

Gender equality issues of improved crop storage technologies supported by “FtF innovation lab for the reduction of post-harvest loss” project (PHL-IL) in Ghana

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# Background to the study

- High post-harvest loss of over 10% for maize in Ghana
- Food security and emergency preparedness as well as increased income from sale
- Households and industrial responses
- Several interventions introduced improved methods to the traditional methods
- In 2014, FtF PHL-IL
- Ten crop protection technologies identified

# The PHL-IL Ghana project interest areas of improve crop protection technologies

No.	ICPT	Target group	Nature of technology
1	Simple tools to detect fungal infection and quantitative tests for measuring mycotoxin levels	Farmers, Warehouse, Aggregators, traders, input dealers	Sophisticated for illiterates
2	Storing grain in insecticide-incorporated polypropylene bags (ZeroFly® Storage Bags) to prevent infestations,	Farmers, Warehouse, Aggregators, traders, input dealers	simple
3	Using Purdue Improved Crop Storage (PICS) hermetic triple-layer bags to prevent infestations,	Farmers, Warehouse, Aggregators, traders, input dealers	simple
4	Using commercial 100-kg Super Grain Bags,	Farmers, Warehouse, Aggregators, traders, input dealers	simple
5	Using commercial 100- to 150-kg Plastic Silos,	Farmers, Warehouse, Aggregators, traders, input dealers	simple
6	Using 2.5- to 6-Mt Kikapu Steel Silos (by Kepler Weber),	Farmers, Warehouse, Aggregators, traders, input dealers	simple
7	Using solar dryers for rapid drying and insect disinfestation.	Farmers, Warehouse, Aggregators, traders, input dealers	Simple and community-based
8	Low cost microchip-based sensors for grain moisture determination,	Warehouse, Aggregators, traders, input dealers	sophisticated
9	Food and pheromone-baited traps for monitoring insects inside and outside warehouses and strategic grain reserve sites	Warehouse, aggregators, traders, input dealers	simple
10	Using AflaSafe™ to mitigate aflatoxin-related maize losses	Farmers, Warehouse, Aggregators, traders, input dealers	sophisticate

# Milestone

- Integrating gender in PHL-IL in Ghana
  - making sure technology transfer is simplified for women who tend to be illiterate and not lead in decision-making to benefit

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## **Appendix A**

### **SCOPE OF SERVICES**

Provide consultancy and advice related to gender cross cutting issues during the execution of the Post-Harvest Loss Reduction project in Ghana. Consultant's advice and guidance is required in the following areas:

#### Milestones #1:

- a) Incorporation of gender analysis into Post Harvest Loss Innovation Lab (PHLIL) work plans and surveys?
- b) Raise awareness about the value and importance of gender equality throughout the project implementation in programs such as long term training, short term training, technology implementation and private public partnerships aimed at capacity building?

#### Milestones #2:

- c) Generate and update data related to WEAI indicators relevant to the PHIL through focus groups, surveys, and other appropriate means and feed results back into the respective country project.
- d) Advice on ways to develop the approach for women empowerment.
- e) Advice on how to incorporate gender based approach after dis-aggregating the data for the performance indicators for reporting to the USAID.

This Scope of Services will be reviewed annually by UNIVERSITY project representatives and may be adjusted based on project needs and the availability of project funding.

# 2014-2016

- Focus group discussions in five municipalities in four regions
- Workshop in one municipality 20 men and women from five municipalities
- Final technical report submitted in December 2015
- Gender monitoring of student work and partners work

