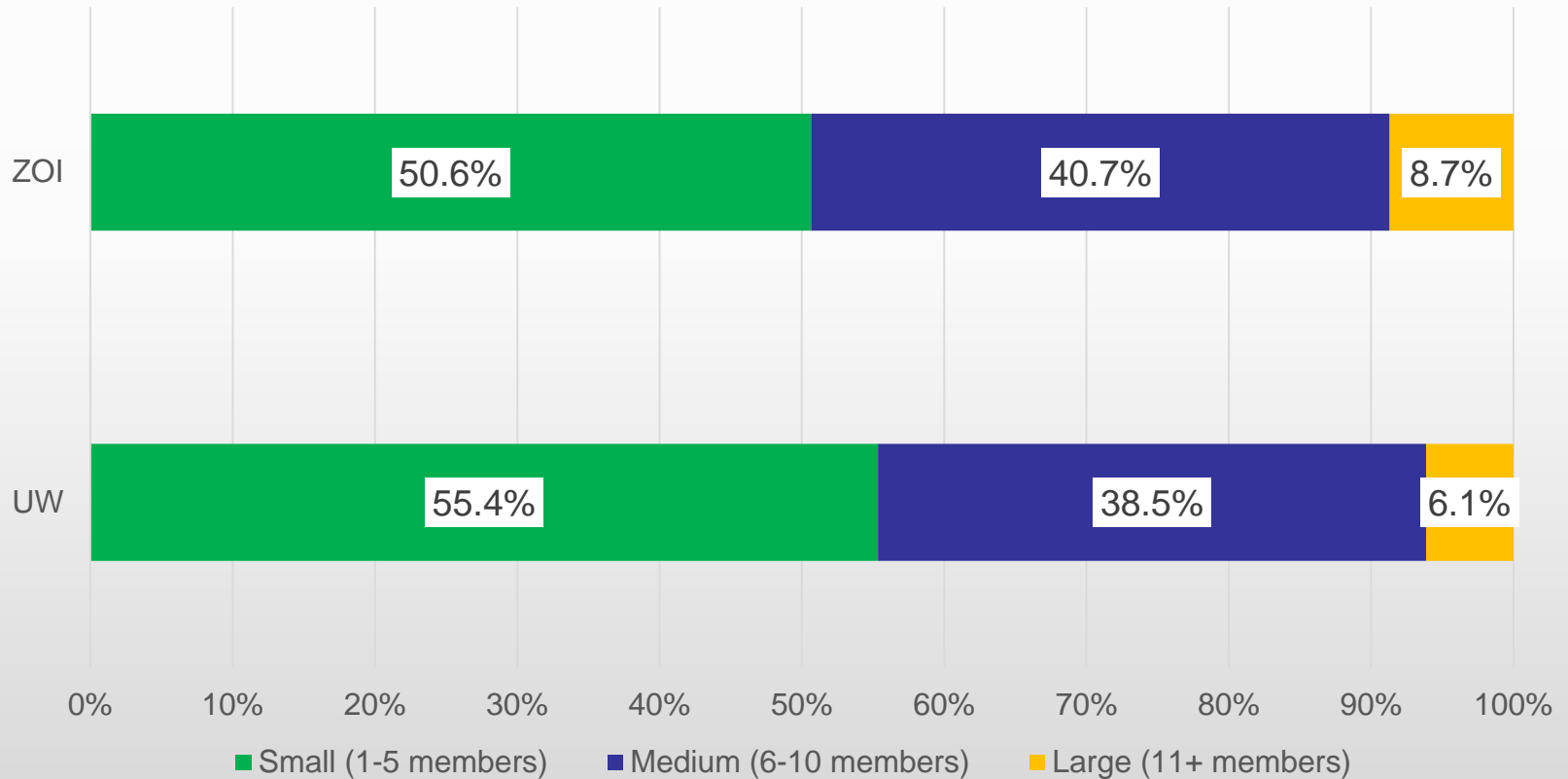
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# The Zone of Influence



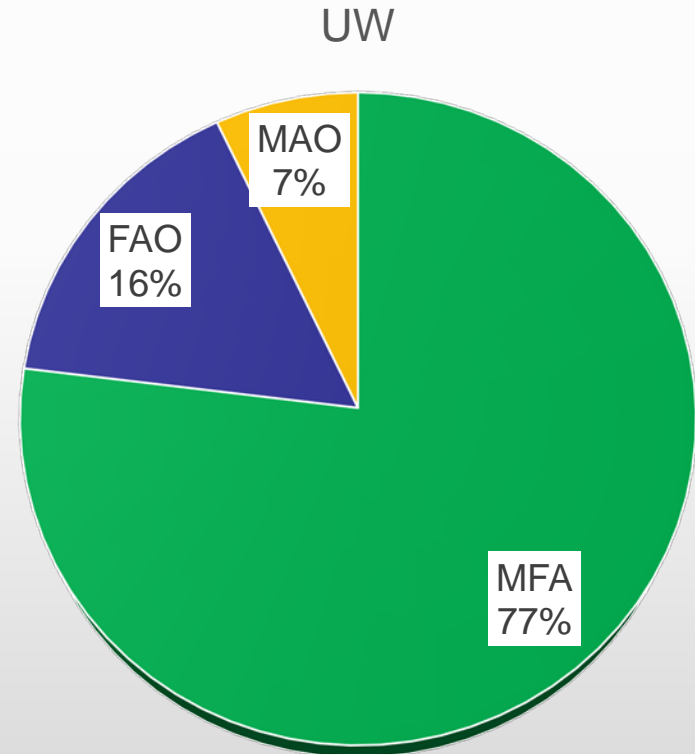
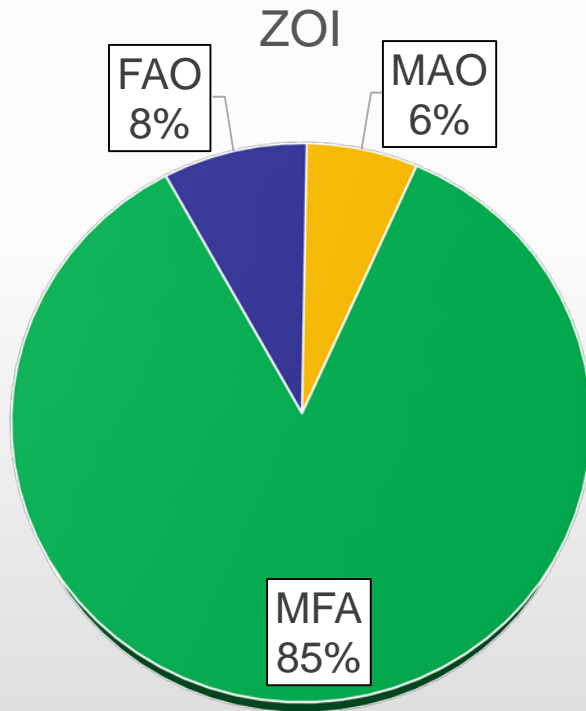


# Household Size Distribution





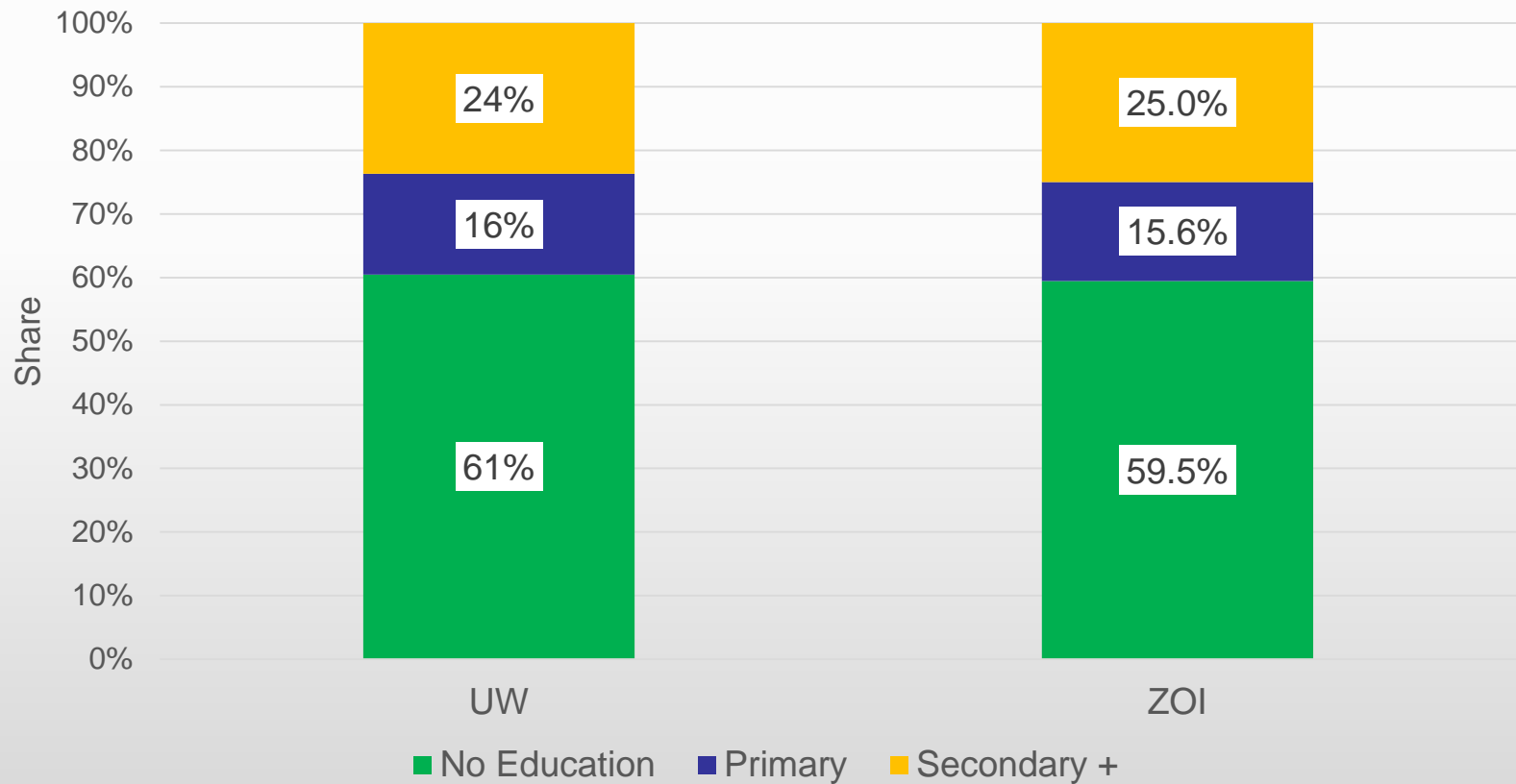
# Distribution by Gendered Household Types







