

# Transforming Aquatic Food Systems Through Gender Targeted Innovations: Unlocking Potential for Sustainable Change

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**Friends of Gender**  
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# OVERVIEW

## **1. Rationale for gender and social inclusion in Aquatic Food Systems (AFS) research for development**

## **2. Four pathways to women's empowerment and gender equality: Lessons learned from WorldFish and its partners**

P1. Resilience of AFS relies on gender-inclusive and gender-responsive climate smart-aquatic foods solutions and other technological innovations

P2. Inclusive livelihoods and wealth generation in AFS help ensure women's economic empowerment, gender inequalities and youth unemployment matters are addressed

P3. Gender-transformative approaches are necessary to overcome invisible barriers to gender equality

P4. Inclusive governance is the foundation of equitable and resilient AFS

## **3. Challenges that still exists**

## **4. Tools for gender inclusive, gender-responsive & transformative research**

A photograph of a man and a woman standing by a body of water. The man, on the left, has a beard and is wearing a red t-shirt with a small logo on the chest. The woman, on the right, is wearing a colorful headscarf and a green sari with yellow and orange floral patterns. They are both smiling at the camera. The background shows a blue tarp and some trees.

# 1. Rationale for gender and social inclusion in AFS

# Rationale for Gender and Social Inclusion in AFS R&D

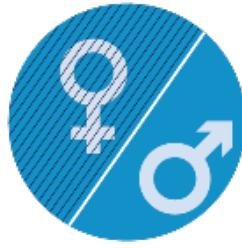
Gender equality and women's empowerment are globally recognized priorities, as enshrined in Sustainable Development Goal 5.



Aquatic-food systems are intersected by macro- and micro-patterns of social and gender inequalities and inequities.



**Invisibility of women in the AFS:** Women participate in all parts of agri- food systems, but they don't get the recognition and accounting for the labor that they provide as family farmers, traders and processors.



AFS are vital for global food and nutrition security and provide important source of economic livelihoods for women and other marginalized individuals across the globe.



Women experience a high degree of socioeconomic marginalization, poverty before even climate change and diseases and thus require specific attention to avoid responses worsening inequities (UN 2020), this is so much felt in the coastal communities.