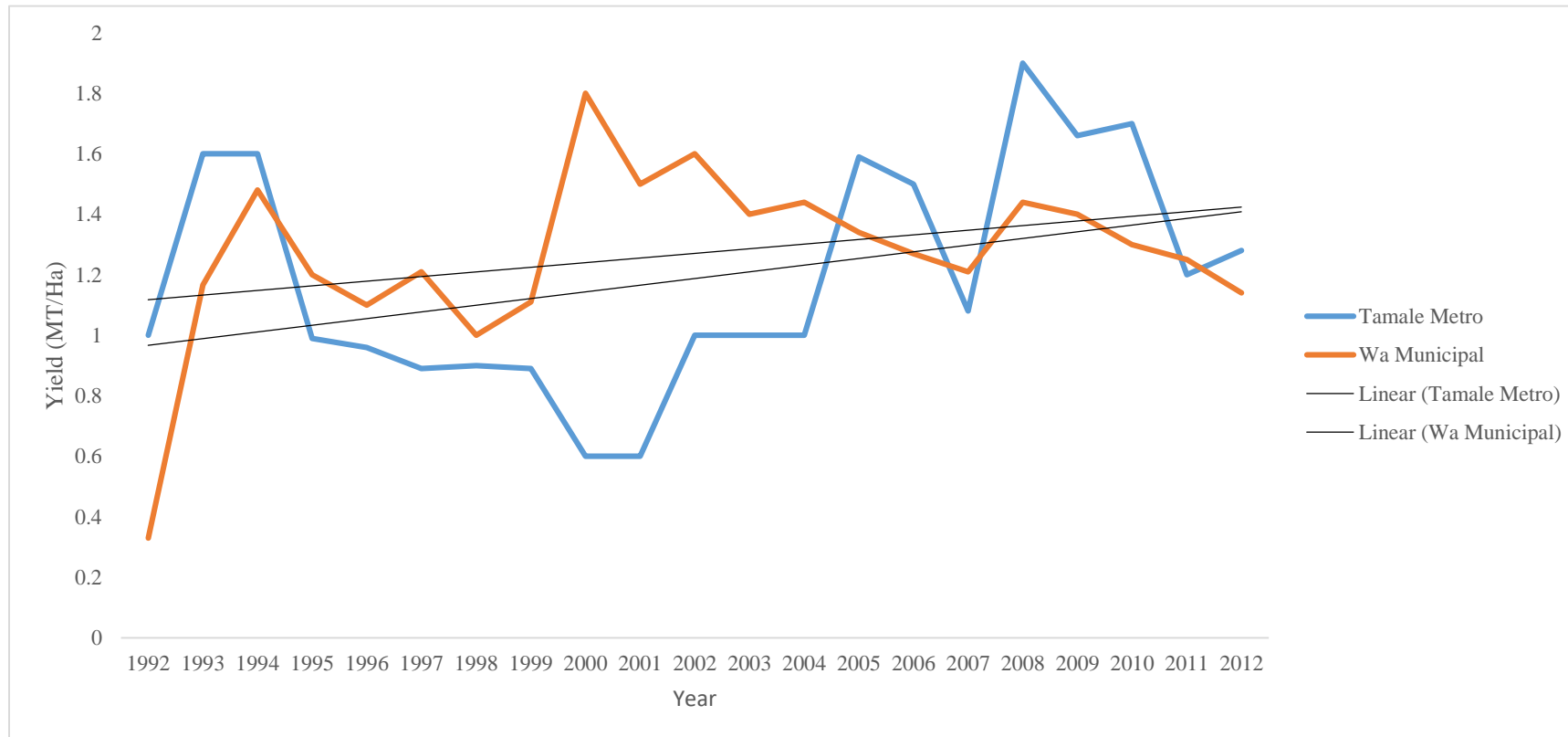
## ***-Manuscripts in preparation:***

- Gender in Ghana: The meta to micro issues
  - Gender the within the agricultural sector in Ghana
  - Gender within the PHL-IL team
  - Gender sensitivity and equal opportunities in partner organisations
  - Gender strategy- Results-based monitoring system for PHL-IL-
- Impact assessment study in July 2016

