TH1.1: Intra-household decision-making and sustained use of agricultural crop technologies: Evidence from smallholder women farmers in rural Uganda

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Presentation outline

1. Motivation to the study
2. The Research objectives
3. Methodology
4. Findings
5. Conclusions
6. Acknowledgements

Motivation

- Progress towards attaining food security remains a challenge partly due to technology inappropriateness, gender-specific preferences and socio-economic and institutional factors.

- Studies conducted to establish how farmers access and adopt or adapt agricultural technologies; in some cases farmers treated as a homogeneous group (Fisher & Kandiwa, 2014; Theis et al., 2018) and men as household heads targeted.

  - Household is made up of diverse actors (men, women and youths) that can facilitate or impede technology uptake.

- The study adopted a gender approach in examining the power dynamics at the household level that influence sustained use of new crop varieties for equitable and sustained rural livelihoods in Uganda

  - Examine decision-making patterns and power relations, and how these influence access to and continued use of new technologies.

Research Objective

Overall objective: *Contribute towards promoting sustainable use of new agricultural technologies and innovations through better understanding of gendered dynamics that enhance access and sustained use as a pathway to transformation of production systems and increasing productivity.*

Specifically, the research aimed to;

1. Describe the **use of improved crop varieties** in selected districts of the Eastern Agro-Ecological Zone of Uganda

2. Quantify the distribution of **decision-making power** within dual adult households and how this influences technology uptake and empowerment among women

Research Questions

- The study answers the **overarching research question** of *how intra-household gender dynamics influence sustained use of agricultural technologies among farming communities in Uganda*. Specifically;
  - *What crops do men and women have access to improved varieties?*
  - *How does decision-making power vary between women and men during the implementation of improved crop varieties within households?*

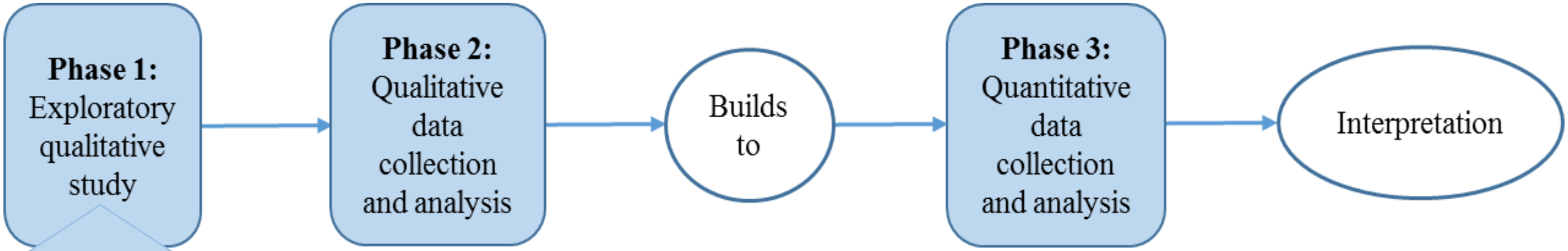
Methodology

Study area and population

- Eastern Agro-Ecological Zones (AEZ) of Uganda
  - Government and non-state agencies have targeted interventions for enhancing use of new technologies and innovations with the aim of enhancing resilience of these farming systems and increasing agricultural productivity.
- Iganga and Bugiri Districts selected based on the intensity of interventions
- Sub-counties of;
  - Nakigo and Nambale (Iganga District),
  - Buwunga and Nabukalu (Bugiri District)

