



Dismantling Barriers: Women's Participation in Reducing the Use of Plastics in Fishing Value Chains

Marieta B. Sumagaysay, Gerwyn P. Enerlan, Axl Fitzgerald L. Bulawan
Division of Social Sciences, University of the Philippines Tacloban College

9th Global Conference on Gender in Aquaculture and Fisheries (GAF9)

01-03 October 2025

Background

- Philippines is world's 3rd biggest ocean plastic polluter (Ocean Conservancy & McKinsey, 2015)
- The fisheries value chain is a major source of single-use plastics (SUPs), from nets and containers to packaging and retail.



Background

- Women in fisheries: not just laborers → also potential leaders in reducing SUPs.
- However, their participation in decision-making is limited by structural, cultural, and economic barriers.



OBJECTIVES



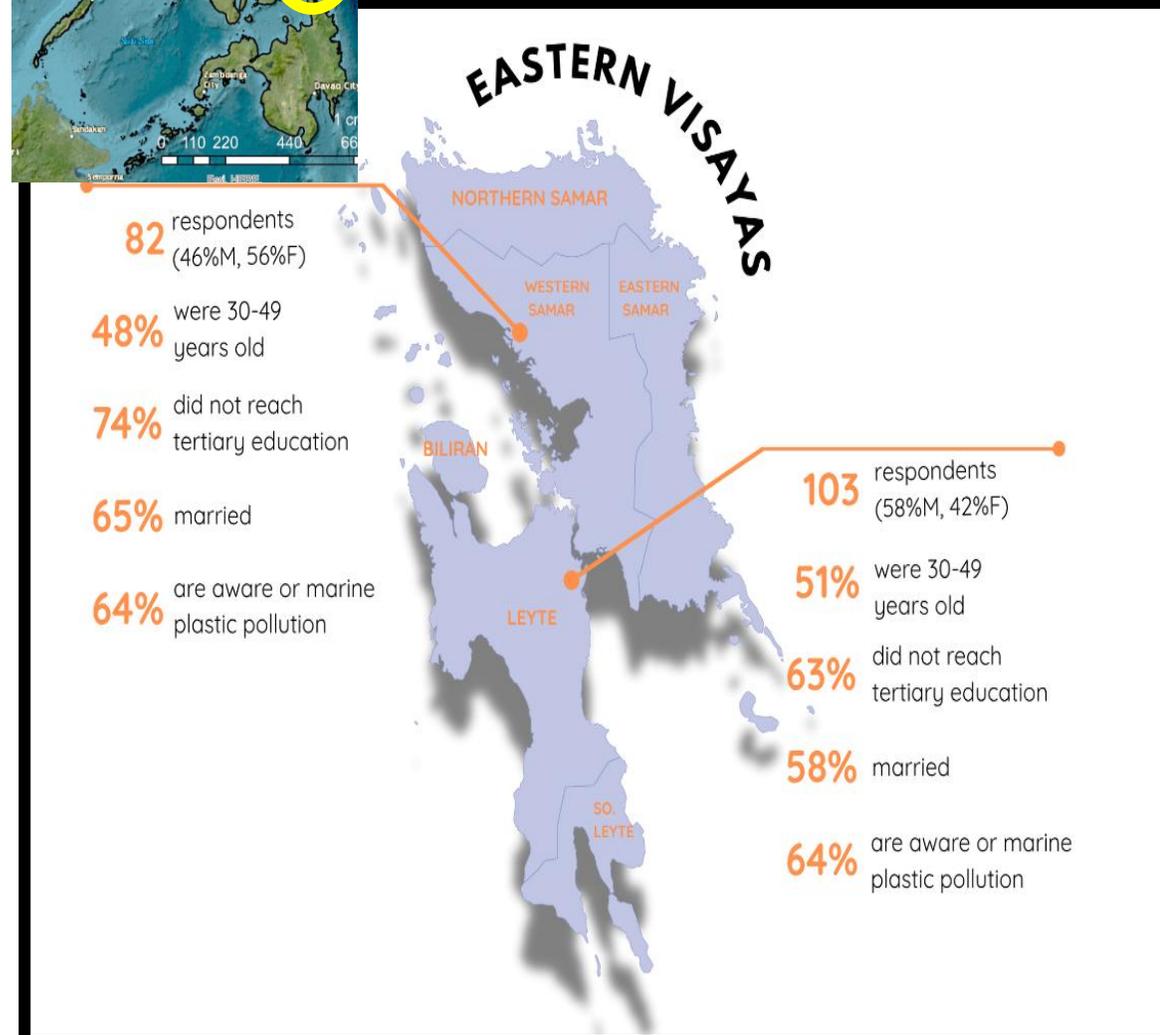
- Examine the potential roles of women in reducing single-use plastic (SUP) use in the fisheries value chain.
- Identify the social, economic, and institutional barriers that hinder women's participation in reducing SUP use.
- Propose policy measures to address these barriers.

