FEBRUARY 2023

Stakeholder Workshop Report

Stakeholder Workshop on Social and Gender Norms in the Cassava, Chicken, and Fish Value Chains in Tanzania.

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Executive Summary

This is a stakeholder's workshop report for the Harnessing Gender and Social Equality for Resilience in Agrifood Systems (HER+) initiative conducted from 9th to 10th February 2023 at the International Institute of Tropical Agriculture (IITA), Dar es Salam, Tanzania. The workshop aimed to provide information needed for the HER+ study, 'qualitative assessment of gender norms that constrain women's economic resilience to climate change challenges' that was to be conducted in Q1 of 2023 in Tanzania with value chain actors across the different nodes of cassava, fish, and chicken. The main objective of the workshop, therefore, was to identify and map the key stakeholders in the fish, cassava, and chicken value chains and to understand the norms that prevent women value chain actors from becoming economically resilient to climate change impacts. In addition, inputs were also obtained from stakeholders on appropriate site selection and criteria to select participants for the oncoming fieldwork. Finally, the workshop outputs were used to enrich the qualitative tools – Individual Interviews, Key Informants Interviews (KII), and Focus Groups Discussions (FGDs)- to be implemented during the fieldwork.

The workshop was attended by 22 participants, comprising 12 women and 10 men, who possessed extensive knowledge of the selected value chains in the Kigoma, Kagera, and Tabora regions, which were the targeted research areas for the qualitative study on gender norms. Stakeholders comprised experts and, key actors in fish, chicken, and cassava value chains from government departments, Non-Government Organizations (NGOs), research institutes, universities, private sector producer organizations, and other value chain actors with national/regional perspectives of the target value chains.

The two-day workshop agenda included a presentation on the HER + initiative, an introduction to breakout group exercises, and plenary presentations on the outputs of the groups' breakout sessions. The workshop process was designed to be highly participatory to generate ideas and information from the experts and the key stakeholders through brainstorming sessions in the breakout groups and plenary. Break-out group exercises were guided by a tool (Link) designed by the research team (including gender scientists from WorldFish, ILRI, and IITA) and facilitated by a member of the field research team. A gallery walk presentation of the breakout groups' outputs was deployed to maintain group energy.

The workshop tool comprised of 3 modules:

Module 1 - 'Mapping of value chains' aimed to: identify actors in each node, their roles, norms that affect them, and their economic resilience to climate change. Module 2 gathered information on major events, specifically, climate change events that have impacted the value chains, coping mechanisms, and economic resilience. Module 3 focused on technology adoption by women and men for climate change and associated norms.

The stakeholders' workshop provided insights into: a. climate-related events and how these affect women and men in the three value chains of interest. b. actors present in each node, their role, norms and other constraints that affect them vis-a-vis their economic resilience to climate change challenges. c. how the prevailing norms, in particular, constrain the participation of women in the activities along the nodes of the value chain and how these constrain affect women's economic resilience to climate change challenges. These insights were gathered for the 3 selected values chains (poultry, cassava, fish).

Contents

List of Tables

List of Figures

List of Photos

Acronym

Abbreviation	**Description**
ACGG ACA	African Chicken Genetics Gain Arusha Chicken Association
AFS	Agrofood Systems
ARI	Agricultural Research Institute
ASA	ASA Agricultural Seed Agency
ASDPII	Agricultural Sector Development Programme Phase II
BMUs	Beach Management Units
CC	Climate Change
CSOs	Civil Society Organisations
CGIAR	Consultative Group of International Agricultural Research
EMEDO DOC	Environmental Management and Economic Development Organization Day Old chick
ENABEL	Belgian Development Agency
FHI	Family Health International
GTA GVT	Gender Transformative Approaches Government of Tanzania

Abbreviation	Description
HER +	Harnessing Gender and Social Equality for Resilience
HH	Household
IITA	International Institute of Tropical Agriculture
ILRI LGA	International Livestock Research Institute Local Government Authorities
MIBOS	The Mission for Improvement and Boosting Organizational Services to the Community
MLF	Ministry of Livestock and Fisheries
NGOs	Non-Governmental Organisations
SAPLING	Sustainable Animal Productivity for Livelihoods Nutrition and Gender Inclusion
TACAPPA	Tanzania Cassava Producers and Processors Association
TAFEED	International; TANFEED Ltd.
TALIRI	Tanzania Livestock Research Institute
TARI TMB	Tanzania Agricultural Research Institute Tanzania Meat Board
TPBA	Tanzania Poultry Breeders Association
TPA	Tanzania Poultry Association
TOSCI	Tanzania Official Seed Certification Institute
USAID	United States Agency for International Development
VC	Value chain
VICOBA	Village Community Banks
VSLAs	Village Savings and Loans Associations
WFP	World Food Program

1. Introduction

Harnessing Gender and Social Equality for Resilience (HER+) in the Agrifood system is a CGIAR research initiative working to achieve climate resilience by strengthening gender equality and social inclusion across agri-food systems. The initiative aims to, among other objectives, address restrictive gender and social norms by engaging women and men together in Gender Transformative Approaches (GTA) to tackle inequalities in cassava, chicken, and fish value chains in Tanzania. GTAs are ways to intervene in Agrifood Systems (AFS) at deeper levels by targeting structures that create social inequalities, e.g., restrictive norms that for example, block women's access to financial services and entrepreneurship opportunities. In the 2022–2024 cycle, Work Package 1 (WP1) will help AFS stakeholders identify leverage points and levers to reduce normative constraints that limit women's capacities to build economic resilience to CC challenges. The evidence will be used to design and implement GTAs with CGIAR Initiatives and partners to overcome these constraints. WP1 will help harness and package the learning to accelerate the widespread application of GTAs within the AR4D ecosystem.

HER+ initiative contributes to One CGIAR's five impact areas: 1) Climate adaptation and mitigation; 2) Environmental health and biodiversity; 3) Gender equality, youth, and social inclusion; 4) Nutrition, health, and food security; and 5) Poverty reduction, livelihoods, and jobs. As One CGIAR grows stronger

the implementation of its activities is designed to be delivered under different initiatives, one of them is to catalyze resilience in the Agrifood system in East and Southern Africa.

In Tanzania, the norms assessments was conducted in three value chains; fish, cassava, and chicken, in the Kagera, Kigoma and Tabora regions.

The main objectives of the stakeholders' workshop were to get stakeholders' inputs in; (i) Identifying and mapping the key stakeholders in the value chains of interest (ii) Identifying the norms that constrain women and other groups from working in the different nodes of the value chain (iii) Examining the major climatic events that have impacted value chain actors, their coping mechanisms and economic resilience and (iv) Examining the adoption of climate-smart technology by men and women AFS actors

2. Workshop participants, program, and process

The workshop was attended by 22 participants, comprising 12 women and 10 men, with extensive knowledge of the selected value chains in the Kigoma, Kagera, and Tabora regions, the targeted research areas (Appendix 1). Participants included gender experts in fish, chicken, and cassava value chains from government departments, Non-Government Organizations (NGOs), research institutes, universities, the private sector, representatives of producer organizations, and value chain actors with national/regional perspectives of the three value chains.

The two-day workshop agenda included a presentation on the HER + initiative, introductions to breakout group exercises, and plenary presentations on the breakout group outputs. At the end of the workshop, an evaluation was held to get participants' feedback on the workshop content and process as well as their commitment to future involvement in the project (Appendix 2).

Break-out group exercises were guided by a tool designed by the research team. The tool had three modules: (i) Mapping of value chains: actors in each node, their roles, norms that affect them, and their economic resilience to climate change (ii) Background information on major events and specifically climate change events that have impacted the Value Chain of interest: major climate events, coping mechanisms, and economic resilience, (iii) Focus on technology adoption by women and men for climate change and associated norms. Breakout sessions were facilitated by a member of the field research team and the stakeholders followed the steps given to do the exercises.

The workshop process was designed to be highly participatory to generate ideas and information from the experts and key stakeholders through, brainstorming sessions in the breakout groups and plenary. Gallery walks presentation of the breakout group's outputs was deployed to maintain group energy.

3. Opening sessions

After an introductory and warm-up session, participants were asked to get to know each other and then briefly agree on the major impacts of climate change on their respective value chains and associated gender implications. Figure 6 presents the issues raised by the three value chain groups.

-Reduction of fish due to illegal fishing
-Rising of water level -Fish impacted greatly by climate change.
-Extinction of fishes,
-Increase demand for commodities
-Child labor
-Loss of water
-Extinguishing of species
-Coral reef bleach
-Environment issues
- Pollution
-Unpredicted weather changes leading to drowning problems.

-Challenge shortage of maize and soya- for making chicken causing high price of these raw materials which are major ingredients for chicken feeds while the price of chicken is the same.

-Smallholder farmers mainly women and youth failing to cope with increasing costs of chicken production.

Cassava is resilient to CC and a potential contributor to food security.

-Income as it is resilient to CC

-Men joined the VC due to income.

-Climate change is becoming a big issue affecting food security especially in Cassava

-We must address climate change in cassava because it's a smart food e.g. glut-tern free cassava.

Figure 1 Ice-breaking sessions, participants' view on climate change impacts and gender issues on respective value chain

Opening remarks were then provided as follows.

3.1 Dr. Regina Kapinga opening remarks and presentation on One CGIAR in Tanzania

The opening of the workshop was officiated by Dr. Regina Kapinga, (CGIAR Country Convenor, Tanzania) who took the opportunity to present One CGIAR's identity, framework, research strategy, partnerships, and funding structure. Dr. Kapinga noted that the Consortium Group of International Agricultural Research Centres (CGIAR) has a long history in Tanzania (over three decades). A recent development of CGIAR is the formation of One CGIAR, a strategic partnership of international institutions/Centres dedicated to advancing Science and technology to address the central development challenges namely: -

- Reducing rural poverty,

- Improving food security,
- Improving nutrition and health,
- Sustainably managing and utilizing natural resources and
- Resilience to climate change

The International Institute of Tropical Agriculture (IITA) has a well-established infrastructure in terms of office space in Tanzania and has been given the mandate of convening One CGIAR activities in Tanzania. Dr. Kapinga emphasized that One CGIAR has several centers, several initiatives, and bilateral projects, working closely with the national Agricultural Sector Development Program coordination unit to ensure alignment with country priority themes. Key highlights from Dr. Kapinga's presentation included: Global Impact areas (Figure 1), One CGIAR major themes (Figure 2), Samples of innovations ready to scale for impact (Figure 3), One CGIAR initiative in Tanzania (Figure 4), and Partnerships between CG and Non-CG Actors (Figure 5).

