



IMPACT OF FARMER INPUT SUBSIDIES ON FOOD ACCESS IN RURAL HOUSEHOLDS OF ZAMBIA: A GENDERED PERSPECTIVE

By

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Presentation Overview

- Introduction & motivation for the study
- Methodology
- Results & Discussion
- Conclusion
- Policy implications

Introduction & Motivation of the study

- 65% of rural population in developing countries poor & food insecure
- Low agricultural production & productivity
- Low use of improved farm inputs seriously impedes agricultural growth (Morris et al., 2007).
- Inability of SHFs in SSA to finance improved farm inputs (Druilhe, 2012).
- National Agricultural Policy (2018-2020)
 - Increase agricultural production & productivity (improved seed, fertilizer, agrochemical & farm mechanization)
 - Improve food & nutrition security (agricultural production & diversification, & food utilization)

Input subsidies in Zambia

2015/16 (Electronic Voucher System)

Private sector participation

Timely access of inputs

Improved beneficiary targeting

Agricultural diversification

2009 (Farmer Input Support Programme-FISP)

200 kg inorganic fertilizer & 10 kg hybrid maize seed

Rice, sorghum, cotton & groundnuts

2002/2003 (Fertilizer Support Programme- FSP)

400 kg inorganic fertilizer & 20 kg hybrid maize seed

Women & Food Security

- Labour: 52% (women) v's 48% (male) (MGCD, 2015)
- Time contribution agriculture activities 60-80% (FAO, 2011)
- Food security : food production, preparation & distribution)
- Food crops vs cash crops
- Countries with most severe hunger problems, have highest levels of gender inequality (IFPRI, 2009)
 - Zambia ranks 116th out of 145 countries world wide in gender gap index
 - Average undernourishment- measured using the Global Hunger Index :World (11.3%), Africa (23.8%), Zambia (39%).