Methodology

Mixed methods:

- quantitative survey in two (2) fishing value chains in Eastern Visayas (Tacloban City and Catbalogan City)
 - ✓ Men and women in fisheries roles (n=185)
 - ✓ purposive sampling for gender balance
- 10 KIIs among fish traders (fresh and dried) in Tacloban City

Analysis: Descriptive statistics, regression analysis, thematic analysis



Potential Roles of Women in SUPs Reduction

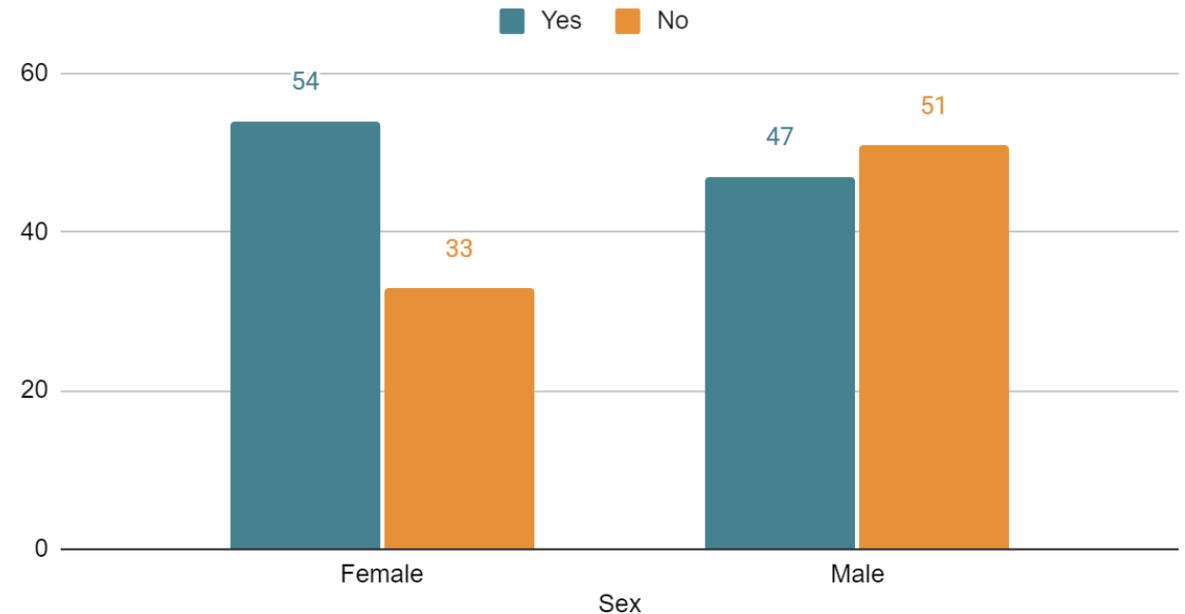
Women, relative to men, are more aware of local ordinances and resolutions banning/regulating SUPs (53% vs 47%).

This could be a result of women, who are typically traders and processors, are more exposed to local markets and community interactions, where ordinances are often announced and enforced.