# Ghana – agro-ecological zones

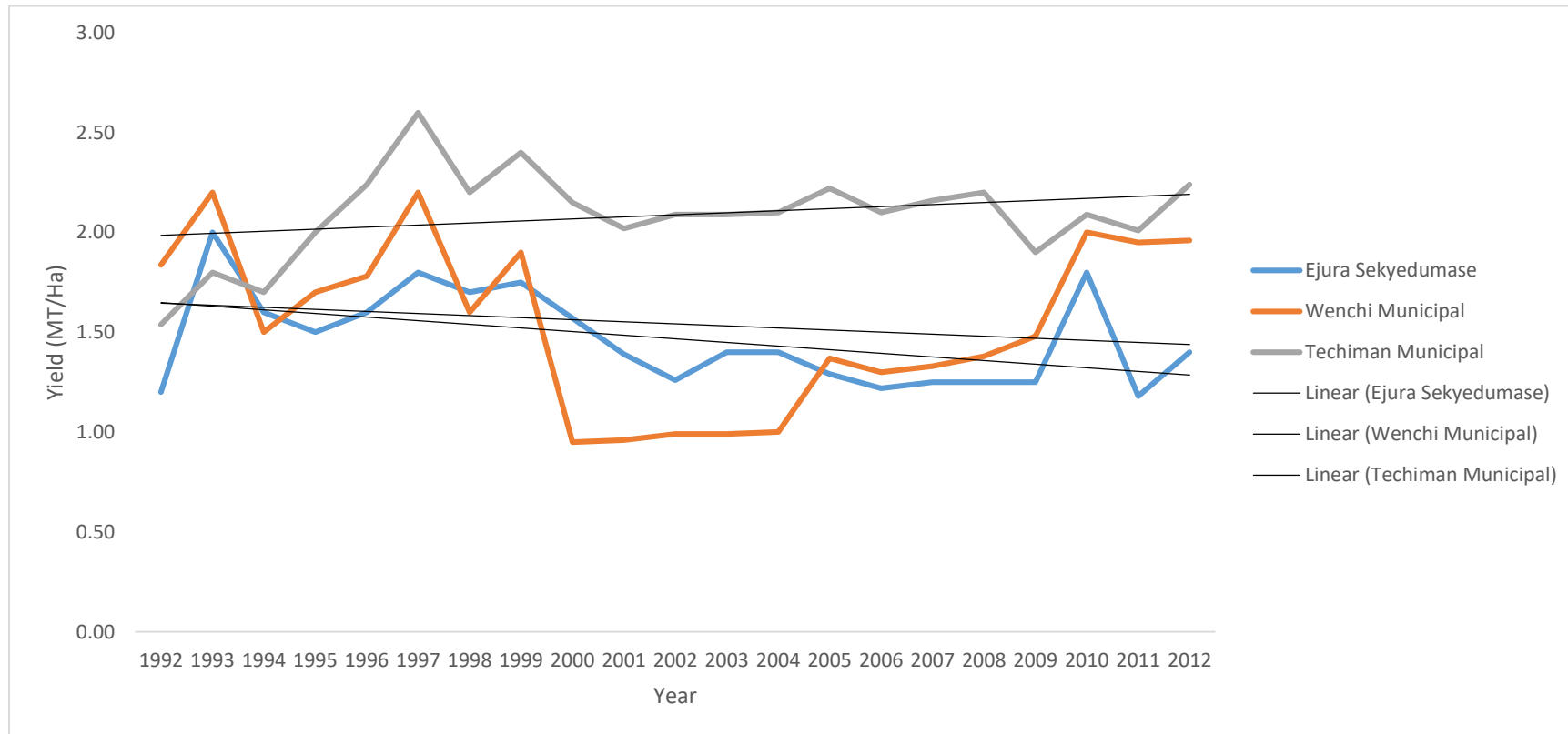


# Northern belt yield trends

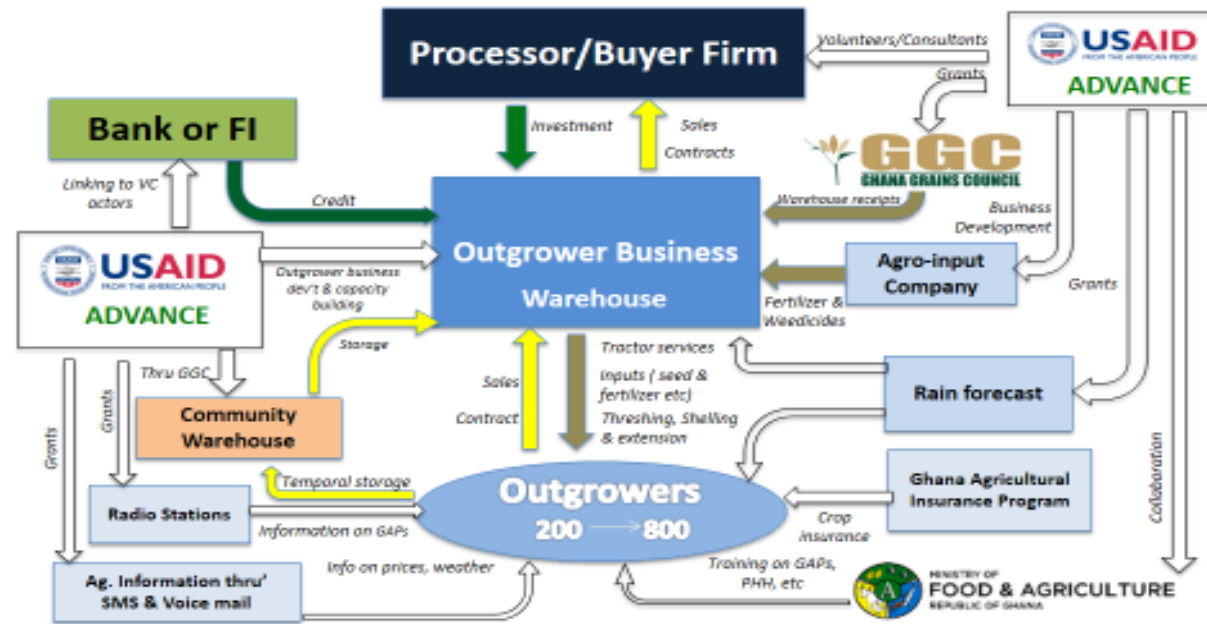




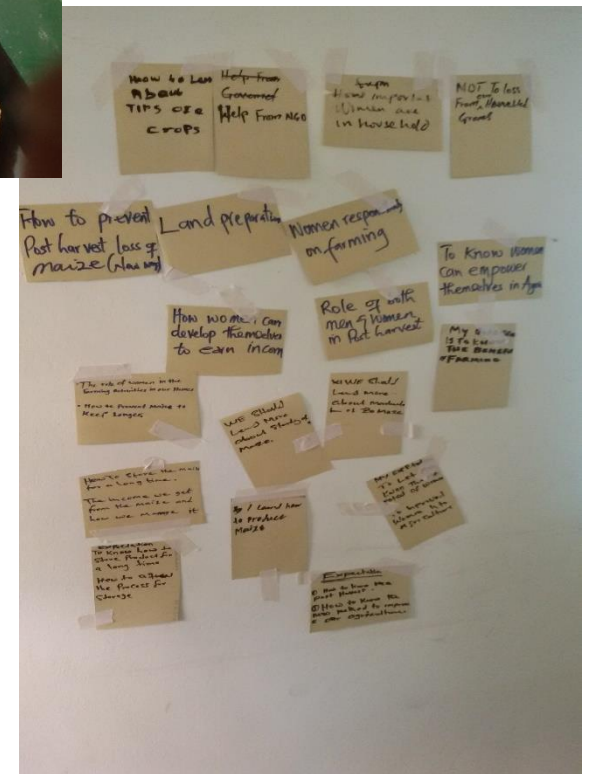
# Middle belt maize yield trends



# Outgrower schemes are empowering women in the North



# Some pictures –workshop 2015 in Tamale



## Intensity of contribution by boys and girls to activities at home

Activity	Boy (under 9-18 years)	Girl (9-18 years)
Sweeping/cleaning of the house	+++	+++++
Water fetching	+++	+++
Washing (clothes)	+++	+++++
Cooking meals	++	+++++
Child care	++	+++++
Animal care	+++++	++
Petty trading	++	+++
Agro processing	++	+++
Building construction -moulding of bricks -support process	++++	+++
Record keeping	++	

# Impression of women of Husbands' participation in activities at home

Activity	Husband
Sweeping/cleaning of the house	+
Water fetching	++
Washing (clothes)	++
Cooking meals	+
Child care	++
Animal care	+++
Petty trading	+
Agro processing	+
Building construction -moulding of bricks -support process	+++++

## Extent of participation in maize production activities by men and women

Activity	Male	Female
Planting	+++++	+++++
Taking care of field	+++++	+++++
Harvesting	+++++	+++++
Shelling	+	++
Drying	++	++
Winnowing	++	++++
Storage	+++++	+++++
Selling	++++	+++++