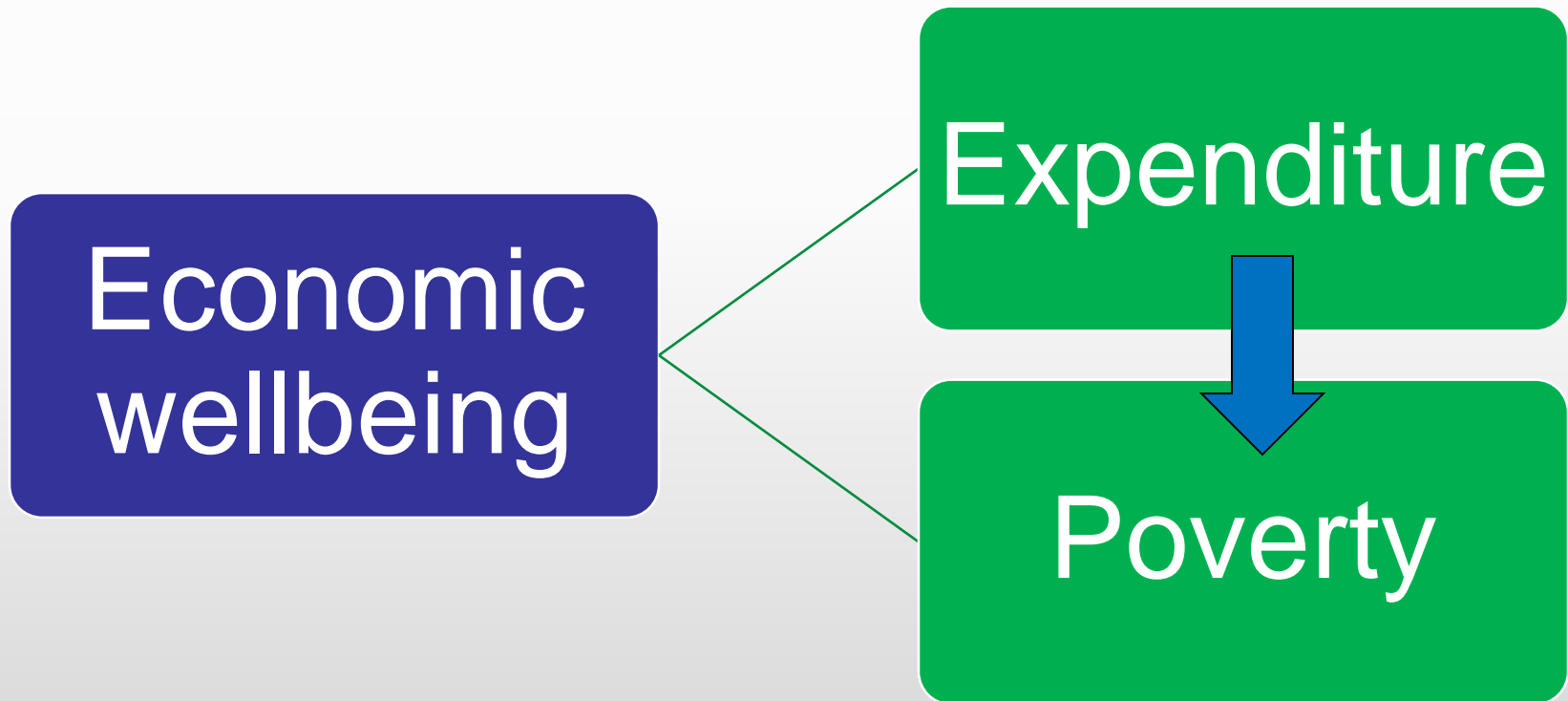
# Education





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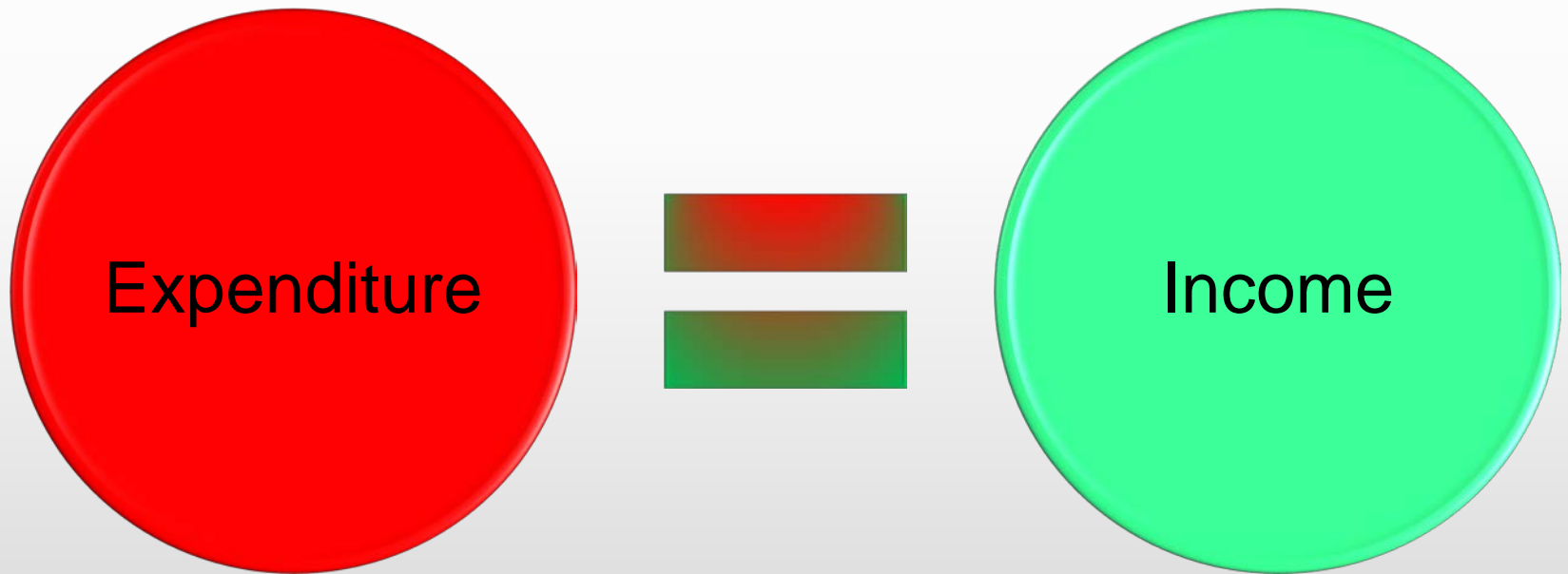
## Our Focus = Households





