

Gender transformative change in Malawian and Zambian fishery value chains

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Context

In Malawi and Zambia, women dominate fish-processing but face technical and social barriers to processing high-quality fish so experience more physical and economic losses than men. To address these development challenges, a Cultivate Africa's Future research project was implemented from late 2014 to early 2017 in two fishing communities around Malawi's Lake Chilwa, and six fishing camps in Zambia's Barotse Floodplain.

Involving both men and women from the fish value chain, the project developed and tested improved post-harvest fish processing technologies (e.g. solar tent dryers, smoking kilns, salting) to help reduce losses. Qualitative and quantitative methods were employed to uncover the complex causes of fish post-harvest loss, with a special focus on processing. As such, the project was required to design or adapt tools to assess both the technical and social constraints within the value chain.

The project also adopted a gender transformative approach (Cole *et al.*, 2014) to address some of the harmful social and gender norms and power relations that constrain value chain actors, such as women's abilities to freely participate in male-dominated activities and make decisions about finances or how they spend their time. Communication tools including drama skits and theatre for development forums were tested and performed in the Barotse Floodplain and in Lake Chilwa, respectively. In addition, a practical gender approach (PGA; Molyneux, 1985) was embraced in the Barotse Floodplain setting to ensure that, at the very minimum, project staff were aware of women's and men's socially-assigned roles when designing and executing project activities.

Key messages

- The project developed and tested improved post-harvest fish processing technologies. Fish salting was found to decrease women's time spent processing fish, from around four days (using the sun drying technique) to around one day, and reduce insect infestation from 10.8% to 0%.
- The use of a gender transformative approach, incorporating communication tools (such as drama skits), had a greater impact on improving gender equal attitudes than a practical gender approach – which accommodates existing gender norms and power relations.
- The gender equal attitude scores of men who participated in drama skits increased from 17.6 in 2015 to 23.9 in 2016, while the scores of those who did not participate increased only marginally.
- Women's ownership of fishing assets increased over the course of the project, with joint ownership increasing from 44% in June 2015 to 76% by December 2016.

To evaluate the efficacy of the gender transformative approach, in Zambia PGA was adopted from the start in all six camps, while the communication tool (drama skits) was only tested in three. To assess any changes in gender equal attitudes and behaviors, the project administered a Women's Empowerment in Fisheries Index (WEFI) survey (Alkire *et al.*, 2013) in June 2015 and December 2016.

Emerging outcomes

Reduction in women's workload

On the whole, the improved fish processing technologies reduced post-harvest losses and the time taken (particularly for women) to process fish. Fish salting, for example, resulted in 0% insect infestation compared to 10.8% in open-air sun drying. The salting process only takes around one day as opposed to open-air sun drying that takes almost four days. While solar tent dryers reduced post-harvest losses and improved fish quality, they did not reduce the time taken to process fish compared to existing technologies (e.g. open-air sun drying).

Gender equal attitudes have increased

Overall, gender equal attitudes¹ increased over the course of the project. The increase in gender attitude scores for those who participated in the drama skits (increase of 5.3) was more than double compared with those who only experienced the PGA (2.2). This indicates that the use of a transformative approach had a greater impact when compared to using the PGA approach that empowers women yet accommodates existing gender norms and power relations. Perhaps most striking is the result from the men who participated in the drama skits; their attitude scores increased more than any other sub-group, from 17.6 to 23.9 (a 35.7% increase), compared to a 13.3% increase where only PGA was used.

A 45% reduction in percentage points amongst those agreeing with the statement *women should not be involved in fishing* was observed among participants of both the PGA and drama skits, compared to a 26% reduction for those who only participated in the PGA (Table 1). A similar trend was observed for the statement about women being the primary fish processors, with a 42% reduction among those involved in both the PGA and drama skits, and a 9% reduction for PGA only participants.

Some behavior-related changes were also noted, specifically for women who participated in the drama skits. They became more engaged in key value chain activities over the course of the project and made important decisions about financial matters concerning their involvement in fishing, processing and trading (Table 2). For example, women who participated in the drama skits increased their involvement in fishing from 5% to 75%. A greater percentage of women also made larger contributions to decisions regarding fish processing and the associated income (a 30% and 49% increase, respectively). Women's involvement in decisions about income generated from fish trading significantly increased for those who participated in drama skits, from 65% to 94%.

¹ The scale to assess gender attitudes was included in the WEFI and comprised eight gender attitude statements that people were asked to respond to. Responses to the statements were collated with the highest score being 24 (perfect gender equal attitude) and the lowest score being 8 (perfect gender unequal attitude).