## Items purchased with household's crop income

Items	Proportion of income on main expenses	
	Male	Female
Food	10	20
School fees	30	30
Clothing	2	1
Utility bills	2	1
Vehicle/bicycle/motor bicycle	1	1
Mobile phone/ call credit	1	1
Farm investment	35	30
Non-farm enterprise investment	5	10
Social expenses (funerals, weddings, outdooring and marriage ceremonies)	10	3
Housing project and furniture	3	1
Medicare	2	2

## Primary holders of farm income in the communities visited

Control of income by	1= All the time 2= Most of the time 3= Occasionally 4= Never
Individual farm owner	1
Head of family	1
Spouse	4
Children	4
Contract farmer	4
Bank	3
Other person in community	3



## Extent to which women contribute to decisions related to selected issues

<b>Elements of decision making</b>	<b>Yes/No</b>	<b>Extent of contribution (all the time, most of the time, occasionally, never)</b>
<b>Type of land to use</b>	Yes	Most of the time
<b>Purchase of farm</b>	Yes	Most of the time
<b>Post-harvest inputs</b>	Yes	All the time
<b>Sourcing of credit</b>	Yes	All the time

# Types of post-harvest inputs

Type of post-harvest input	Ownership status	
	Men	Women
Shellers	++++	+
Tractors/trucks for haulage	++++	+
Pans for winnowing	+++++	+++++
Baskets	+++++	+++++
Sacks	+++++	+++++
Cribs	++++	+
Silos/barns	++++	++
Store rooms/warehouses	++++	++