Study Aim & Objectives

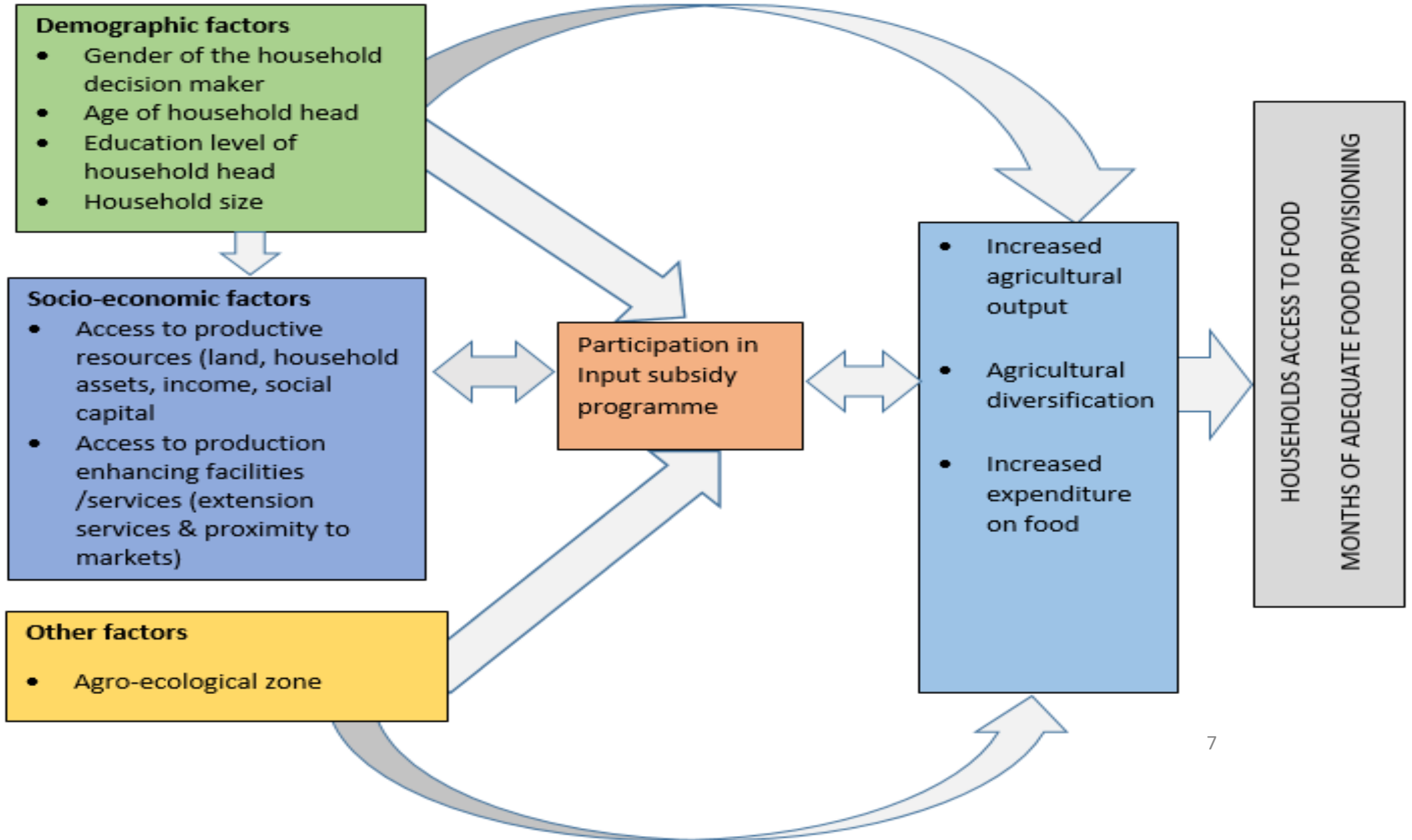
Study Aim

To estimate the impact of gendered participation in FISP on household food access measured by months of adequate household food provisioning (MAHFP).

Specific Objectives

- i. To characterize households by gender of the decision maker.
- ii. To estimate the impact of participation in FISP on MAHFP by gender of the decision maker on crop production

Figure 1: Conceptual Framework



Methodology

- Data: Rural and Agricultural livelihood survey 2012 & 2015
- Sample size: 8839 HHs (2012) & 7934 HHs (2015)
- Data Analysis: Differences in means & percentages were used to characterize HHs by gender of the decision maker
- Impact of gendered participation in FISP was estimated as follows:

$$y_{it} = x_{it}\beta + c_i + u_{it}$$

- Where,
- x_{it} represents covariates such as ownership of capital assets, *FISP* participation and *GDM*.
- c_i is the time invariant unobserved heterogeneity (e.g. farmer ability) and β is a $K \times 1$ vector of parameter estimates.
- y_{it} denotes MAHFP, and
- u_{it} is the error term
- The Mundlak-Chamberlain device (CRE for linear in parameters model) to model the relationship between c_i and the x_{it} .
- $y_{it} = \beta_0 + k_{it}\beta_1 + l_{it}\beta_2 + z_{it}\beta_3 + \beta_4 FISP_{it} + \beta_5 GDM + \beta_6 (FISP * GDM)_{it} + c_i + u_{it}$
- The main parameter of interest that this study sought to estimate is β_6 .

