Typologies

Wealth Ranking

UPSCALING BEST FIT MAIZE-LEGUME TECHNOLOGIES THROUGH MULTI ENVIRONMENT TRIALS AND FARMER RESEARCH NETWORKS IN MALAWI

WEALTH RANKING IN PROJECT AREAS

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Introduction

- BBIII aim at improving livelihoods of smallholder farmers including the marginalised groups
  - This requires identifying and characterising different categories of wealth in project communities
  - The information is essential to monitoring and evaluation of project's impact on different wealth categories in project communities
- However, such information should reflect the perceptions of the locals about wealth in their communities
  - Therefore a wealth ranking exercises was conducted in project areas

Objectives

- Identifying categories of wealth, well-being and poverty in communities
- Establishing distribution of households in different wealth categories wealth, well-being and poverty

Methodology

- Identification of farmer perceived wealth ranking indicators
  - Wealth ranking (well-being) tool
    - Adapted from
      - World Bank (2005) *Poverty and Social Impact Analysis Sourcebook*
        http://go.worldbank.org/ZGZHJEDBZ0
      - IISD *Wealth Ranking and Poverty Analysis*
        http://www.iisd.org/casl/caslguide/wealthranking.htm

- Procedure
  1: Select Local Analysts.
  2: Provide Introductions and Explanations.
  3: Separate the Group of Participants by Gender.
  4: Participants Produce a Wealth Ranking
  5: Participants' Presentations/ Analysis and Discussions
  6: Conclude the Activity.

Methodology

- Collecting the evidence
  - Baseline survey (588 households-sample size)
    - 61 variables included in the survey
    - 31 ratio data (continuous e.g number of assets owned)
    - 30 nominal (binary- yes/no)
- Data reduction
  - Principle Component Analysis (PCA in SPSS)
  - Categorical Principle Component Analysis (CATPCA in STATA)
- Generating wealth categories
  - Household Wealth Index (Quintiles in stata)

Results: Farmer Perceptions of Wealth

- Indicators and criteria for wealth, well-being and poverty

	Wealth category		
	Very poor	Poor	Better off
Social characteristics			
Food insecure all year	√		
Food insecure half of year		√	
Food secure all year			√
Cant send children to school	√		
Old aged/disabled/orphaned	√		
Educated			√
Hire farm labour			√
Able to buy enough fertilizer			√

Results: Farmer Perceptions of Wealth

- Indicators and criteria for wealth, well-being and poverty

Assets	Wealth category		
	Very poor	Poor	Better off
House with grass thatched roof	√	√	
House with iron sheet roof			√
House with unburnt bricks wall	√		
House with burnt bricks wall		√	√
Ox-cart			√
Cattle			√
Goat		√	√
Pig		√	√
Chicken		√	√
Bicycle		√	√
Motor Bike			√
Car			√
Bed			√
Milling machine			√
Large land size			√

Results: Farmer Perceptions of Wealth

- Indicators and criteria for wealth, well-being and poverty

	Wealth category		
Copping and livelihood strategy	Very poor	Poor	Better off
Begging	√		
Farm casual labour	√	√	
Sell agricultural products (small scale)		√	√
Small business (grocery)			√
Small business (charcoal selling)		√	
Small business (firewood selling)	√		
Small business (local beer brewing	√	√	
Transporter (bicycle)		√	
Transporter (car)			√

Results: Farmer Perceptions of Wealth

- Wealth categories and distribution of households in categories

	Wealth categories			
	Very poor	**Poor**	**Better off**	**Rich***
Distribution of households	Few	Majority	Very few	Rare

- * one group had added the rich category but it was extensively contested during the group presentation

Categories of variables identified

- Demographic characteristics
  - Age, education,
- Food security
  - Number of months maize is available for households
- Assets
  - Household utilities (e.g beds), type of dwelling house, land, livestock, transportation
- Economic activities
  - Begging, casual labour, businesses

