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**ENHANCING LIVELIHOODS THROUGH ACCESS TO POULTRY FEEDS
AMONG SMALLHOLDERS IN POST COVID-19 ERA IN EASTERN
KENYA: A GENDER PERSPECTIVE**

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Preliminary Results

- Introduction
- Poultry production enterprise
- Poultry Production shocks
- Production shocks and effect
- Poultry feed formulation
- BSFL knowledge & perception
- Fish and poultry integration knowledge & perception
- COVID 19 coping strategies
- Gender participation in poultry production
- Farmer Innovation
- Take home message & way forward

Introduction

- In Kenya, poultry production is a key enterprise among smallholders.
- About 70% of the rural folks deriving at least part of their livelihood from poultry farming.
- The subsector has experienced slow growth attributed to a rise in costs of inputs, lack of access to quality feed, and incomplete information about the input and output markets.
- Substantial work has been done to improve poultry production.
- However, most of it has focused improvement of breeds to high yielding and early maturity, birds which can only achieve their genetic potential if all necessary inputs are provided.
- Dependency on the importation of animal feeds.

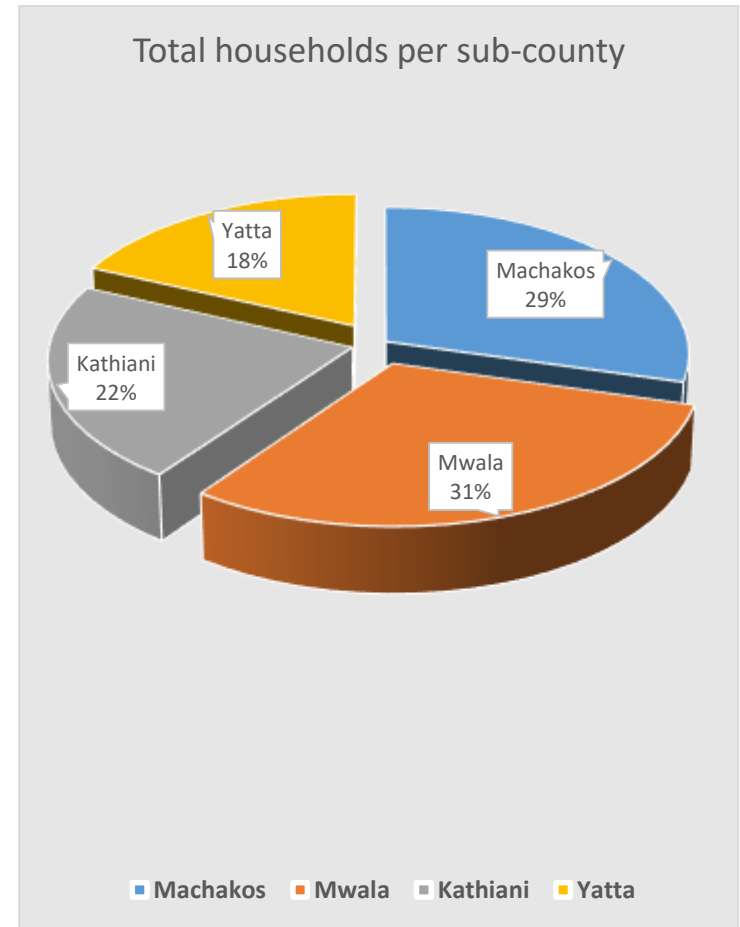
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- In Kenya, women have historically been very active in community-level engagement, through women's groups.
- Thus, there is need to promote poultry farming and extension through such platforms as this could reduce the longstanding gender biases in research, extension, development and policy.
- Expectation:
 - ❖ increased access to poultry feeds
 - ❖ improve food security
 - ❖ overcome the downward productivity spiral in poultry farming in post COVID-19 era