Research design

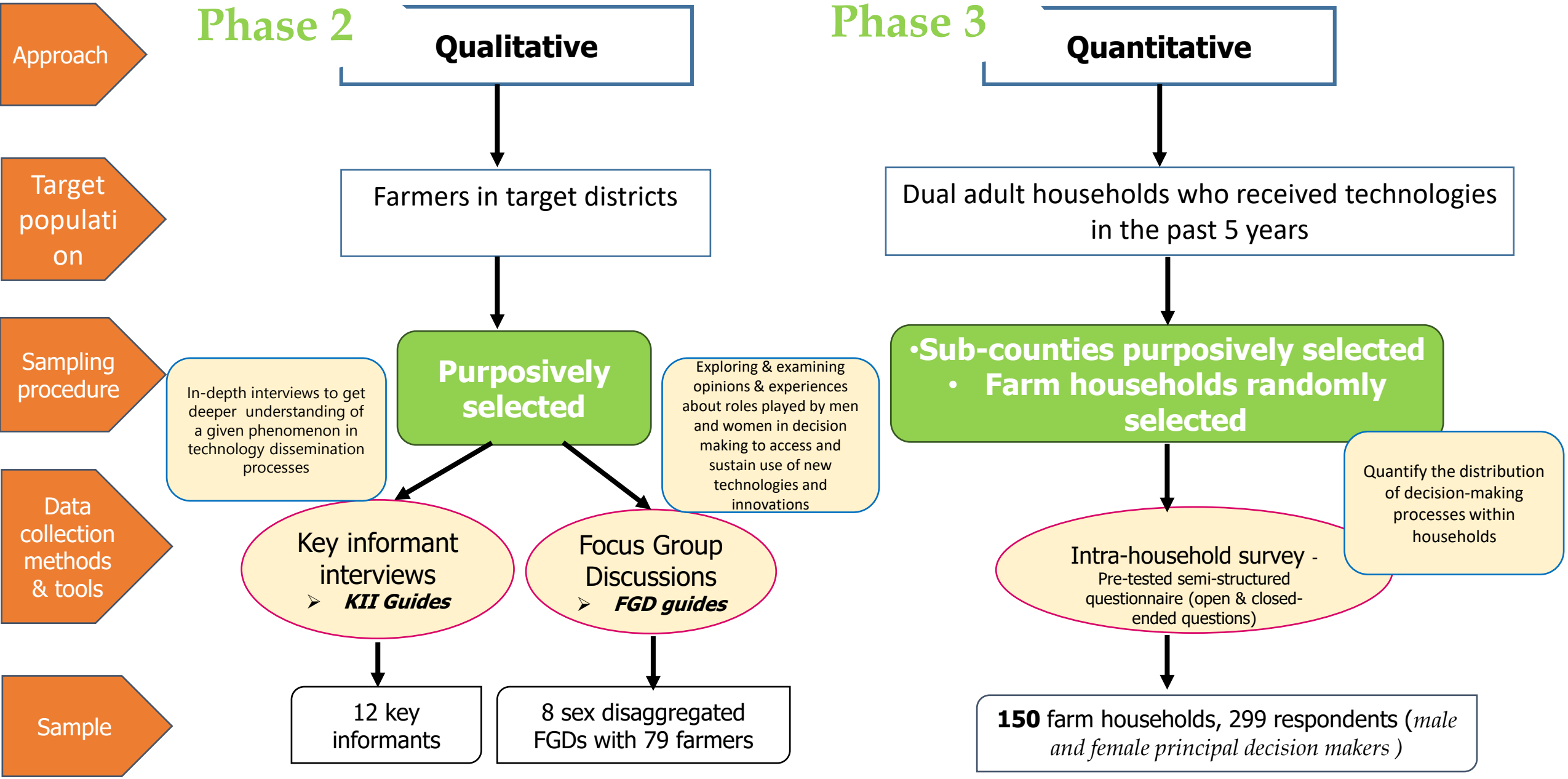
- Mixed-methods research approach integrating both *qualitative* and *quantitative* methods, tools and data to examine spousal differences in decision-making power and technology use