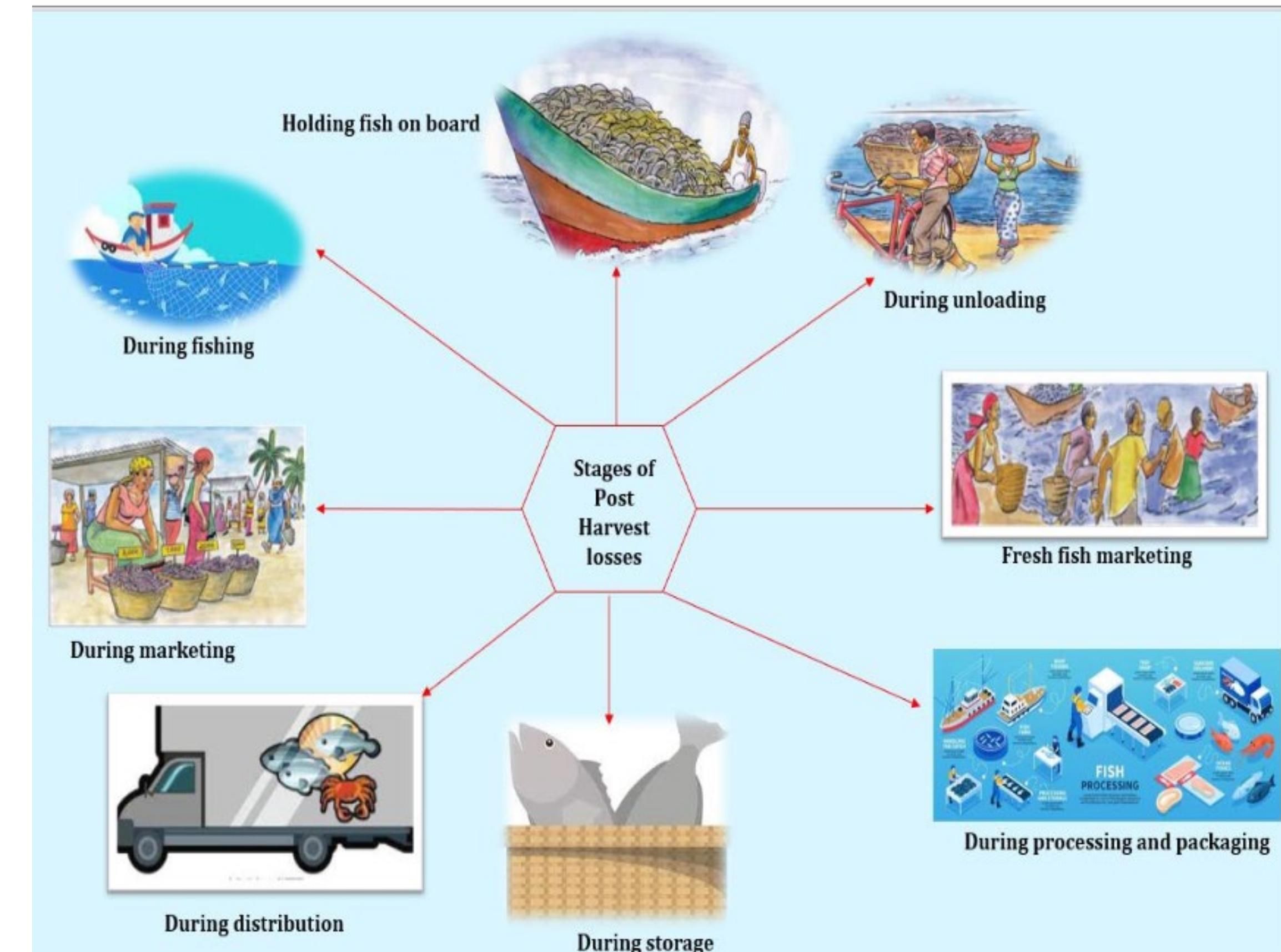
**P1.**



Resilience of AFS relies on gender-inclusive and gender-responsive climate smart-aquatic foods solutions and other technological innovations

# Fish Loss and Waste (FLW) as a Global Problem

- Majority of women being at the post-harvest part of the value chain suffers most, when it comes to FLW.
- 35% of the harvest from fisheries are subjected to Post-Harvest Food Losses annually.
- **Fish loss:** Reduction in quantity or quality before it reaches the consumer.
- **Fish waste:** Discarded fish at retail, household, or restaurant level.
- **FLW causes potential income losses.**
- **Occurs at different stages.**



# Community Solar Freezers: Reaping Benefits of Reduced Fish Loss and Waste & Beyond



**In the Solomon Islands, Food waste and spoilage, a bottleneck in aquatic food value chains**

**Solution: Off-grid Solar Cooling Systems**, a community-based, locally led innovation, operated by women's groups

- Offer a new source of income
- Keep catch fresh
- Reduces environmental impact, while improving community livelihoods



**It's not just a freezer. It's a tool to spearhead women empowerment!**

In Solomon Islands, the women's groups operating the solar-powered freezers earned a total of ~ USD 6,212 in fees from the usage of the freezers, empowering them economically.

# Gender Inclusive Financing for Scaling up Improved Fish Processing Technologies in Malawi

In Malawi women and men fish processors were introduced to solar tent dryers, improved smoking kilns, a markets, certification by the Malawi Bureau of Standards, and supply chains for Improved Fish Processing Technologies. Connected with a bank-provided lower interest rates to be paid by women than by men (Nagoli et al., 2020).



# Addressing Fish Loss and Waste in Lake Victoria Zone Region, Kenya

**1**

Gender inclusive post-harvest  
technology accessing

**2**

Fish smoking kilns

**3**

Solar freezers

**4**

Fish display box



**13 women and youth  
self-help groups  
benefitted. So far the  
costing: 55,000 usd**

**Total 2616 women and  
youth beneficiaries**

**P2.**

Inclusive livelihoods and wealth generation in AFS help ensure women's economic empowerment, gender inequalities and youth unemployment matters are addressed



# Training Women Fishers in Bangladesh

- Trained **400 fishers (50% women)** in Cox's Bazar (CXB) for seaweed farming.
- Trained **200 green mussel farmers (50% women)** in CXB.
- Trained **1,000 fishers women** in CXB & Bhola to make safe dried fish, fish powder & chutney from anchovy & sardine.
- Market linkages & entrepreneurship development.