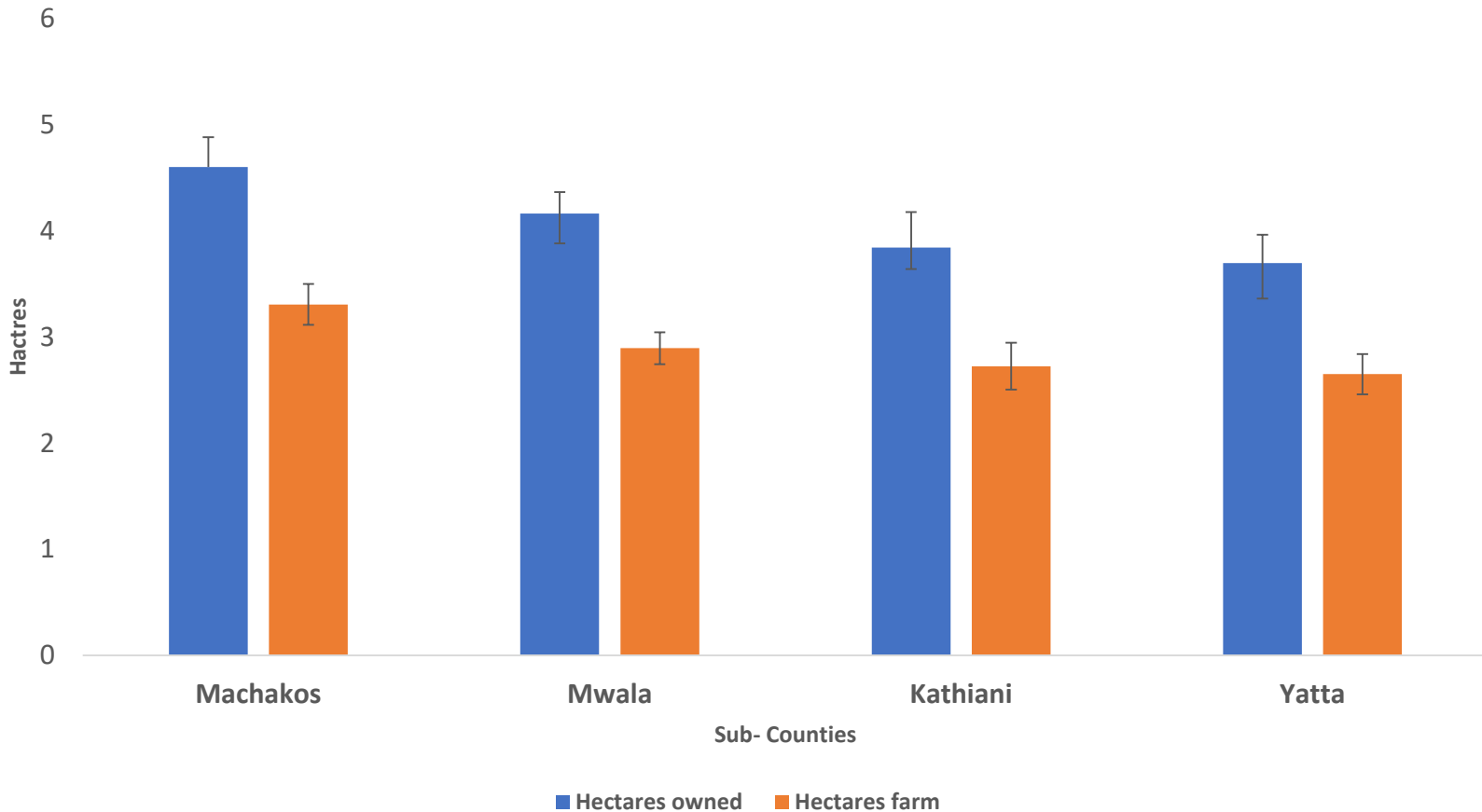
Farm characteristics

➤ 600 poultry farming HH

- 177 (29%) - Machakos sub county
- 184 (31%) - Mwala sub county
- 132(22%) - Kathiani sub county
- 109 (18%)- Yatta sub county