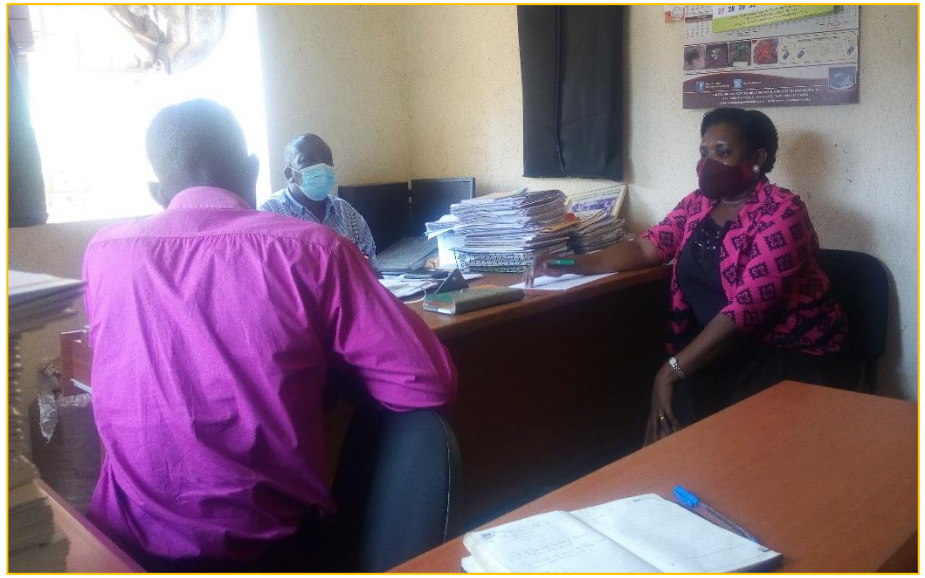
- A reconnaissance visit to Eastern AEZ of Uganda
- KIIs conducted with agencies involved in technology dissemination to identify districts and sub-counties

➢ ***Outcome:*** Knowledge on technologies and programmes/projects; Selection of districts

Research approach, sampling techniques and data collection



Implementing the study methods: A Pictorial



Quantitative Data Analysis

❑Descriptive statistics

- *Socio economic characteristics of male and female farmers*

❑Inferential statistics

- *Differences between men and women in the extent of involvement in key decisions (Variation in decision-making power between men and women)*

- *Influence decision making power on sustained use of improved crop varieties*

Figure 3: ***Decision Dimensions analyzed***

Research Findings

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Table 1: Household characteristics

Variable	%	Variable	Mean
Sex of household head		Household size (number)	
Male	*99.3*	*Total*	*9*
Female	*0.7*	*Males*	*4*
Household type		*Females*	*5*
Dual (male and female spouse)	*83.3*	Land availability (acres)	
Male headed with more than one wife	*14.7*	*Owned*	*3.2*
Female headed with another adult male	*2.0*	*Rented*	*1.1*
HH participation in off-farm activities		Crops grown by household (number)	
Yes	*70*	*Total*	*8*
No	*30*	*Food only*	*2*
Livestock ownership (%)		*Cash only*	*1*
Small livestock	*90*	*Both food and cash*	*5*
Large livestock	*60*	Annual income non-farm (UGX)	2,114,563
		On-farm Seasonal income (UGX)	1,257,466

Table 2: Characteristics of men and women interviewed

Variable	Women	Men
	Mean	
Age (complete years)	41.7	50.3
Duration in marriage (number of years)	23.1	27.5
Formal education (years)	6.2	8.2
Total land accessed (acres)	4.3	4.6
Crop-related trainings in the last 5 years (number attended)	6.1	13.5
	% (proportion)	
Main occupation		
Farming (crop and or livestock)	95.3	87.9
Others (Salaried employment, Self-employed off-farm)	4.7	12.1
Membership to group	91.3	96.0
Access to extension service	56.7	67.8
Access to agro-inputs	73.3	76.5
Ease of marketing	94.0	92.0
Off-farm employment	47.4	64.5

Figure 1: Main crops grown by women and men (%)

