A Gendered Value Chain Analysis of Post Harvest Losses in the Barotse Floodplain, Zambia

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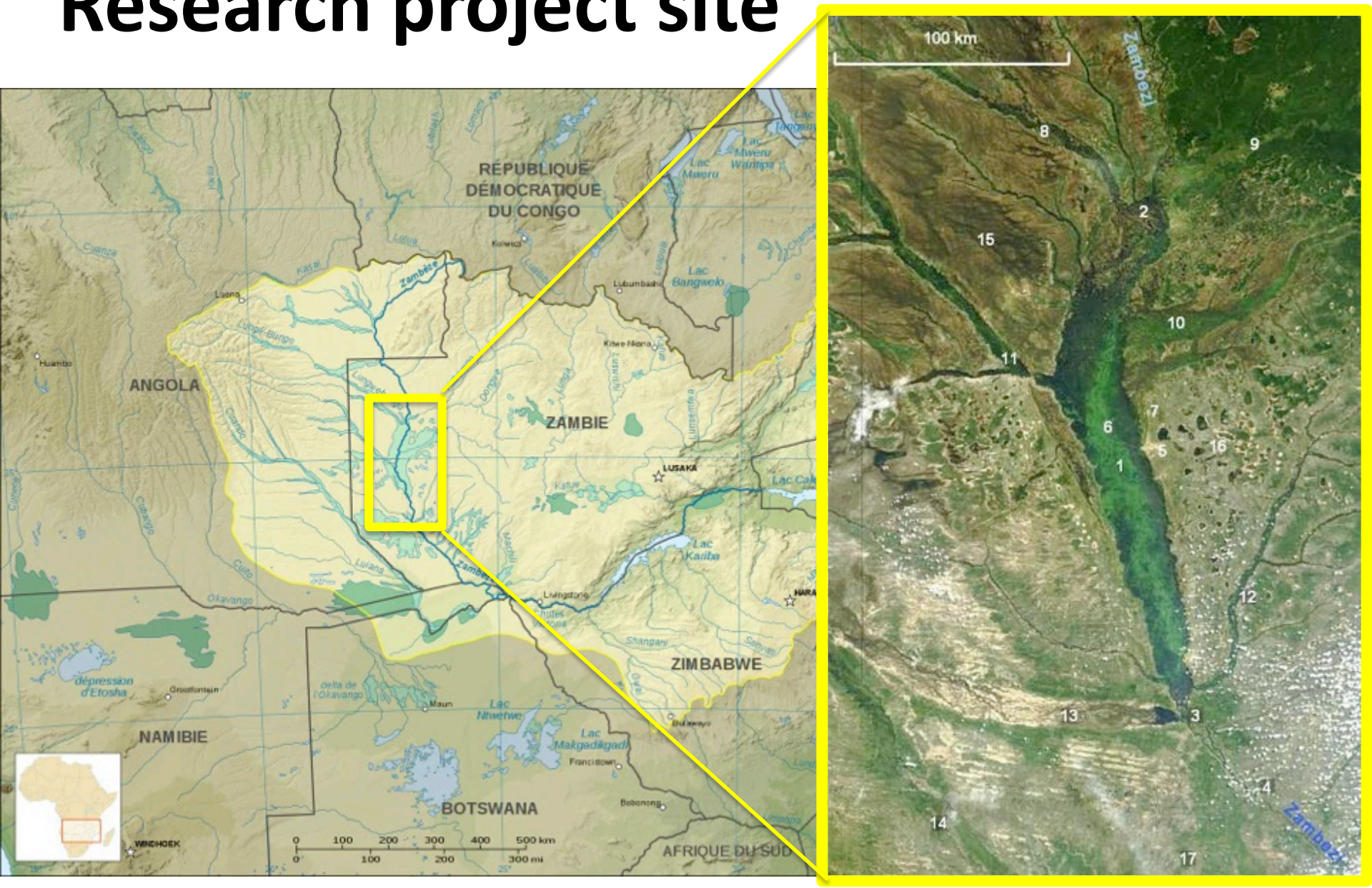
NONO ENTERPRISES

WorldFish

Research project site



Research Question One

What is the gendered nature of post-harvest losses (biophysical and economic) in the value chain?