Figure 2: Percentage of the GDM by survey year

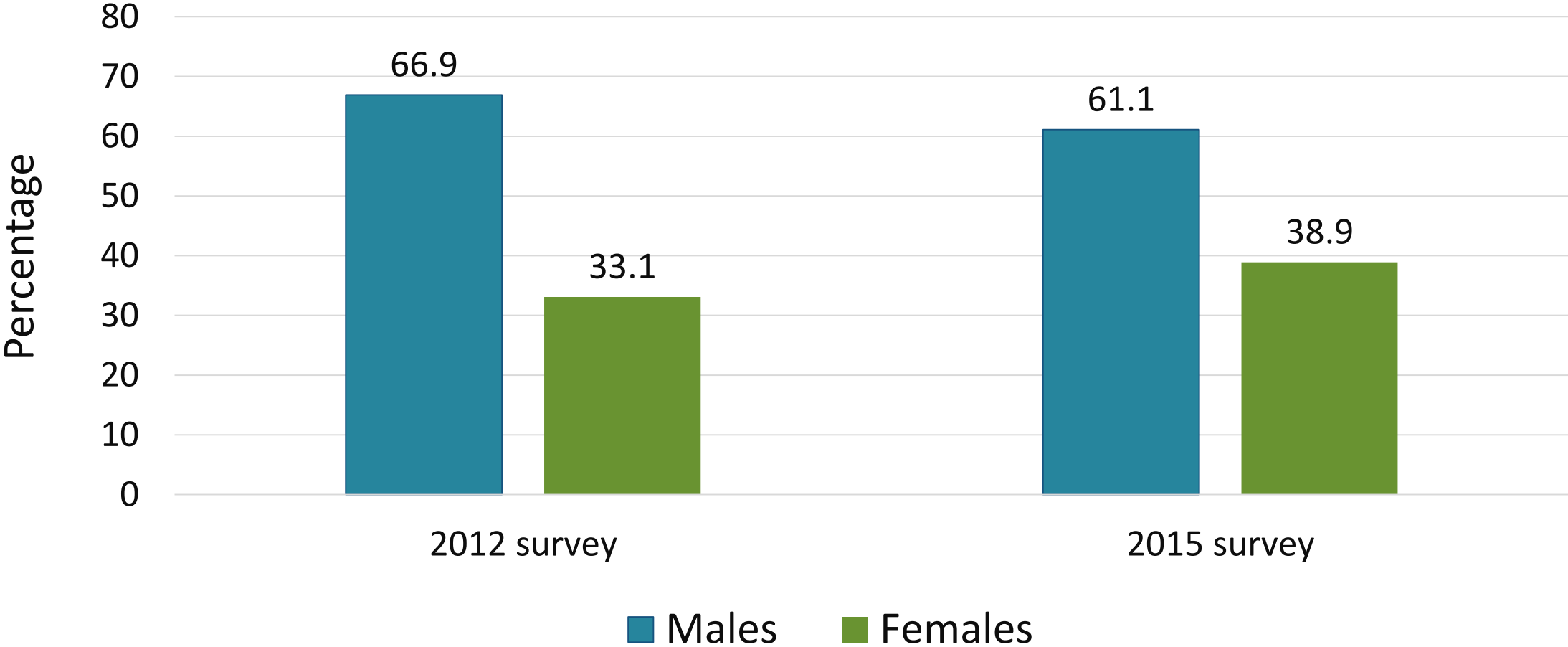


Figure 3: Distribution of MAHFP by Province

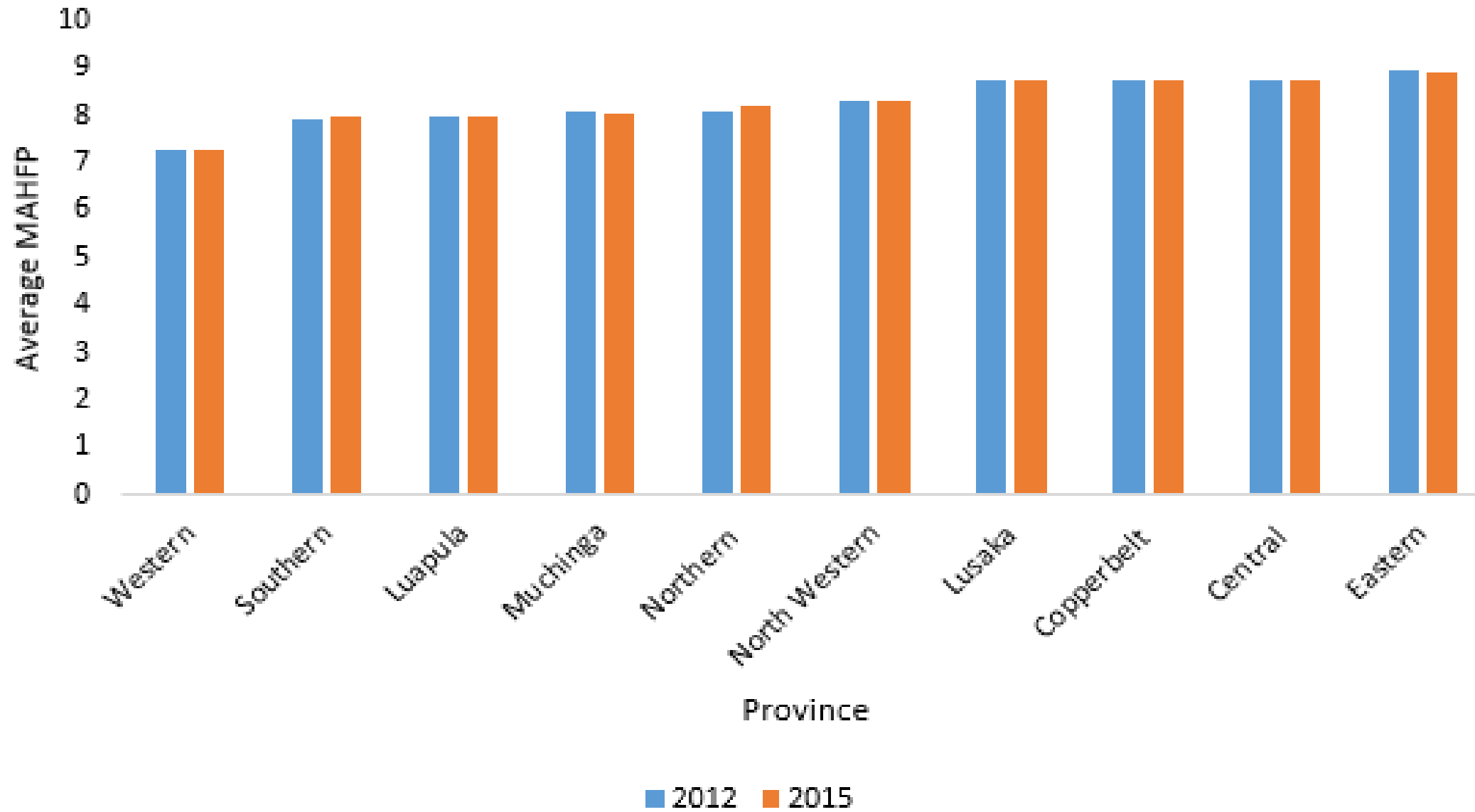


Table 1: Comparison of means for selected sample characteristics of FISP participants by gender of decision maker

Variable	Overall	Female decision maker	Male decision maker
Food availability (Months)	8.31	8.16	8.41 ***
Education of the household head (Years)	6.10	5.40	6.45 ***
Age of the household head (Years)	46.98	49.86	45.37***
Full time adult equivalent	2.85	2.62	2.98 ***
Landholding size (Hectares)	4.20	3.99	4.32**
Distance to the nearest urban center (Hours)	13.45	13.07	13.66***
Simpson diversification index	0.377	0.382	0.375**
Total household size	6.04	5.74	6.21***

Significance: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: CSO/MoA/IAPRI 2015 and authors own calculation.

Table 2: Impact of gendered participation in FISP on MAHFP decision making

Variables	CRE Coefficients	Standard errors
Female decision maker	-.318***	.053
Participation in FISP	.170***	.0612
Interaction of participation in FISP and female decision maker	.2476***	.0953
Simpson index of agricultural diversification	.589***	.104
Value of agriculture produce (ZMW)	-3.13**	1.56
Value of assets	4.72e	5.89e
Household size	.012	.022
Education level in years	.001	.006
Age of household head	-.007***	.0015
Tropical livestock unit	.003	.004
Land holding size	.004	.0029
Full time adult equivalent	-.003***	.0233
Hours to nearest urban centers with 500000 inhabitants	-.0147***	.0026