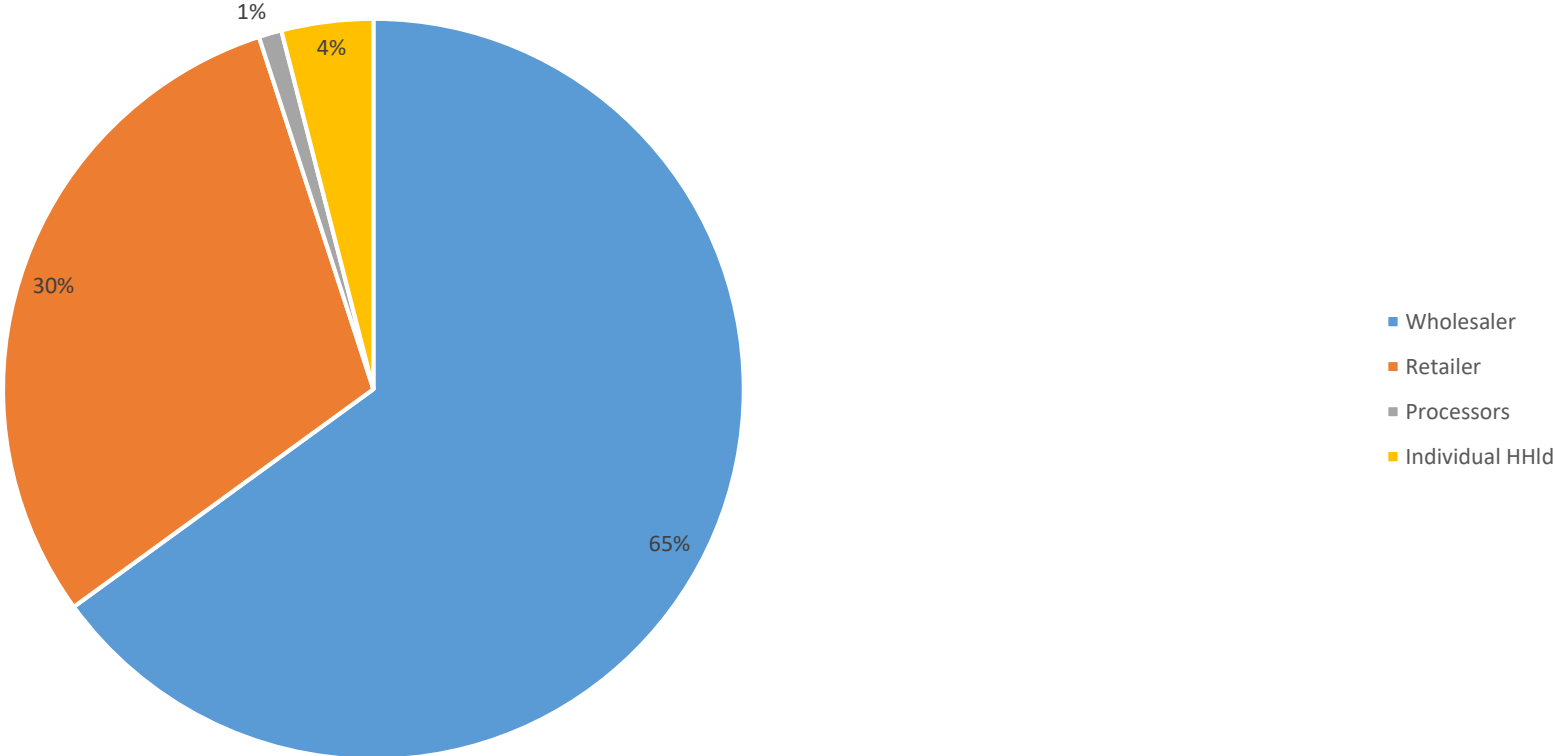
Work done outside of household for income by male and female farmers and family members

Type of work	Male		Female	
	North	South	North	South
Food crop farm in community	+++++	++++	+++	+++
Cocoa farm outside community	++	+	-	-
Shea nut picking	-	-	+++	-
Construction	++	++	+	+
Cargo handling	++	+	+++	-
Trading	+	++	+	++
Domestic help	+	+	+	+
Shop assistant	+	+	+	+