Table 2. Awareness of ordinances or resolutions banning plastic use by sex

Sex	N	Awareness	Percentage
Female	87	40	45.98%
Male	98	35	35.71%
Total	185	75	40.54%

Do you know of any government programs/projects that aim to reduce utilization of single-use plastics



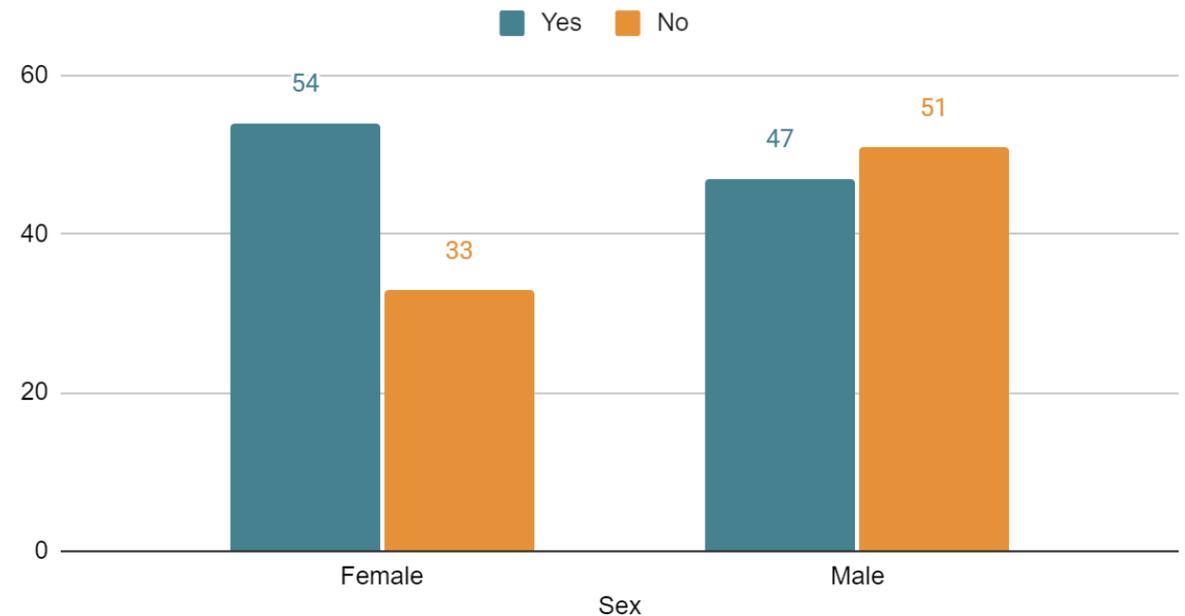
Potential Roles of Women in SUPs Reduction

Table 2. Awareness of ordinances or resolutions banning plastic use by sex

Sex	N	Awareness	Percentage
Female	87	40	45.98%
Male	98	35	35.71%
Total	185	75	40.54%

Women are also more aware relative to men in terms of government programs/projects on SUP reduction.