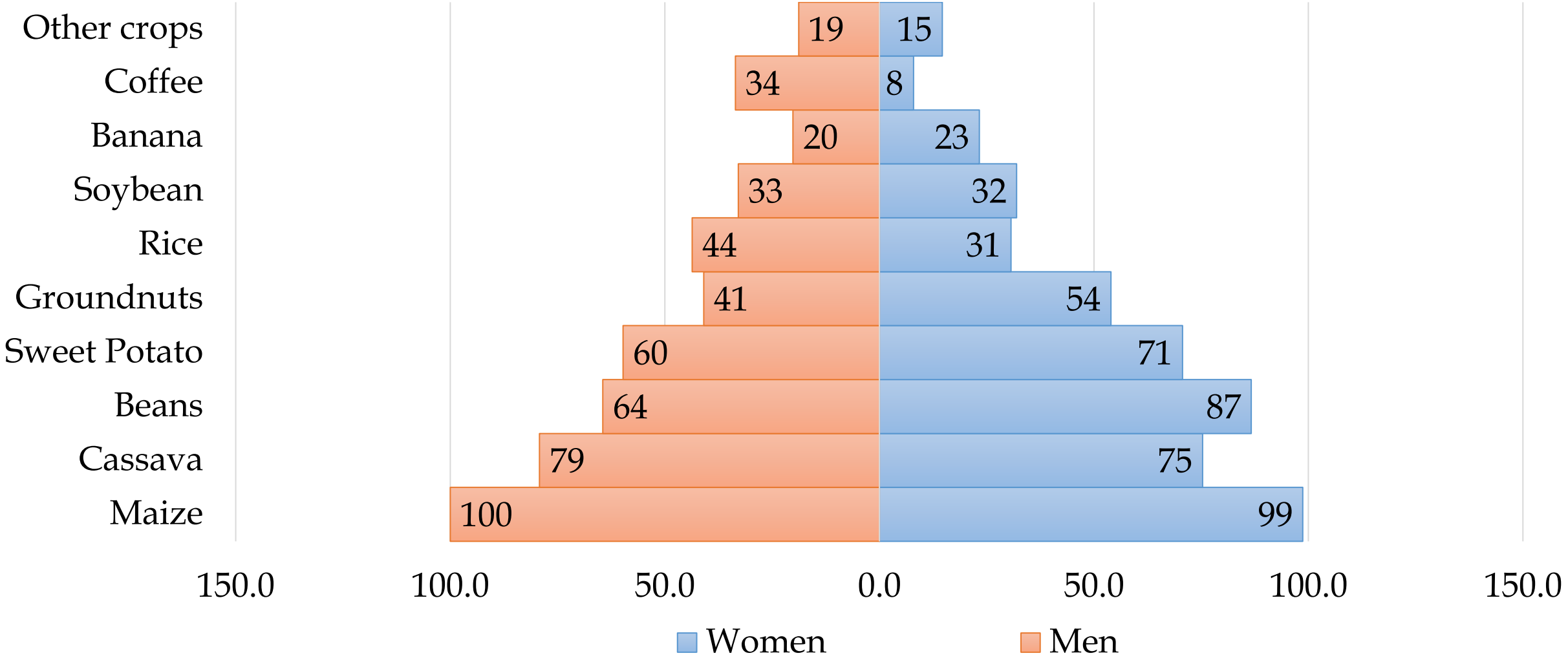
