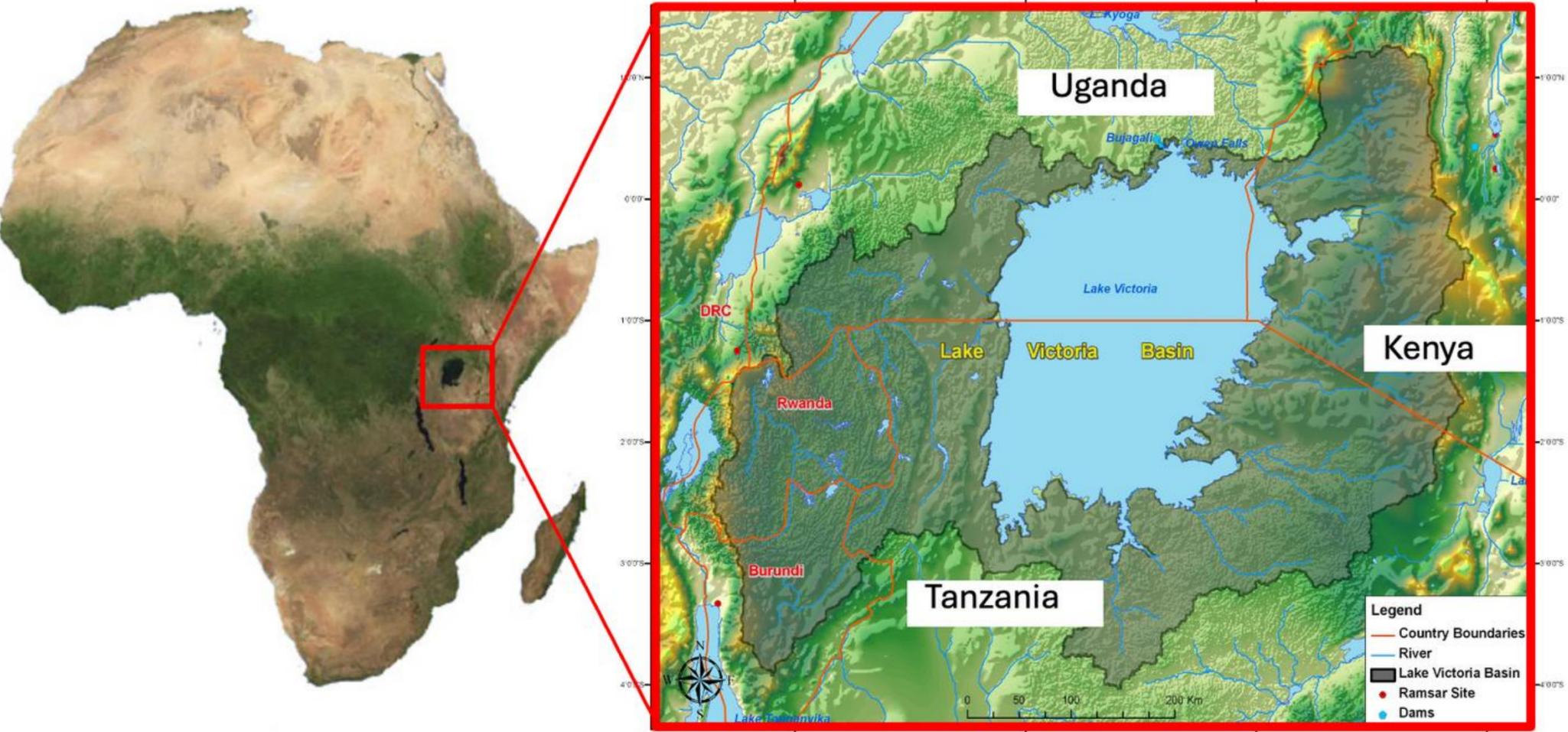


**A gender analysis of barriers to climate change  
adaptation in small-scale fishing communities in Lake  
Victoria, Uganda**

Jonathan G. Low\*, Emma D. Rice\*, Sara Ang, Valence Byaruhanga, Laban  
Musinguzi, and Elizabeth A. Nyboer