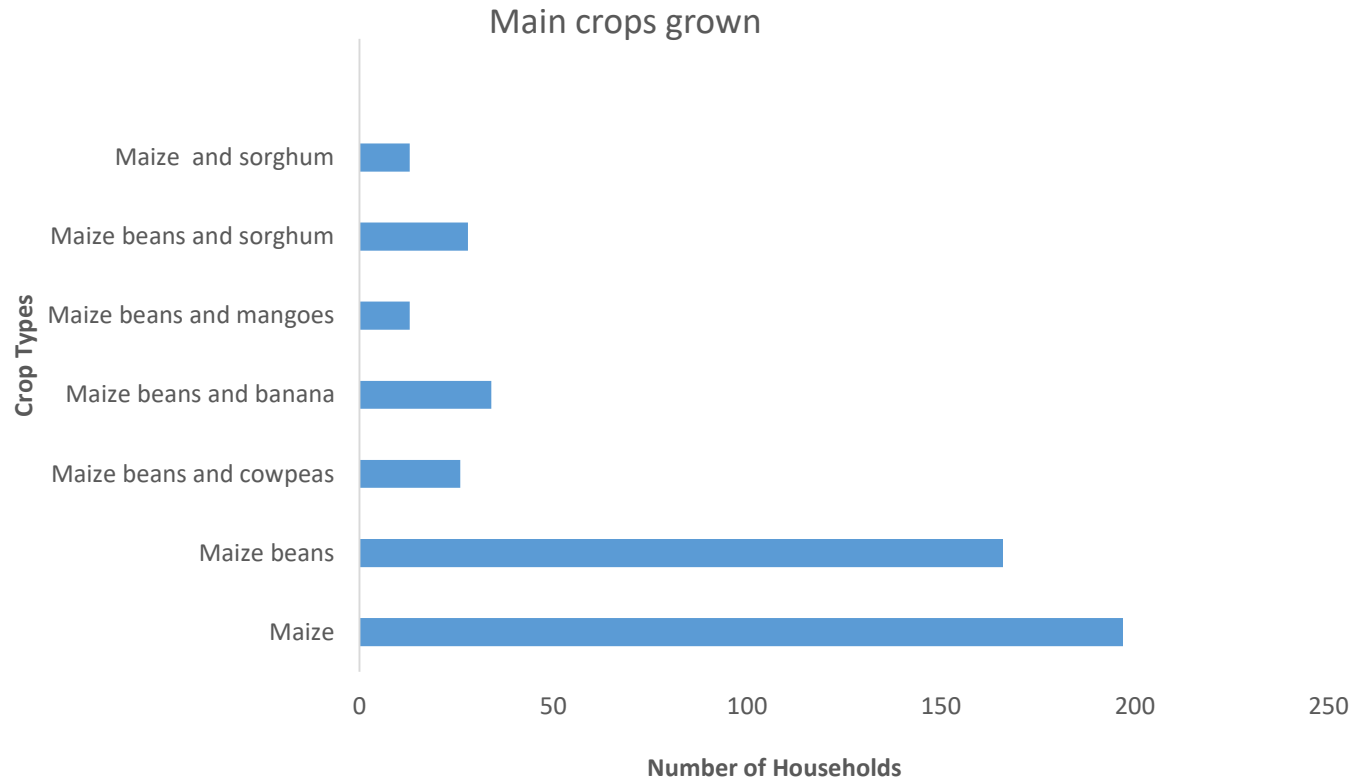


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➤ The average land size owned by majority of the households is 2.87 hectares

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➤ Most farmers grow maize and beans .

Poultry production enterprise

Variable	Poultry stock size	Frequency	Mean
	Indigenous	516	40.34
	Hybrid	77	34.86
	Layers	7	180.57

- 86.0% of the respondents kept indigenous chicken
- 12.8% of the respondents kept hybrid
- 1.2% of the respondents kept layers.

- Three main production system dominated among smallholder poultry
 - ❖ **scavenging 83.3%**
 - ❖ semi-intensive 11.6%
 - ❖ small-scale semi commercial 5.1%.



Poultry extension services

Variables	Frequency	Percentage (%)
Types of Extension services		
Vaccination	400	66.7
Treatment	120	20.0
Debeaking	80	13.3

- The mean number of poultry extension visit was 3 times in year.