Proportion of those who agree* with the statement:	June 2015	December 2016
Women should not get involved in fishing full-time. This is a man's responsibility.		
PGA only	53%	27%
Participated in drama skits	47%	2%
Women should not own canoes, fishing nets, and other means to fish.		
PGA only	9%	6%
Participated in drama skits	20%	0%
Women should primarily be the ones who clean and process fish.		
PGA only	24%	15%
Participated in drama skits	44%	2%
Women should partially be the ones who trade or market fish, not men.		
PGA only	15%	12%
Participated in drama skits	20%	2%
Men should primarily be the ones who control the earnings obtained from the sale of fish.		
PGA only	29%	9%
Participated in drama skits	20%	0%
* Agree indicated less gender equitable attitude		

Table 1: Percentage of participants who agreed with statements from the gender attitude scale

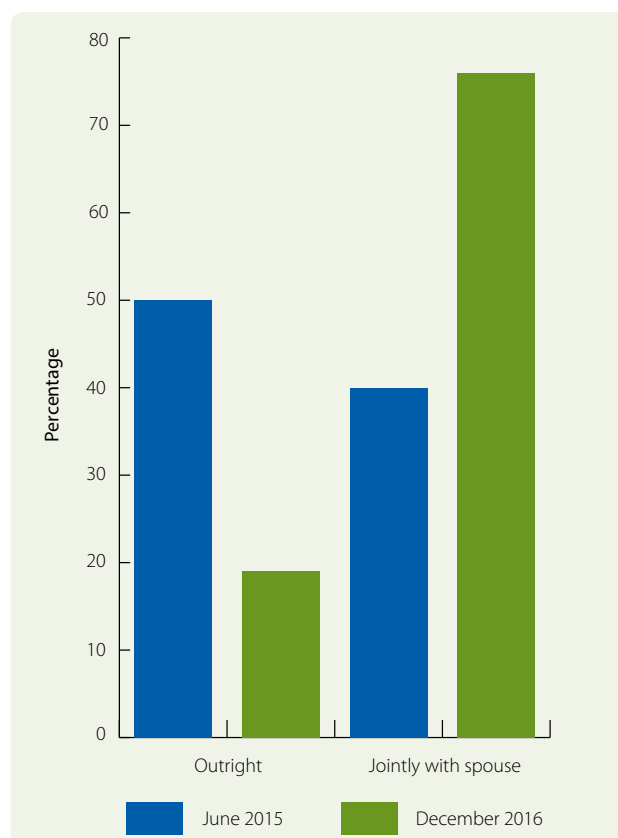


Figure 1: Change in ownership status of fishing gear owned by men who participated in drama skits

Proportion of women who:	June 2015	December 2016
Fished in the past 12 months		
PGA only	14%	7%
Participated in drama skits	5%	75%
Processed fish in the past 12 months		
PGA only	43%	71%
Participated in drama skits	55%	85%
Made large input into decisions about income generated from processing fish		
PGA only	100%	90%
Participated in drama skits	45%	94%
Traded fish in the past 12 months		
PGA only	93%	86%
Participated in drama skits	85%	90%
Made large input into decisions about income generated from trading fish		
PGA only	85%	92%
Participated in drama skits	65%	94%
* Agree indicated less gender equitable attitude		

Table 2: Behavior-related changes for women who participated in the PGA only and the PGA and drama skits



Woman drying fish in a solar tent dryer in Barotse Floodplain

More women have been made joint owners of fishing assets

For the men who participated in drama skits, a significant shift was observed in the ownership status of both their fishing and processing assets – from sole to joint (Figure 1). For instance in June 2015, 50% responded that they owned the fishing gear outright but by December 2016, only 19% stated they were the sole owners of the fishing gear. Forty-four percent responded that they jointly-owned the fishing gear in June 2015 and this increased to 76% by December 2016. The overall percentage of people owning fish processing equipment increased from 61% to 80% throughout the course of the project.

Cooperation and trust between men and women has increased

At Lake Chilwa, qualitative data indicate enhanced cooperation and trust between men and women fish processors and traders who participated in the theatre for development forums and gender workshops. According to Strevina Chitedze, this level of cooperation enabled her to process more fish using the improved smoking kiln, and increase her sales ten-fold from the start of the project.

“After the workshops on gender equity, men and women go together to buy fish, clean and process it, and then take it to [distant] markets. This has started to build trust between men and women and is bringing peace to my household.”

— Strevina Chitedze, 26 years old

Recommendations for future research

While the improved fish processing technologies helped reduce women’s time burdens and losses, and improved the quality of the fish processed, the market for salted fish is relatively nascent in Zambia, and thus, testing different strategies to improve women’s abilities to market their products (e.g. through communication channels, including radio, or by conducting cooking demonstrations in local markets) is one gap that future research and development projects should fill. In addition, the cost of the translucent plastic sheeting used to construct solar tent dryers is relatively expensive for many users. Future research should explore how women’s and men’s access to microfinance could be increased to enable them to adopt this technology at scale.

Conclusion

Integrating a gender transformative approach in this project helped bring about positive changes in men’s attitudes regarding gender equality, and significantly increased women’s participation in financial decision-making about fishing, processing, and trading fish. The improved technologies (e.g. salting) decreased women’s time burdens and reduced post-harvest losses.

Gendered dynamics within a fishery value chain are complex, and thus, require innovative tools for assessment.



Woman salting fish in Barotse Floodplain

WEFI appears to be a valuable instrument for application in small-scale fisheries settings to assess gendered dynamics in the value chain.

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