\*co-first authors

# Lake Victoria Basin, East Africa

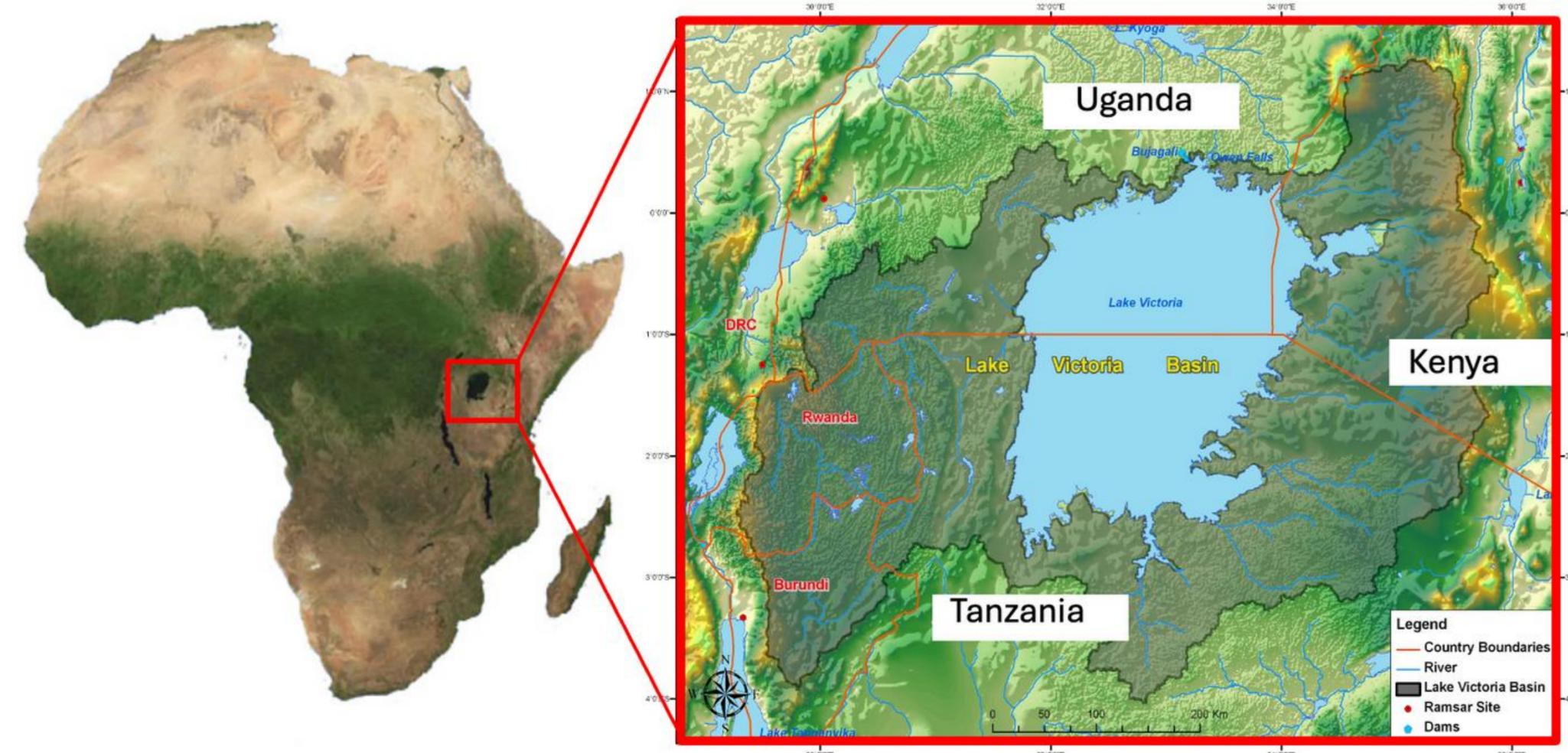


(LVFO, 2016)