RESEARCH QUESTION TWO

What are the social and gender constraints to post-harvest losses and does gender inequality contribute to losses?

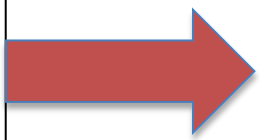
Types of post-harvest losses (PHL)

Biophysical Loss	• **Total Loss:** consumed by insects (or other animals), or due to spoilage, breakage, etc.
Economic Loss	• **Quality Loss:** leads to fish sold at lower cost • **Market force loss:** demand and supply changes
Nutrient losses	• Biochemical changes and processing that denatures nutrients

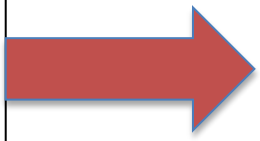
Research methodology

BASELINE INSTRUMENTS

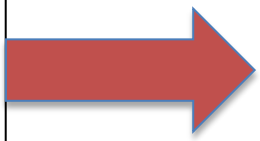
- Quantitative Fish Loss Assessment Method (QLAM)
- Gross Margins Analysis (GMA)
- Women's Empowerment in Fisheries Index (WEFI)



Quantification of losses in 7 day fish consignment recall



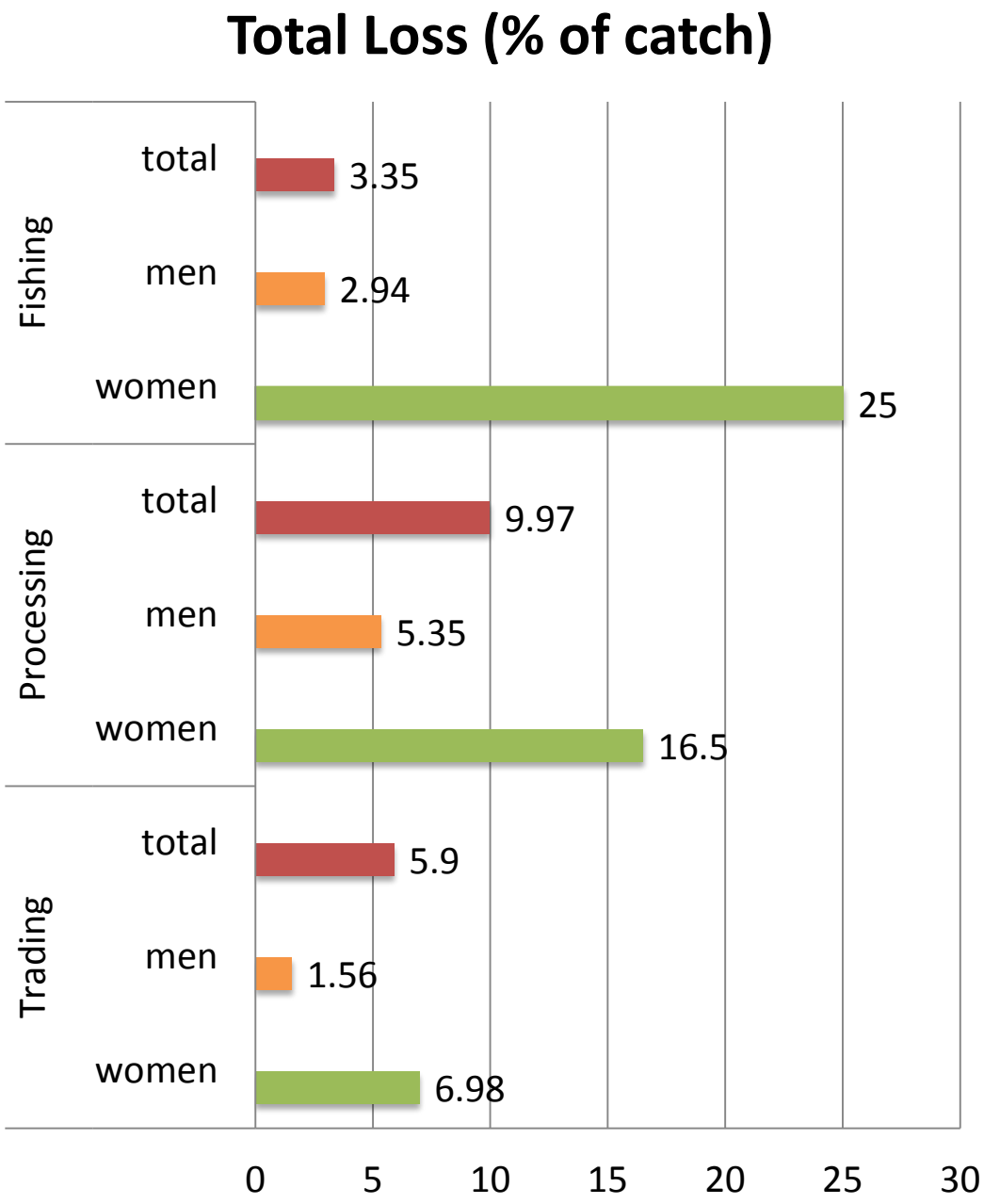
Profitability of various nodes in the value chain disaggregated by sex