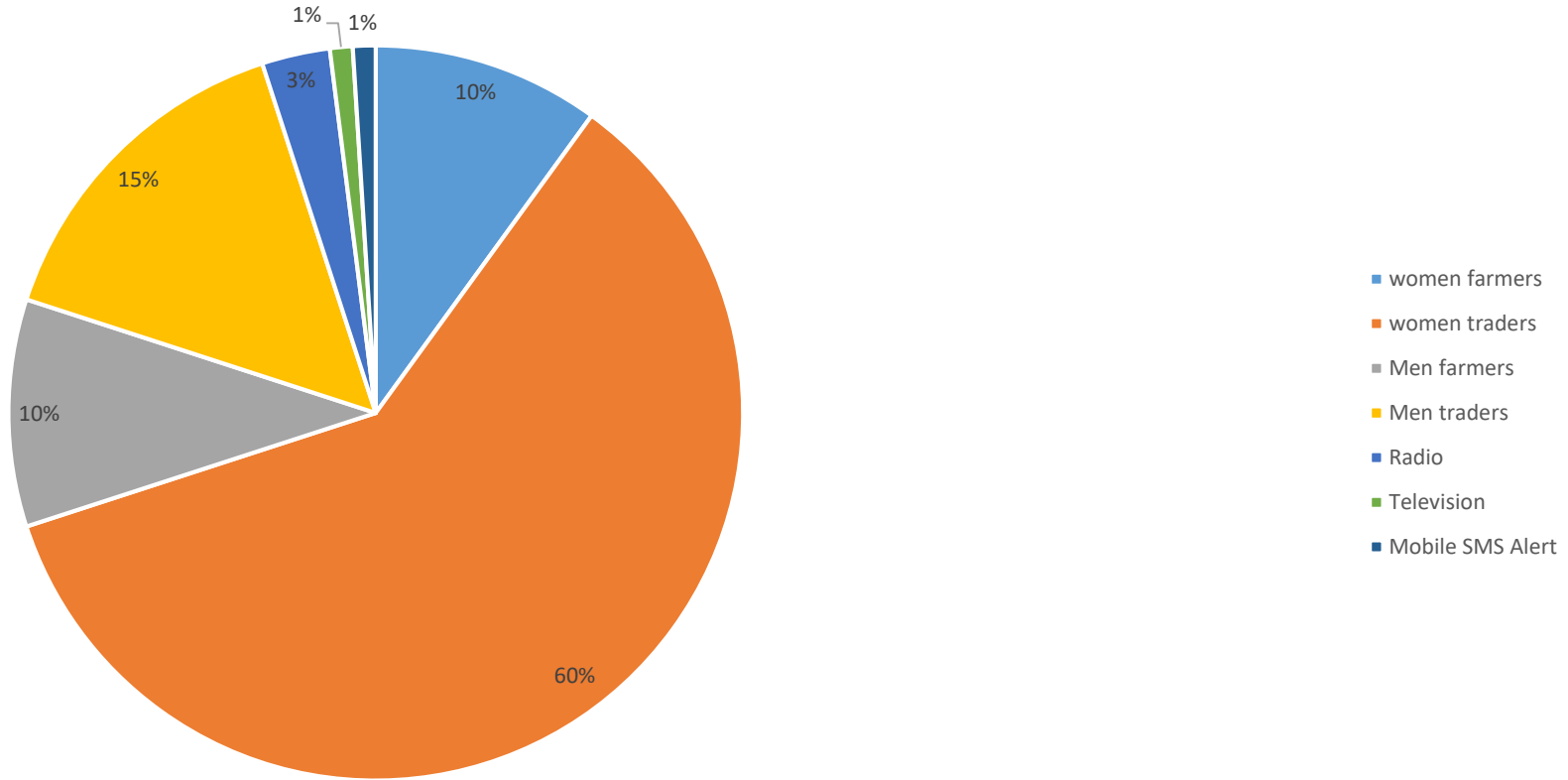
# Source of credit

Source	Percent of women using source
Spouse	55
Relative	15
Friends	15
Village Savings and Loan Association	10
Micro finance company	3
Formal financial institution	2