Photo 1 Dr. Regina Kapinga, One CGIAR Convenor Tanzania

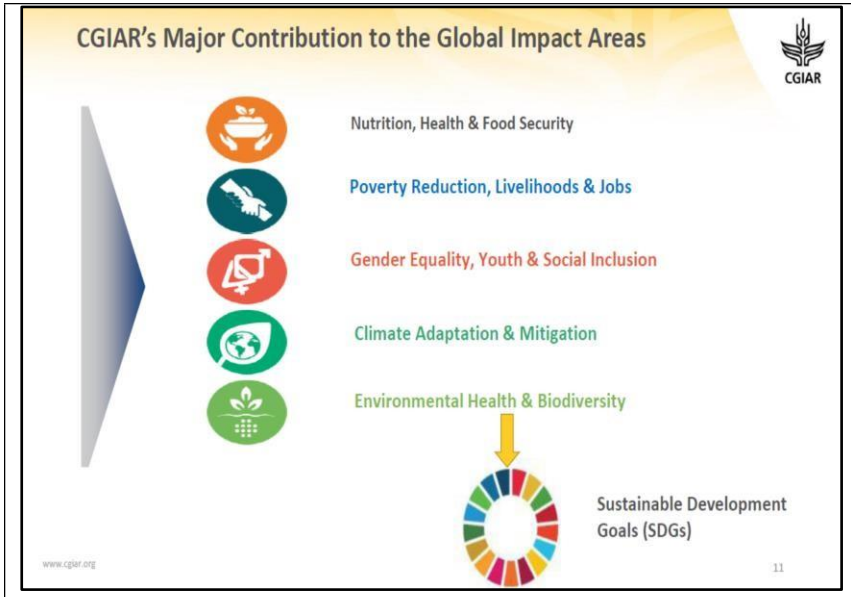

Figure 2 CGIAR's Major contribution to the global impact areas

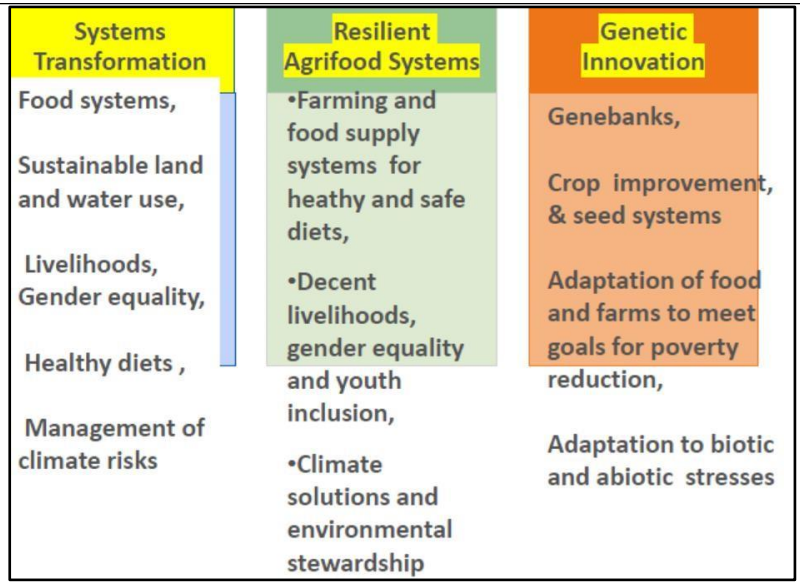

Figure 3 One CGIAR Major Themes

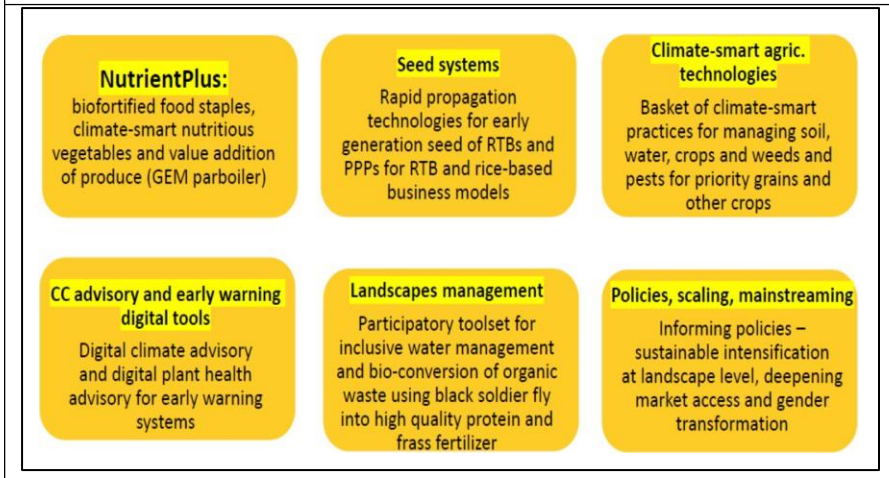

Figure 4 Sample of innovations ready to scale for impact

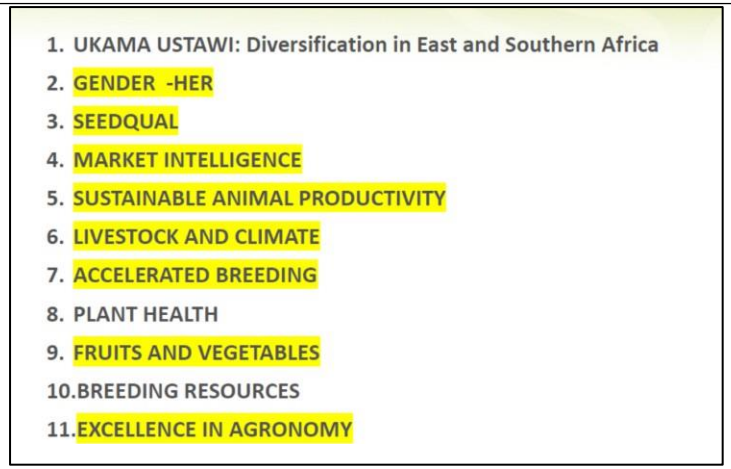

Figure 5 One CGIAR Initiatives in Tanzania 2022 - 2024

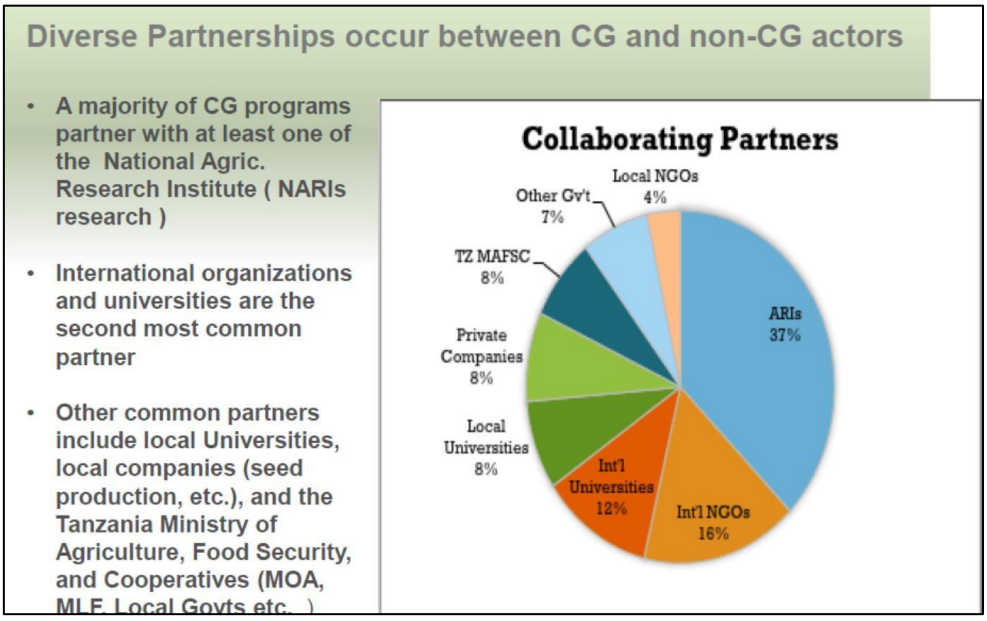

Figure 6 Partnerships between CG and non-CG actors in Tanzania

Dr. Kapinga reiterated One CGIAR's efforts to ensure that all initiatives are aligned with the ASDP II priority themes and areas. She said there are no changes to the research mandate of the individual institutes/Centres but rather changes in working modalities for better coordination, alignment, collaboration, implementation, and co-mobilization of resources for a common goal. Projected investment in Tanzania for 2022 – 2024 stands at USD67.4 million for Bilateral projects and USD102 million for pooled One CGIAR funding. Dr. Kapinga's full presentation can be accessed through the following link.

3.2 Overview of the HER+ Initiative by Dr Steven Cole, Senior Scientist and Coordinator of Gender Research at IITA

Dr. Steven Cole, the Work Package 1 - 'TRANSFORM' team lead, presented an overview of the HER + initiative. The initiative is mapped under the Gender Equality, Youth and Social inclusion, One CGIAR impact area. HER + initiative's outcome is, by 2024, National agencies, Civil Society Organizations (CSOs), and CGIAR initiatives in Nigeria and Tanzania target normative constraints, that limit the capacities of women food-system actors to build economic resilience to climate change challenges. The initiative will use Gender Transformative Approaches (GTA) which are ways to intervene in food systems at a deeper level by targeting normative constraints and building critical consciousness. A glossary of terms used in this workshop and in implementing the project is listed in Appendix 3 for common understanding.

The innovative research focuses on three steps, (i) Assessments of unequal norms that restrict women from building economic resilience to CC challenges, (ii) Identify leverage points and levers to intervene for deeper-level change and (iii) Design and test gender transformative approaches (GTAs) with partners. Research in Nigeria and Tanzania suggests that there are norms that constrain, especially women, and

their abilities to become economically empowered in various ways. Dr. Cole noted the challenges being addressed in the focal countries are patriarchal systems of gender inequality and discriminatory social institutions. Dr. Cole's presentation can be accessed at the following **link.**

Photo 2 Dr. Steve Cole, Senior Scientist - IITA

4. Module 1: Mapping of value chain actors in each node, their roles, norms that affect them, and their economic resilience to climate change.

4.1 Introduction to the Breakout Group exercise by Dr. Jumoke Adeyeye

Dr. Jumoke Adeyeye introduced the Breakout Group exercise by taking participants through the steps described in the working tool developed by the research team. The tool used describes in detail the group tasks, and the process to be followed in each of the three modules. The tool-type document can be accessed at the following link. Dr. Adeyeye described the mapping process, involving five steps, and informed participants that the exercise will be guided by the questions in the tool. She indicated that there are research team members assigned to the three groups to support with notetaking and for clarification if need be.

Photo 3 Dr. Jumoke Adeyeye, IITA Nigeria

The mapping exercise's five steps are:

- Step 1: Actor mapping: Map who is doing what and in which node of the VC.
- Step 2: Activity mapping
- Step 3: Identify chain supporters such as financial service providers like bankers, extension agents, and other service providers and
- Step 4: Identify the different norms that serve as opportunities or constraints for men and women.
- Step 5: Zoom in on norms and economic resilience. Go deeper into the norms and discuss whether they are enabling for men or women but also if the effects are equally the same in the two gender categories.

4.2 Plenary Presentation mapping of the three value chains

Preamble

The three break-out groups, formed according to the value chain of interest (Table 1), worked on the exercise for Module 1 i.e. Mapping of the value chain based on the guideline in Work Package Tool type 1 - described in section 4.1. At the end of the exercise, the groups presented their findings in plenary.