Status of empowerment of men and women in the fishing camps

Quantitative Loss Assessment Method

- Sample of 176 people (33% women, 67% men) from six fishing camps
  - Given some fishers also processed fish [28.3% of fishers (all men)], total sample = 206, with:
    - Fishers = 106 (2% women, 98% men)
    - Processors = 60 (40% women, 60% men)
    - Traders = 40 (80% women, 20% men)

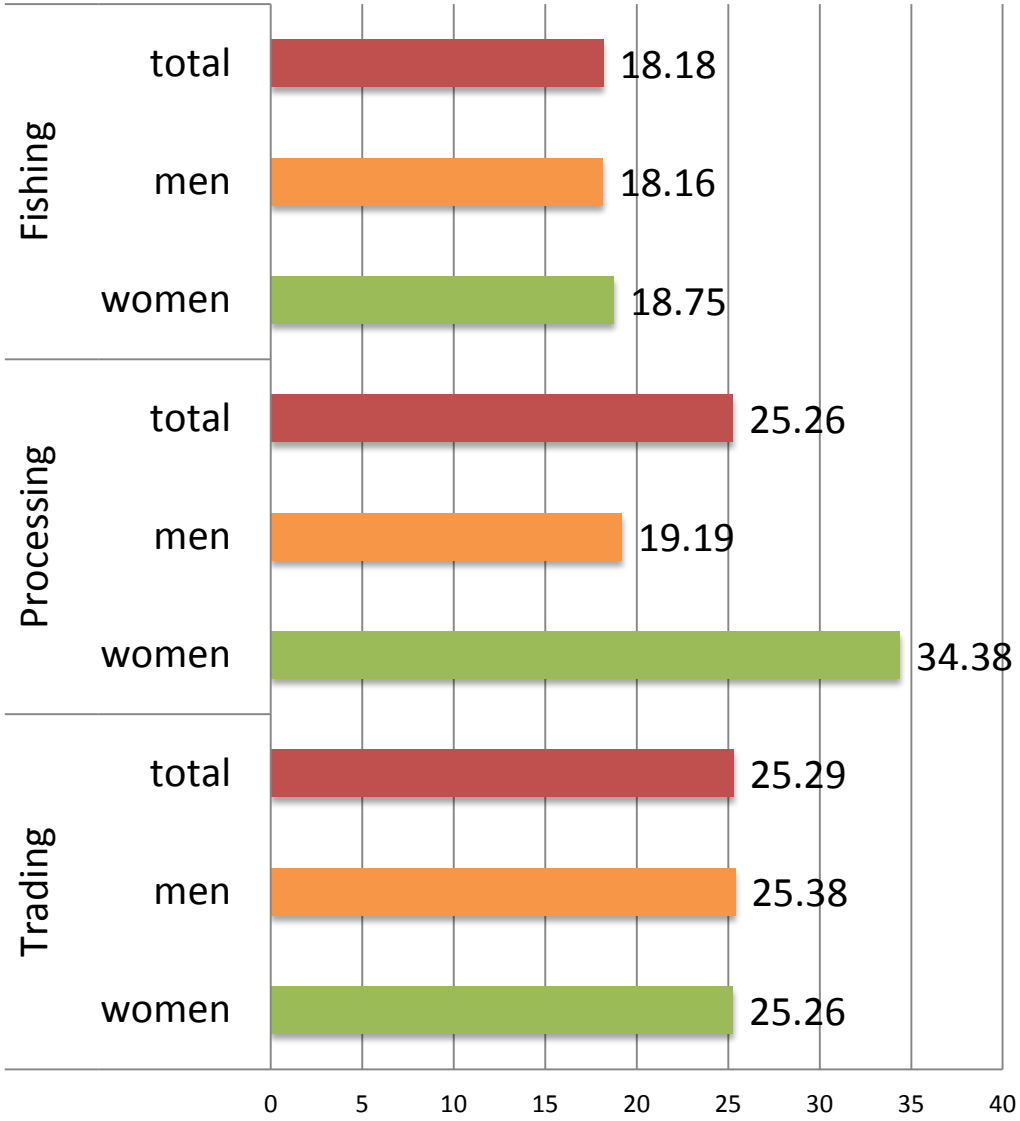


15.09% of fishers experienced loss primarily due to spoilage (53%)

44.83% of processors (63% of women, 32% of men: p-value = 0.0228) experienced loss primarily due to breakage)