Poultry Production shocks

Common Shocks	Frequency
Diseases	501 (82.4%)
Theft	189 (31.1%)
High feeding cost	590 (97%)
Marketing challenges	446 (73.4%)
Bio security issues	156 (25.7%)

Poultry Production shocks

Variables	Frequency	Percentage (%)
Common Diseases		
Newcastle	350	58.3
Gumboro	150	25.0
Fowl typhoid	100	16.7
Effects of common diseases on production		
Reduction by <25%	30	5
Reduction by >25%	150	25
Reduction by >50%	420	70

- Generally diseases reduced the level of production by more than 50%

Poultry feed formulation

Variable Cost of feeds (KES/year)	Mean poultry feed cost/ HH per year
➤ Commercial feeds	38,407.69 (USD 314.81)
➤ Home grown formulation	23,060 (USD 189.01)

Poultry Type	Mean poultry feed cost/ HH per hen per year
➤ Layers	358.70 (USD 2.94)
➤ Hybrid	36.16 (USD 0.30)
➤ Indigenous	22.6 (UDS 0.19)

- This implies that it was less costly to formulate own feed at farm level than buying the commercial feeds

Need for alternative feed ingredients



Why not
BSF

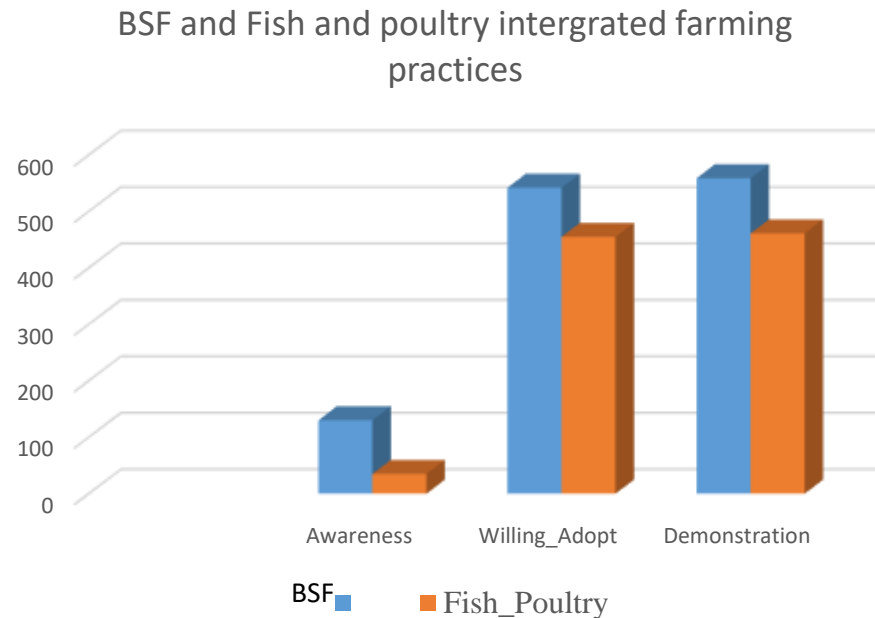
- A smallholder farmer feeding chicken.
- The common method is by throwing maize grains on the ground as the chicken feed.



BSFL knowledge & perception



- 22.3% - aware of BSF.
- 93.1% - willing to adopt BSFL
- 96% - wanted an evidence based demonstration on BSFL.

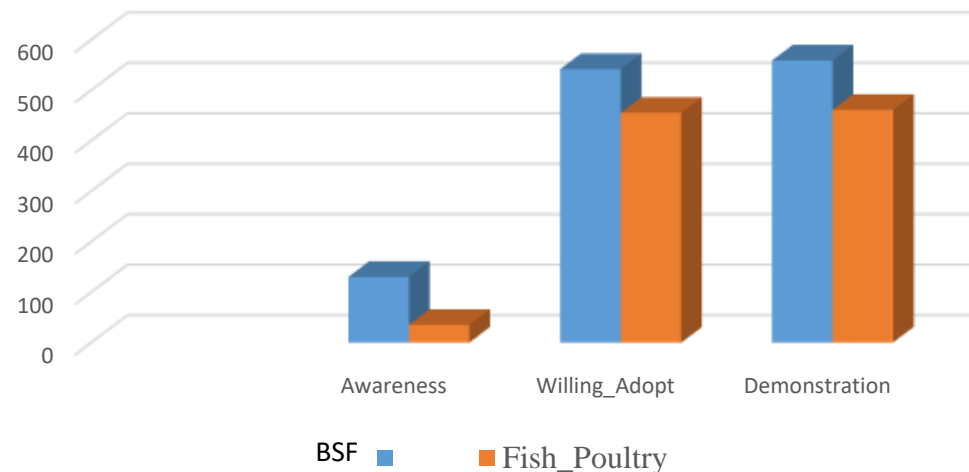


Fish and poultry integration knowledge & perception



- 6.1% - aware of integrated fish and poultry farming,
- 78.2% - willing to adopt the technique
- 79.2% - wanted an evidence based demonstration of the technique.