Table 1 Breakout Groups members

Breakout Group	Group names
1	Cassava value chain group
2	Fish value chain group
3	Chicken value chain group

4.2.1 Mapping of the Fish Value Chain

The Fish value chain group identified three main nodes: pre-harvesting, harvesting, and post-harvesting. Figure 6, 7, and 8 show the main actors and the activities at the three nodes identified by the group members.

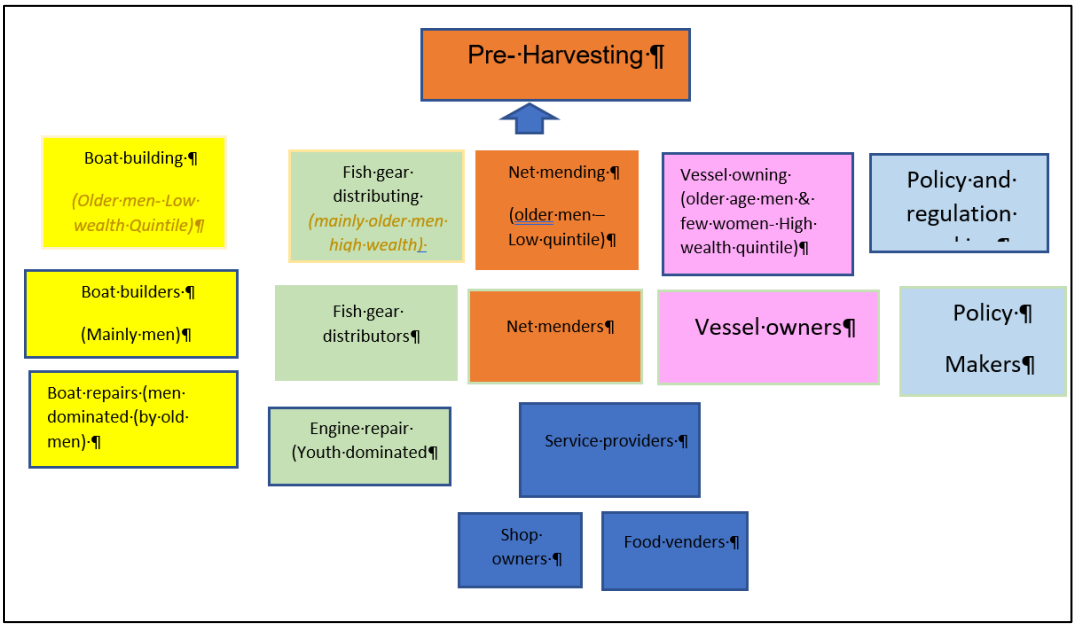

Figure 7 Fish value chain mapping – Pre-harvesting node

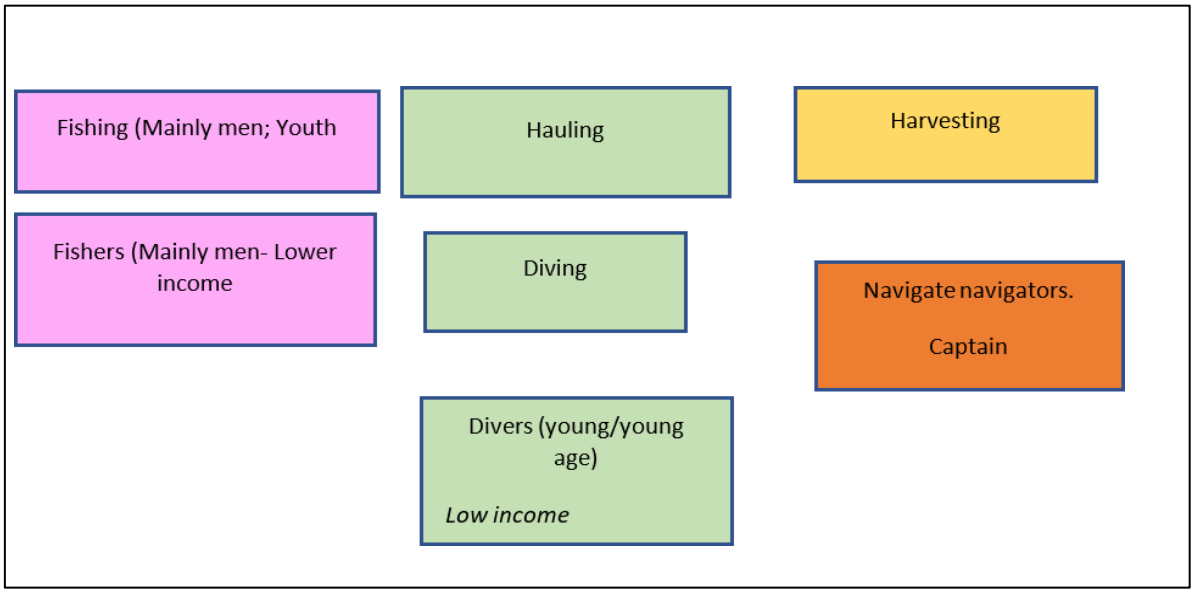

Figure 8 Fish value chain mapping - Harvesting

Young men dominate harvesting nodes because work in these nodes is done at night and involves diving in deep waters; both timing and activity are considered appropriate for young men only. The gender norm that was found to be associated with this activity is: 'it is not appropriate for women to work outside the homestead at night'.

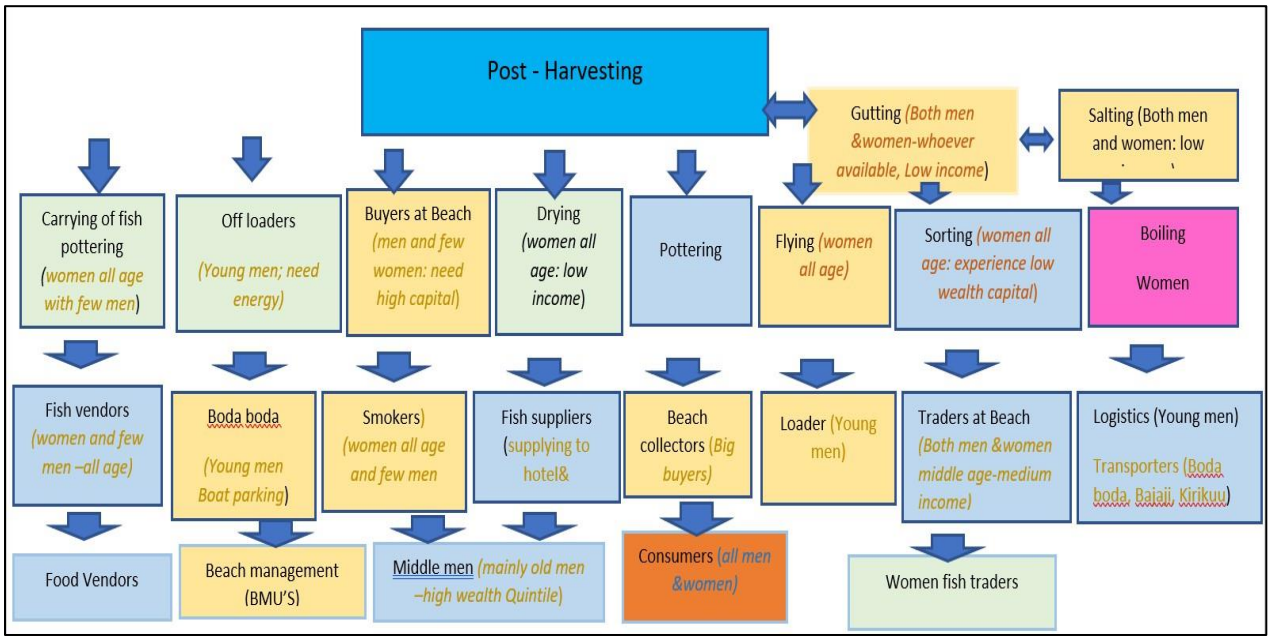

Figure 9 Fish value chain mapping - Post harvesting

The reasons behind the different roles between men and women discussed by the group members were:

- In general, older men dominate pre-harvesting because this node requires heavy capital investment, knowledge, and experience, which most women lack. Associated norms include:

- It is not appropriate for a woman to access and use loan/credit without seeking permission from the husband.
- It is not appropriate for a woman to make decisions over the use of family resources.

- Harvesting is dominated by young men. Associated norms include:
  - It is not appropriated for a woman to be out of her home at night for work
  - It is inappropriate for a woman to go and fish offshore (in the lake).
  - Old men and women should not risk by engaging in fish harvesting in the lake
  - Old men and women should leave diving and hauling to young men who have enough physical strength.

- Women dominate post-harvesting in sorting, cleaning, and carrying fish loads to marketplaces. Associated norms are:
  - It is inappropriate for a man to engage in the sorting of sardines (*dagaa*) because it is women's job.
  - It is not appropriate for a man to engage in frying or drying sardines.

- Men dominate in distribution and trading nodes because these are capital-intensive. Associated norms are:
  - A woman should not access loans or credit without the permission of her husband.
  - It is not appropriate for a woman to make decisions over the use of family resources.
  - A woman should not use household resources as collateral for accessing loans.
  - A woman should not engage in high-income earning activities [It is considered that high income-earning nodes are for men, not women].

Factors enabling men to build economic resilience include access to and control over household resources, which support them in accessing loans from financial institutions. Also, social and gender norms favor men to get education and training. The fish (sardines) value chain is a male-dominated VC, specifically in the lucrative well-paying nodes. Therefore, men become more economically resilient to climate shock.

Women perform low-income activities arbitrarily designated as women's work. These low-income activities affect their ability to build economic resilience to face climate change/ shocks. Women coping mechanism is mainly through the formation of social economic groups such as the merry-go-round and VICOBA groups. Through such groups, women access information, knowledge, technologies, and opportunities such as acquiring entrepreneurship and financial management skills. Enabling and gender-restrictive norms for men and women are shown in Table 2.

Value chain supporters in the fish value chain

- Extension services
- CSOs/NGOs
- Transporters
- Central government and Regulatory bodies (Registration and quality control)
- Fishing gear suppliers/boat builders/ net menders
- Microfinance service providers (LGAs - loans for women, youth, and people with disabilities; VSLAs/VICOBA/SACCOs)

Table 2 Gender norms enabling and restrictive men's and women's participation in the fish value chain.

