

FISH4ZAMBIA: RESEARCH AMONG MEN AND WOMEN FISHERS, PROCESSORS, AND SELLERS AT ZAMBIA'S LAKE BANGWEULU

A research for development activity of the Feed the Future Innovation Lab for Fish (Fish Innovation Lab), Fish4Zambia was led by a multicountry team of researchers at Mississippi State University, University of Rhode Island, University of Zambia, and WorldFish. The team implemented the Women's Empowerment in Fisheries Index (WEFI) and conducted separate focus group discussions (FGDs) among men, women, and youth engaged in fishery sector activities in Zambia's Lake Bangweulu region. Fish4Zambia also conducted key informant interviews (KIIs) with Ministry of Health and Ministry of Fisheries and Livestock senior personnel serving the Lake Bangweulu region.

PROJECT GOAL

Fish4Zambia's goal was to better understand how gender equity and other socioeconomic factors within the fishery sector impact women, men, and youth and to help transition rural women and their children, families, and communities toward better food security, nutrition, and economic development through sustainable production of fish. To achieve this goal, the team modified and implemented the WEFI, which had previously been adapted by WorldFish from the Women's Empowerment in Agriculture Index, and developed and implemented novel sets of FGD guides and KII guides.

DATA COLLECTION METHODS

Fish4Zambia's fieldwork was conducted at Lake Bangweulu in the Samfya District of Luapula Province. Using the WEFI, the team collected quantitative data from 397 men, women, and youth who engaged in fish value chain activities at Lake Bangweulu. Sixteen FGDs were conducted among men and women ages 30+ years engaged in fish value chain activities and five FGDs were conducted among youth ages 18-29 years who also engaged in fish value chain activities. Two KIIs were conducted with Ministry of Health senior personnel serving the region and one KII was conducted with Ministry of Fisheries and Livestock senior personnel serving the region.

Village selection, community mobilization, enumerator recruitment, and data collection were conducted in partnership with the Department of Fisheries of the Ministry of Fisheries and Livestock. All Fish4Zambia enumerators were able to speak the local dialect(s) used in the fishing villages and fishing camps in which the survey was implemented, and they completed the full-day WEFI Enumerator Training Workshop, which included training on the protection of human subjects. The analyses focused on WEFI gender-disaggregated results to explore two primary research questions:

1. How do men's and women's responses compare across the Household Hunger Scale (Ballard et al., 2011), which measures household-level hunger in the past four weeks for three "hunger events"?



Fish4Zambia enumerator team leader Annie Mumba (R) administers the WEFI to a fish seller at Zambia's Lake Bangweulu. Photo: Michael Cheleka/Department of Fisheries, Zambia

2. How do responses among men and women compare across WEFI modules, including the sample's demographics, decision-making on income-generating activities across the fish value chain, ownership of assets, community leadership, and gender norms?

RESULTS: DEMOGRAPHICS

The sample ($N = 397$) was nearly equally divided among men (48.6%) and women (51.4%), of whom a majority were adults ages 30-72 years (65.5%) versus youth ages 18-29 years (34.5%). All respondents were from Luapula Province, and a majority were from Samfya District (83.9%) and identified their ethnicity as Bemba (80.6%). A majority (88.7%) were married and lived in male-headed households (81.1%) as compared to households headed by husband-wife dyads with mutual decision-making influence (14.4%). A significant difference in education existed among men and women ($p = .005$), with women (23%) more likely than men (9.3%) to report non-completion of any years of school. A majority of men (86.5%) reported their occupation as fishing, versus 31.4% of women. In contrast, 46.6% of women reported their occupation as selling fish versus 8.3% of men. No men reported their occupation as fish processing, as compared to 7.8% of women. A significant difference in occupation existed among men and women ($p = .000$), with men (86.5%) more likely to report fishing and women (46.6%) more likely to report selling fish as their occupation.

RESULTS: RESEARCH QUESTION 1

The Household Hunger Scale gender-disaggregated results indicated significant differences in reported household-level hunger among women as compared to men for each of the three hunger events:

- **Hunger Event 1:** Women (67.1%) were significantly more likely than men (54.5%) to report that, in the past four weeks, there was no food to eat in their household due to lack of resources to acquire food ($p = .004$).
- **Hunger Event 2:** Women (64.7%) were significantly more likely than men (46.1%) to report that, in the past four weeks, they or another household member had gone to sleep at night hungry because there was not enough food ($p = .000$).
- **Hunger Event 3:** Women (49.1%) were significantly more likely than men (31.1%) to report that, in the past four weeks, they or another household member had gone a whole day and night without eating anything because there was not enough food ($p = .000$).

