



# HOW CAN AGRICULTURE CONTRIBUTE TO BETTER NUTRITION? DEVELOPING AN EVIDENCE BASE IN TANZANIA

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# OVERVIEW OF WORK PACKAGE 5 AGRIDIET RESEARCH IN TANZANIA

## Research Institutions

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Sokoine University of Agriculture-Tanzania



St. Augustine University of Tanzania



University College Dublin-Ireland Republic

## Funding Institutions



Program for Strategic Cooperation (PSC) between Irish Aid and Higher Education Authority (HEA)



## Overall:

- To understand the relationships between agriculture and nutrition in rural Tanzania

## Specific:

- i. To analyse the characteristics of the main farming systems and their influence on household food security status
- ii. To examine the linkages between local food economies and household nutrition
- iii. To assess the dietary intake and nutritional status of mothers and children less than 2 years







**Population:** 44.9Milion (2012)

**Land area:** 947,300 square kilometres

**Human Development Index (2014)**

Score: 0.488

Ranked: 159th out 187 countries

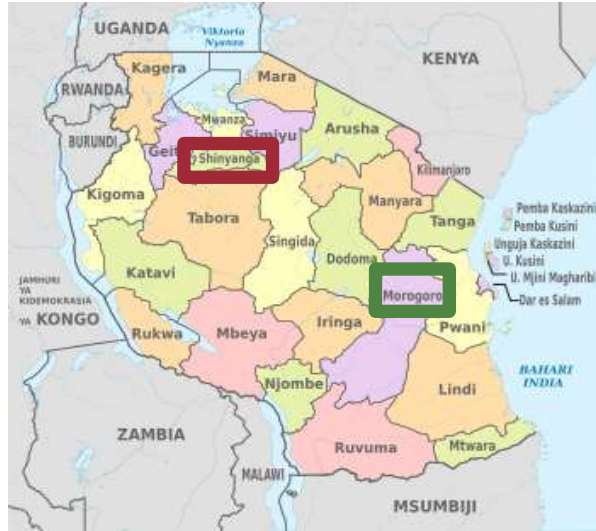
**Agriculture households:** 5.8million (2008)

**Food and nutrition security (2013)**

Prevalence of food inadequacy: 41% h/holds

Stunting - children <5 years: 37%





## Kishapu (Shinyanga)

Land: 4333sq. Km  
 People: 272,990 (2012)  
 Rain: 600-900mm/year  
 Household size: 7.7