Gender norms enabling women's participation	***Restrictive norms for women***
1. Women should work at the post-harvest node of the fish value chain.	1. It is inappropriate for a woman to fish offshore (in the lake).
	2. It is inappropriate for women to engage in fish activities outside the homestead.
	3. Women should not make final decisions independently on family resources.
Gender norms enabling men's participation	***Restrictive norms for men***
1. Men should be responsible for accessing financial resources [but not women].	1. It is not appropriate for men to perform women's tasks such as fish cleaning, sorting, drying and frying.
2. Making decisions about household resources should primarily be left to men.	
3. Fish pre-harvesting activities should be left to men because they are more knowledgeable and experienced compared to women	

Photo 4 Fish value Chain Members

4.2.2 Mapping of the Chicken Value chain

The Chicken value chain team listed five nodes namely the Production of chicks (Breeder farms); Production of meat and eggs (Poultry farmers); Animal feed production (Feed millers); slaughtering/processing (Animal Products Processors); and Consumers (Figure 9)

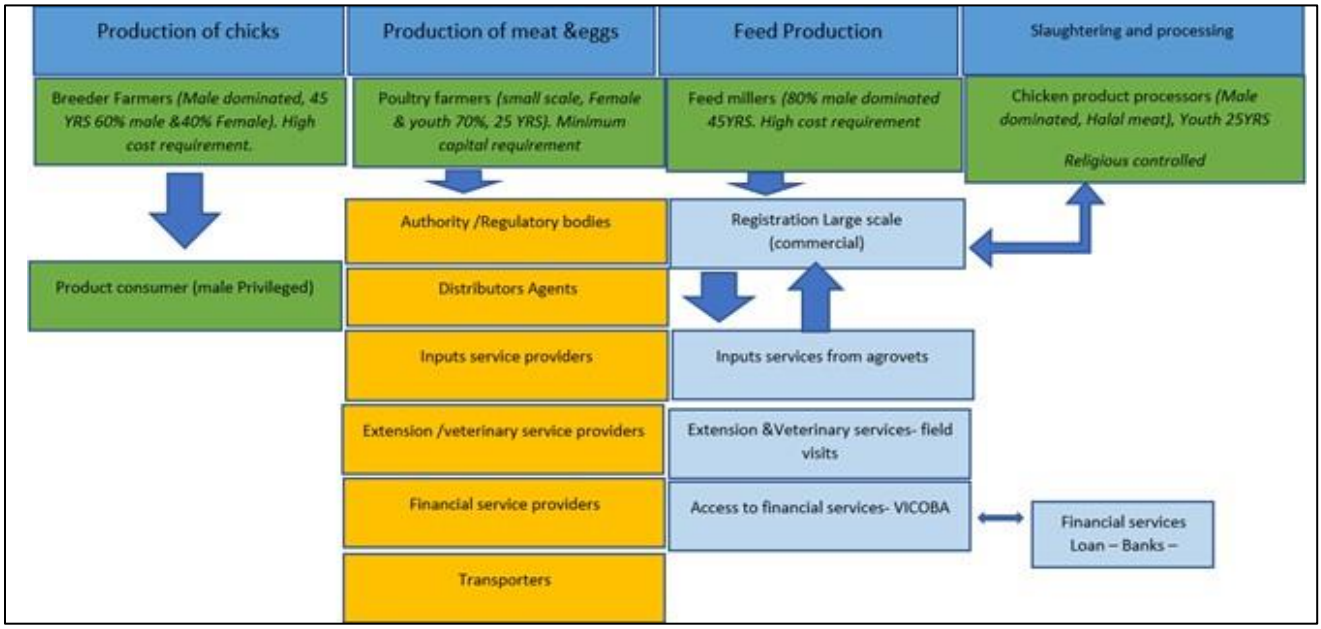

Figure 10 Chicken value chain mapping

The nodes involved in the chicken value chain are described as:

- Production of chicks (Breeder farms/parent stocks and hatcheries) permanent and professional whose main role is to is to produce day old chick (DOC)
- Poultry farming
- Chicken products processing (slaughters, packing e.g. Frostan, eggs flour processor)
- Feed milling/Manufacturing (animal feeds manufacturers)
- Distributing/Vending (Meat distributors to e.g. Supermarkets, The agents linking DOC with farmers, aggregating chickens to market point)
- Transporting (Feeds, Chicks, and live birds)
- Product consumption (Supermarkets, hotels, households, individuals)

Table 3 shows an estimation of women's and men's participation levels at the different nodes of the chicken value chain.

Table 3 Men and women's participation in the different nodes of the chicken value chain

Process/Actor nodes	**Gender disaggregation of value chain actors**	**Comments**

Breeder farms	Males dominated 45+ age and with wealth- 60% male and 40% female.	High costs of resources (physical and financial eg land and capital) limit women's participation.
Poultry farmers	70% female and 30% male dominated especially on small-scale production; large-scale is male-dominated (about 80% men); both young and old	Small capital which women can attain even from VICOBA, also physical resources requirement is minimal e.g. can keep even at the backyard of the household.
Feed Millers	80% men and 20% women	
Animal product processor	Both female and male, but mostly male and youth-dominated (25+) 95% Muslims,	Muslims in slaughtering for religious norms (Hallali)
Consumer	Both women and men; Men are privileged	At the household, both women and men can eat chicken, but males can get chicken at barbeque places commonly known as “Nyama choma” and women can’t; also, most delicious parts of the chicken are kept for men.

Men's and women's activities along the chicken value chain are shown in Table 4.

Table 4 Men and women's activities along the chicken value chain

Men	Women
• Breeding farms • Feed manufacturing • Slaughtering and processing (Halal)	• Chicken rearing (the whole process)/rearing • In consumption, women are responsible for preparing chicken for consumption/Chicken products preparations at the household level • Selling of live chicken and eggs at the household level

Service provision in the chicken value chain

Chicken value chain supporters are: -

- Agents (Distribution and links)
- Transportation
- Extension services/Vet services
- Inputs service suppliers (Vaccines, feeders, drinkers, heating system)
- Financial service provider (Banks and Insurance, LGA, VSLA/VICOBA)
- Authority and Regulatory bodies (GVT to register, Tanzania meat board

Occasionally farmers receive extension and veterinary services through consultation visits. Farmers get input services from agrovets such as the vaccine, feeders, drinkers, and heating systems. Large commercial farmers can get loans and insurance from banks and insurance firms. The small- scale farmers get a loan from savings groups such as Village Savings and Loan Associations (VSLA) and Village Community Banks (VICOBA). Large-scale farmers sometimes get services from the local government authorities to get advice from the relevant authority and regulatory bodies such as the Tanzania Meat Board (TMB).

Photo 5 Members of the Chicken Value chain Breakout Group

Most women are small-scale farmers because they have limited physical and financial resources. Furthermore, there are gender norms that do not give women the opportunity to own land, and that prohibit them from engaging in large-scale farming. An example of a prohibitive gender norms is: 'it is inappropriate for women to own productive resources such as land and farm infrastructure'. This entails that women are regarded not to be bankable as they lack collateral; instead, they access funds from savings groups where they are members. Such informal financial services have limited potential in supporting livestock business. However, there are enabling gender norms that allow women actors to participate in the chicken value chain, and control chicken management and benefits. For example, in pastoral society (Maasai), because of climate shocks, women are engaged in keeping chickens as a livelihood activity.

Norms that enable and hinder women's and men's participation in the chicken value chain are shown in Tables 5 and 6.

Table 5 Norms that enable and hinder women's participation in the chicken value chain.

Norms enabling women's participation in the Chicken VC	**Norms hindering women's participation in the Chicken VC**
• It is appropriate for women to have control over income generated from the chicken business. • It is appropriate for women to have ownership and control of small-scale home-based enterprises	• It is inappropriate for women to move from one area to another to market chicken products. • It is not appropriate for married women to participate in off-farm events such as training and seminars without permission from their husbands. • It is not appropriate for women to access and have control over resources such as land for the construction of the chicken house. • It is not appropriate for women to inherit and own properties. • It is not appropriate for women to engage in economic activities.

	• It is inappropriate for women to have continued access to properties in case of marriage separation.

Table 6 Norms that enable and hinder men's participation in the chicken value chain.

Norms enabling men's participation in the Chicken VC	**Norms hindering men's participation in the Chicken VC**
• It is appropriate for men as household heads to inherit and own productive resources.	•
• It is appropriate for men to make decisions on productive resources including chicken enterprise.	• It is inappropriate for men to engage in chicken in small scale production because it diminishes men's social status.
• It is appropriate for men to move freely and associate for social networking and learning	

In relation to some of the gender norms that enable and can promote economic resilience for women and their coping mechanism the chicken value chain team came up with three points:

- It is appropriate for women to engage in chicken rearing activities. For example, in pastoral society (Maasai), because of the climate shocks, Maasai women have embarked on keeping chickens for household livelihood.
- It is appropriate for women to feed kitchen leftovers to their chickens. This enabled them to reduce chicken management costs and increase production of eggs and meat that can cover the protein needs and income for HH.
- It is not appropriate for a woman to move from places to places (restricted mobility).-Restrictions on mobility have enabled women to get enough time to take care of the chicken. When they cannot go to produce crops due to climate shocks, they can use that time to keep chicken.

Similarly, the group presented a summary on how the privilege that men have can enable and promote their economic resilience and coping mechanisms to climate shocks:

- It is appropriate for men to move from places to places freely. The unrestricted mobility has enabled men to cope with climate shocks while building economic resilience. Men can move/relocate the chicken project from one region to another. For example, some breeder companies decided to relocate from DSM where parent stocks suffered from heat stress, and relocated to Iringa and Kilimanjaro where it is cooler.

- It is the role of men to make all decisions at household level. The power on decision-making enables men to cope with climate stress. When the chicken business environment change due to climate stress, he can decide to use other resources and take the money from other sources to invest back in chicken project, he can use income from sale of plots to boost the chicken project.
- It is very appropriate for men to inherit and own the productive resources. The right to own productive resources gives men who own chicken companies, autonomy to diversify e.g., they can keep hatcheries in Dar es Salaam (near the market) and keep the parent stocks in areas with less heat stress.

The group also presented some gender related barriers that can hinder and affect economic resilience of women to CC, and their coping mechanisms. These included:

- It is not appropriate for women to move from their houses or to be away from their houses for a period exceeding two hours. This limits their ability to engage in income-generating activities.
- Norms restricting women's mobility: while a man can relocate chicken rearing activities, women cannot relocate the activity to cope with climate stress.
- It is not appropriate for women to inherit, own and or access the productive resources. Lack of access, ownership, and inheritance rights to productive resources restricts women from diversifying business due to limited resources which can support them in adopting climate-smart technologies.
- It is not appropriate for women to interact with other people especially men. This restricted interaction with other actors, hinders women from accessing important information, knowledge, technologies, and experience that could help her cope with climate shocks.

Photo 6 Mr. Manase Mrindwa presenting chicken value chain break-out group output in a gallery walk

The main coping mechanism for men in the chicken value chain was reported as relocation to suitable or environment-friendly areas. Gender norms that hinder and can negatively affect economic resilience for men and their coping mechanisms in this situation are:

- It is not appropriate for men to involve women in decision making. This may affect men's ability to cope and recover from climate stress as they will miss very important contribution from women when they make these decisions such as relocating the chicken business.
- It is inappropriate for women to relocate together with their spouse when the spouse decides to relocate the chicken business to another place. So, when a man relocates alone, he can miss important support from woman especially in chicken management and this can affect the performance of the project.
- It is not appropriate for a man to be taught by a woman as men are considered to be more knowledgeable and have more experience than women.

The ranking of gender norms from most restrictive to least restrictive for women and men's participation in the chicken value chain is shown in Table 7.

Table 7 Restrictive norms for women and men's participation in the chicken value chain

Restrictive norms for women	Restrictive norms for men
1. It is inappropriate for women to access, control, and inherit properties and resources.	**1.** It is inappropriate for men to engage in small-scale chicken enterprises.
2. It is inappropriate for a woman to move freely without permission from her husband.	**2.** It is not appropriate for men to concentrate on homestead-based activities including chicken rearing.
3. It is not appropriate to educate women	
4. It is inappropriate to involve women in decision making	
5. It is not appropriate for women to access technologies and information such as owning mobile phones	
6. it is inappropriate for women to slaughter animals/chicken	
~~7.~~ It is not appropriate for women to teach men on anything including chicken related. Men are considered more knowledgeable and experienced.	