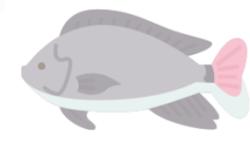
# Lake Victoria Basin, East Africa



Primary source of income for over 3 million people



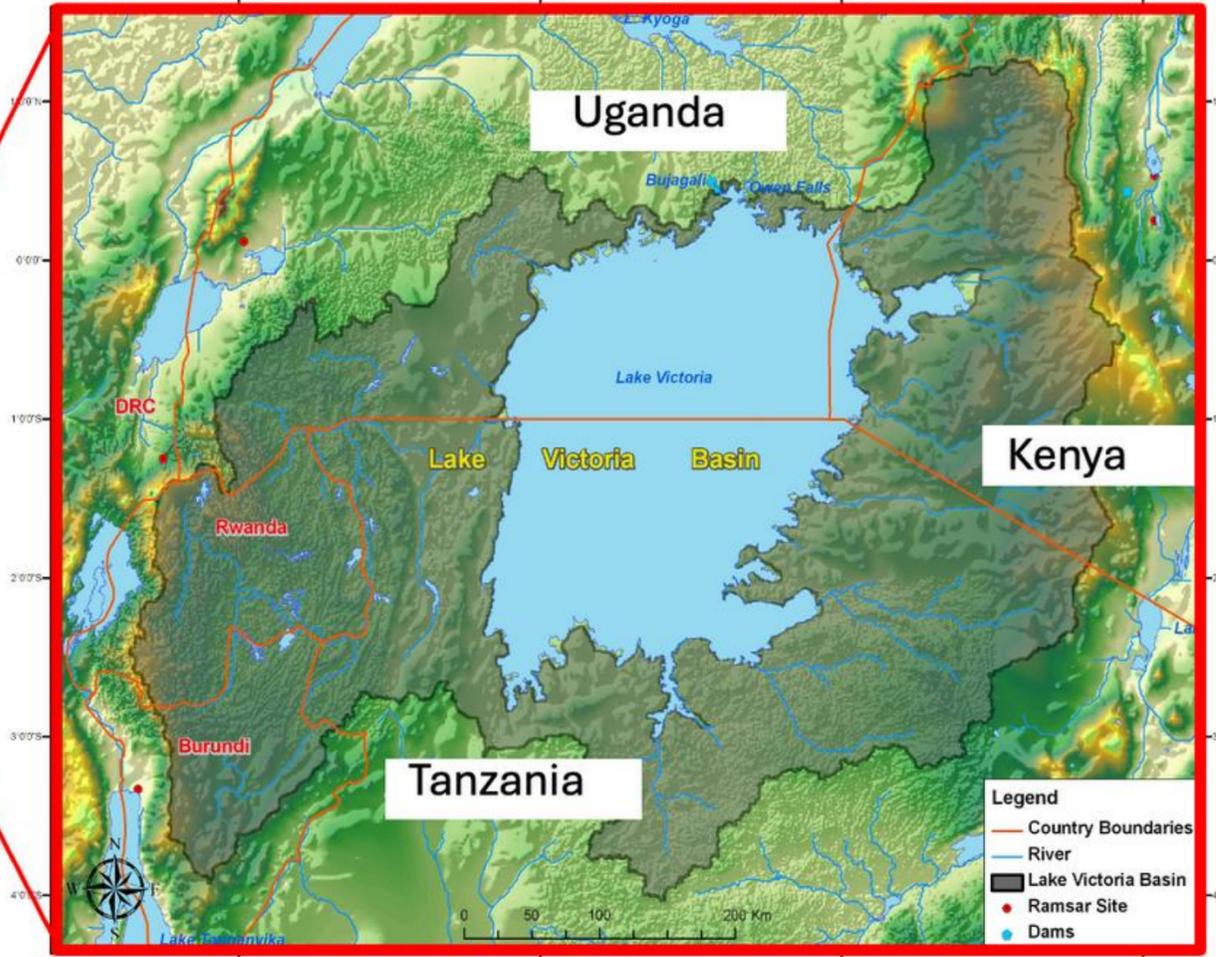
# Lake Victoria Basin, East Africa



Primary source of income for over 3 million people



Provides ~22 million people with >50% of their annual protein intake



(LVFO, 2016; FAO, 2014)

# Lake Victoria Basin, East Africa



Traditionally, Lake Victoria hosted a diverse multi-species fishery



# Lake Victoria Basin, East Africa



Traditionally, Lake Victoria hosted a diverse multi-species fishery

3

After a series of species introductions, Lake Victoria fisheries became dominated by 3 main species



Nile perch



Nile tilapia



Lake sardine  
(mukene)