Results: Data Reduction

- 19 Variables identified in PCA and CATPCA outputs

Item	Factor score
Number of cars owned	0.84
house has iron sheet roof	0.82
Number of cattle owned	0.80
House has electricity	0.78
if bought bread	0.78
if household uses candles for lighting	0.77
Number of ploughs owned	0.76
if went to maize mill	0.74
Number of oxcart owned	0.74
if bought sugar	0.73

| Item	Factor score
household has glass windows	0.73
house has concrete floor	0.72
if bought soap	0.71
Number of motorcycle owned	0.70
household has burnt brick wall	0.68
Number of goats owned	0.66
Number of treadle pumps owned	0.61
Number of table owned	0.57
Number of chairs owned	0.55

Results: Generating Wealth Categories

- Household Wealth Index
  - Transforming the factor scores to ordinal scores
    - None=0
    - 0.5-0.59=1
    - 0.6-0.69=2
    - 0.7-0.79=3
    - 0.8+=4

- Sum of ordinal scores on 19 selected variables for each household

- Household Wealth Index variable generated

Results: Generating Wealth Categories

- Summary of the Household Wealth Index

n	mean	max	min
588	19	44	3

Household Wealth Index (aggregate score)
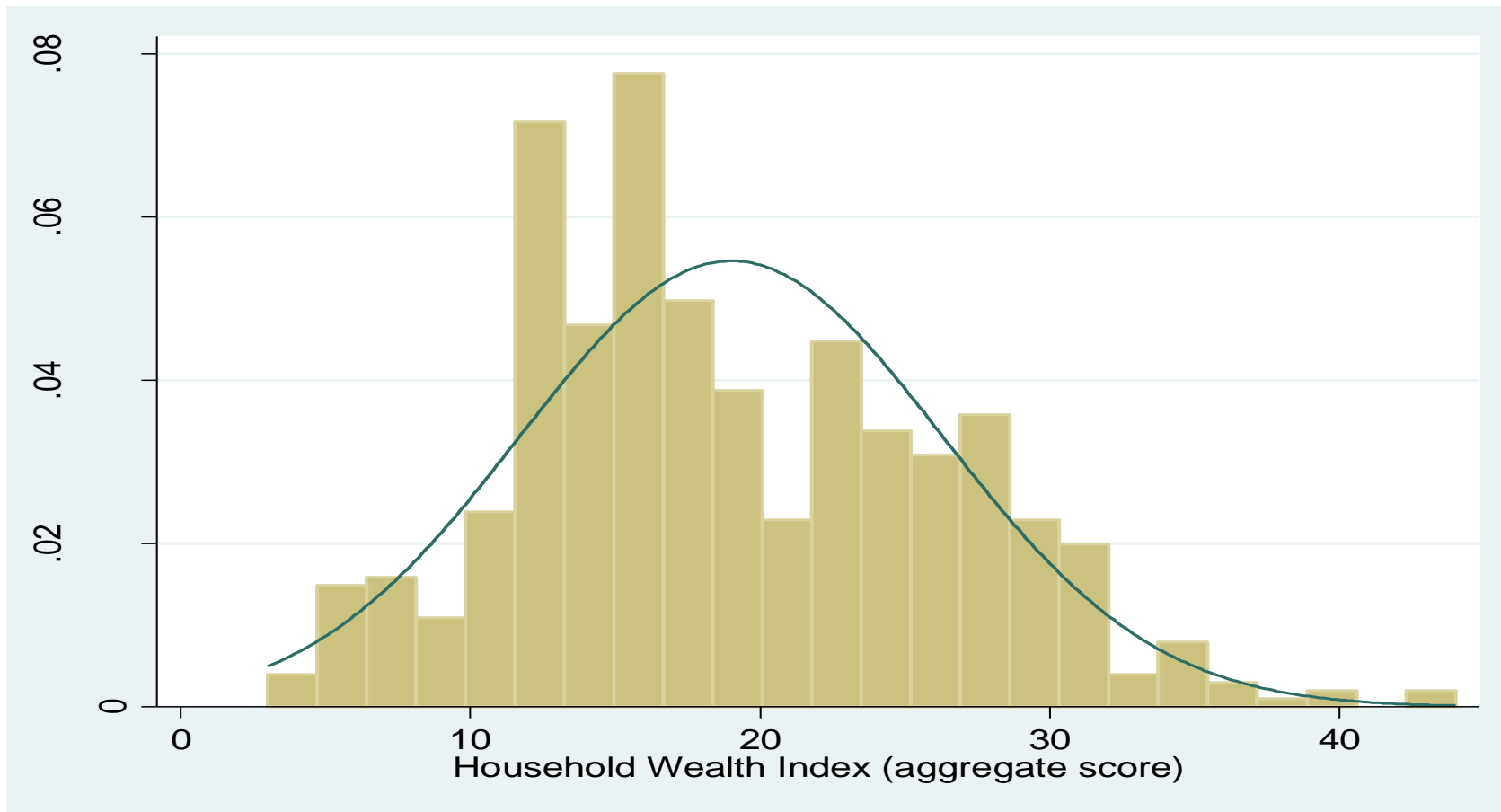
Results: Generating Wealth Categories