BSF and Fish and poultry intergrated farming practices



black soldier fly for fish feed offers fish a protein and amino acid-rich food solution

COVID 19 coping strategies

Coping strategies

YES

Reduction of poultry flock	369 (63.4%)
Reduced the frequency/ quantity of feeding the poultry	337 (57.90)
Reduced the quality of feeds used (e.g less protein)	442 (75.9%)
Letting birds to scavenge	384 (66%)
Own feed formulation (for grains)	406 (69.8)
Source alternative protein	17 (2.9%)
Specify (termites, white ants, maggots from the poultry manure, <i>omena</i> , croton tree (<i>Croton megalocarpu</i>))	4 (0.06%)
Black soldier fly protein source	11 (1.8%)

COVID 19 copping strategies

- Bulk buying of chick
8(1.3%)
- Bulk buying of chicken
feed 4(0.06%)
- Bulk buying of vaccines
10(1.7%)
- Bulk marketing 10
(1.7%)



Demonstration site

Demonstration site built by MUMI CBO members in Mwala Sub County in one of the members' homestead. The group does **bulk buying of chicks and feeds**.

Vulnerability to COVID-19



➤ *Empty layers house.* High poultry feed cost prompts farmers to stop rearing layers in Mwala Sub County.

- Youth leader farmer speaks - Before Covid 19 pandemic hit, he kept his chicken inside the house and fed them twice a day.
- He has since reduced the quantity of feed and feeds the chickens once a day then he let them scavenge.
- He had also reduced his stock from over 300 chickens to 80.



1/9/2023

Gender participation in poultry production

Gender Participation	Male	Female	Male/Female
Construction of chicken houses	438 (75.4%)	70 (12%)	73 (12.6)
Feeding of the poultry	29 (8.6%)	405 (69.7%)	148 (25.5%)
Vaccination of the chicken	42 (7.1%)	357 (61.4%)	183 (31.5%)
Buying of equipment's	30 (5%)	344 (59.2%)	208 (35.8%)
Supply of breeding stock	28 (4.6%)	396 (68.2%)	158 (27.2%)
Trading of chicken beyond the farm-gate	28 (5.2%)	417 (71.2%)	137 (23.6%)
Marketing of chicken locally	26 (4.5%)	439 (75.4%)	117(20.1%)
Security	64 (11%)	207(35.6%)	311(53.4%)

Poultry production seem to be a females agenda

Farmer Innovation

- *Improved drinkers and feeders.*



1/9/2023



Brooding Jiko

- made from clay pot
- used by Mrs Mwikali Ngeja, a farmer to warm the poultry house for chicks in Yatta Sub-County.

Take home message

➤ Main challenges

- high feed costs
- diseases
- lack of output markets
- theft
- biosecurity
- inadequate resources to formulate own feeds
- risk of predators as a result of scavenging

➤ The poultry sector is dominated by women and youths who are mostly organised in groups

➤ COVID-19 pandemic posed a significant challenge to poultry production which is yet to be well documented and understood.

Way forward

- Project funded by ARSF3-ECR (ACIAR)
 - Need of collaborators to develop / expand project to train smallholder poultry farmers on;
 1. *backyard feed formulation*
 2. *backyard BSF production to be used for compost, animal feed (poultry & fish), and waste disposal.*
- Why BSFL-very quick production cycle
- an excellent source of protein
 - chickens enjoy the stimulating feeding experience
 - a high-quality alternative to other feeds
 - reduction of organic waste
 - source of bio fertilizer
 - sustainable solution for the future

All of this,,,,, using insects.



THANK YOU
Q&A ?