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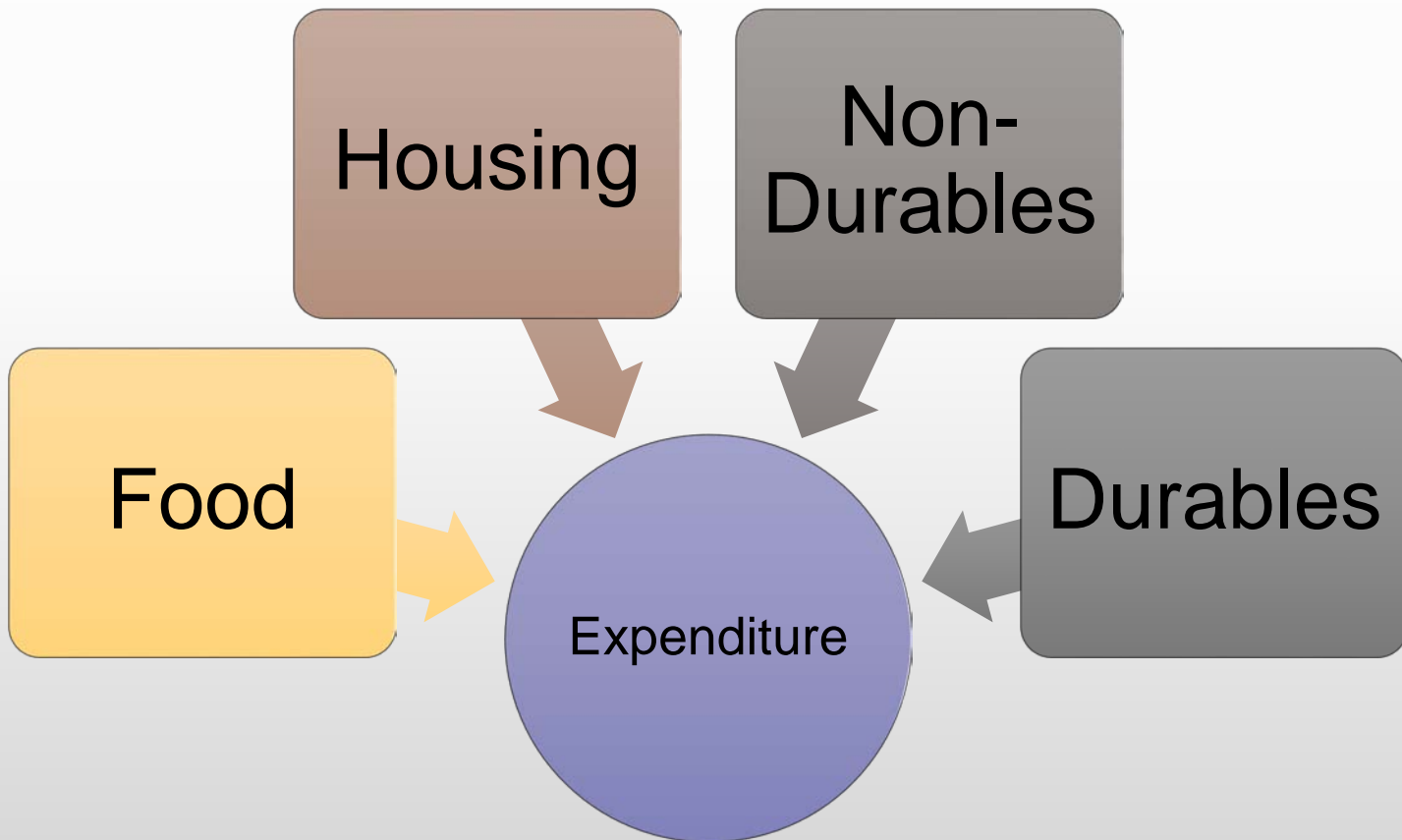
# Basic Assumption





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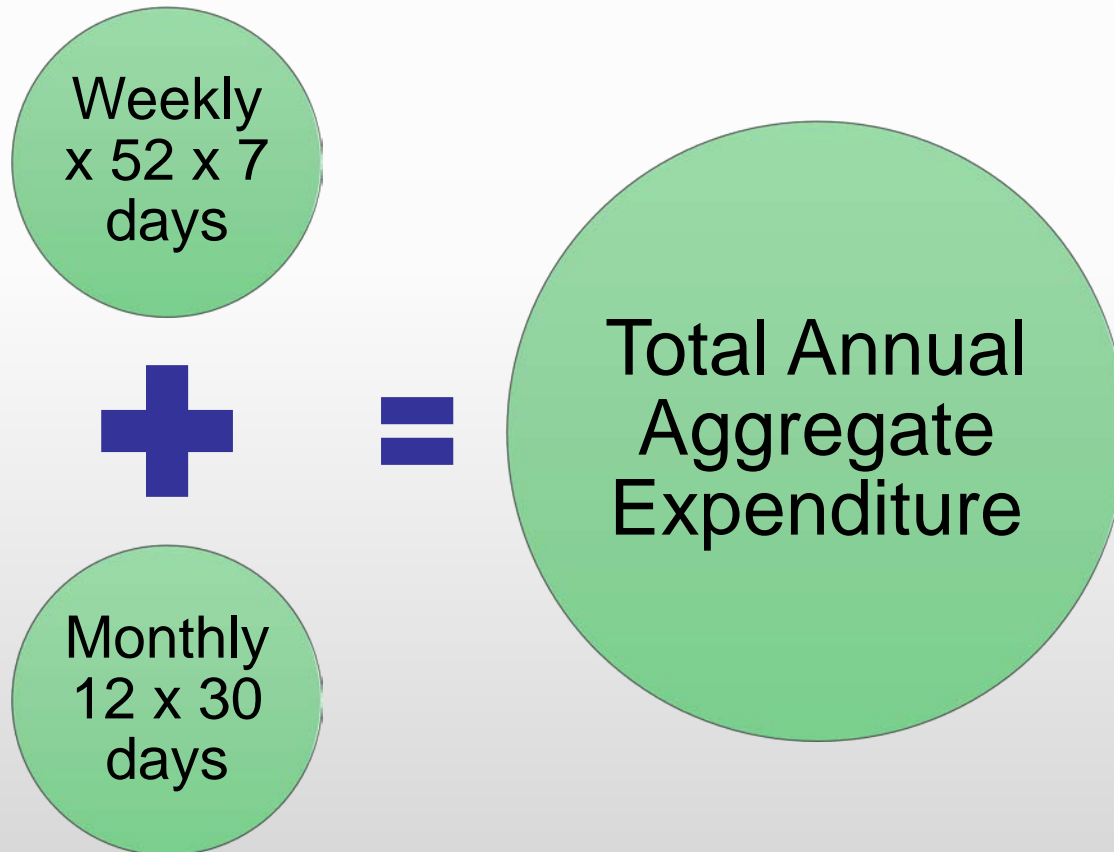
# Components of Expenditure = 256 items with different recall times





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# Expenditure

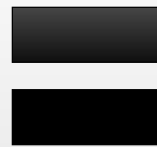




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# Expenditure

Total  
Annual  
Aggregate  
Expenditure  
/ 365 days



Daily  
Aggregate  
Expenditure



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# Expenditure

Daily  
Aggregate  
Expenditure  
/ Household  
Size



Average  
Daily Per  
Capita  
Household  
Expenditure



## Expenditure in PPP

- Estimate is in 2015 Cedi value and has to be converted into international currency (PPP) for comparison
- Conversion addresses inflation and exchange rates using the following formula

$$X_{2005}^{PPP} = \frac{X_{2015}^{GHS} I_{2005}}{I_{2015} \rho_{2005}}$$

Where I is the CPI, X is the expenditure,  $\rho$  is the PPP conversion factor & subs are ref years & supers are currencies





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## Establishing the Poverty Threshold

Not  
Poor

$$X \geq \$1.25$$

Poor

$$X < \$1.25$$

Poverty is determined by per capita expenditure, which is dependent on household size



# Expenditure and Poverty

Take two households, same total expenditure but different sizes

- Household I = 10 people; Household II = five people; total daily household expenditure = \$10 each
- Average per capita expenditures are respectively \$1 and \$2
- Prevalence of poverty at the household level (poverty line = \$1.25) is 50%
- At the individual level, the prevalence of poverty is 67%
- If HH I has 12 members, then individual headcount poverty rate is now 70.6% but remains unchanged under household level estimates



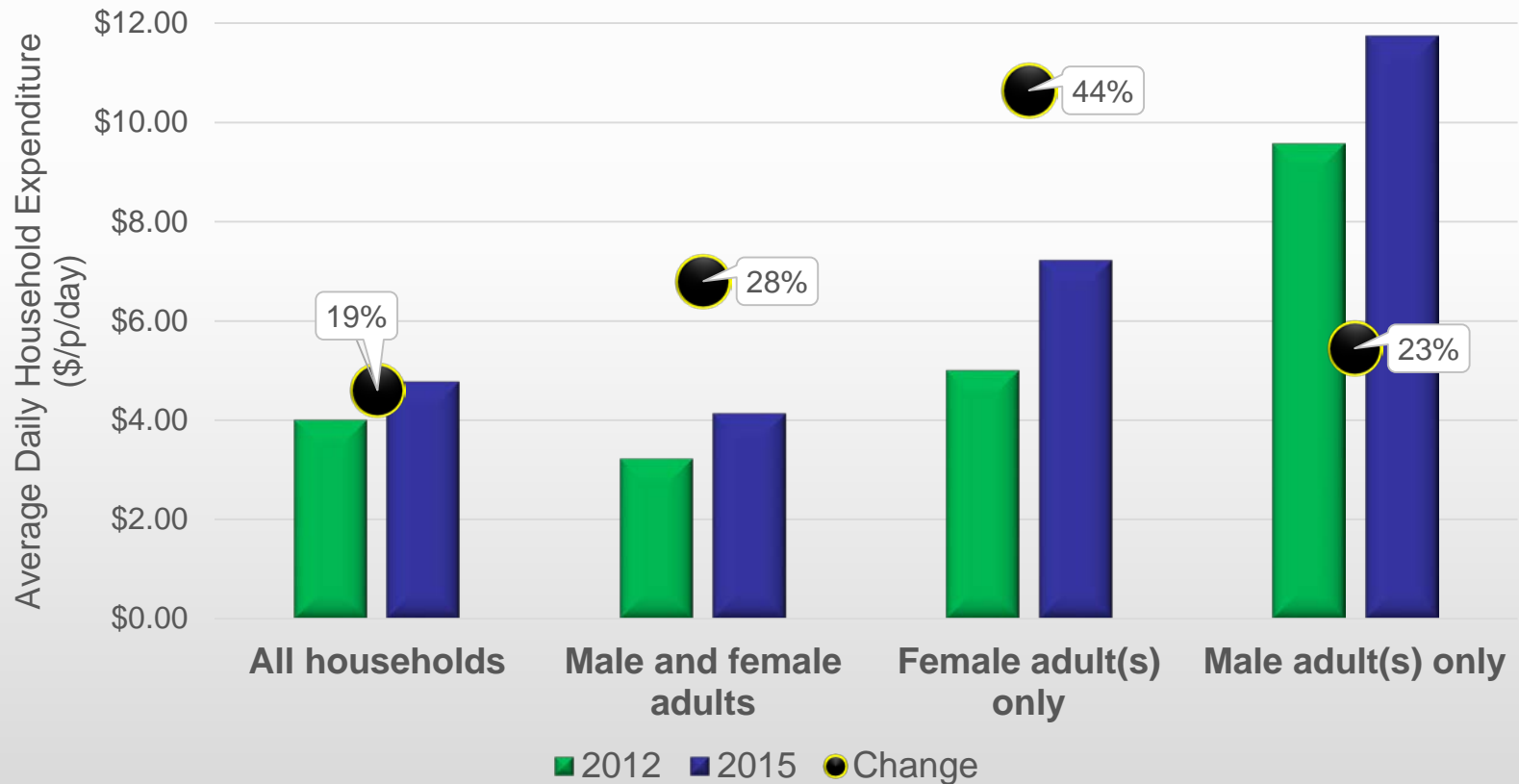
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# Expenditure and Poverty