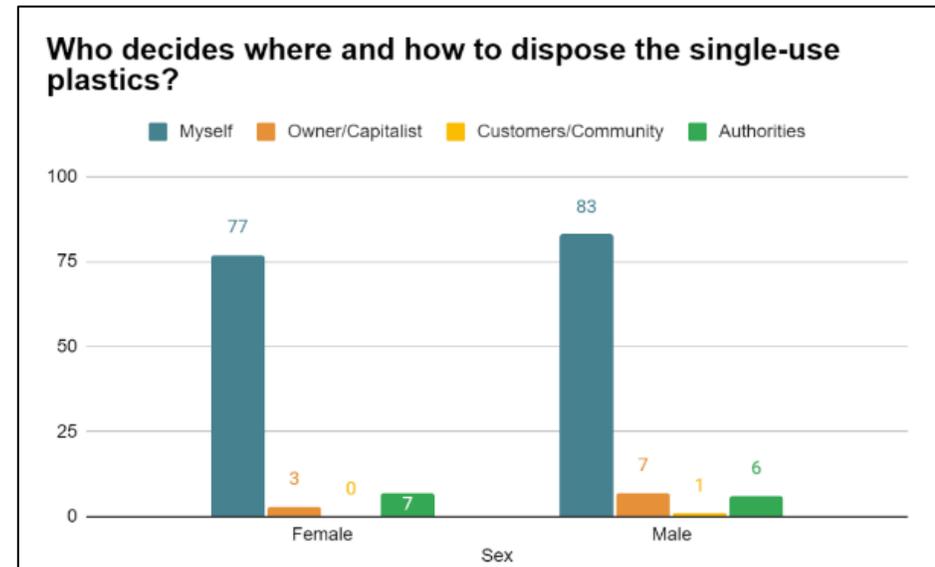
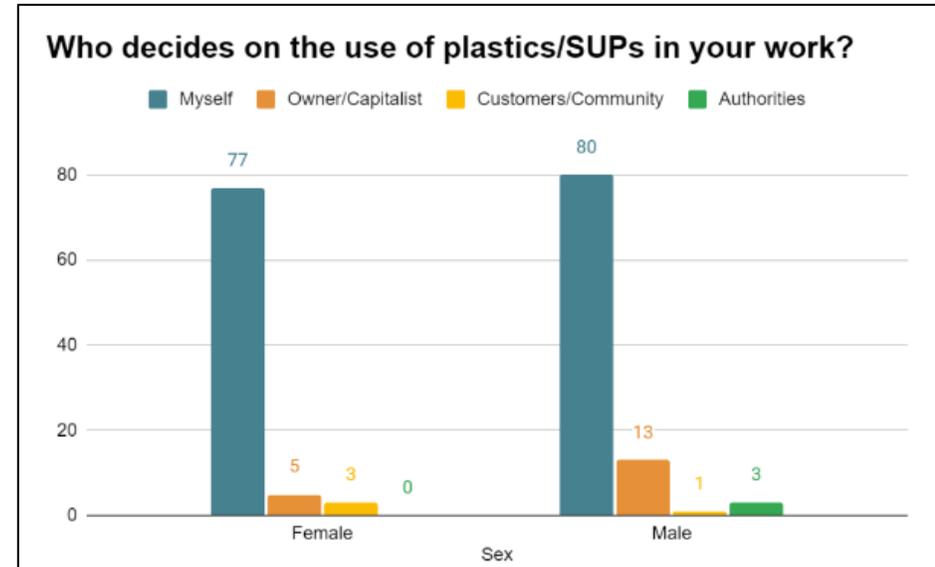
Do you know of any government programs/projects that aim to reduce utilization of single-use plastics



Potential Roles of Women in SUPs Reduction

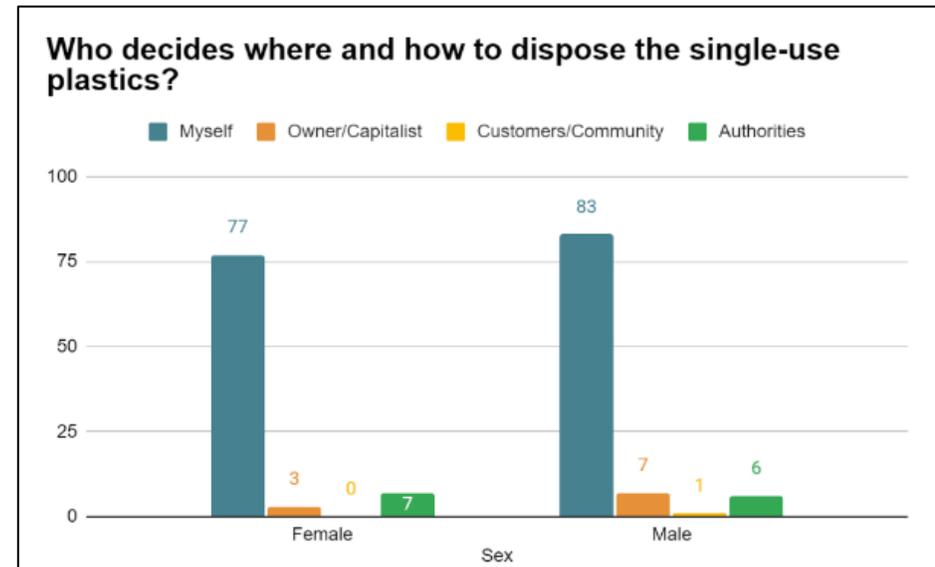
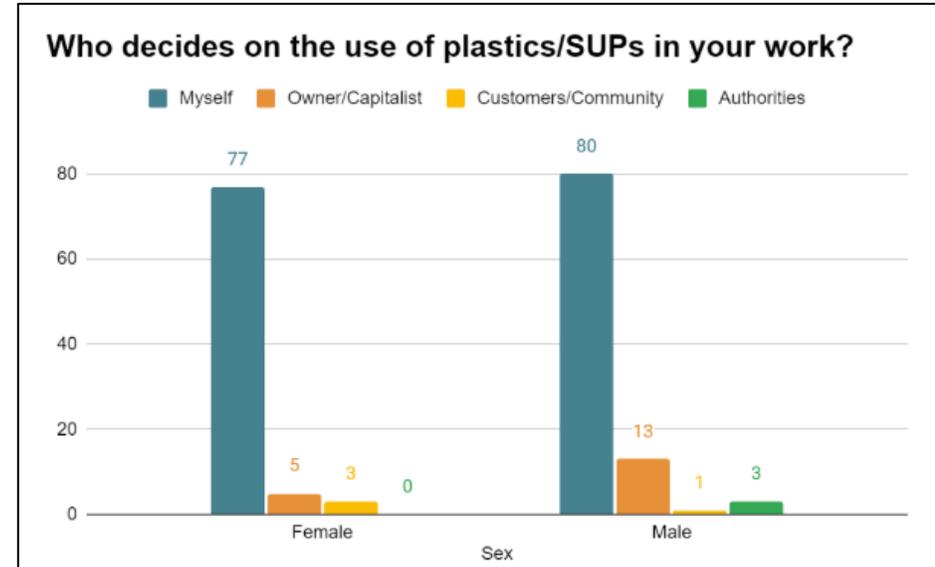
Women have **significant autonomy in the use and disposal of SUPs**, although the pattern runs similar, but slightly higher, relative to men.