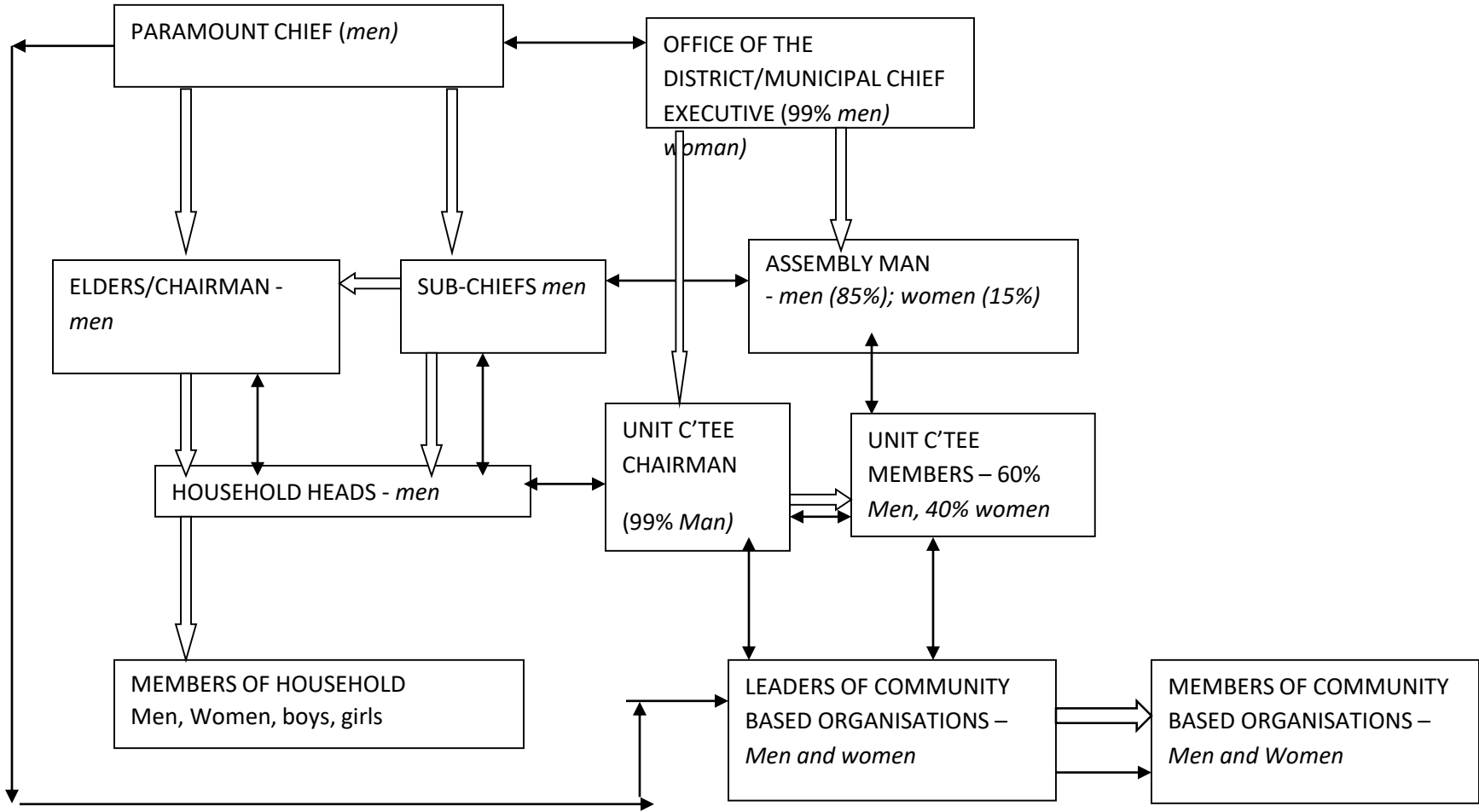
# Actors women sell to



# Source of information by women



# Hierarchy and Interrelationships of Leadership Systems



# Community relations

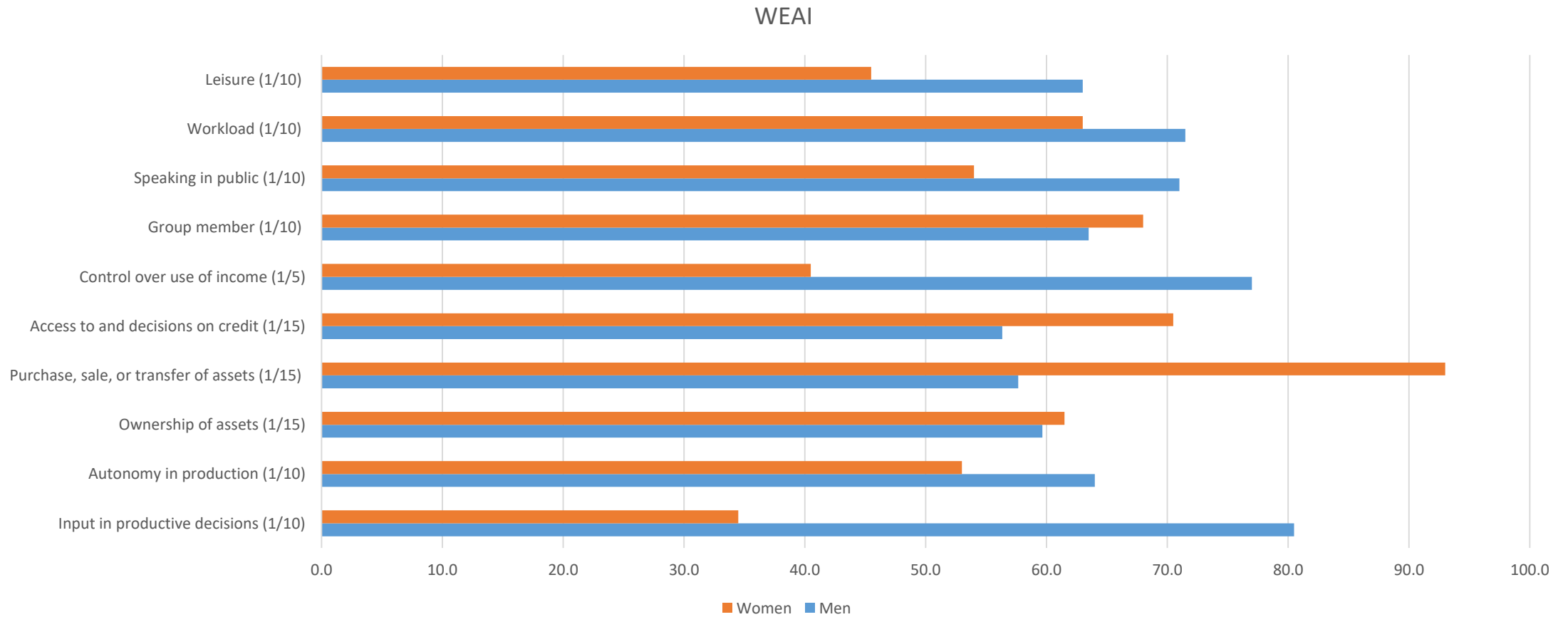
	Male	Female
<b><i>Women's participation in the different community groups</i></b>	Higher in the social and religious based groups	-
<b><i>Barriers to participating in community groups or organisations</i></b>	<i>"My wife will not join any group whose leader is known to be cantankerous"</i>	Individual household members may be restricted by the head based on his position on the behavior of the group