- So, how many variables can affect the estimate?
  - The poverty threshold used
  - The calculation of expenditure and assumptions about prices, etc.
  - Time of year data are collected given vulnerability of poor to cyclical consumption patterns
  - The inflation rates used – determined by period of data collection and reference periods
  - The PPP conversion factor used
  - How the incidence is measured
  - The weights that are applied, which is determined by the sample size and the reference population being used
  - How outliers are treated

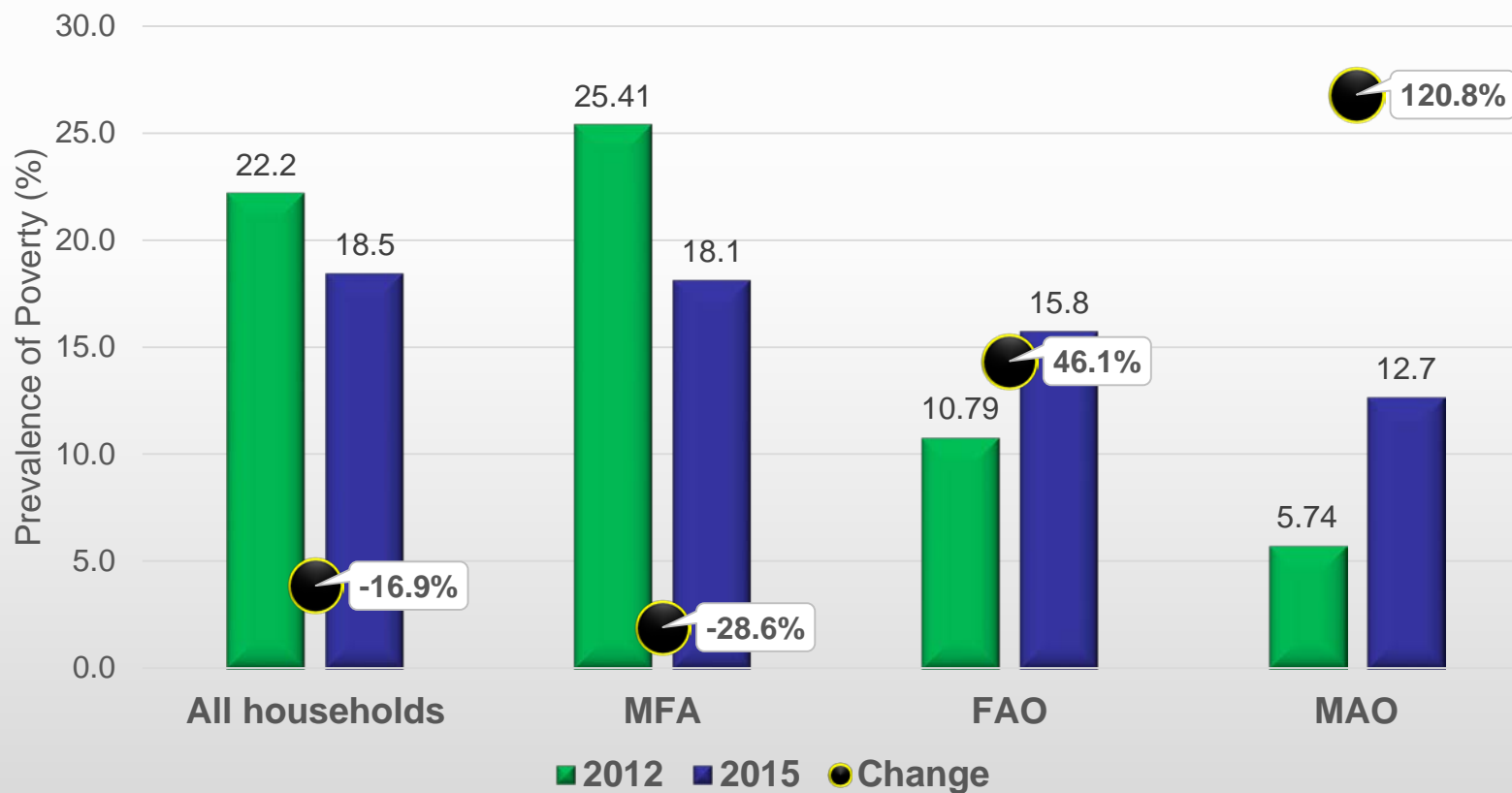


# Change in Expenditure by Gendered Household Types



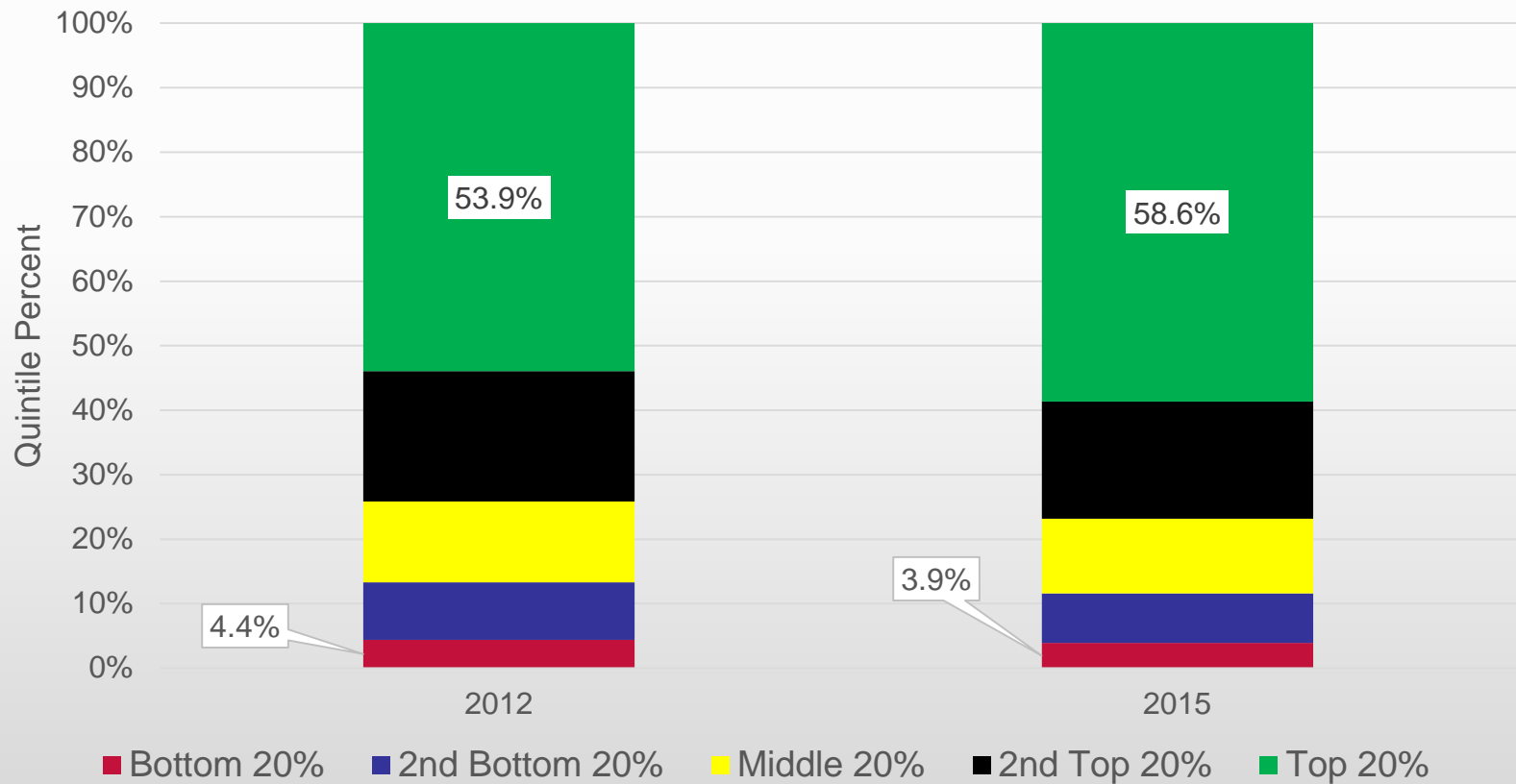


# Change in Poverty by Gendered Household Types



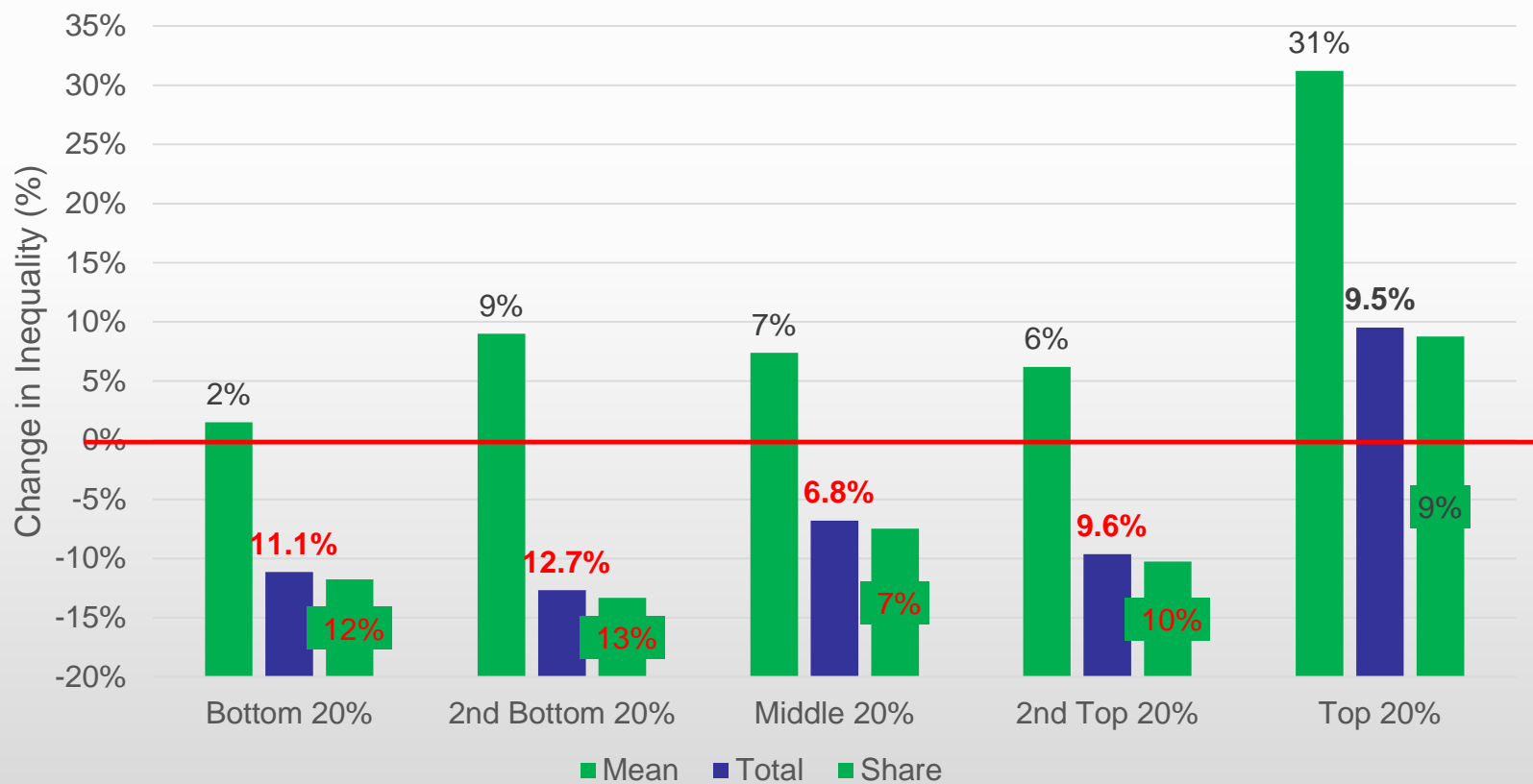


# Inequality Indicator: Distribution of Consumption by Quintiles



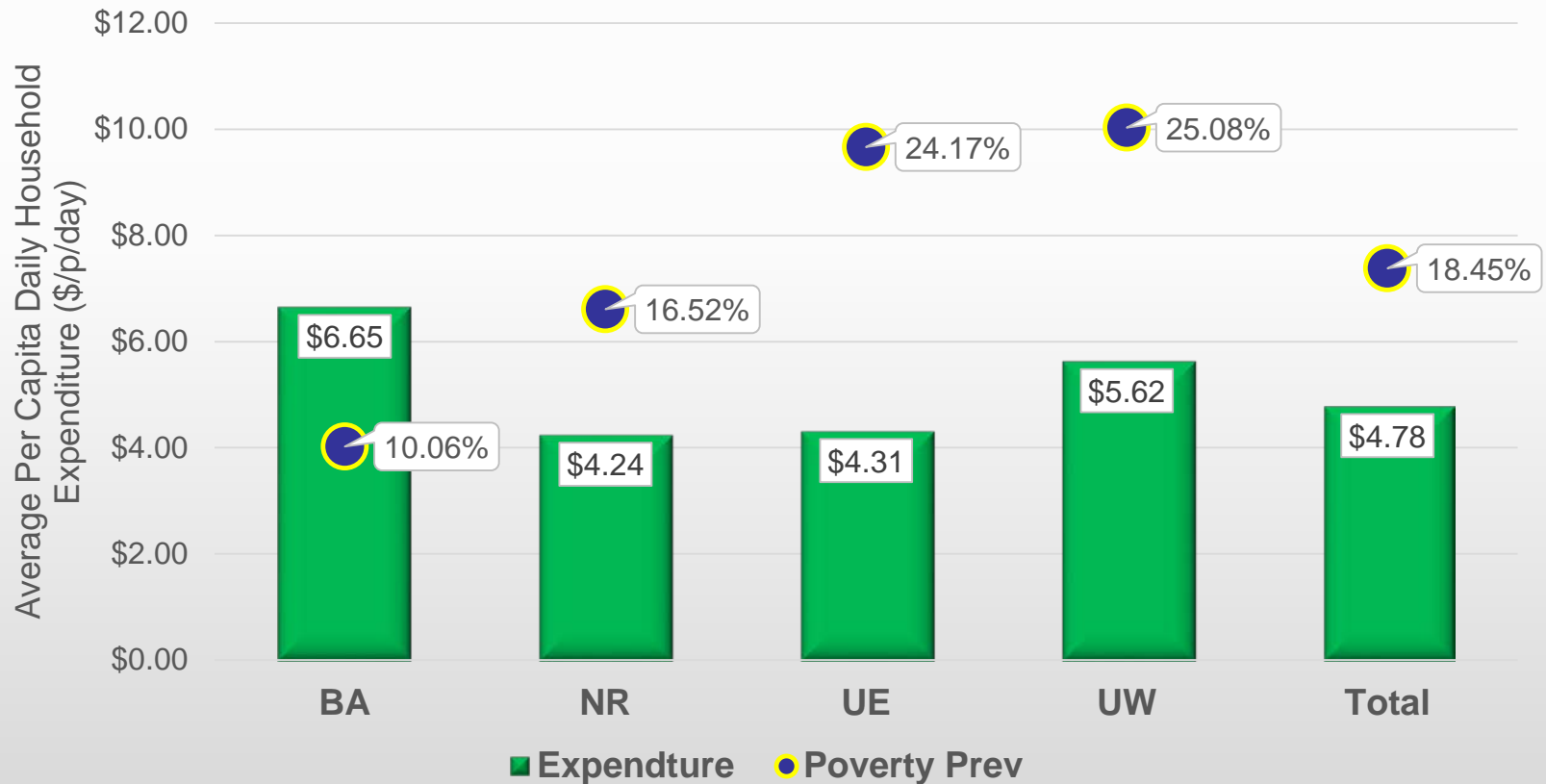