In the KIIs, 10 out of 10 interviewed women answered that they are the ones making decisions regarding the use of plastics in fishing activities.



Potential Roles of Women in SUPs Reduction

Compared to men, **women experience lesser external influence from employers and owners** in decisions on the use and disposal of plastics.



Potential Roles of Women in SUPs Reduction

Cultural norms position women as heavy household influencers.

KAP results validate this:

Women scored significantly ($t = 2.17$; $p < 0.05$) in agreeing with the question

“I am willing to tell my family and friends about the risks of the increasing utilization of SUPs in fisheries-related activities.”



Potential Roles of Women in SUPs Reduction

Women are more willing to reduce the use of SUPs.

As seen in the regression results, there are a statistically significant negative relationship ($p=0.0017 < 95\%$ confidence level) between the sex categorical variable (male) to willingness to reduce SUPs.

Table 5. Factors influencing plastic reduction and management efforts

Variable	Dependent Variable: Willingness to Pay (WTP) Index				
	(1) Location	(2) Interaction	(3) Processors	(4) Producer	(5) Trader
KI	0.494*** (0.057)	0.347*** (0.086)	0.489*** (0.158)	0.640*** (0.185)	0.504*** (0.069)
sex					
Male	-0.099 (0.077)	-1.135** (0.470)	0.066 (0.175)	0.072 0.453	-0.193* (0.098)
Location					
Catbalogan	0.041 (0.073)				
Sex * KI		0.251** (0.112)			
VC Node					
Processor	0.095 (0.152)	0.088 (0.150)			
Producer	0.075 (0.173)	0.047 (0.171)			
Trader	-0.016 (0.142)	-0.031 (0.140)			
Education	0.010 (0.010)	0.010 (0.010)	-0.001 (0.275)	0.006 (0.030)	0.018 (0.014)
Income	0.000* (0.000)	0.000* (0.000)			
Constant	1.882*** (0.304)	2.521*** (0.402)	2.104*** (0.586)	1.267 (0.854)	1.859*** (0.312)
Observations	184	184	44	25	101
R-squared	0.3333	0.3505	0.2304	0.3756	0.3715