# Zambian aquaculture provides new opportunities for youth

## Key Components of the Project

**1. Curriculum Enhancement and Infrastructure Development:** The project collaborated with the Natural Resources Development College (NRDC)

**2. Internship and Employment Opportunities**

**3. Entrepreneurship Support**

**4. Scaling and Inclusivity:** encouraging other Technical Education institutions in Zambia to adopt the upgraded curriculum and training modules.



## ❖ Impact and Outcomes

By the end of the project in 2021, 135 students had been trained. Additionally, the project also trained 1,000 smallholder fish farmers, enhancing their technical skills and linking them to private sector services.

P3.

Gender-transformative approaches are necessary to overcome invisible barriers to gender equality



# Reach-Benefit-Empower-Transform

OBJECTIVE	REACH	BENEFIT	EMPOWER	TRANSFORM
STRATEGY	To include women and men in aquacultural value chain activities.	Increase women's and men's benefits and opportunities/abilities to use resources.	Strengthen the ability of men and women to make strategic life choices and voice concerns.	Works towards deep enduring change towards gender equality including changed gender norms.
INDICATORS	Have diverse women (and men) as participants; reduce barriers to participation; implement a quota system for participation of target group(s) in training events	Consider gender needs, preferences, and constraints, to ensure that women benefit from the project activities	Enhancing women's (and men's) agency/reducing gaps in agency between women and men, including decision-making power, leadership, and collective action.	Builds personal and shared understanding of how gender norms affect women and men's ability to address constraints.

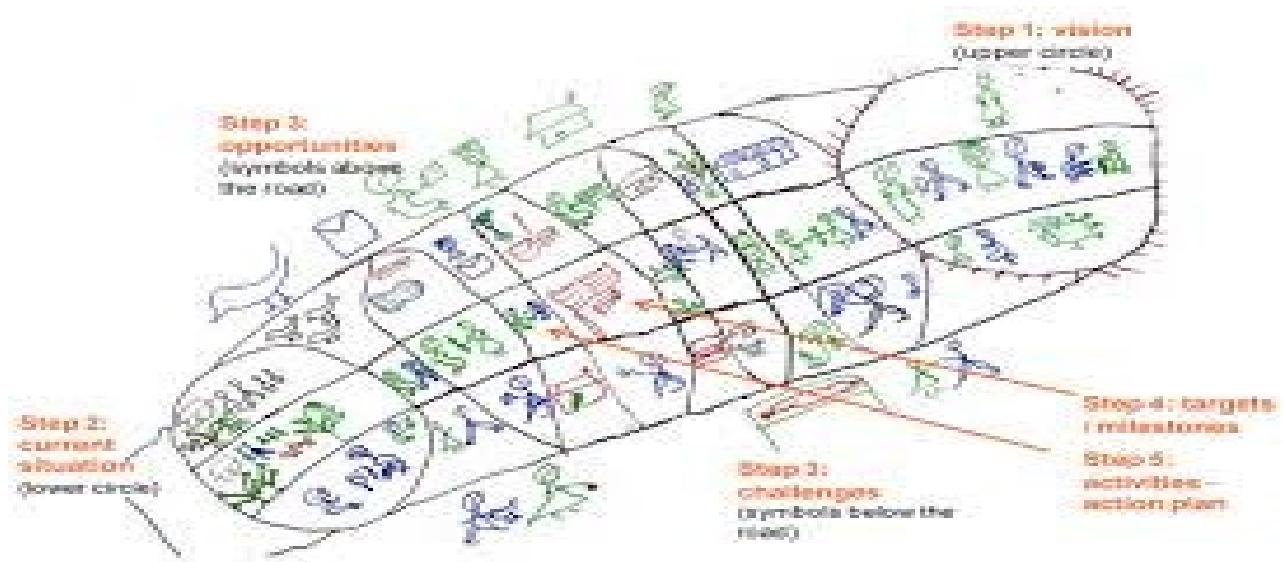
Adam, R., & Njogu, L. (2023). A review of gender inequality and women's empowerment in aquaculture using the reach-benefit-empower-transform framework approach: A case study of Nigeria. *Frontiers in Aquaculture*, 1, 1052097.



On top, a woman hatchery owner in Bangladesh. Example of empowerment, WorldFish in Bangladesh, through Increasing Income, Diversifying Diets, and Empowering Women in Bangladesh and Nigeria (IDEA) project, identified and supported 30 potential women extension entrepreneurs, who were able to reach 80 to 100 women. The identified women, participated in the “Aquaculture Business Plan development workshop” to receive training on entrepreneurship, along with their husbands. The women, were linked with Bank Asia, TMSS and BRAC to get loans, build their business acumen skills, among others.