# Change in Inequality 2012-2015 (ZOI)





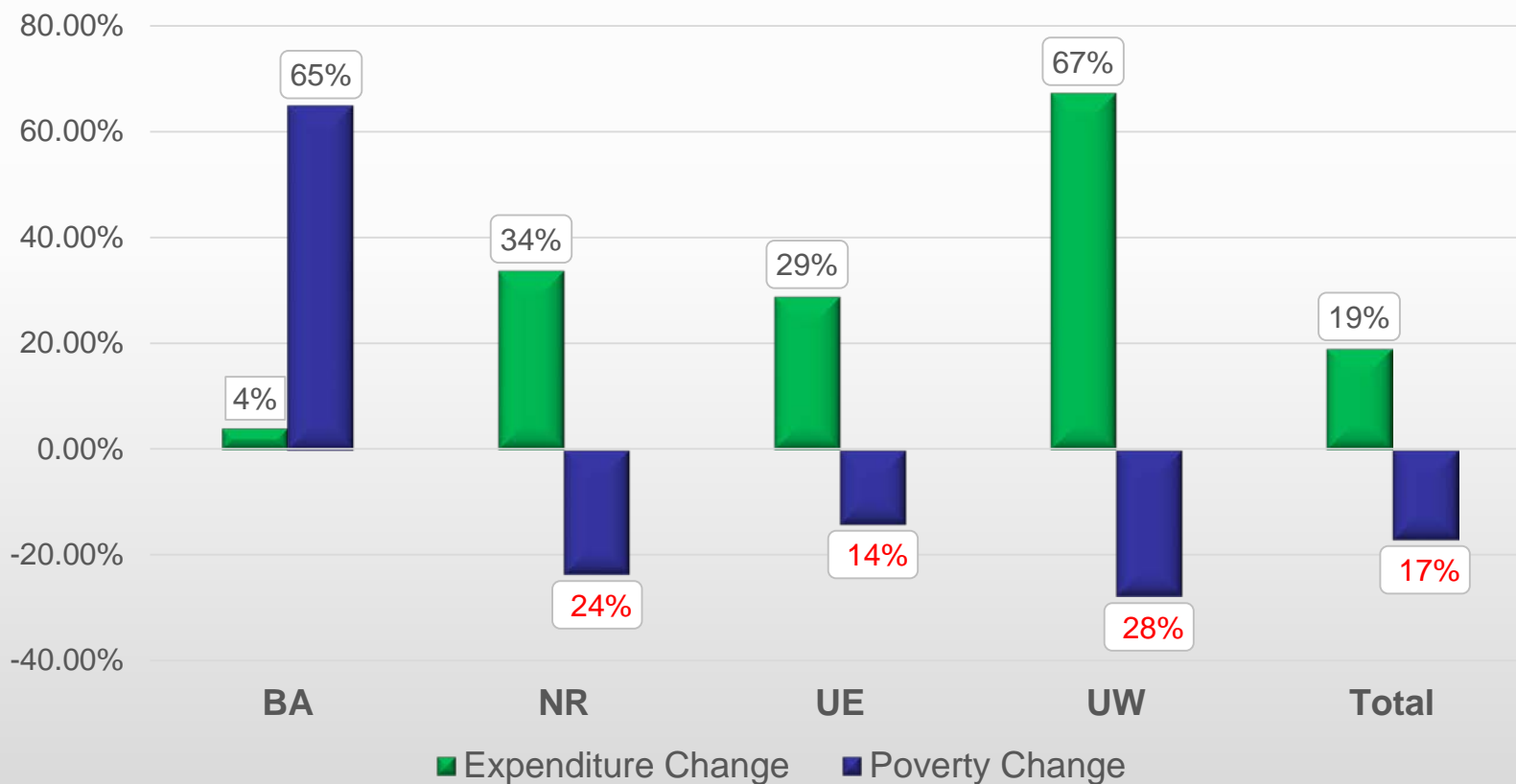
# Expenditure and Poverty by Region (2015)







# Expenditure and Poverty Change by Region (2015 v 2012)





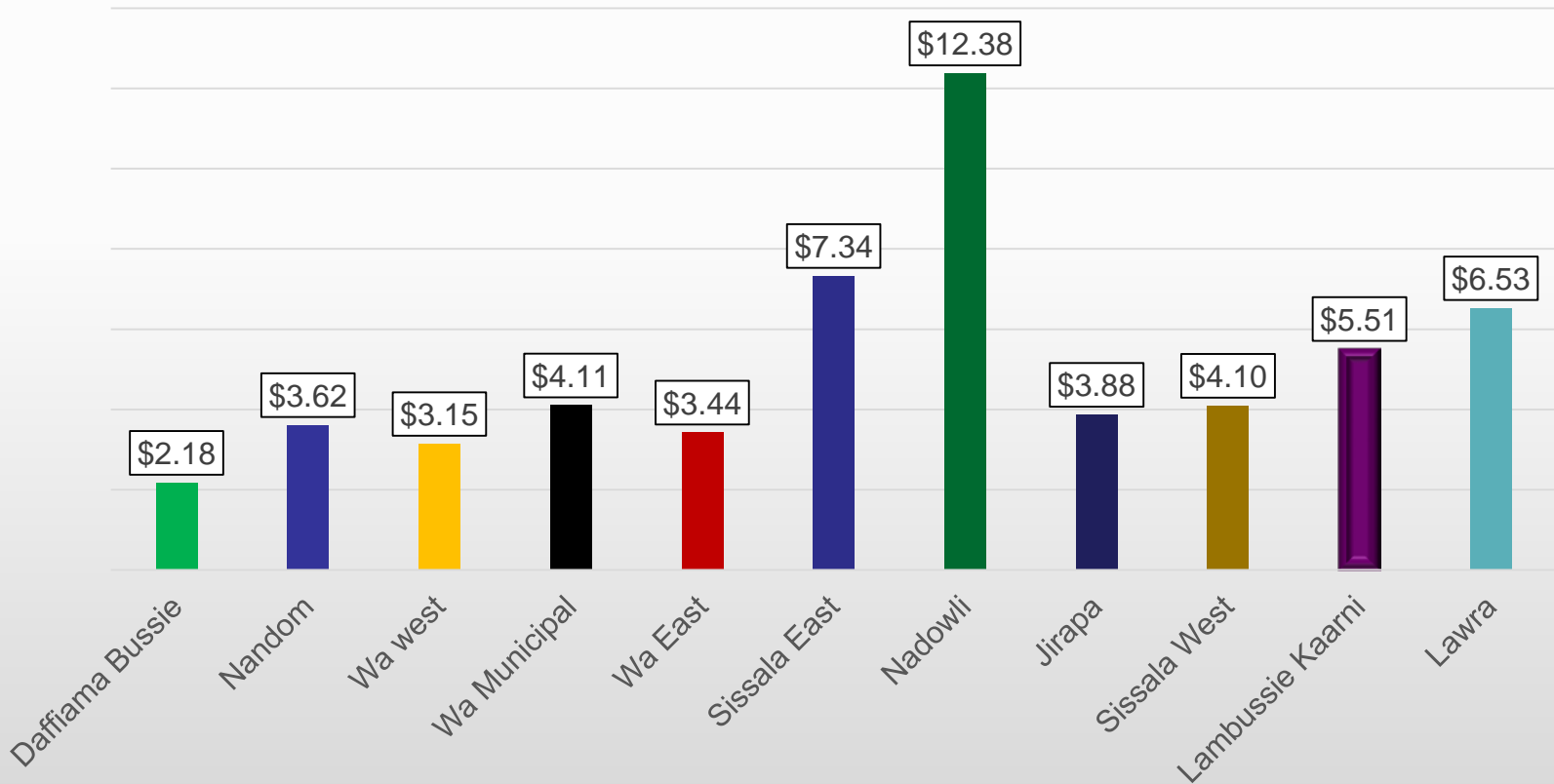
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# Upper West

Raw unweighted district samples used in the estimation of the indicators



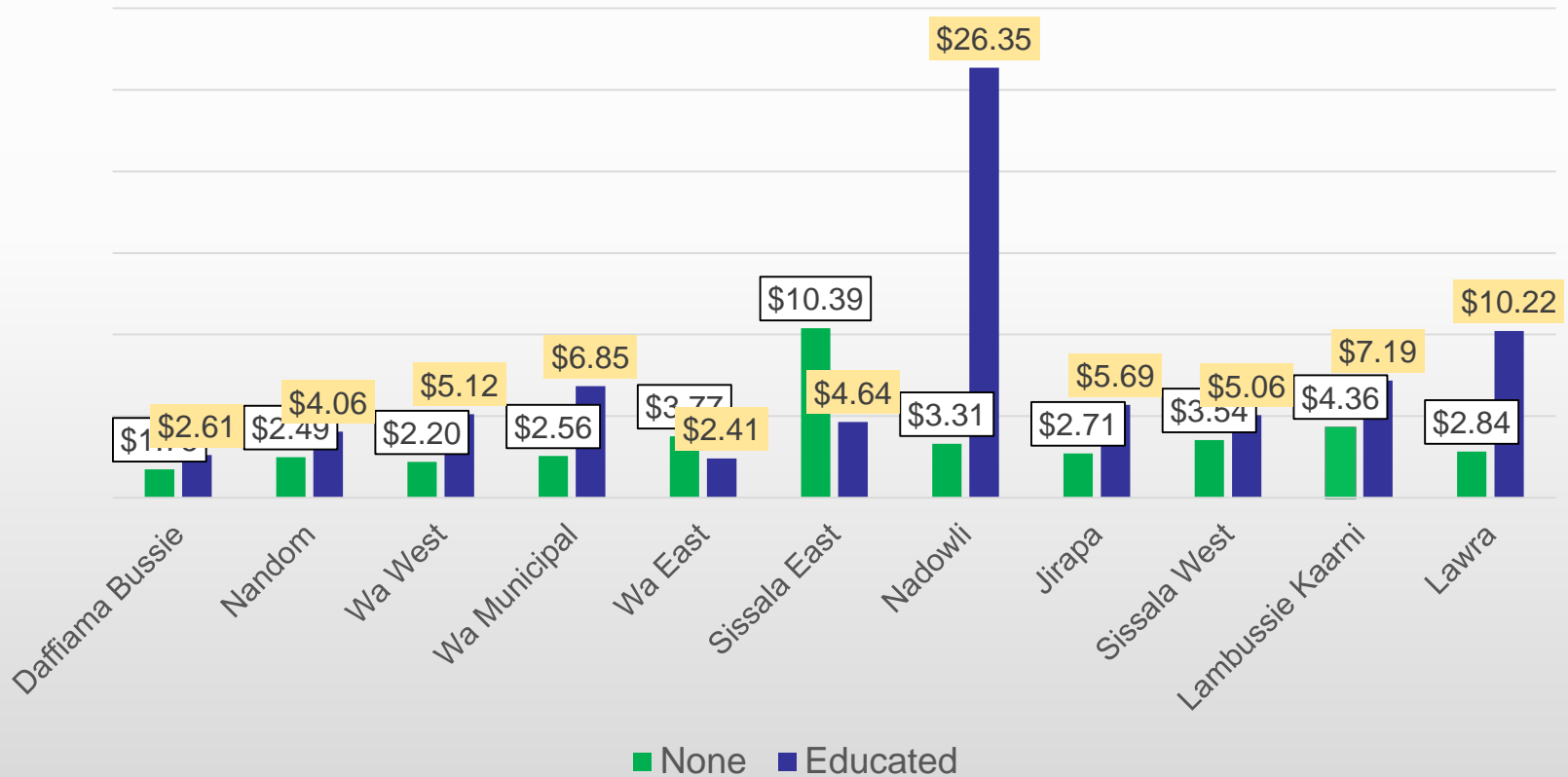
# Average Daily Per Capita Household Expenditure by District