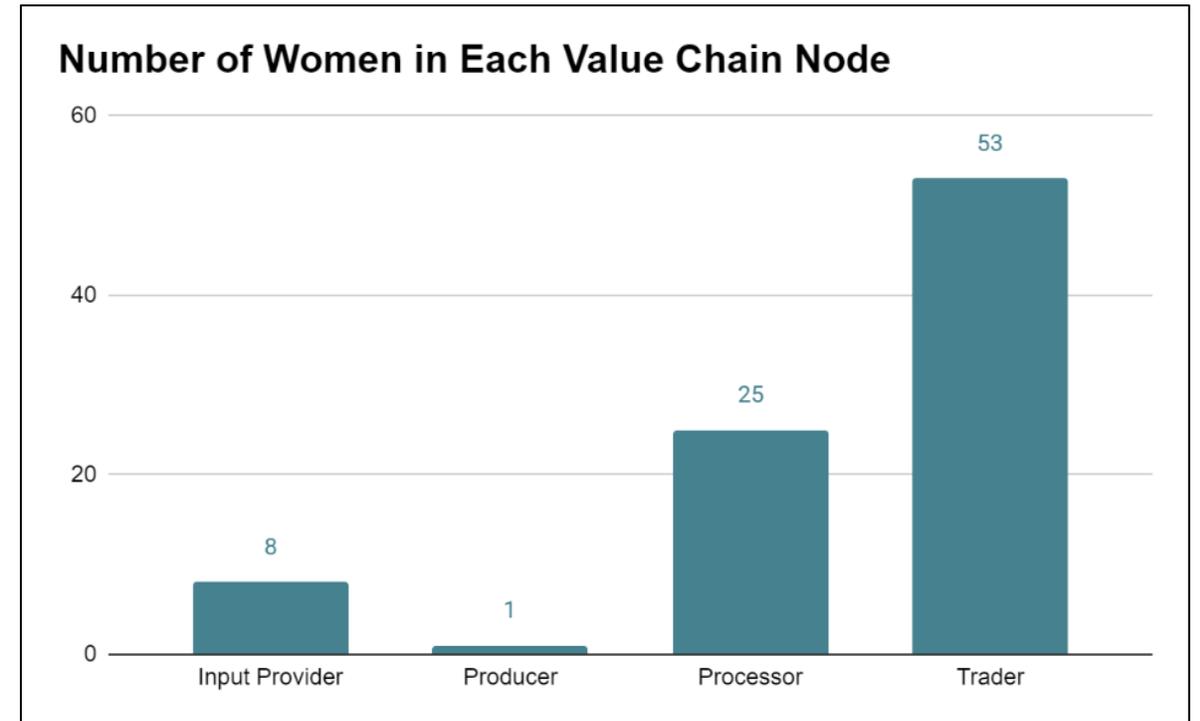
Standard errors in parentheses; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

What are the Barriers to Women's Role in SUPs Reduction in the Fishing VC?

Social barriers

stereotype that women's role is limited in the household.

Women's role in the fishing value chain are concentrated in processing & trading, while men dominate producer/fisher roles.



Women are concentrated in processing & trading, while men dominate producer/fisher



VALUE CHAIN FUNCTIONS



ACTIVITIES

- Provide equipment
- inputs

- Fishing
- Harvest
- Produce the primary stage

- Classifying
- Sorting
- Fish drying
- Processing
- Packaging

- Transport
- Distribution
- Sell/Peddle

- Prepare
- Consume

VALUE CHAIN PLAYERS

Specific Input providers

Fishers (primary producers)

Fish dryers, packers

Traders, sellers, peddlers, brokers, distributors

Final Consumers

VALUE CHAIN ENABLERS

MESO: Fishers Associations/Cooperatives

MACRO: Government agencies, local government units (LGU)

What are the Barriers to Women's Role in SUPs Reduction in the Fishing VC?

Economic barriers

- **High cost of alternatives** (eco bags, biodegradable bags, containers) discourages adoption
- Profit margins are thin → **vendors prioritize cheaper plastics to stay competitive**
- **Fear that passing costs to customers will reduce sales.**