4.2.3 Mapping of the Cassava Value Chain

Figure 10 presents the cassava value chain map generated by the Breakout Group. Three nodes were identified: production, processing, and trading/marketing. The group brainstormed on the activities at each node and the engagement of men and women (Table 8). In general, both men and women are engaged in all nodes with women dominating in activities in the processing stage such as washing and peeling. Men dominated in the trading activities particularly bulk and wholesale and activities with higher income.

Photo 7 The Cassava Value Chain Breakout Group members

Figure 11 Cassava value chain map

Table 8 Cassava value chain nodes and engagement of men and women

Node	Activity	Actors	Women and Men Participation
Production	Seed production	Researchers	Men 60% & women 40%
		Tanzania Official Seed Certification Institute (TOSCI)	70% men and 30% Women
	Seed Multiplication	Government Organisations (ASA)	50:50 men and women, mostly youth
		NGOs, CBOs,	50:50 men and women,60% older and 40% younger
		Prisons,	100% men with 80% youth
		TOSCI	As for seed production above
		Seed farmer associations, seed growers	60% women and 40% men mainly older
		Farmer field facilitator	Mainly women 70%
		Extensions agents, transporters	60% men and 40% women – more youth (70%)
	Root and tubers growers	Farmers (Individuals/Groups),	60:50 Men and women – mainly older 70%
		NGOs (TACAPPA), Companies, and transporters	50:50 Men and women
Processing (Value addition)	Washing	100% women (Individual, companies, groups)	Activity considered as simple and soft women do better and soft
	Peeling	100% women (Individual, companies, groups)	It is a shame for men to do a bending work
	Chipping	100% women (individuals, companies, and groups)	Simple and soft women do it better
	Grating and squeezing	80% men (Individuals, companies, and groups	Men are considered strong and more masculine
	Drying	100% women (Individuals, companies, and groups	It is a simple and light activity, women do it better

Node	Activity	Actors	Women and Men Participation
	Grinding	80% men (Individual, companies, and groups)	Men are considered strong and more masculine
	Parking and labelling	50% men &50 % women (Individual, companies, and groups)	This is done by both men and women but if the market price is high men tend to dominate
	Storage	100% men (Individual, companies, and groups)	Men are considered strong and more masculine The activity generates more income
	Loading	100% men (Individual, companies, and groups)	Men are considered strong and more masculine The activity generates more income
Trading and marketing	Transportation	Farmer associations, companies, NGOs, and individual farmers	
	Advertisement	Individual traders and companies	
	Selling	Individual farmers, companies, and farmer associations	Women dominate in retail trading for household needs

Cassava value chain supporters include financial institutions (banks and VICOBA), extension agents, NGOs & CBOs, research institutions, and regulatory bodies (Figure 11). Men access these services more than women because they are more informed and community norms favor men in terms of ownership and control of resources (Table 9). On the other hand, women have more access to financial services from the community banking systems e.g., VICOBA.

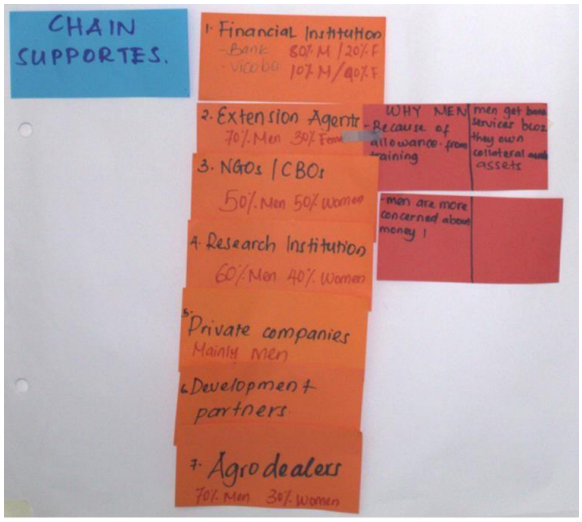

Figure 12 Cassava value chain supporters

Table 9 Cassava value chain supporters and their reach of men and women

Supporters	Men /women	Reasons for more men/women reach
Researchers	Men 60% Women 40%	It is not appropriate for women to undertake science subjects
NGOs	Men 50%Women50%	NGOs embrace equal employment opportunities policy.
Extension officers	Men70%Women 30%	Women not engaging in science subjects because it is not appropriate for women to take science subjects.
Input suppliers (Agro dealers)	Men 80% Women 20%	It needs sufficient capital to start an agrovet shop because women do not have adequate finance due to limited access to and control over resources.
Financial service providers	Men 80% Women 20%	Women lack the collateral to get a loan from a financial institution.
Authority and Regulatory boards	Men 60% Women 40%	Women not engaging in science subjects

Figure 12 presents the group output on norms influencing men's and women's participation in the cassava value chain. Women grow cassava to ensure household food security and, in some areas, it is labeled as a woman's crop because it is not a traditional cash crop and most activities are done by women. In Kagera, cassava is considered an inferior crop, planted in the periphery. It was neither a traditional staple food crop nor a cash crop in that specific region. Men's participation especially when on a small scale is low

because they go for cash crops. Men's participation increased as the cash economy increases in the value chain.

Norms that stood out for the cassava value chain are:

- It is shameful for a man to do any cassava activity that involve bending such as washing and peeling cassava - “He will be considered weak and bewitched”.
- It is not appropriate for women to be in public places.
- It is not appropriate for women to engage in the cassava wholesale market.
- It is not appropriate for women to bargain in markets of cassava.
- Women should not operate mechanized tools for cassava processing.
- Women should not transport fresh or processed cassava for sale outside their community.
- Cassava planting and weeding management are women’s roles.
- Cooking and roasting cassava should be done by women.
- Cassava harvesting and selling should be done by men.
- Decisions on the use of income earned from cassava production should be made by men.
- Women should consult their husbands before they hire labor for cassava production and processing.
- Women should not make decisions on the size of land for cassava production. They should leave this to men.
- It is culturally inappropriate for a woman to have in person consultation with a male extension agent.

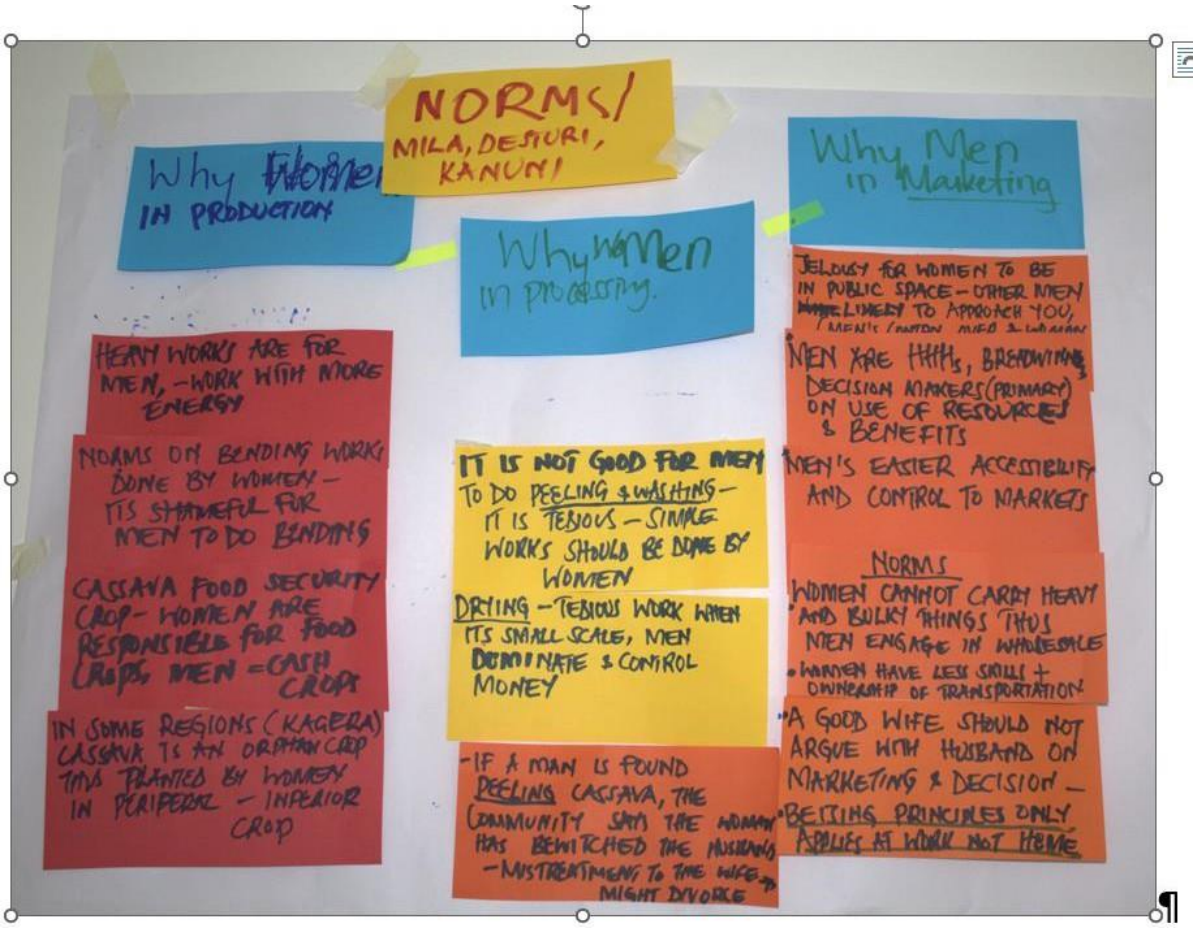

Figure 13 Norms hindering women and men's participation in the cassava value chain.

Ranking of most to less restrictive norms for women and men:

1. It is inappropriate for women to own land for cassava production since they will get married, and the land will be owned by her new family.
2. It is inappropriate for women to use land without the approval of their husbands or male relatives.
3. It is inappropriate for women to access loans or credit without permission from their husbands.
4. It is inappropriate for women to negotiate prices of cassava at wholesale; she will be exercising masculinity.
5. It is inappropriate for women to travel outside their communities to attend cassava training.
6. It is inappropriate for women to own a warehouse for cassava storage.

5. Module 2: Climate change impacts on Fish, Cassava, and Chicken value chains.

5.1. Introduction to the Breakout Group exercise by Dr. Jumoke Adeyeye

Dr. Adeyeye introduced the Breakout Groups to the Module 2 exercise which was on 'the impacts of climate change on the three value chains'. Using the same tool referenced in Module 1. Dr. Adeyeye took the participants through the steps to follow in doing the exercise.

- Step 1: Major events that significantly affected the well-being and livelihood of VC actors over the past 10 years
- Step 2: Climate-related events that affected the well-being and livelihoods.
- Step 3: Coping mechanisms
- Step 4: Economic resilience

Group members in respective value chains were expected to list major events, which significantly affected the well-being and livelihood, climate-related events, coping mechanisms, and economic resilience and coping mechanisms against climate change. Then, to tell the economic resilience of women and men. Lastly to compare men and women, and to indicate if there is a difference in the economic resilience and coping mechanisms engaged by men and women.