30% of traders (35% of women, 13% of men: p = 0.2379) experienced loss due to breakage

Economic Loss (% of total catch)



Fishers experienced loss primarily due to spoilage (34%) and market forces* (55%)

Processors experienced loss primarily due to breakage (58% of women, 55% of men) and market forces (42% of women, 36% of men)

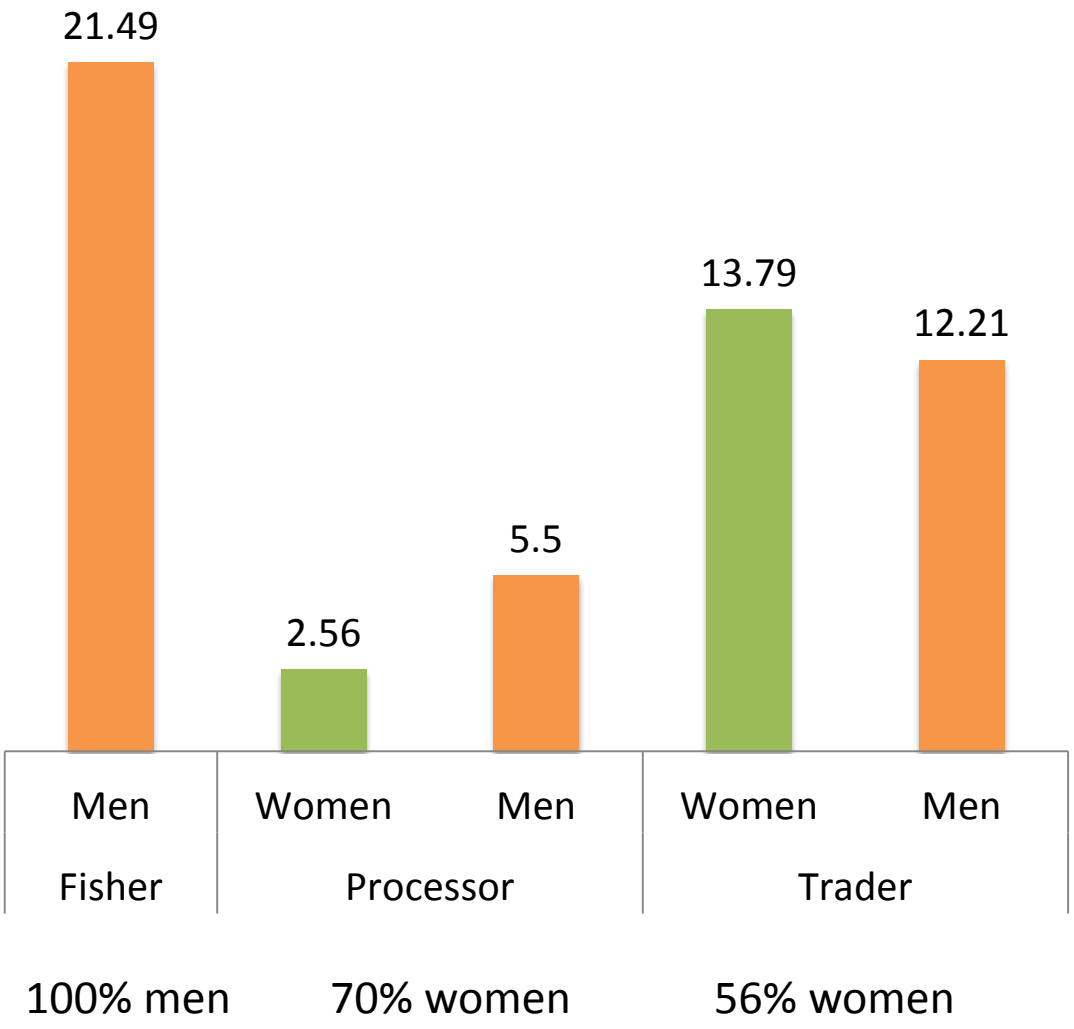
Traders experienced loss due to breakage (25% of men, 17% of women), spoilage (42% of women, 25% of men), and market forces (50% of men, 42% of women)