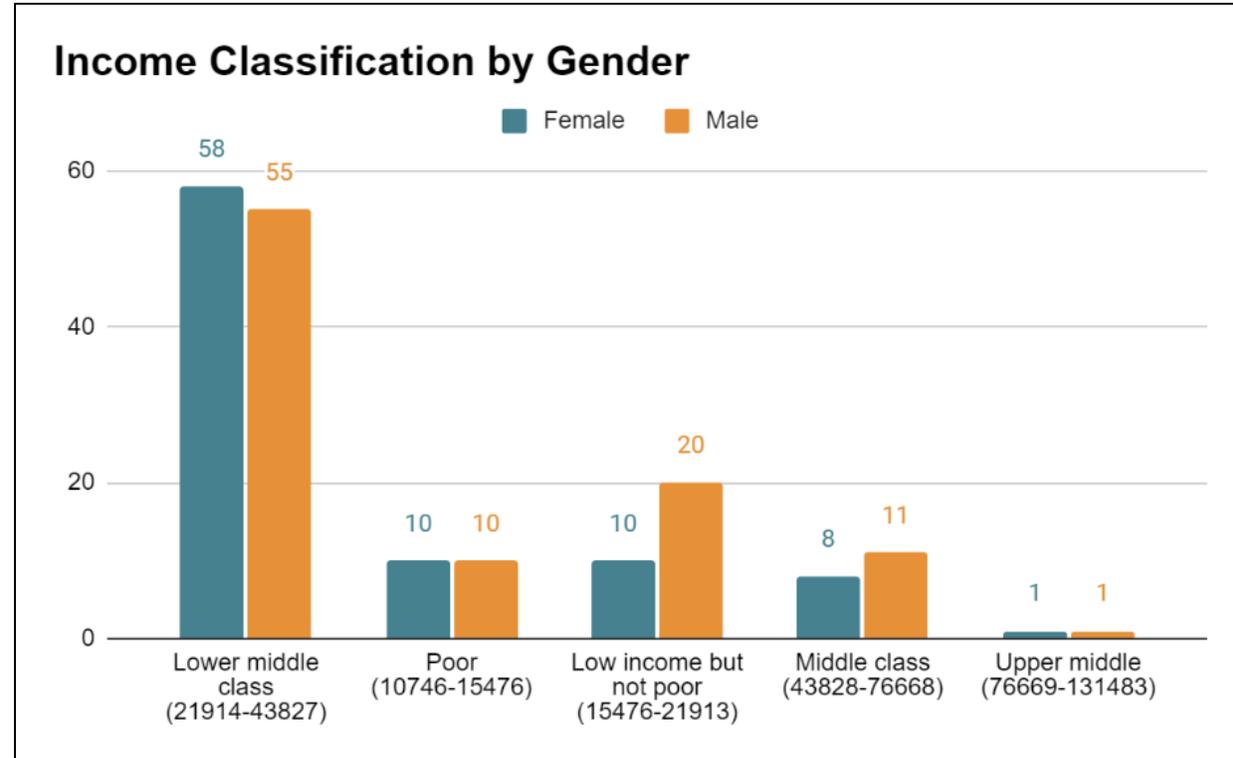
“It’s pricey if I do not use plastic bags. My customers will also be burdened if I add an additional charge for their bag. It will be pricey for them as well”

What are the Barriers to Women's Role in SUPs Reduction in the Fishing VC?

Economic barriers

Women often earn less than men at higher income levels, but at subsistence level incomes are similar/slightly higher relative to men.

This potentially suggests **higher barriers to entry in higher-value roles and concentration in low-capital, labor-intensive, or informal roles, which cap their earning potential.**



What are the Barriers to Women's Role in SUPs Reduction in the Fishing VC?

Resource Availability & Accessibility barriers

- **Alternatives like eco-bags or biodegradable plastics are not consistently available, while plastics are always available** in the market, reinforcing dependency.

Some vendors note cardboard/paper bags as available, but they are not recommended in selling fish because it gets wet.

“... using alternatives like eco bags are expensive and water from fish will leak..”

Barriers to Women's Role in SUPs Reduction

Tradition & Practice (Habitual Use)

- **Plastics are deeply embedded in practice**

Vendors accustomed to plastics see them as most practical for wet goods.

Strong cultural norm: fish freshness = kept wet → paper bags fail.

“We’ve been using plastic bags ever since.”

Barriers to Women's Role in SUPs Reduction

Consumer Preferences

- **Customers expect plastic packaging** and resist alternatives.
- **Vendors fear losing customers if they charge extra** for eco bags or provide weaker packaging.

Some reduction only happens when customers bring their own containers.

“Most of my customers would still like their dried fish to be packed using plastic bags.”

“Some customers will bring an eco bag, but they still want it to be packed with plastic bags.”

Barriers to Women's Role in SUPs Reduction

Information & Participation Barriers

- **Limited access to information** on new alternatives
- **Women want to be consulted or informed**, but often only hear about changes after decisions are made.
- **Participation gaps:** women may be absent (due to domestic roles, illness, or pregnancy), leading to exclusion from decision spaces.