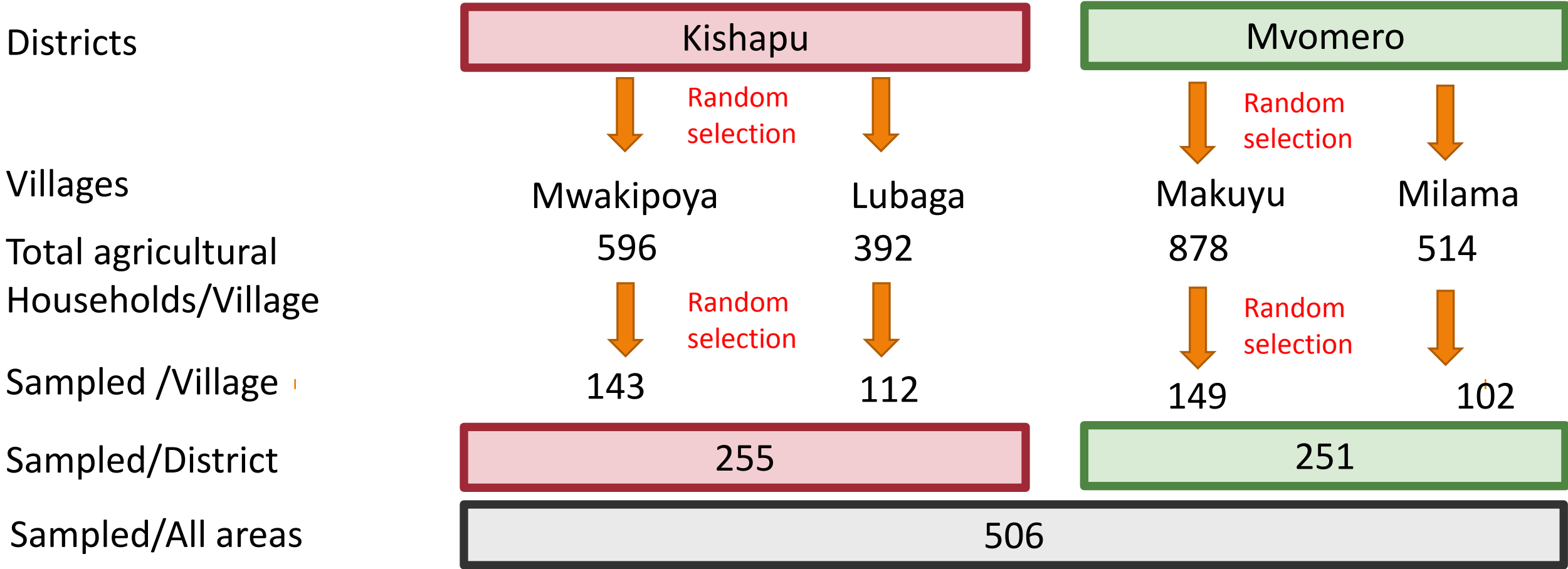
## Mvomero (Morogoro)

Land: 7325sq. Km  
 People: 312,109 (2012)  
 Rain: 700-2300mm/year  
 Household size: 5.3





# SAMPLING PROCEDURE



## Methods

- Interview questionnaires
- ✓ household survey (pre and post harvest)
- ✓ nutrition survey (pre and post harvest)
- Anthropometric measurements
- Focus group discussions (6 pre & 6 Post)
- Key informants interviews (22)
- Market price survey



## Household Survey

- Household demographics
- Institutional factors
- Household economy
- Farming practices
- Household food security



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# Farming Systems and Household Food Security in Pre and Post Harvest Conditions in Tanzania

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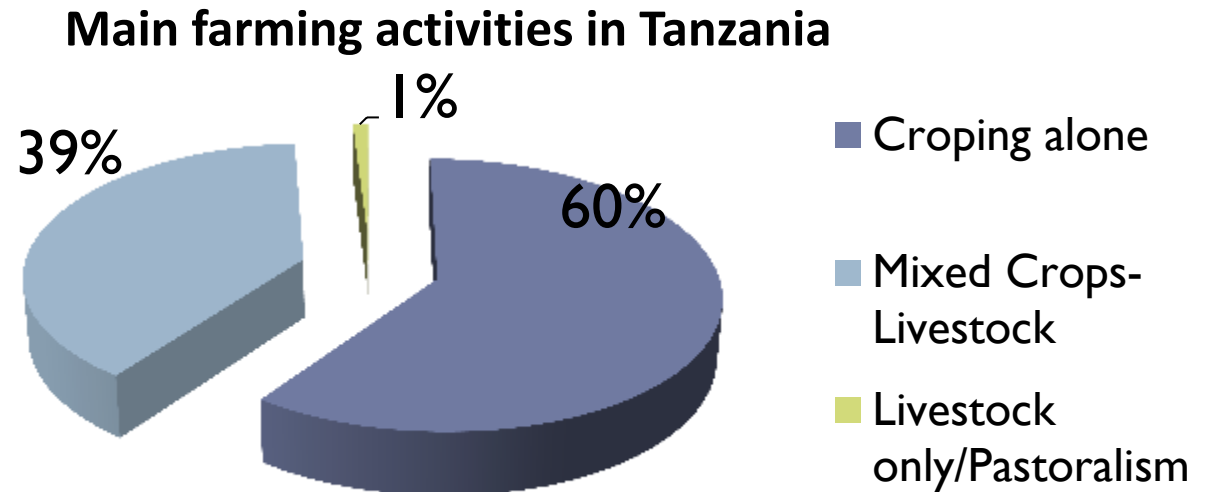


✓ Agriculture employs 76% people in Tanzania, mostly (88%) small scale farmers.