5.2. Breakout Group's presentation in Plenary

5.2.1 Fish value chain

The Fish Value Chain team came up with the general events that occurred over the past 10 years as follows:

- COVID-19- Pandemic and earthquake.
- Increase of nutrients in water bodies (Eutrophication) because of farming activities near the water bodies. The increase in nutrients leads to overproduction of algae (algae blooms) causing massive fish death.
- Invasive species (water hyacinth) obstruct navigation within the water body, deoxygenating the lakes with consequences of massive fish death, fish diseases, and the occurrence of snakes.
- Change in weather patterns /storms causing the death of fishers and fish due to upwelling (*kiferezi*)
- Prolonged drought – affects wetlands which are breeding grounds and nurseries for fish and decrease food availability in water bodies.
- Increasing water levels / Floods – inhibit access to fishing grounds, contribute to widespread of diseases such as cholera and increased turbidity (excessive sedimentation within the water column which inhibits productivity within the water bodies)

Table 10 lists the major events that significantly affected the well-being and livelihoods of Fish VC actors. It was pointed out that there are no many opportunities in the fisheries and climate change and therefore impacts are more the same for all actors in the chain

Table 10 major events that significantly affected the well-being and livelihoods of Fish VC actors.

Value chain actor	Event	How (better or worse-off?)
Vessel owners	COVID-19-Pandemic	• The tension was high for value chain actors as the domestic, regional, and international markets became unstable
	Earthquake	• Worse off, the loss of life and properties of fishers.
Fishers	COVID-19 Pandemic	• A drop in the market and lack of employment impacted their livelihoods negatively.
Processors	COVID-19 Pandemic	• Institutions and hotels were closed, and this affected by the fish business, some actors could not pay back loans.
Traders	COVID-19 Pandemic	The tension was high for chain actors as the domestic, regional, and international markets became unstable.
	Earthquake	• Traders had to opt for alternative routes that were illegal, risky and also delayed arrival to the destination causing deterioration of the quality of the products
Transporters	COVID-19 Pandemic	• Tracks were stuck at borders. • Capitals were shaken
	Earthquake	• Destruction of infrastructures – roads collapsed
Consumers	COVID-19 Pandemic	• During the first 3 months of the occurrence, the consumers who depended on fish couldn't get fish.
Vessel owners	Storms	• Not taking the vessels to the lakes – protects against the destruction of vessels.
	Prolonged drought	• Decreased access to fish (affects wetlands which are breeding and nursery ground for fish, and decreased food availability in a water body)
	Floods	• Inhibit access to fishing grounds, contribute to widespread diseases such as cholera and increased turbidity (excessive sedimentation within the water column which inhibits productivity within the water bodies)

Table 11 shows the impact of climate-related events, and various coping mechanisms for the fish value chain actors and adopted combating mechanisms for the different FV actors.

Table 11 climate-related events, and various coping mechanisms.

VC actor	Event	Coping mechanism
Vessel owners	Storms – vessel owners were negatively impacted (the loss of income)	• Relying on the weather forecast – not sending their vessels when the forecast indicates there will be storms. More of a response than a coping mechanism
	Prolonged drought decrease access to fish due to unhealthy wetlands which are the breeding and nursery grounds for fish	• Cage culture (aquaculture) is capital intensive – so mostly men can go into it. • Engage in other business
	Floods inhibit access to fishing; cause cholera and salmonella infection. Floods also cause excessive sedimentation which inhibits penetration of light, consequently it affects fish productivity	• Aquaculture
Fishermen	Storms – fishermen die due to drowning	• Relying on the weather forecast – Not going to fishing grounds unless they are sure of the weather. • Engage in alternative livelihood activities
	Prolonged drought cause decrease access to fish	• Engage in alternative livelihoods such as farming and other business • Aquaculture
	Floods	• Relocation to other areas not affected by floods
Processors	Storms	• Engage in alternative livelihoods such as farming and other business
	Prolonged drought	• Engage in alternative livelihoods such as farming and other business
	Floods	• Relocation to other areas not affected by floods
Traders	Storms	• Engage in other business
	Prolonged drought -	• Engage in other business
	Floods	• Engage in other business
Transporters	Storm	• Engage in other business
	Prolonged drought -	• Engage in other business
	Floods	• Engage in other business

VC actor	Event	Coping mechanism
Consumers	Storms	• Get fish from aquaculture
	Prolonged drought -	• Get fish from aquaculture
	Floods	• Get fish from aquaculture

Overall, in fishing, the opportunities are very few in terms of alternatives, and the actors are impacted almost the same way. Traders are impacted by not having fish to sell and similarly consumers miss fish in their meals.

The group members also noted that coping mechanisms do not have significant differences between men and women. However, women at different nodes of the chain, join saving schemes such as Village Community Banks (VICOBA) and a merry-go-round system to boost their capital. Engagement in alternative businesses such as food vending, selling second-hand clothes, and hawking of different goods from house to house is common among women as a coping mechanism.

Vessel owners who in most cases are men in the higher wealth quantile have alternative businesses such as hotels as a fallback mechanism. The higher social status of men also enabled them to easily go for other businesses as they also can borrow easily.

Women are positioned in less-paying activities, while men are located in higher-paying activities. Thus, women and men differ in economic resilience and are therefore impacted differently during climate changes/shocks. Social and gender norms favor men because they control productive resources and assets. The same norms deny women the opportunity.

<u>Plenary questions and answers:</u>

What are wetlands? These are water-saturated lands - Kiswahili term “ardhi oevu”

Another question was on the age of women in the different nodes. It was reported that young women dominate at the post-harvesting node in sorting and as porters – carrying fish to marketplaces. These young mothers in most cases work with their young children. There is high exploitation at this level because these women are lowly paid. They carry the fish quite long distances and at most, they are paid TZS100/= Equivalent to USD0.04 per bucket. Those doing sorting are paid TZS5000 per day (Equivalent to USD2). Another highly vulnerable gender group was brought up. These are the much older women who normally pick the fish which drop on the way.

Another question was on coping strategies where there are issues of sexual abuse in what was referred to as sex for fish. The response was yes; it happens but the cases have gone down drastically in recent years due to women empowerment programs. It can happen when fish are scarce.

5.2.2 Chicken Value chain

Major events that occurred in the past ten years are: -

- Break out of bird flu
- Establishment of breeding farms (Hatcheries and parent stock)
- Introduction of dual-purpose breeds (Sasso and Kuroiler)
- Strengthening of the value chain – establishment of Tanzania Poultry Association (TPA) and Arusha Chicken Association (ACA)
- Research initiatives studying native African chicken
- Shifting from using fish meal to soya meal to feed chickens (as ingredient for chicken feed processing)
- Expansion of production; growing of value chain feed meal (growing up of the feed mills and introduction of new chicken feed mills, for example, most of breeder farms are also producing feeds; AKM Glitters, SilverLands)
- COVID-19
- Introduction of motorcycles commonly known as "bodaboda" as means of transporting chicken feeds for small holder farmers.

Climate-related events

- Drought: because of drought there was a decrease in raw material for processing chicken feed specifically maize and sunflower seeds and seed cakes and this caused a rise in price of chicken feeds
- Floods: Excessive rainfall in season of 2014 to 2015 and 2019 to 2020.
- Heat stress for chickens in the coast part of Tanzania compelled breeding farm owners to relocate to the highlands to reduce management costs.

To overcome the climate change events the following measures were taken:

- Introduction of dual-purpose breeds – Sasso was introduced by Silverlands Tanzania Ltd. and Kuroiler was introduced by AKM Glitters, Nzua, and Msigani JV companies. Silverlands Tanzania Ltd is still producing Sasso but for Kuroiler its only AKM Glitters who have maintained the production
- Importation of chicken feeds
- Use of homemade feed and kitchen leftovers to feed chicken
- Use of some herbs such as pepper *"pilipili"* to cure diseases
- Construction of climate-friendly infrastructures such as ventilated chicken houses
- Use of solar and wind power in chicken houses
- Compliance with Biosecurity measures

Table 12 gives coping mechanisms adopted by the chicken value chain actors.

Table 12 Chicken Value chain actors coping mechanism to climate change impact.

Actors	**Coping mechanisms**
Producers	• The majority of smallholders are women – who used homemade feeds, and kitchen leftovers to feed chicken. • Commercial farmers used imported feed to feed chicken

Transporters	• Use of "bodaboda" to cope with poor infrastructures when transporting products or inputs to smallholder chicken farmers.
Traders and input suppliers	• To overcome the high cost of chicken feed they use a simple formula to make chicken feed, adjust the price, and sell it.
Breeders	• Relocate breeding activities from hot humid areas to cool highlands.

The coping mechanism for the women chicken value chain actors included the use of drought-resistant crops such as cassava, sweet potatoes, and sorghum in feed formulation, moving to other income-generating activities such as horticulture and food vending for women. Similarly, men moved to alternative income-generating activities such as bodaboda business and security guards.

5.2.3 Cassava value chain

Table 13 gives the major events over the past ten years that affected the wellbeing and livelihoods of the cassava value chain actors.

Table 13 Major events that affected the wellbeing and livelihoods of Cassava value chain actors in the last ten years

Actors	Events		Copping mechanism
	Climate-related	General	
1. Producers	Drought and floods		• Adopted improved cassava varieties disseminated by the researchers (TARI) and Extension staff • Intensification • Soil health Agroforestry
	Soil infertility		• Incorporating soil fertility and soil health knowledge
	Pest & diseases		• Incorporating soil fertility and health knowledge • Disease-resistant cassava varieties
	COVID-19	HIV AIDS	• Intensification of the internal market for processing
2. Processors	• Drought and floods- lower yield & insufficient		• Reduced quantity to process and reduced employment.

	materials to process • Pest and diseases • Poor quality of products due to lack of water for washing		• Reducing the cost of labor (Women negatively affected)
3. Traders	• Poor infrastructure especially during rainy seasons, they get low volume - Drying is a problem • Drought and floods • Covid-19	Unreliable markets and HIV affect the availability of manpower.	• Improving storage • Shifting to trade other crops, affects the cassava value chains

Actors in the chain adopted relevant measures according to the type of event. There are differences in coping mechanisms between women and men actors. In most cases, men can easily move to new businesses because they have more access to and control of financial resources and assets e.g., land. Coping with climate change becomes difficult for women because they do have neither access to nor control over resources.

Questions and answers

Question: Cassava as a climate-resilient crop what happens if it is affected by drought?

Response: Researchers develop improved varieties, which include drought-tolerant varieties and early maturing varieties.

Question: Some technologies especially in value addition e.g., chippers displace women and affect them negatively. How can women's participation be addressed in such a scenario?

Response: Labor-saving technologies do indeed displace women. At a household level, it is difficult to address, but where women have collective action by forming groups the problem can be minimized.

Comment: The effect of some events such as Covid-19 resulted in the adoption of alternative crops such as herbs (ginger and lemon) used in making Covid-19 concoctions.