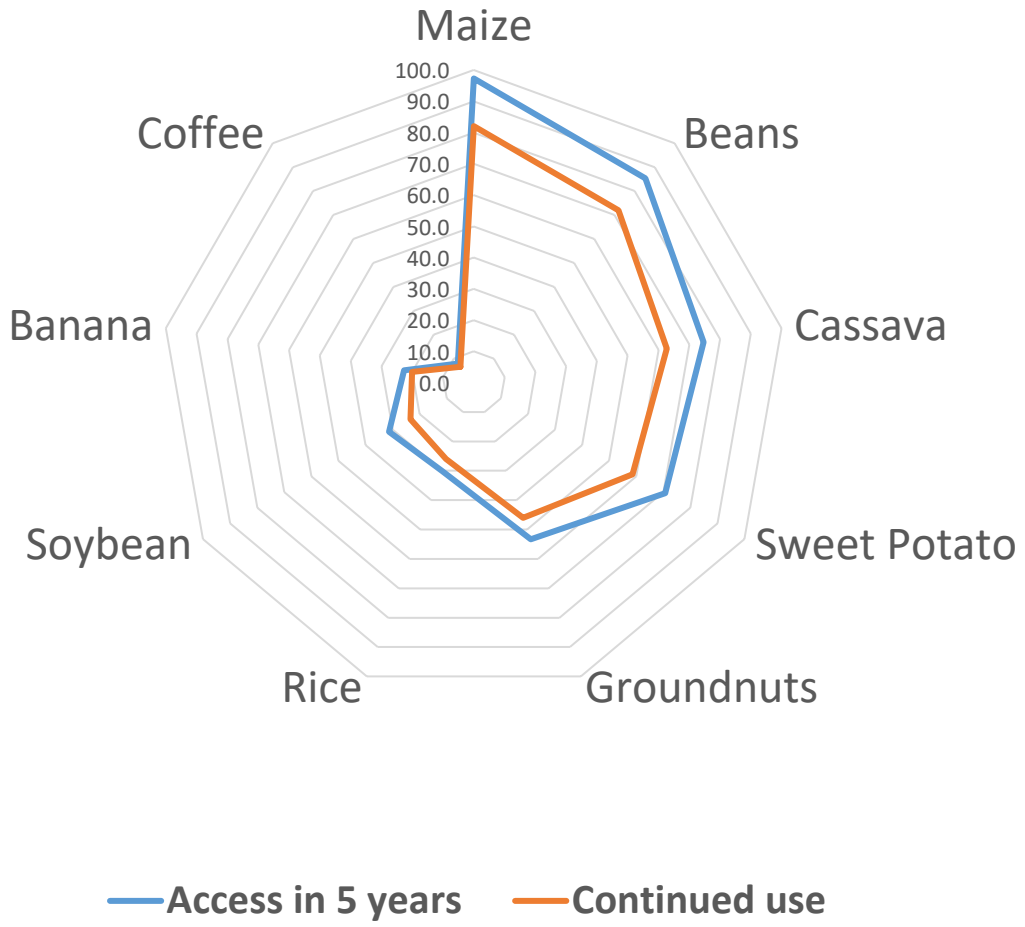