Barriers to Women's Role in SUPs Reduction

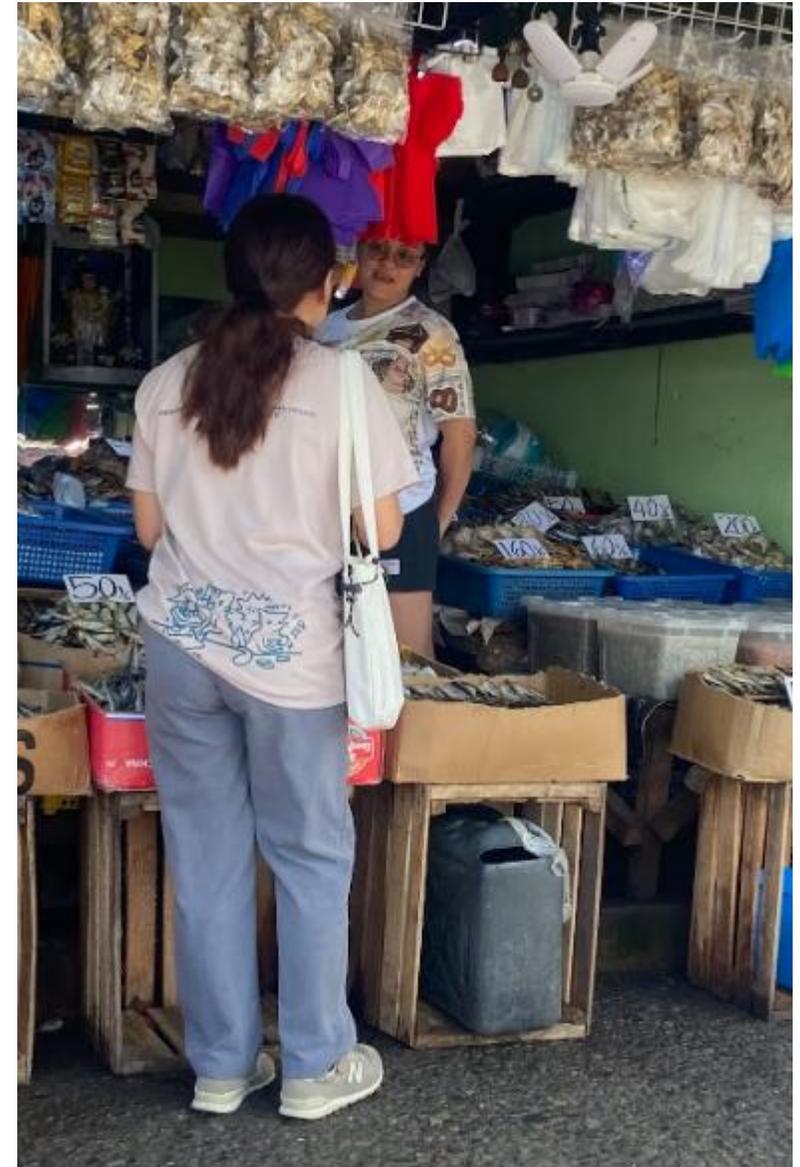
Structural & Institutional Barriers

- **Vendors feel that change must come from factories or government enforcement**
- Reliance on top-down regulation shows limited agency at the individual level.
- **Lack of support** (training, financial aid, policy enforcement) keeps women in reactive roles rather than proactive decision-making.

“If factories stop producing plastics, then we will not be using plastics anymore.”

Conclusion and recommendation

- Women vendors have autonomy in household/stall-level decisions, but systemic barriers (cost, availability of alternatives, consumer demand, policy gaps, practice/tradition) limit their capacity to sustain reductions in SUP use
- Women's high level of awareness and willingness to reduce SUP use can be leveraged, but external support (government, markets, information, and other VC enablers) is needed to break dependency on plastics in fishing-related activities.





Dismantling Barriers: Women's Participation in Reducing the Use of Plastics in Fishing Value Chains

Marieta B. Sumagaysay, Gerwyn P. Enerlan, Axl Fitzgerald L. Bulawan
Division of Social Sciences, University of the Philippines Tacloban College

9th Global Conference on Gender in Aquaculture and Fisheries (GAF9)

01-03 October 2025