*Size variation, high supply, price variation

Gross Margins Analysis

- Sample of 239 people (33% women, 67% men) from fishing camps and in town
  - Fishers = 113 (100% men)
  - Processors = 50 (70% women, 30% men)
  - Traders = 76 (56% women, 44% men)
- Gross margins analysis measures the difference between revenue and costs of goods sold and expressed as a percentage indicating profitability of an enterprise

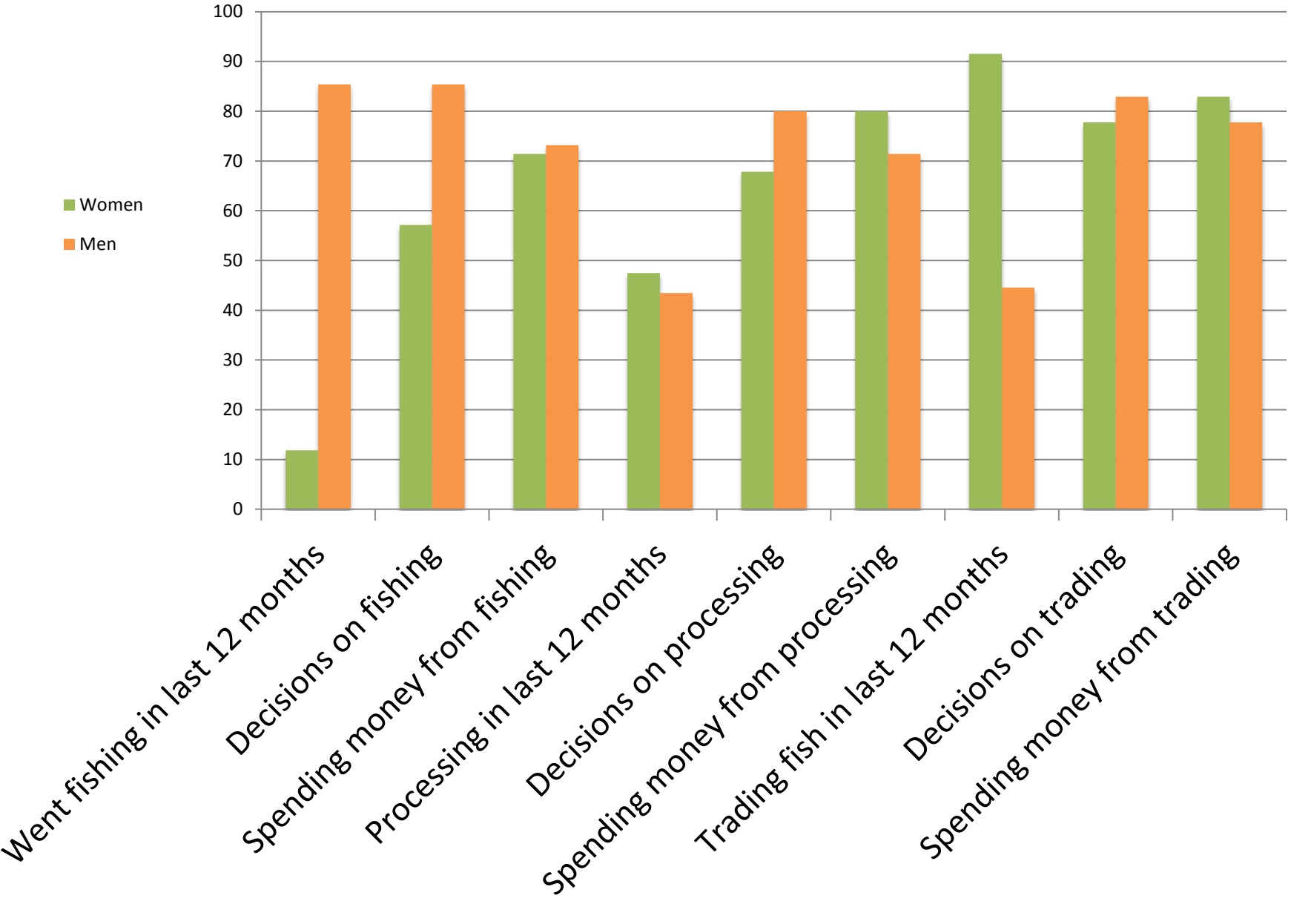
Mean Gross Margin (%)