Question: What is the effect of increased commercialization of cassava on household food security?

Response: Women are cautious of household food security so they cannot sell out the whole produce.

6. Module 3: Focusing on technologies adaptation by women and men for climate change and associated norms.

6.1 Introduction to the Breakout Group exercise by Dr. Jumoke Adeyeye

Dr. Adeyeye introduced the Breakout Group exercise by taking participants through the Module 3 steps described in the working tool (link).

In this exercise participants in the three value chains list technologies adopted to address climate shocks. Each group will specify who has adopted and who has not adopted the technologies and why? Group members will discuss how the technologies had assisted women and men actors to build their economic resilience. Lastly, the groups will discuss if there are technologies that were adopted and then later disadopted by chain actors along the chains and the reasons for disadopting.

6.2 Plenary presentation on climate-smart technologies for the three value chains

6.2.1 Fish value chain

The fish team presented various technologies adopted by actors in the chain to address climate change (Table 14)

Table 14 Smart technologies adopted by Fish value chain actors to build economic resilience for climate shocks

Smart Technology	How it has helped build economic resilience	Who has adopted
Real-time weather forecast information	Support decision-making on whether to go fishing or not	Vessel owners (Older men and in high wealth quantile) Fishers (Young men low wealth quantile) Processors - men and women of different ages depending on the scale of the processing
Solar technology	Reduced operational costs, increased harvest through longer fishing time at night	Vessel owners (Older men and high wealth quantile) Fishers (Men of younger age and low wealth quantile
Mobile technology	Communication among actors and dissemination of advisory services increase value chain efficiency	All value chain actors

Traders and transporters in the value chain have not adopted climate-smart technologies because of their positioning in the value chain, they do not need this information. At the same time, adoption of the solar technology by women is low because of limited access to finance, knowledge, and skills on the use of and application of such technologies.

6.2.2 Chicken Value chain

Table 15 presents the climate-smart or other technologies adopted by actors along the chain to address climate shocks. Xxxx Can the table move up? Ive tried but its not moving.

Table 15 Climate-smart technologies adopted by chicken value chain actors to address climate shocks

Actor	**Technology**	**Sex disaggregation**	
		Women	***Men***
Breeder farm /Hatcheries	Adopted dual-purpose breeds	20%	80%
	Adopted Biosecurity measures	20%	80%
	Adopted climate-smart controlled infrastructure		100%
Poultry farmers	Adopted dual-purpose breeds	60%	40%
	Adopted Biosecurity measures	20%	80%
	Use a renewable source of power in brooding and lighting in the chicken house (Solar and Wind Power).	20%	80%
Feed manufactures	Use of the modern feed millers	20%	80%

1. Chicken group named technologies adopted mostly by male actors and how the technology had helped to build economic resilience for climate change.
   a) The breeders/ hatchery farms
      Adopted climate-controlled infrastructure, which helped to reduce routine expenditure for example the use of electricity.
   b) The adoption of dual-purpose chicken benefited farmers, as that type of chicken was fed on homemade feeds and kitchen leftovers. This was an alternative for cutting down the high cost of imported chicken feeds.
   c) The use of technologies increased the quantity and quality of products, reduced operational costs, and extended the shelf life of products e.g. use of egg powder.
   d) For the female actors, the technologies build the economic resilience for climate change as presented in Table 16.

Table 16 shows the Breakout Group output on the adoption of technology among the chicken value chain actors.

Table 16 Technologies/Approach that build economic resilience for chicken value chain female actors

Technology/Approach	How it builds economic resilience
Improved dual-purpose cross-breed (Kuroiller and Sasso)	Producing both meat and eggs and they can scavenge (either kept intensive, semi-intensive, or extensive) thus increasing profit margins
use of simple feed ration formula	Reduce overall production costs thus increasing profit margins
use of black soldier flies	Reduce overall production costs thus increasing profit margins

Table 17 shows the adoption of technologies to build economic resilience by the chicken value chain actors by gender income status and religion.

Table 17 Chicken value chain actors' adoption of technologies to build economic resilience

Actor	Gender	Age	Income status	Religion
Breeders and hatchery owners	Male 60%	45+	Medium to High Income	Muslims and Christian
Poultry farmers	Female (70%) and Youth	35+ 35-	Low income	Christians and Muslims
Feed manufactures	Male (80%)	45+	Medium to higher income	Christians and Muslims
Chicken products processors	Male (95%)	Youth and Adults	Lower, medium, and high	Muslims and Christians.

Women smallholder chicken producers could not adopt smart technologies like solar and wind power because they are expensive. Correspondingly, the women actors could not afford to install a fully automated system in their chicken house due to the high costs of installing the technology. On the other hand, adoption of local chicken by men value chain actors has been low because local chicken is considered women's bird. Some chicken farmers have also dropped chicken production due to rising costs of feed.

6.2.3 Cassava value chain

Table 18 presents the climate-smart and other technologies adopted by different actors in the cassava value chain to address climate shocks. The group covered three nodes i.e. production, processing, and marketing. On who are the adopters, the group identified middle-income men and women as the main adopters. There is no adoption difference between religion groups.

Smart technologies not adopted readily by women are fertilizers and the use of Apps due to income limitations. Terraced are not adopted by women because it requires hard labor.

Table 18 climate-smart and other technologies adopted by different actors in the cassava chain

Actor	Technology	How it helps build economic resilience
Producers	Improved Varieties (Early maturing, Pests & disease tolerant, Drought tolerant, high yielding	Food and income security from increased production
	Good Agricultural Practices – (Akilimo and Nuru mobile phone app – disease detector	Increased production Access to information, & knowledge
	Agroforestry – use of leguminous crops for soil fertility improvement	Improved soil fertility and conserved moisture Produce livestock feed – diversification
	Use of trenches and terraces	Control soil erosion – improve pasture

Actor	Technology	How it helps build economic resilience
Processors	Cassava chipping machines	Labor saving, time and energy saving, higher income from quality products
	Cassava grating machines	Labor saving, time and energy saving, higher income from quality products
	Solar driers	Production efficiency and reducing operational costs
	Solar, wind, and biogas-powered milling machines	Labor saving and Production efficiency and reducing operational costs
Traders	Packaging (Fibres)	Create and increase products demand
	Social media	Communication, access to marketing information

Finally, the group highlighted the cassava varieties that were adopted by farmers, and then later farmers decided to disadopt. The presenter mentioned an example of a TARICASS4 variety that matures late, it is tolerant to diseases, but it does not taste good. It was commented that TARICASS4 variety is high yielding and was in demand in some areas such as Muleba, and Kagera. It was noted that that specific variety is not good for 'Ugali" a common dish in most communities.

7. Working site Selection

This session was led by Mr. Adolf Jeremiah, ILRI Tanzania Field Coordinator. Participants had an opportunity to discuss and contribute their views on the working areas for the fish, chicken, and cassava value chains. The project target regions were Kigoma, Kagera, and Tabora. Participants supported the research team in identifying suitable districts. The research team indicated that the main criteria for selecting a district should be the presence of ongoing activities regarding the three value of interest in the district. The selected districts are:

- Kigoma: *Kasulu, Kigoma Ujiji, kibondo, Buhigwe*
- *Kagera: Muleba*
- *Tabora: Urambo, Uyui and Kaliuwa.*

8. Workshop evaluation

The energy of the participants was high from the beginning to the end of the workshop as per results of the workshop evaluation using the evaluation form in Appendix 4. Participants ranking of their satisfaction with the learning and engagement in the two days was high (Figure 14). Furthermore, all participants showed interest to continue being involved in the initiative.

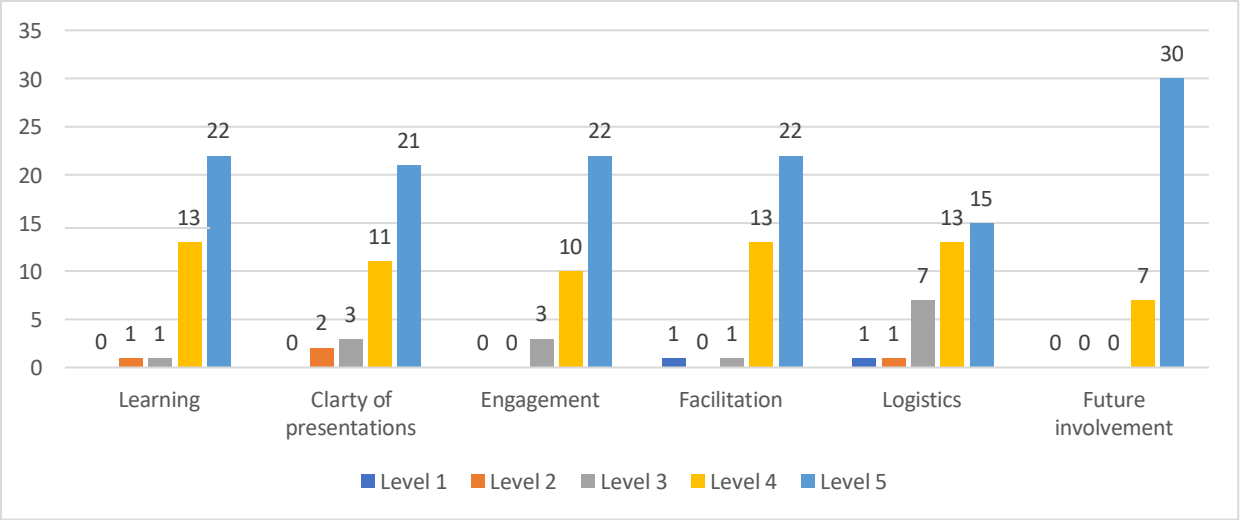

Figure 14 HER + Initiative stakeholder workshop evaluation

(Participants rating where Level 1 = Low and Level 5 = High)

9. Wrap-up and closing

In the closing session, Mr. Lwakatare, who serves as a Technical Officer at FHI 360 offered some guidance to the research team based on his experience with the USAID Tulonge Afya program that was implemented by FHI 360. He explained the importance of distinguishing between cultural values, beliefs/attitudes, and norms and recommended that the survey tools include reference groups or custodians of different norms. Mr. Bosco Basomingera, the gender Focal person at FHI 360, suggested that the team conduct a social exploration of the value chains and engage with reference groups and the individual who uphold these norms, even those who resist change. Mr. Lwakatare also provided a brief overview of social and gender norms (Table 19)

Photo 8 Mr. Mark Lwakatare of FHI 360 sharing on gender and social norms

Table 19 Concept of Social and gender norms (Source USAID/FHI TULONGE Afya Project)

What are social norms?	What are gender norms?
• Social norms are beliefs - constructed and shared by a given group - about what is acceptable for others do, think, believe, say, own etc. (Empirical/Descriptive expectations & Normative/Injunctive expectations). • Social norms are maintained by social influence – that is, by the anticipation of social approval or disapproval for one's actions (positive or negative social sanctions). • For social norms, the relevant other people who matter to us are called our "reference group or network" and they may differ for different norms.	• Gender norms are social norms that govern attributes and behaviors that are valued and considered acceptable **for males and females** within a given culture or social group. • **They are learned and reinforced** from childhood to adulthood through observation, instruction, positive and negative sanctions, media, religion, and other social institutions. • **Gender norms can be so pervasive** that people mistakenly assume they are "natural" or "ordained" and thus immutable.