Figure 2: Access and continued use of improved crop varieties (% distribution)

WOMEN



MEN

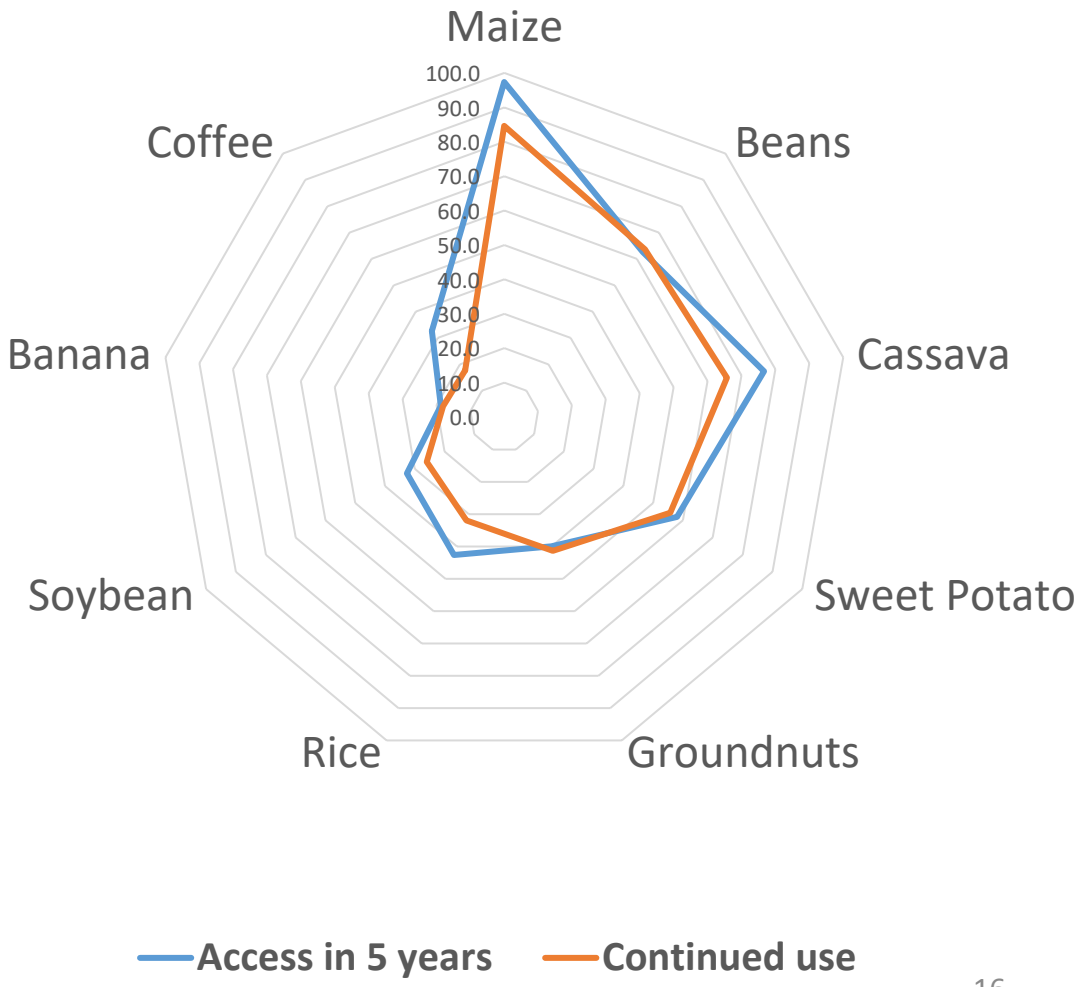


Table 3: Number of crops with improved varieties (% distribution)

Number	Accessed in the last 5 years			Use improved varieties every season		
	Men	*Women*	*Total*	*Men*	*Women*	*Total*
0	2.67	1.33	2.00	12.67	16.67	14.67
1	0.00	0.67	0.33	0.00	0.67	0.33
3	2.00	0.67	1.33	2.00	0.67	1.33
4	14.67	7.33	11.00	14.00	7.33	10.67
5	80.67	90.00	85.33	71.33	74.67	73.00

Table 5: Difference in extent of involvement in decision making by women: index for own self- vs spouse rating

Decision dimension	Mean		Dif.	t_value	p_value
	Own rate	Spouse rate			
Asset ownership and use	4.6310	4.2525	0.3785	3.6000***	0.0005
Productive decisions	5.0565	3.7695	1.2869	8.0000***	0.0000
Labour use	4.9285	4.0650	0.8635	4.6000***	0.0000
Marketing decisions	4.5510	4.1145	0.4362	3.0000**	0.0035
Financial decisions	4.8635	4.2440	0.6197	3.6000***	0.0005
Time allocation	5.7265	4.4515	1.2752	9.2000***	0.0000
Access to training, extension & groups	4.4095	3.5000	0.9094	6.6000***	0.0000

**** and ** represent statistical significance at 1% and 5%*

Table 6: Difference in extent of involvement in decision making by men: index for own self- vs spouse rating