✓ Households cultivate 5 acres

✓ 48% households in rural areas were food energy deficient (2011)

✓ 39% children < 5yrs in rural areas stunted (2013)



## Purpose

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- Addressing food and nutrition security in Tanzania requires an understanding of the characteristics of the main farming systems employed and their influence on household food security status of small scale farm households

### Research Questions:

- i. What are the main farming practices that farm households use to achieve food security?
- ii. What influences farm households' choices of farming practices?
- iii. What role does farm households' access to information and advice have on farming practices towards food security?



# FINDINGS

## The main farming systems

Single Food Crop (SFC)	$\geq 70\%$ cultivated land in a single food crop
Mixed Food Crops (MFC)	$\geq 70\%$ cultivated land in a number of food crops
Cash Crops (CC)	$\geq 70\%$ cultivated land in cash crop(s)
Mixed Crops-Livestock (MCL)	$> 7.7$ TLUs in addition to cultivation of crop(s)





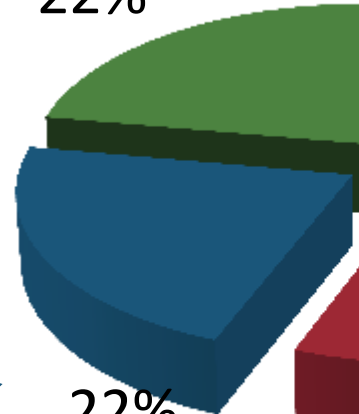
# Characteristics of Households by Main Farming Systems (n=506)

## Mixed Crop-Livestock (MCL)

Household size: 10 persons  
 Cultivated land: 14 acres  
 Livestock: 30 TLUs  
 % income (off farm): 14%



22%



## Single Food Crop (SFC)

Household size: 5 person  
 Cultivated land: 2.2 acres  
 Livestock: 0.4 TLUs  
 % income (off farm): 63%



25%

## Cash crop (CC)

Household size: 6 persons  
 Cultivated land: 5 acres  
 Livestock: 0.9 TLUs  
 % income (off farm): 60%



22%

## Mixed Food Crop (MFC)

Household size: 6 persons  
 Cultivated land: 5.5 acres  
 Livestock: 1.2 TLUs  
 % income (off farm): 52%