RESULTS: RESEARCH QUESTION 2

WEFI gender-disaggregated results indicated significant differences among men and women across a range of income-generating activities, asset ownership, and decision-making power. For example:

- Men were significantly more likely to have engaged in fishing ($p = .000$) and selling fish ($p = .034$) in the past 12 months.
- Men were significantly more likely to report sole ownership of (1) locally produced fishing equipment ($p = .004$); (2) synthetic nets, line, hooks, and other externally produced fishing equipment ($p = .000$); (3) fish-processing equipment ($p = .001$); (4) canoes ($p = .000$); and (5) basic mobile phones ($p = .000$). In contrast, women were significantly more likely to report sole ownership of fish-storage equipment such as baskets ($p = .004$).
- Men were significantly more likely to report that they had a large amount of decision-making input into the key value chain activities of fishing ($p = .000$), processing fish ($p = .000$), transporting fish ($p = .004$), and selling fish ($p = .000$).

FISH4ZAMBIA LEADS

U.S. PI	Kathleen Ragsdale, PhD Mississippi State University
U.S. co-PI	Mary Read-Wahidi, PhD Mississippi State University
U.S. co-PI	Elin Torrell, PhD University of Rhode Island
Zambia PI	Lauren Pincus, PhD WorldFish
Zambia co-PI	Pamela Marinda, PhD University of Zambia

- Men were significantly more likely to have met with a fisheries extension officer in the past 12 months ($p = .002$).
- Women were significantly more likely to report they were not at all comfortable speaking in public (1) to help decide on projects and issues affecting their fishing camp or village ($p = .000$), (2) on decisions related to governing the fishery ($p = .000$), and (3) to protest the use of illegal or unsustainable fishing practices ($p = .000$).
- A majority of women (67.2%) and men (74.6%) agreed with the statement, “Women should not be involved in fishing fulltime; this is a man’s responsibility.”
- In contrast, a majority of women (56.9%) and men (51.3%) disagreed that “Women should not own canoes, fishing nets, and other means to fish,” and a majority of women (76%) and men (68.3%) disagreed that “Men should primarily be the ones who control the earnings obtained from the sale of fish, not women.”



Dried fish from Lake Bangweulu. Photo: Kathleen Ragsdale/Mississippi State University

DISCUSSION OF KEY RESULTS

While women were significantly more likely than men to have reported that they or another householder had experienced each of the three hunger events from the Household Hunger Scale, the percentage of both men and women who reported household-level hunger for each hunger event was noteworthy. The results suggest a need to explore what factors make women in this sample more likely to report food insecurity as compared to men. Is it that local gender norms dictate that men are served first in respondents’ households and, as a result, women get less food or eat nothing when there is a food shortage? Or are women more aware of food shortages within their households due to their traditional role as food-preparers? This gender-disaggregated data highlights (1) the importance of taking gender into account to more accurately reflect how food insecurity can impact different household members and (2) the need for more data on how variations in gender norms impact coping strategies to food shortages among fishing community members. Likewise, the significant disparities in education level among men and women in this sample is cause for concern given that less access to education, literacy, and numeracy are known to contribute to undermining women’s economic development and access to opportunities across the fish value chain. Increasing women’s participation in higher income-generating activities along the fish value chain (e.g., fishing) as well as their decision-making input may expand women’s opportunities to improve their economic resilience.

REFERENCE

Ballard T., Coates J., Swindale A., & Deitchler M. (2011). *Household Hunger Scale: Indicator definition and measurement guide*. Washington, DC: Food and Nutrition Technical Assistance II Project, FHI 360.

ABOUT THE FISH INNOVATION LAB

The Fish Innovation Lab supports the United States Agency for International Development’s agricultural research and capacity building work under Feed the Future, the U.S. Government’s global hunger and food security initiative. Mississippi State University is the program’s management entity. The University of Rhode Island, Texas State University, Washington University in St. Louis, and RTI International serve as management partners.

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