WEFI

- Adapted from the women's empowerment in agriculture index (WEAI) (IFPRI, 2012)
- Sample of 151 people (39% women, 61% men)
- Measured access to assets, decision-making powers, individual leadership capabilities, gender attitudes and allocation of time

Participation of women/men in key nodes of the fishery value chain and decision-making powers



Access to assets

- A larger percentage of women's households own locally-produced processing equipment (e.g., fishing baskets) compared to men's (66.1% versus 58.7%)
- Although women are the primary processors in the Barotse Floodplain setting, majority own processing equipment jointly with their husbands (51.28% versus 57.69% for men), and majority jointly make decisions with their husbands when selling, renting/giving away, and purchasing new such equipment.
- Similar results for women and men regarding fishing and trading

Individual leadership in the camps

- 51% of women felt very comfortable speaking in public to help decide on projects or issues affecting the fishing camp, compared to 83% of men.
- 56% of women felt very comfortable speaking in public to protest the use of illegal fishing gears or activities, compared to 87% of men.

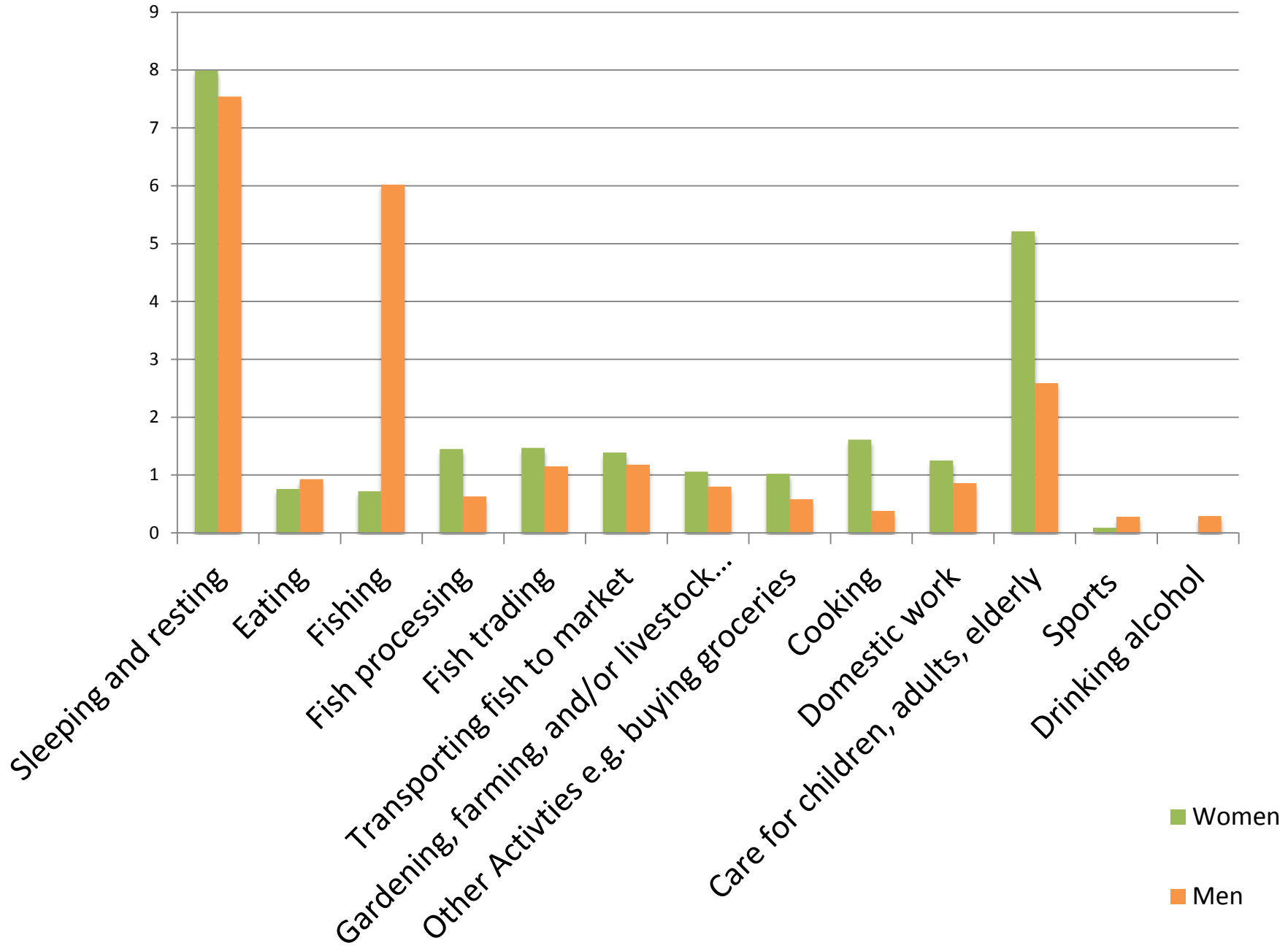
Gender attitudes

Gender Attitudes	Mean
Women	19.98*
Men	18.11

*Perfect gender equal attitude score = 24, perfect gender unequal attitude score = 8

- Women have more gender equal attitudes than men (p-value = 0.0019)
- A greater percentage of men compared to women feel that women should not get involved in fishing and women should primarily be the ones who clean and process fish
- More men than women feel that they should primarily be the ones who control the earnings obtained from the sale of fish
- A greater percentage of men compared to women felt men should primarily be the ones who transport fish to a market for sale
- Women and men almost equally believe that women should primarily be the ones who prepare meals (including fish)

Time allocation (average hours per day)



Conclusions

- Women face higher physical and economic losses than men – men transfer risk of loss to women.
- Women incur smaller gross margins in processing node
- A greater percentage of men make individual decisions on many fishing-, processing-, and trading-related processes
- Gender attitudes about women's and men's involvement in key activities in the fishery value chain and their allocation of time devoted to paid and unpaid activities may influence women' abilities to process higher-quality fish with minimal losses

Drivers of PHL

- Poverty and marginalization, lack of access to improved technologies and markets, climate change, etc.

  BUT also…

- Women's access to resources, lack of individual decision-making powers, socially-assigned roles and gender attitudes, and time allocation.

Acknowledgments

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Thank You!