Ms. Ishika offered to deliver a vote of thanks to the organizing team. She expressed her gratitude for the opportunity to learn and commended the tools that were provided for the exercise, which offered valuable insights into various approaches to gender analysis.

Ms. Sarah Msita, IITA Gender Research Assistant, expressed their appreciation for the productive sessions and thanked participants for their valuable contributions and recommendations. She assured them that the team would take their valuable contribution and recommendations. She assured them that the team would consider their feedback. Ms. Msita also thanked the facilitation team for their excellent service and ensured that all logistical arrangements had been taken care of. Finally, she conveyed the research team's commitment to involving participants in the implementation of the project going forward.

Appendix 1. List of participants -HER + Initiative Stakeholder workshop 9 -10 February 2023 – Do we have consemt to share the induvial data publicly? If so we can procee

SN	Name	Designation	Organization/Institution	Region/District	Contacts
	Adolf Jeremiah	Field Coordinator	ILRI	DSM	a.jeremiah@cgiar.org
	Aichi Kitalyi	Facilitator	FacT Consulting	DSM	ajkitalyi@gmail.com
	Devis Mwakanyamale	Field Coordinator - Gender Research	IITA	DSM	d.mwakanyamale@cgiar.org
	Editrudith Lukanga	Executive Director	EMEDO - Fish Value Chain	Mwanza	mobos04@gmail.com
	Eliwina Joseph Mjachakwe	Rapporteur	Independent	Morogoro	eliwina@gmail.com
	Faustin Lekule	National Coordinator for technologies, dissemination and partnership	TANFEED - Chicken Value Chain	Morogoro	abrams@yahoo.co.uk
	Geraldina Mushema	Kolping Society of Tanzania	Kolping Society of Tanzania - Cassava Value chain	Bukoba, Kagera	gerry_mushema@yahoo.com
	Hadi Rashid	Communication Assisstant	IITA	DSM	ha.rashidi@cgiar.org
	Hassani Rangi	Secretary General	MIBOS - Fish Value Chain	Kigoma	Kayumbatorokok911@gmail.com
	Henry Abraham Msangula	Focal Person - Cassava value chain, ENABEL	ENABEL - Cassava value chain	Kasulu, Kigoma Region	henry.msangula@enabel.be
	John Bosco Basomingera	Gender Focal Person	FHI 360	Dar es Salaam	JBasomingera@fhi360.org
	Jojianas Kibura	Social Scientist	TARI - Maruku, Cassava Value Chain	Bukoba, Kagera Region	Jkibura1@gmail.com

SN	Name	Designation	Organization/Institution	Region/District	Contacts
	Joyce Tesha	Gender-Focal Person	World Food Programme (WFP)	Dar es Salaam	
	Jumoke Adeyeye	Post Doc Fellow-HER+ Inititative	IITA	DSM	o.adeyeye@cgiar.org
	Kayumba Torokoko	Regional Fisheries Officer	MLF Fish Value Chain	Katavi	upendo.hamidu@uvuvi.go.tz
	Manasseh Mrindwa	Gender Focal Person	TPBA - Chicken Value chain	Dar es Salaam	lekule@sua.ac.tz;tanfeeds@yahoo.com
	Mark Lwakatare	Technical Officer – Strategic Information	FHI 360	Dar es Salaam	MLwakatare@fhi360.org
	Mshaguley Ishika	National Coordinator for technologies, dissemination and partnership	TARI HQ	Dodoma	ishika.mwita@gmail.com
	Neema Urassa	Technical Officer – Strategic Information	TALIRI - Chicken Value Chain	Dodoma	msiganipoultry@gmail.com
	Regina Kapinga	One CGIAR Convenor	IITA	DSM	Regina.Kapinga@cgiar.org
	Regina Maunde	Gender Expert under ACGG	Mwalimu Nyerere Memorial University	Dar es Salaam	Regina_maunde@yahoo.com
	Sarah Msita	Gender Research Assistant	IITA	Nigeria	s.msita@cgiar.org
	Steven Cole	Gender Specialist	IITA	DSM	
	Upendo Hamidu	Gender Focal Person	MLF - Fish Value Chain	Dodoma	nsurassa@yahoo.co.uk

Appendix 2 Workshop Program HER + initiative - Stakeholder Workshop 9 – 10 February 2023

Venue: International Institute of Tropical Agriculture (IITA), Dar es Salaam, Tanzania
Dates: February 9-10, 2023

Day 1: 9th February 2023		
Time	**Session**	**Facilitator**
Morning	Welcome	Freddie Baijukya (Acting IITA Country Director) Regina Kapinga (CGIAR Country Convener)
	Introductions, icebreaking, ground rule settings and overview of agenda	Aichi Kitalyi
	Overview of the HER+ Initiative (Work Package 1) • Objectives of the stakeholder workshop and expectations	Steven Cole
	Introduction of the focal value chains mapping exercise	Jumoke Adeyeye
	Value chain mapping exercise (Breakout Groups) • Cassava • Chicken • Fish	Aichi Kitalyi Sarah Msita Adolf Jeremiah Devis Mwakanyamale
	Value chain mapping exercise (plenary presentations) • Cassava • Chicken • Fish	Aichi Kitalyi
Afternoon	Introduction of climate change impacts on value chains	Jumoke Adeyeye
	Climate change impacts on value chains (Breakout Groups) • Cassava • Chicken • Fish	Aichi Kitalyi Sarah Msita Adolf Jeremiah Devis Mwakanyamale
	Climate change impacts on value chains (plenary presentations) • Cassava • Chicken • Fish	Aichi Kitalyi

	Wrap up	Sarah Msita
END OF DAY		

Day 2: 10th February 2023		
Time	**Session**	**Facilitator**
Morning	Recap of Day 1 Introduction of technology adoption for climate change and associated norms Technology adoption for climate change and associated norms (Breakout Groups) • Cassava • Chicken • Fish Technology adoption for climate change and associated norms (plenary presentations) • Cassava • Chicken • Fish	Aichi Kitalyi Jumoke Adeyeye Aichi Kitalyi Sarah Msita Adolf Jeremiah Devis Mwakanyamale Aichi Kitalyi
Afternoon	Identification of study sites and participants Workshop evaluation Vote of thanks and workshop closure	Adolf Jeremiah and Devis Mwakanyamale Aichi Kitalyi Sarah Msita
END OF DAY		

Appendix 3. Glossary of selected terms and concepts - HER + Initiative Stakeholder workshop 9 -10 February 2023

Livelihoods
Livelihoods are the capabilities, assets and activities required for people to earn money and secure a means of living.

Climate change
Climate change refers to long-term shifts in temperatures and weather patterns.

Economic resilience
Economic resilience can be broadly defined as the ability of an economy as a whole to cope, recover from and reconstruct after a shock.

It is also often used to refer to the economic resilience of individual households or firms, and their ability to cope with or recover from a shock and adapt to changing economic circumstances in the wider economy.

Coping mechanism
Coping strategies or mechanisms are remedial actions undertaken by people whose survival and livelihood are compromised or threatened.

Discriminatory social institutions
Discriminatory social institutions are formal and informal laws, social norms and practices that restrict or exclude women and consequently curtail their access to rights, justice, resources and empowerment opportunities.

Gender
Gender refers to the roles, behaviours, activities, and attributes that a given society at a given time considers appropriate for men and women.

Gender discrimination
Gender discrimination describes the situation in which people are treated unequally simply because of their gender. Gender discrimination may be embodied in law (*de jure*) or result from practice (*de facto*).

Gender equality
The state or condition that affords women and girls, men and boys, equal enjoyment of human rights, socially valued goods, opportunities, and resources independently from whether they are born male or female.
It includes expanding freedoms and voice, improving power dynamics and relations, transforming gender roles and enhancing overall quality of life so that women, girls, men and boys achieve their full potential.

Gender equity
The process of being fair to both women (girls) and men (boys) in distribution of resources and benefits. This involves recognition of inequality and requires measures to work towards equality of women (girls) and men (boys). Gender equity is the process that leads to gender equality.

Gender norms
A subset of social norms, gender norms are informal rules and shared social expectations which determine and assign socially acceptable roles, behaviours, responsibilities and expectations to male and female identities. By influencing expectations for masculine and feminine behaviour considered socially acceptable and appropriate, gender norms directly affect individuals' choices, freedoms and capabilities.

Gender relations
Gender relations refers to the social relationships and power distribution between and among men and women in both the private (personal) and public spheres.

Gender roles
Behaviours, tasks and responsibilities that a society considers appropriate for men, women, boys and girls.

Gender transformative approach
A gender transformative approach (GTA) seeks to actively examine, challenge and transform the underlying causes of gender inequalities rooted in discriminatory social structures.

- GTA aims to address the unequal gendered power relations, discriminatory gender norms, attitudes, behaviours, and practices as well as discriminatory or gender-blind policies and laws that create and perpetuate gender inequalities.
    - By doing so, it seeks to eradicate the systemic forms of gender-based discrimination by creating or strengthening equitable gender relations and social structures that support gender equality.

Intersectionality
Intersectionality refers to how different social identities, such as gender, socio-economic status, age, ethnicity, geographical location, marital status, physical abilities intersect to shape experiences of discrimination and oppression.

Patriarchy
Social system of masculine domination over women.

Social norms
Social norms are unwritten "rules" governing behavior shared by members of a given group or society.

- They are informal, often implicit, rules that most people accept and abide by.
- A social norm exists when practice is considered both typical and approved of within a given group.
- Social norms can influence or uphold behavior and are typically maintained by social approval or disapproval for engaging in a behavior.

Appendix 4. Workshop Evaluation form - HER + Initiative Stakeholder workshop 9 -10 February 2023 –

Which Value chain do you identify with? **(CHOOSE ONLY ONE OPTION PLEASE)**

1. ☐ Fish 2. ☐ Chicken 3. ☐ Cassava

Q1. On a scale of 1 – 5, how would you rate your satisfaction with the sharing and learning about gender in the value chain of your interest; where 1 is low and 5 is highest?

1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

Q2. On a scale of 1 – 5, how would you rate your understanding of normative constraints in the value chain of your interest from this workshop, where 1 is low and 5 is highest.

1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

Q3. On a scale of 1 – 5, how would you rate your engagement in the discussions, where 1 is low and 5 is highest.

1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

Q4. On a scale of 1 – 5, how would you rate achievement of workshop objectives, where 1 is low and 5 is highest.

1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

Q5. On a scale of 1 – 5, how would you rate the performance of the facilitation process, where 1 is low and 5 is highest.

1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

Q6. On a scale of 1 – 5, how would you rate your satisfaction with logistics arrangement and support (Invitation, travel arrangement, etc.), where 1 is low and 5 is highest.

1. ☐ 2. ☐ 3. ☐ 4. ☐ 5. ☐

Q7. Would you like to continue being involved in the ONE CGIAR HER + initiative?

1. ☐ Yes, 2. ☐ No

Q8. If you answered Yes to Q7, kindly elaborate on how you would like to be involved?

Q9. What could have been done differently in this workshop?