# Community relations

Issue	Men	Women
<b><i>Women in leadership in community groups or organisations</i></b>	<i>“Women are usually not considered for key positions like Chairperson because women already have a responsibility to their husbands and are busy”</i>	<i>In mixed-sex groups women are usually given the position of Treasurer or Organiser; that is more relaxing than the overall leader for a group with men, they will give you pressure”</i>
<b><i>How community problems are solved</i></b>	<i>“With the current situation, each option is considered and chosen based on the merit of the case and it is the best”</i>	Three systems- traditional and religious leadership and court system work hand in hand

# Example of WEAI analysis from FGD



# Conclusion

1. Women play active role in the process of reduction of post-harvest losses of Maize
2. Postharvest activities that women engage in include decisions to procure raw materials, investment in raw material, knowledge sharing, offering services in shelling, winnowing, bagging, storage, decision to sell, selling, decision to use maize income

# The impact assessment research

- Showed pictures and described methods of the technologies for identification



# Research questions

- To what extent are maize value chain actors aware of the improved crop storage technologies supported by PHL-IL Ghana?
- What are the socio-economic factors that influence the willingness to use the ICSTs by maize value chain actors?

# Objective of the study

- Major objective: To determine the acceptability, benefits and gender equality issues in using improved crop storage technologies (ICST) supported by the PHL-IL Ghana Project.
- Specific objectives: To
  1. Determine the gendered differences in the extent of awareness of the ICSTs by maize value chain actors
  2. Identify the socio-economic factors that influence the willingness of maize value chain actors to use the ICSTs,
  3. Determine the differences in the gains obtained by men and women maize actors when the improved technologies are used instead of the conventional.

# Survey design

- Up to 30 farmers of age 21 year and above
- WEAI indicators (the five domains)
- Willingness to use
- Gains in use
- Interviewed in four regions, four communities 145 farmers and 136 others (traders=56, aggregators=40, input dealers= 20, warehouse keepers = 20)

# Result 1

- SPSS data base ready
- Rank analysis tests with Kendal's coefficient of concordance
- Gender disaggregated data (files attached)
- T-test of difference between means
- Relevant tables and figures being developed



**33.What are the factors that will motivate you to continue to use or start using the technology (Rank)\_There is no negative environmental consequences**

Gender	Frequency	Percent	Valid Percent	Cumulative Percent		
Male	Valid	1.00	34	38.6	38.6	38.6
		2.00	11	12.5	12.5	51.1
		3.00	4	4.5	4.5	55.7
		4.00	13	14.8	14.8	70.5
		5.00	8	9.1	9.1	79.5
		6.00	9	10.2	10.2	89.8
		7.00	7	8.0	8.0	97.7
		8.00	2	2.3	2.3	100.0
	Total	88	100.0	100.0		
Female	Valid	1.00	12	21.1	21.1	21.1
		2.00	5	8.8	8.8	29.8
		3.00	8	14.0	14.0	43.9
		4.00	15	26.3	26.3	70.2
		5.00	6	10.5	10.5	80.7
		6.00	7	12.3	12.3	93.0
		7.00	2	3.5	3.5	96.5
		8.00	2	3.5	3.5	100.0
	Total	57	100.0	100.0		

**33.What are the factors that will motivate you to continue to use or start using the technology (Rank)\_My spouse agrees to the suggestion to use it**

Gender	Frequency	Percent	Valid Percent	Cumulative Percent		
Male	Valid	1.00	4	4.5	4.5	4.5
		2.00	13	14.8	14.8	19.3
		3.00	14	15.9	15.9	35.2
		4.00	13	14.8	14.8	50.0
		5.00	14	15.9	15.9	65.9
		6.00	7	8.0	8.0	73.9
		7.00	10	11.4	11.4	85.2
		8.00	13	14.8	14.8	100.0
	Total	88	100.0	100.0		
Female	Valid	1.00	1	1.8	1.8	1.8
		2.00	8	14.0	14.0	15.8
		3.00	4	7.0	7.0	22.8
		4.00	2	3.5	3.5	26.3
		5.00	8	14.0	14.0	40.4
		6.00	8	14.0	14.0	54.4
		7.00	8	14.0	14.0	68.4
		8.00	18	31.6	31.6	100.0
	Total	57	100.0	100.0		

# Report Outline

- Background to study
- Research questions and objectives
- Literature review
- Survey design
- Results
- Conclusions and recommendations

# Rapid observations and lessons

- Males dominate in samples for all value chain actors
- Rural women participate in decision making and can control portions of income
- Income participate in leadership roles and can be part of learning organisations