Decision dimension	Mean		Dif.	t_value
	Own rate	*Spouse rate*		
Asset ownership and use	5.7435	5.3690	0.3745	3.6000***
Productive decisions	6.2305	4.9435	1.2869	8.0000***
Labour use	5.9350	5.0715	0.8635	4.6000***
Marketing decisions	5.8865	5.4490	0.4374	3.0000**
Financial decisions	5.7560	5.1365	0.6197	3.6000***
Time allocation	5.5485	4.2735	1.2752	9.2000***
Access to training, extension & groups	6.4830	5.5955	0.8876	6.4500***

**** and ** represent statistical significance at 1% and 5%*

Table 7: Statistical test for difference in intra-HH women's decision making power based on own and spouse's perceptions

Decision dimension	Mean		Diff.	St. Err	t_value	p_value
	Men	Women				
Asset ownership and use	0.6365	0.6250	0.0110	0.0310	0.3500	0.7195
Productive decisions	0.4760	0.6345	-0.1585	0.0225	-7.0000	0.0000
Labour use	0.5295	0.5785	-0.0490	0.0455	-1.1000	0.2825
Marketing decisions	0.5435	0.6155	-0.0720	0.0305	-2.4000	0.0175
Financial decisions	0.6740	0.6395	0.0345	0.0470	0.7500	0.4640
Time allocation	0.3465	0.6545	-0.3085	0.0335	-9.1500	0.0000
Access to training, extension & groups	0.4380	0.5300	-0.0920	0.0445	-2.0500	0.0405
Overall decision making power	0.5660	0.6465	-0.0805	0.0260	-3.1000	0.0020

****, **, and * represent statistical significance at 1%, 5% and 10%*

Table 7: Percentage distribution of differences in accord of decision making scores