Zone IIA	.654***	.076
Zone IIB	-.388***	.104
Zone III	.309***	.078
Access to extension services	.167***	.046
Constant	8.65***	.8277

Conclusion

- Larger proportion of households with female primary decision makers have lower MAHFP compared to those with male primary decision makers.
- Most HHs do not have enough food in at least a quarter of a year.
- Food insecurity more acute in Western, Southern and Luapula provinces.
- Food insecurity exists even in HHs participating in FISP.
- Whereas participation in FISP could increase MAHFP by 17.0% ,
- It could increase by about 24.8% if HHs participate in FISP & have females as the primary decision makers in crop production.
- Other factors that positively influence MAHFP are agricultural diversification, access to extension services; zone IIA & III
- While value of agricultural produce, age of HHs, distance to markets, zone IIB have a negative influence on MAHFP

Policy Implications

- ❑ Government should invest in services that help increase crop yield
 - Extension services
 - Rural infrastructure (input & output markets).
- ❑ Promote agricultural diversification
- ❑ Policies should include deliberate strategies to improve resource allocation for women to enable their participation in farm input programmes like FISP.
- ❑ Policy makers and stakeholders should take keen interest in those provinces with low MAHFP (Western, Luapula & Southern provinces).
 - E- Voucher system is step in the right direction other than the blanket input subsidy distribution strategy.



THANK YOU