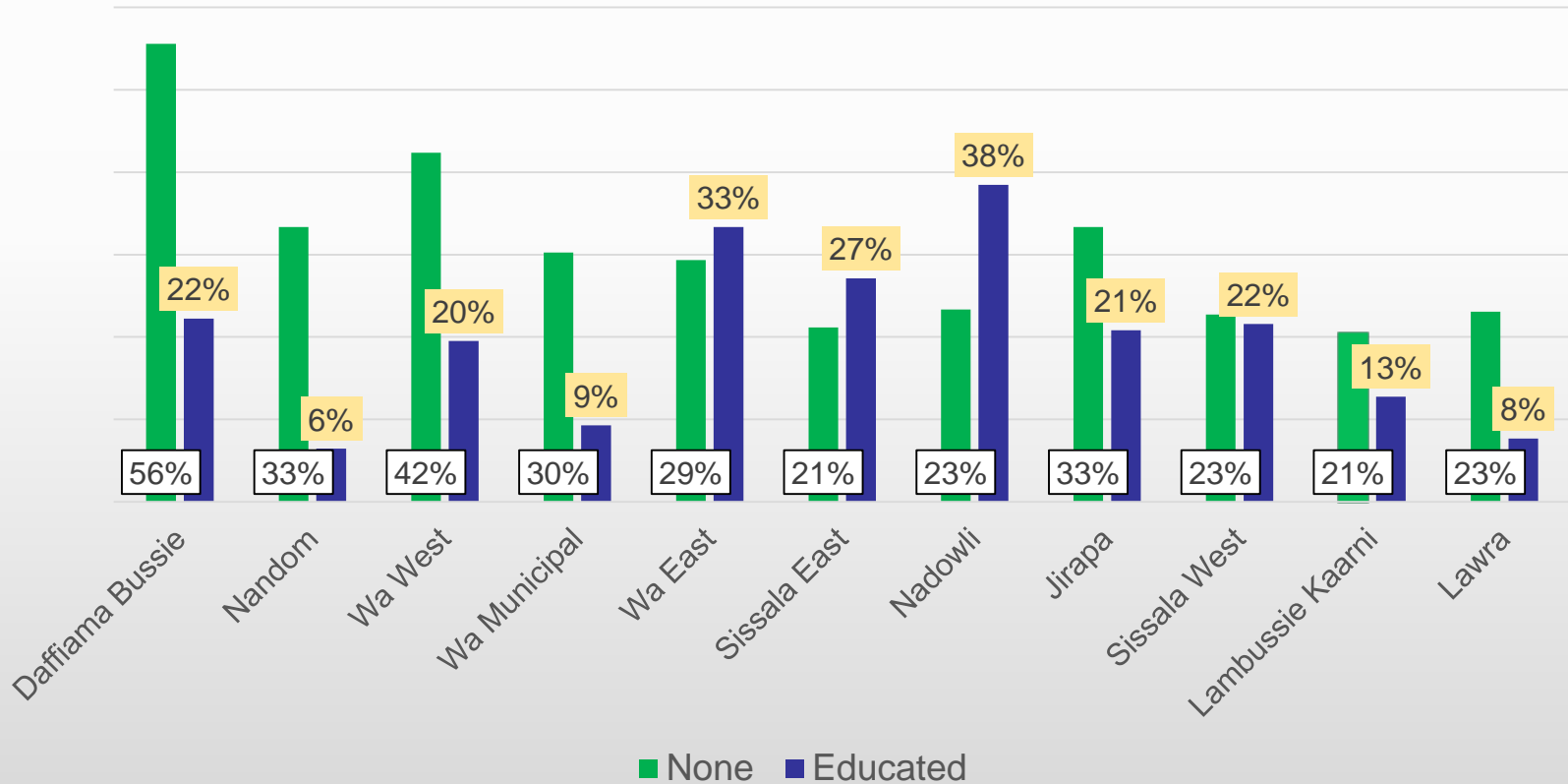
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# Average Daily Per Capita Household Expenditure by District and Education





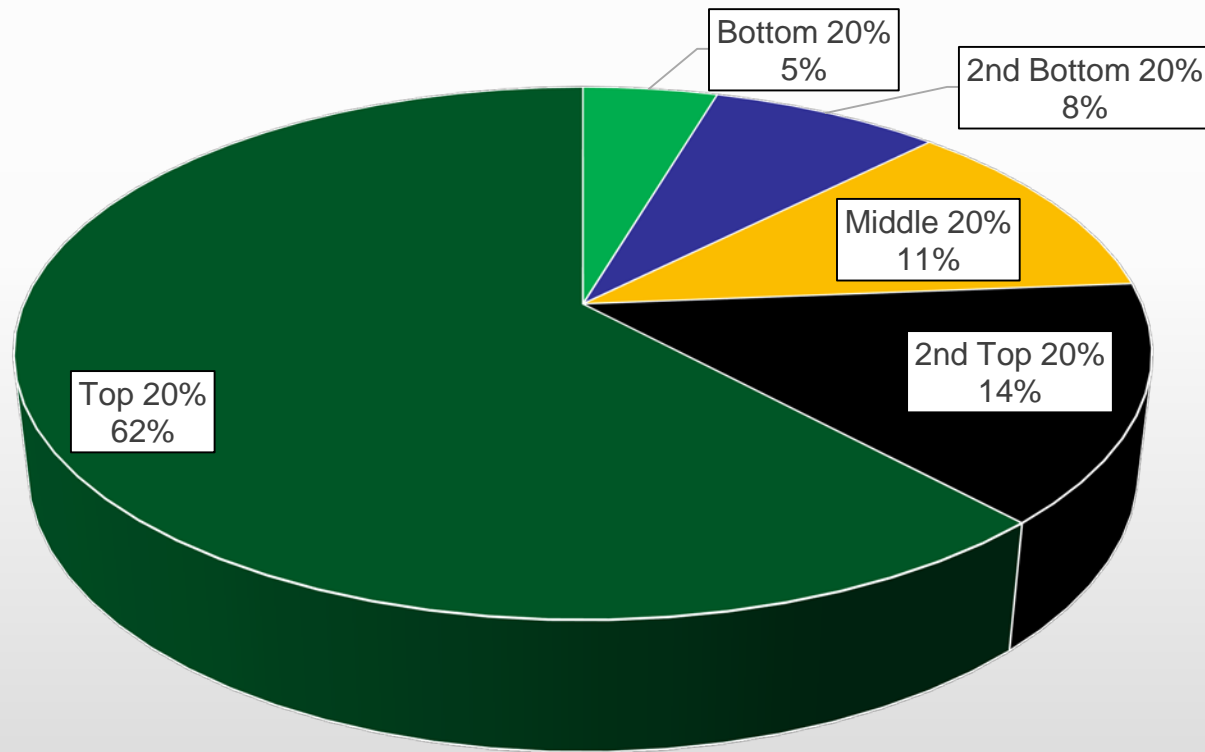
# Poverty Prevalence by Districts and Education