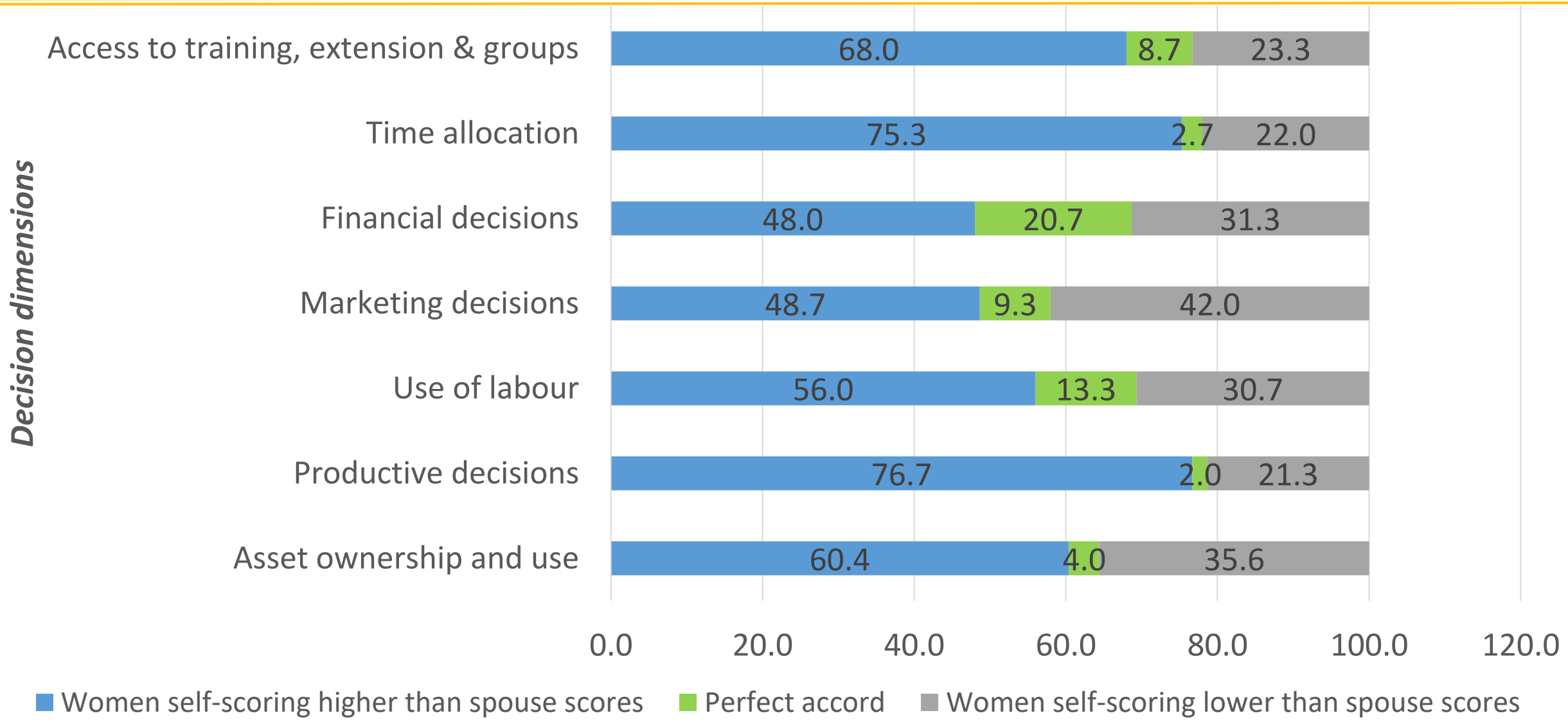


Table 8: Distribution of women's decision making power ("empowerment")

Level	Men	Women	Total	Chi-square
Low	39.60	28.00	33.78	15.960 (0.000)
Moderate	37.58	27.33	32.44	
High	22.82	44.67	33.78	

Table 9: Association between (Women) "Empowerment" and sustained use of improved varieties

Level	Continue to use improved varieties (%)		
	M	W	Total
Low	38.2	29.6	34.0
Moderate	38.2	26.4	32.4
High	23.7	44.0	33.6
Chi-square	11.988 (0.002)		

Regression results

VARIABLES	numb_imprvdvarsseason
age	-0.008*
	(0.005)
hh_nonfarmactvtz	-0.130
	(0.099)
ln_seasoninc	-0.039
	(0.044)
educ	-0.025*
	(0.014)
main_occup1	-0.147
	(0.157)
hhsize	0.017
	(0.013)
prop_ownedland	0.002
	(0.002)
group_memb	0.053
	(0.163)
numb_trainings	0.012**
	(0.005)
ease_credditaccess2	0.017
	(0.087)
ease_accessinputs	-0.004
	(0.096)
ease_mktg	-0.176
	(0.174)
cattle	0.096
	(0.092)
emp_groups3	-0.170*
	(0.101)
Constant	2.459***
	(0.700)
Observations	148

- High "empowerment" has a negative and significant coefficient implying that a woman who is highly empowered in likely to grow fewer number of improved varieties
- Similarly, the coefficients for age and education are negative and with significant coefficients
- Number of trainings has a positive and significant effect

Conclusions and Implications (Preliminary)

CONLUSIONS

Women's empowerment in decision making has potential to contribute to closing the gender gap in sustained use

Perceptions and patterns of decision making vary;

- *pronounced elevated decision making power for both men and women with each rating their own empowerment higher*
- Mismatch between actual and perceived empowerment

Men still dominate decision making power which impacts sustained use

Existing disparities in access and sustained use of improved crop varieties among women and men

- Be more intentional about women's participation, decision making and agency in development interventions
- Understand the power dynamics and influence
- Gender approaches that consider the interest and needs of both spouses, engages both in the design and implementation of interventions, and ensure their voices and aspirations are considered

Acknowledgement

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- GREAT

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- Team members

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- Lead Mobilizers
- Research Assistants

Organizers of the CGIAR Gender Science Exchange & ALL Participants

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