- Farmer perceptions on distribution of household wealth categories

	Wealth categories			
	Very poor	**Poor**	**Better off**	**Rich**
Distribution of households	Few	Majority	Very few	Rare

Distribution of households by Quintiles

Quintiles	Frequency	%
Poorest 20%	143	24
Lower Middle 20%	125	21
Middle 20%	89	15
Upper Middle 20%	133	23
Richest 20%	99	13

Verification of the Household Wealth Index

- ANNOVA test on scale (continuous) variables

Mean assets owned	Wealth category (quintiles)					
	Poorest 20%	Lower Middle 20%	Middle 20%	Upper Middle 20%	Richest 20%	Sig (P<0.05)
Car (n=580)	0.0	0.0	0.0	0.0	0.1	**0.0001***
Cattle (n=583)	0.0	0.0	0.3	0.7	2.1	**0.0000***
Plough (n=583)	0.0	0.0	0.0	0.0	0.2	**0.0000***
Oxcart (n=583)	0.0	0.0	0.0	0.1	0.2	**0.0000***
Motor cycle (n=581)	0.0	0.0	0.0	0.0	0.1	**0.0072***
Goats (n=579)	0.7	0.8	1.6	2.0	3.9	**0.0000***
Treadle pump (n=583)	0.0	0.0	0.0	0.1	0.2	**0.0000***
Table (n=584)	0.2	0.7	1.0	1.1	1.7	**0.0000***
Chair (n=585)	0.8	2.2	3.1	3.5	6.3	**0.0000***

Verification of the Household Wealth Index

- Chi Square test on nominal (binary) variables

	Wealth category (quintiles)					
Households owning assets (%)	Poorest 20%	Lower Middle 20%	Middle 20%	Upper Middle 20%	Richest 20%	**Sig (P<0.05)**
Iron sheet roof house (n=582)	3.6	7.2	37.1	75.2	94.5	**0.000***
Electricity in the house (n=583)	0.0	0.8	1.1	1.6	14.3	**0.000***
Bought bread (n=582)	29.5	76.8	68.5	85.4	93.9	**0.000***
Used candles for lighting house (n=583)	2.8	5.6	12.4	9.3	25.5	**0.000***
Payed for maize milling service (n=582)	96.4	98.4	100.0	98.5	100.0	0.427
Bought sugar (n=582)	58.6	92.8	87.5	94.6	100.0	**0.000***
Glass windowed house (n=581)	6.4	14.4	38.2	66.7	89.9	**0.000***
Concrete floor house (n=582)	0.7	4.8	22.5	48.4	89.9	**0.000***
Bought soap (n=582)	93.6	100.0	98.9	100.0	100.0	**0.000***
Burnt brick wall house (n=581)	34.3	63.2	77.5	93.1	96.9	**0.000***