31%

■ SFC

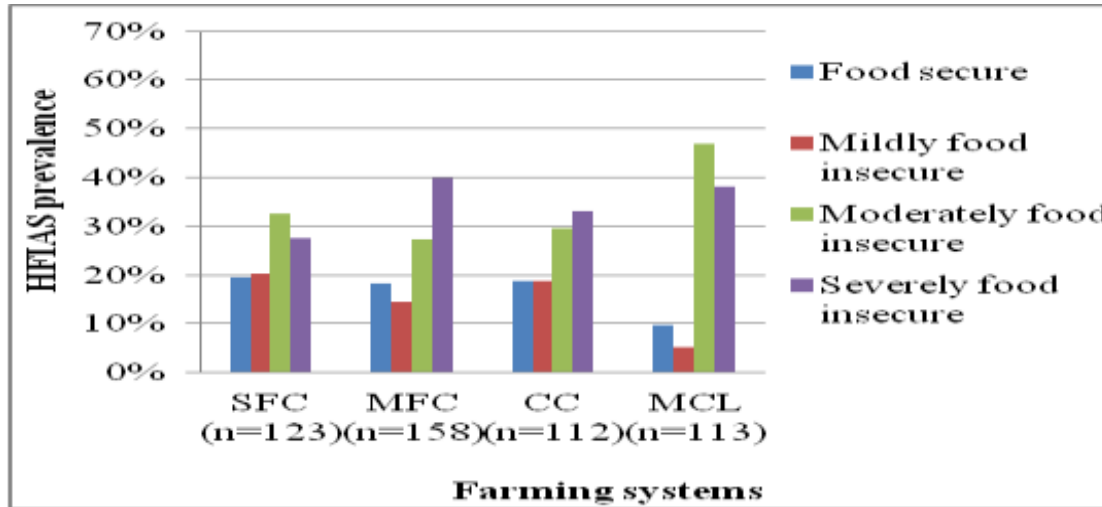
■ MFC

■ CC

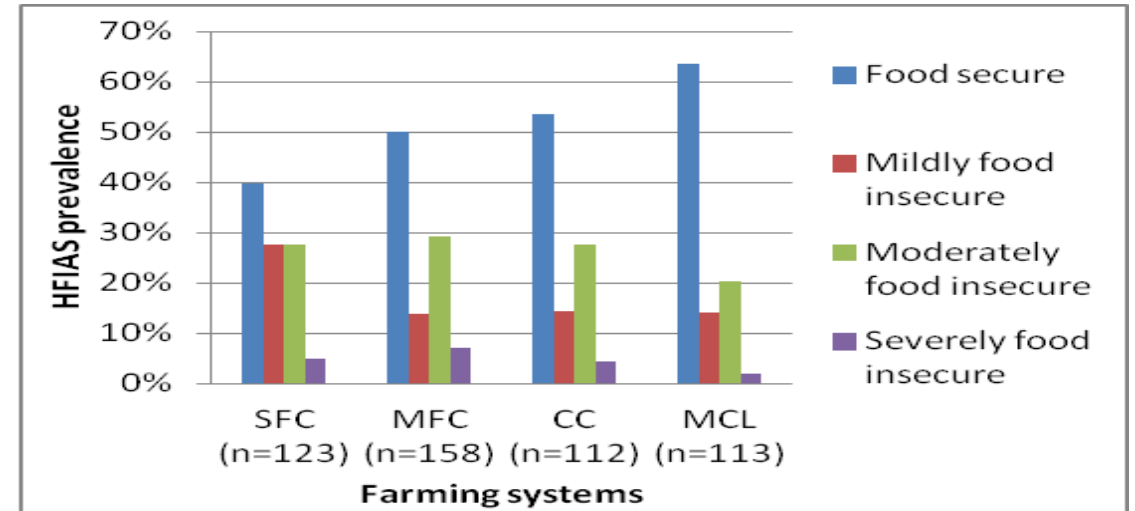
■ MCL



## Pre Harvest



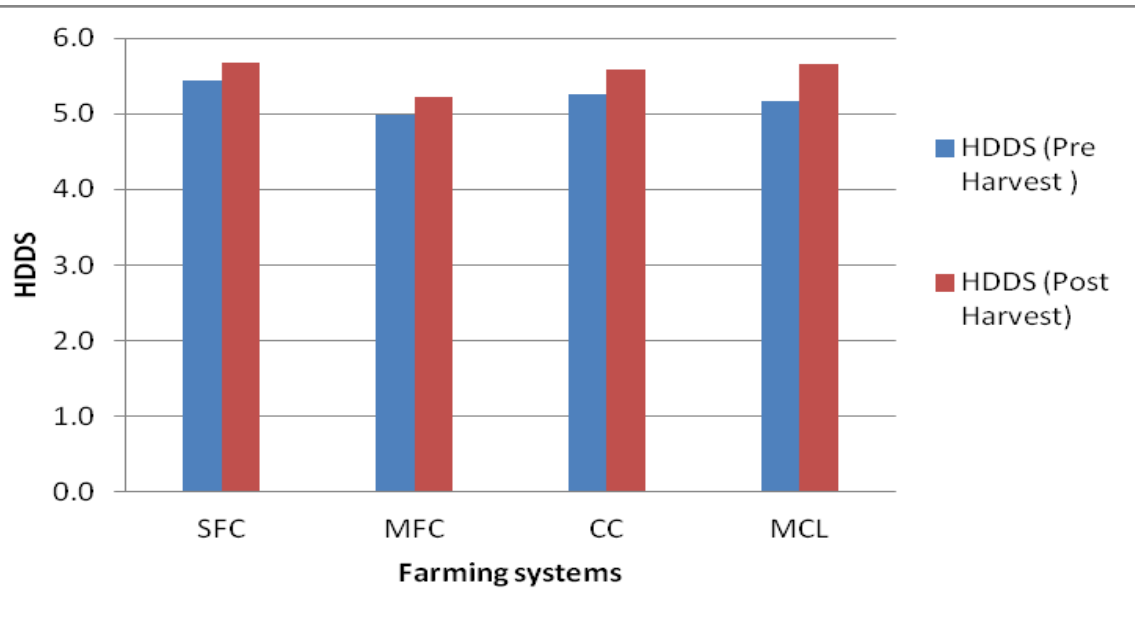
## Post Harvest



- ✓ Change in food access was smallest for the SFC group and largest for the MCL group – *influence of OFW income*
- ✓ Food access was associated with proportion of income from farm and off farm sources in each farming system group.