How the project is utilizing these results

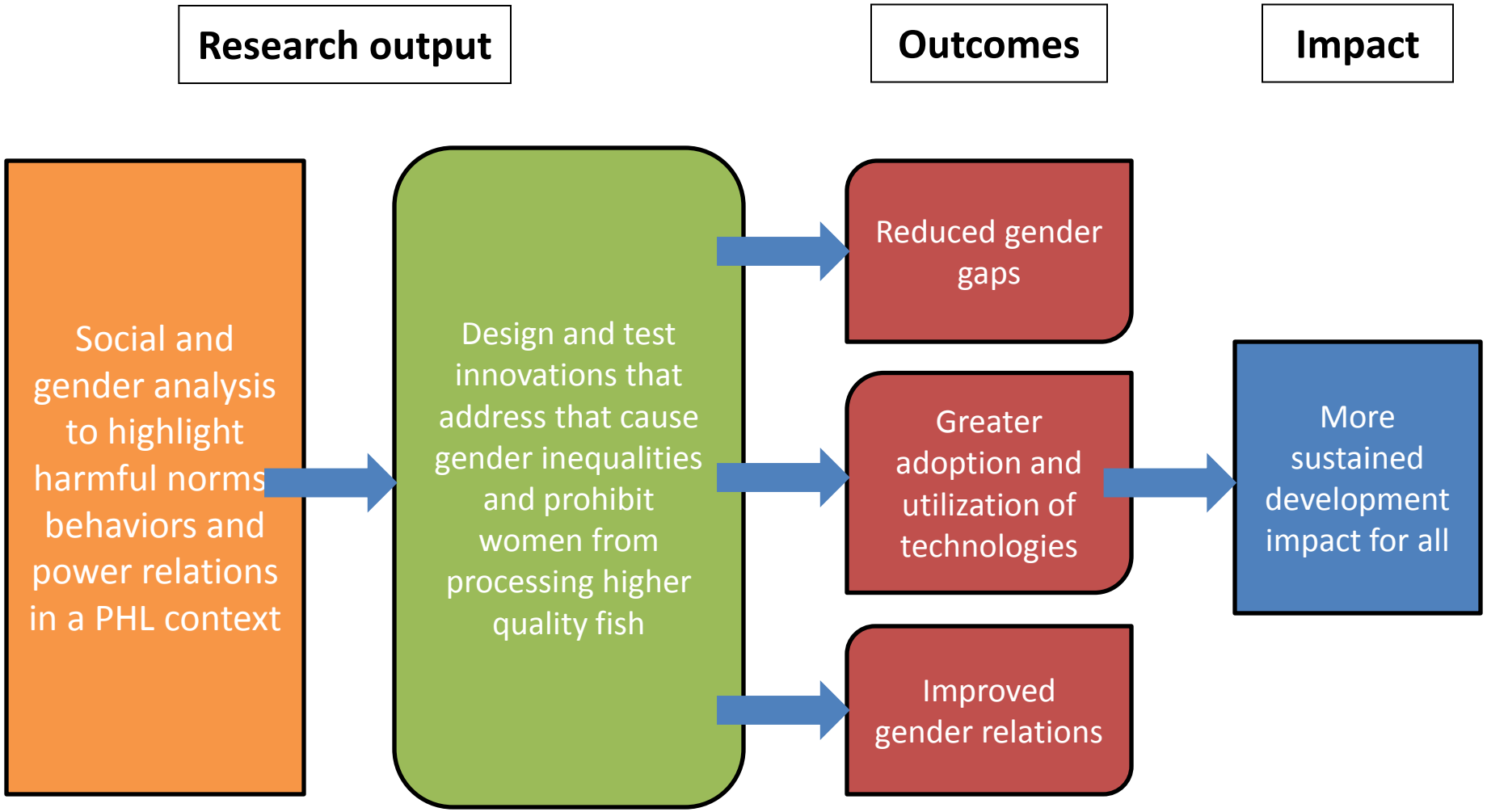

Figure: Gender transformative impact pathway to change

PHL-reducing technologies

Using PAR to implement technologies

Gender transformative communication tool

Dramas are performed in fishing camps

Questions are presented to PAR groups

Actions to address the harmful social and gender norms are carried out