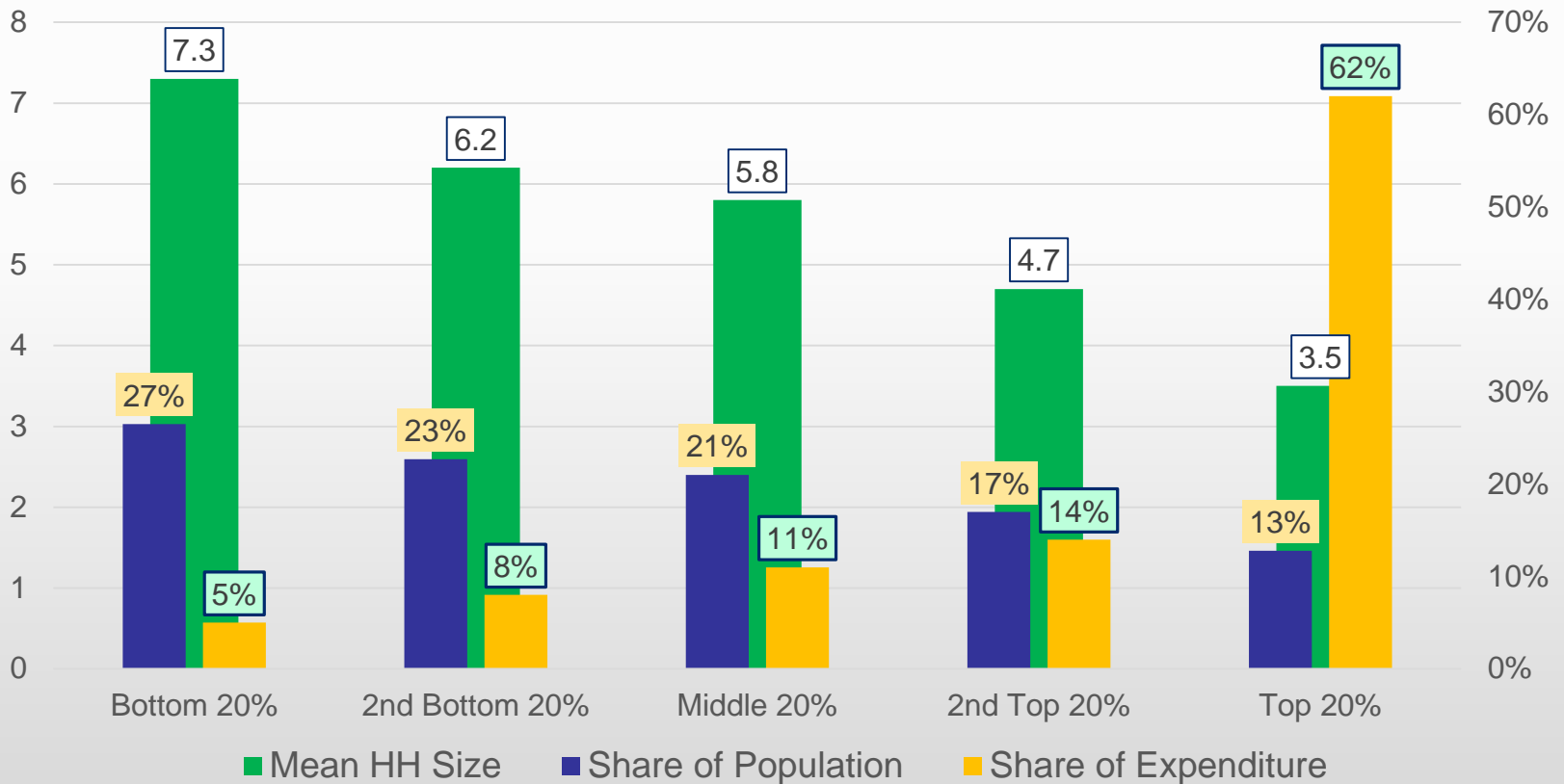
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# Distribution of 2015 Total Expenditure in UW by Quintiles



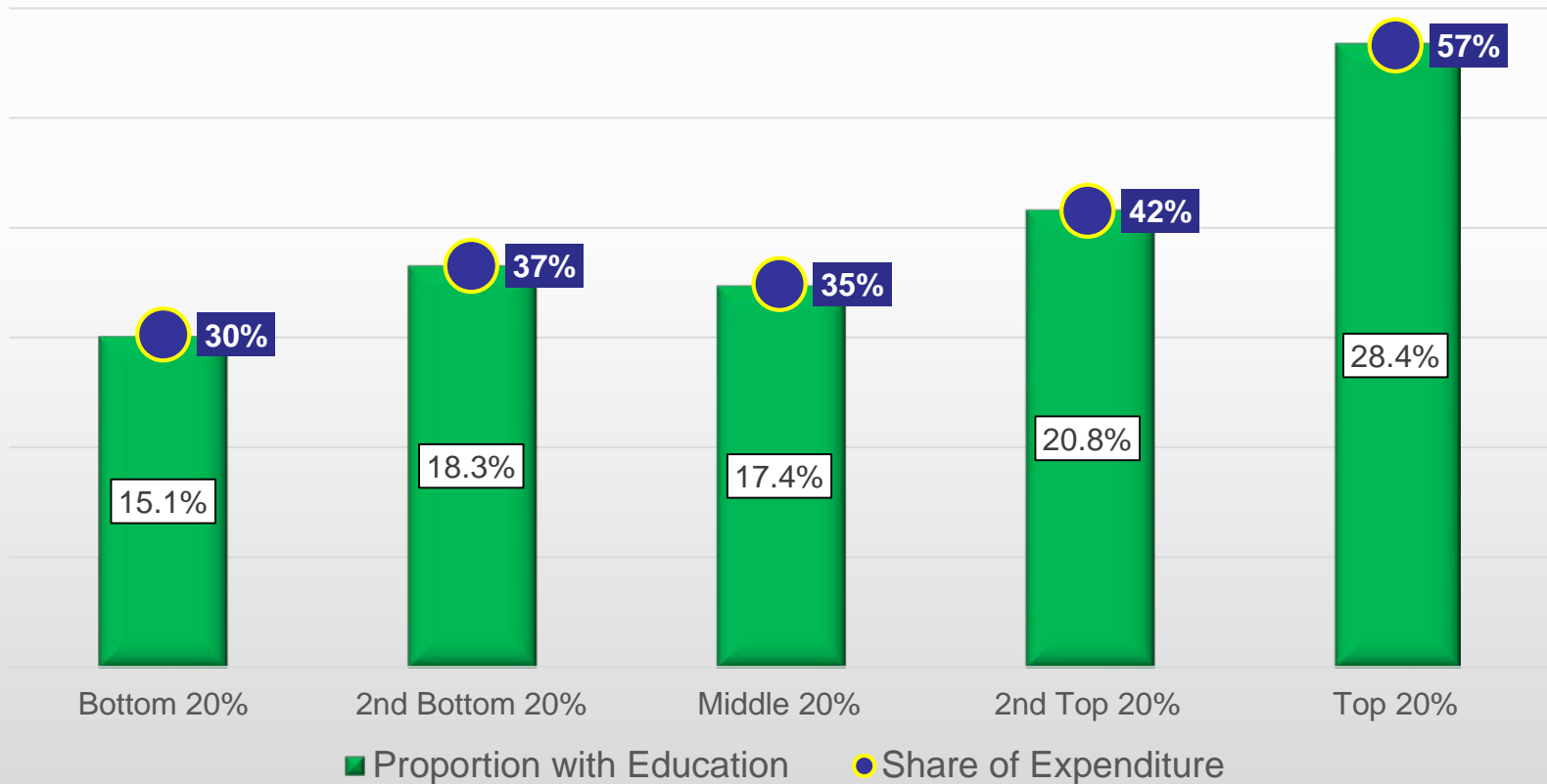


# Average Household Size and Share of Population and Expenditure by Quintiles





# Proportion of Households with Educated Head and Share Expenditure by Quintiles







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## What Can We Learn?

- How are those counted as poor differ from those who are not?
- The probability of being among poor households is determined by education (E), gendered household type (G), household size (H), location (L), and food share of total expenditure (F)

$$P = f(E, G, H, L, F)$$



# Determinants of Poverty Risk

Poverty	Odds Ratio	S.E.	z	P>z	95% Conf. Interval		Sig
Education	0.51	0.09	-3.97	0.00	0.37	0.71	***
<b><i>Gendered Household Type (Base = MFA)</i></b>							
FAO	1.16	0.27	0.65	0.52	0.74	1.84	
MAO	0.85	0.35	-0.40	0.69	0.38	1.90	
Household Size	1.27	0.04	8.51	0.00	1.20	1.34	***
<b><i>Districts (Base = Daffiama Bussie)</i></b>							
Nandom	0.20	0.14	-2.32	0.02	0.05	0.78	**
Wa west	0.52	0.28	-1.20	0.23	0.18	1.51	
Wa Municipal	0.29	0.16	-2.23	0.03	0.10	0.86	**
Wa East	0.38	0.21	-1.78	0.07	0.13	1.10	*
Sissala East	0.44	0.24	-1.49	0.14	0.15	1.30	
Nadowli	0.49	0.27	-1.30	0.19	0.16	1.44	
Jirapa	0.45	0.25	-1.44	0.15	0.16	1.33	
Sissala West	0.28	0.15	-2.32	0.02	0.09	0.82	**
Lambussie Kaarni	0.30	0.17	-2.16	0.03	0.10	0.89	**
Lawra	0.25	0.15	-2.33	0.02	0.08	0.80	**
Food Share	0.86	0.35	-0.37	0.71	0.38	1.92	
Intercept	0.30	0.17	-2.11	0.04	0.10	0.92	



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## What Can We Learn

Having some education cuts the odds ratio of being poor by about half

Increasing household size by one member increases the odds of being poor by about 27%



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## What Can We Learn

# Implications

Education has a very powerful influence on the risk of being poor

**Strategic investments in education – including adult literacy programs – can contribute to reducing poverty risk**

Managing household size is critical to managing poverty risk

**Enhanced recognition of the relationship between resource availability, household size and poverty could ameliorate poverty risks**



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# Thank You

Questions, comments, ideas