# Farming Systems & Household Dietary Diversity

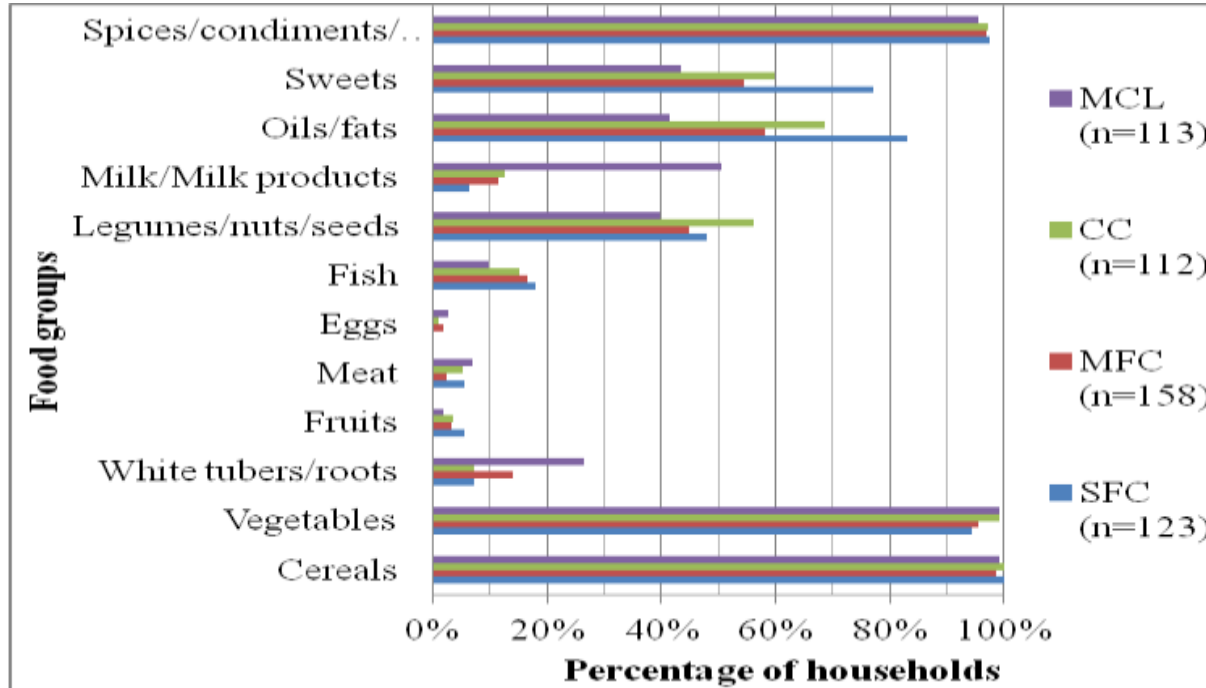


- ✓ Little change in Dietary Diversity in pre and post harvest seasons for all Farming System categories
- ✓ MFC households had slightly lower dietary diversity than other groups in all farming seasons
- ✓ Dietary diversity for MCL and CC households' significantly associated with the farming seasons