# Gender Transformative Approaches

**Contribution made:** The Catholic Relief Services development agency continued to scale the GTA-integrated savings groups approach that WorldFish piloted in Zambia in 2015. Since then, CRS has scaled up the combined approach to 9 countries: Benin, Central African Republic, Ghana, Liberia, Niger, South Sudan, Uganda, Zambia and one in Guatemala.





P4.

**Inclusive governance is the foundation of equitable and  
resilient AFS**

# Addressing Gender Gaps and Underlying Gender Barriers Within the AFS

Empowering women as leaders in households, communities and businesses in Cambodia.

**Intervention:** Activities to empower women as leaders in the community and economically in the household, and as entrepreneurs.

**Outcome:** Women increased their economic and/or leadership activity, and the committees and communities also benefitted from women's leadership through increased levels of fundraising and more comprehensive management planning.

## Alternative livelihoods

**Innovation :** Closing the digital divide using information communication technology (ICT) can synergistically help close the finance divide in **Bangladesh**. This is during the 4 months ban of fishing.

**Outcome:** In fishing communities in coastal Bangladesh, action research found that ICT allows women to work, train and receive payments from home, providing a “work around” to gendered mobility constraints (Choudhury and Tanzina 2020).



## Challenges that Still Exist

- ❖ Work to address the youth unemployment problem
- ❖ Leveraging digital innovations to expand access to financial inclusion and market
- ❖ Continuing to innovate and advance methodologies in gender transformative approaches
- ❖ Address sexual and gender-based violence in aquatic food systems at the grassroot and policy level

# Examples of Research Tools

**1.**

## Gender inclusive and gender-responsive innovations

Ten strategies for research quality in distance research during COVID-19 and future food system shock (McDougall et al. 2020).

<https://digitalarchive.worldfishcenter.org/handle/20.500.12348/4382>

Tool Navigator: Using market-based research methods for user-responsive innovation.

<https://www.slideshare.net/worldfishcenter/worldfish-tool-navigator-for-market-based-research-2018>

Gender integration in research: A guide for the CGIAR Research Program on Fish Agri-Food Systems (McDougall, et al. 2021).

Gendered aquaculture value chain framework and tool (Kruijssen et al., 2021)<https://hdl.handle.net/20.500.12348/5114>.

Gendered fisheries value chain and post harvest loss assessment tool (Bonilla, S. & Adam, R, 2025)

**2.**

## Inclusive livelihoods and wealth generation

Conceptual framework for gendered aquaculture value chain analysis and development (Danielsen et al. in press).

Identifying niches for women's entrepreneurship in aquatic food chains: A methods package (BoP Innovation Center and FISH, 2021).  
<https://www.slideshare.net/worldfishcenter/identifying-niches-for-womens-entrepreneurship-in-aquatic-food-chains-a-methods-package>

Exploring women's empowerment in fisheries: A methods pack for a collaborative study on women's empowerment in small-scale fisheries (Drucza et al. in press).

**3.**

## Inclusive governance

Gender-inclusive facilitation for community-based marine resource management (Kleiber et al. 2019).

Rights, equity and justice: A diagnostic for social meta-norm diffusion in environmental governance (Lawless et al. 2020).

**4.**

## Gender-transformative approaches to address underlying structural barriers

The SILC+GTA facilitation manual: The savings and internal leading communities plus gender transformative approach (Promundo-US and WorldFish 2016).

Promoting gender transformative change with men and boys: A manual to spark critical reflection on harmful gender norms with men and boys in aquatic agricultural systems (Promundo-US and AAS 2016).

Women's Empowerment in Fisheries and Aquaculture Index (WEFI).

Gender transformative approaches for advancing gender equality in coral reef social-ecological systems (Lau et al. 2021).



A large, stylized blue 'THANK YOU' banner. The letters are designed to look like they are floating over water, with silhouettes of people fishing and boating integrated into the letter shapes. The 'T' has a fisherman with a net, the 'H' has a fisherman in a boat, the 'A' has a person standing on a rock, the 'N' has a person in a small boat, the 'K' has a person in a boat, the 'Y' has a person in a boat, and the 'O' has a person in a boat.