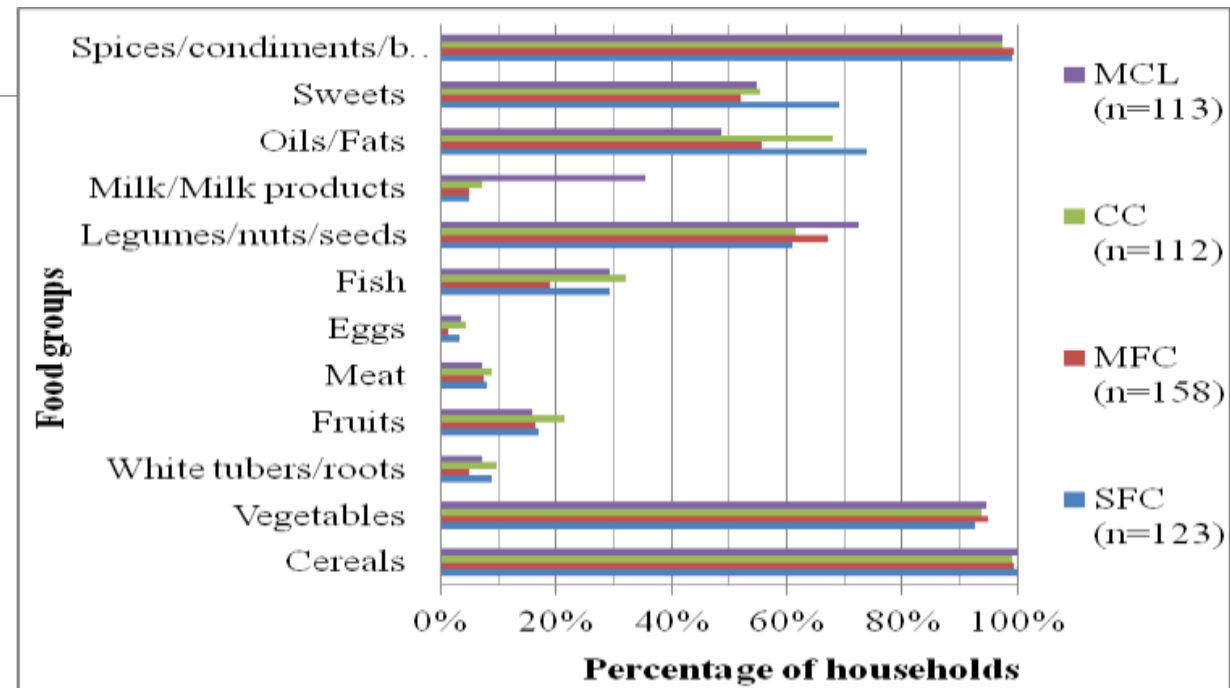




## Pre harvest



## Post harvest



- ✓ Dietary diversity was mainly defined by: cereals; vegetables; oils/fats; sweets; & spices/condiments/beverages
- ✓ Increase in consumption of legumes, fruits & fish at post harvest
- ✓ Decrease in consumption of milk/products & root/tubers at post harvest
- ✓ Change in consumption of most food groups was highest under MCL households



## CONCLUSIONS & RECOMMENDATIONS

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### Conclusions

- ✓ Farming systems were associated with household food security
- ✓ Farming systems did not show a significant association with the range of foods consumed.

### Recommendations

- ✓ Need to enhance income from farming
- ✓ Promote off-farm income activities
- ✓ Promote behavioural change communication on food eating behaviour



THANK YOU FOR LISTENING

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