# Women in Lake Victoria's fisheries



(photo courtesy of Mary Mwenda)



(photo courtesy of Emma Rice)



(photo courtesy of Beth Nyboer)



~1/2 million women work in post-harvest handling, processing, and trade of fish

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Sundried, smoked, or fried fish sent to local markets

# Women in Lake Victoria's fisheries



(photo courtesy of Mary Mwenda)



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~1/2 million women work in post-harvest handling, processing, and trade of fish



Sundried, smoked, or fried fish sent to local markets



Typically deal in lower market-value fish (e.g., mukene)

# Adaptive capacity of women

The ability to undertake actions that can **mitigate adverse effects**, **take advantage of opportunities**, and/or **cope with consequences** of environmental shocks and disturbances



# Adaptive capacity of women

The ability to undertake actions that can **mitigate adverse effects**, **take advantage of opportunities**, and/or **cope with consequences** of environmental shocks and disturbances

Women have been found to have lower adaptive capacity in multiple contexts, including Lake Victoria



## Research questions

- 1 Do women and men in fisheries perceive climate effects differently?



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- 3 Are there differences in the efficacy of strategies to respond to climate change impacts?



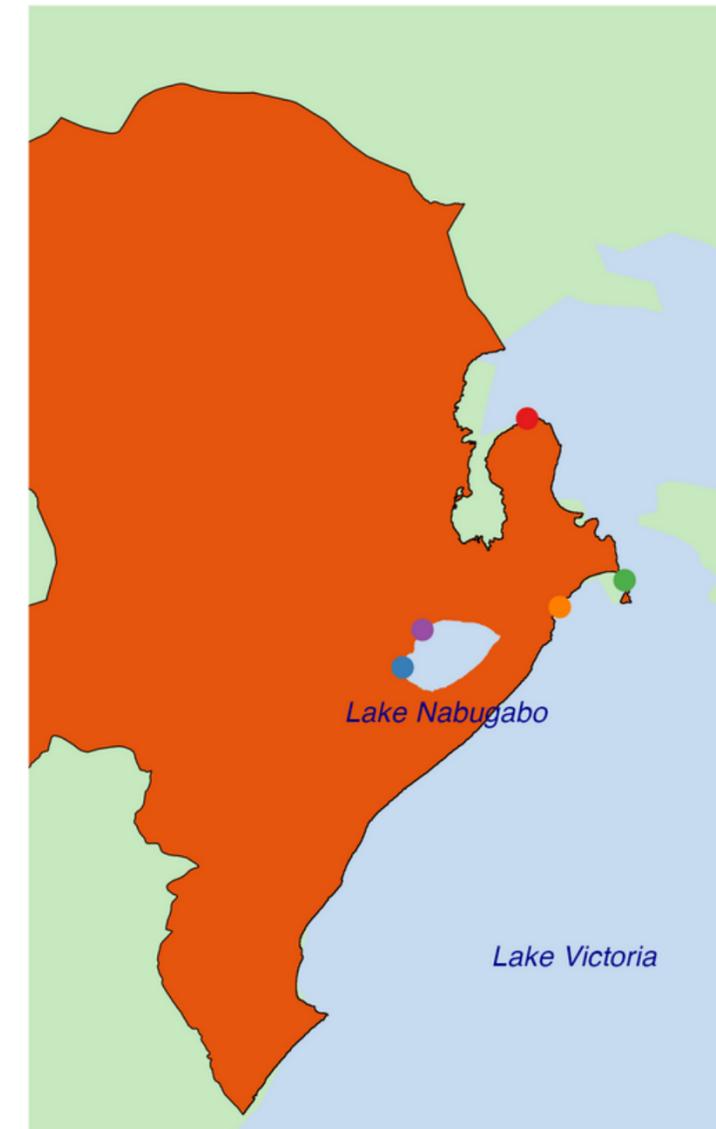
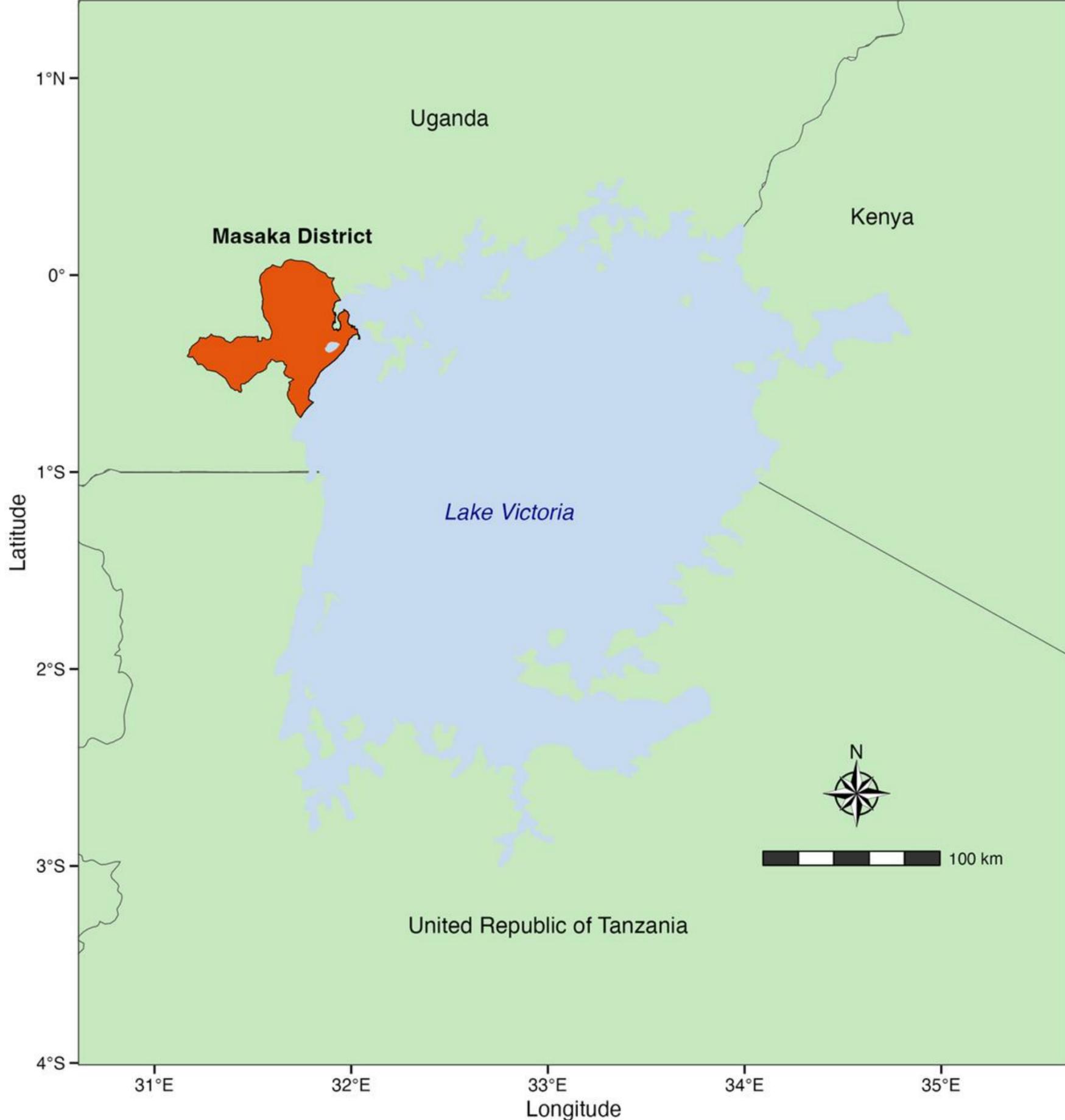
## Research questions

- 1 Do women and men in fisheries perceive climate effects differently?
- 2 Do women and men fish traders have different strategies to respond to climate change impacts?
- 3 Are there differences in the efficacy of strategies to respond to climate change impacts?
- 4 Are there differences in the types of barriers that are encountered and the type of outreach or interventions available to support adaptation?

# Study design



Household surveys (n = 67) and focus group discussions (n = 8) with women and men fish traders at 5 landing sites



Landing sites ● Ggolo ● Kaziru ● Lambu ● Luwafu ● Nakiga



## Data analysis



Compared descriptive statistics of survey responses across groups



## Data analysis

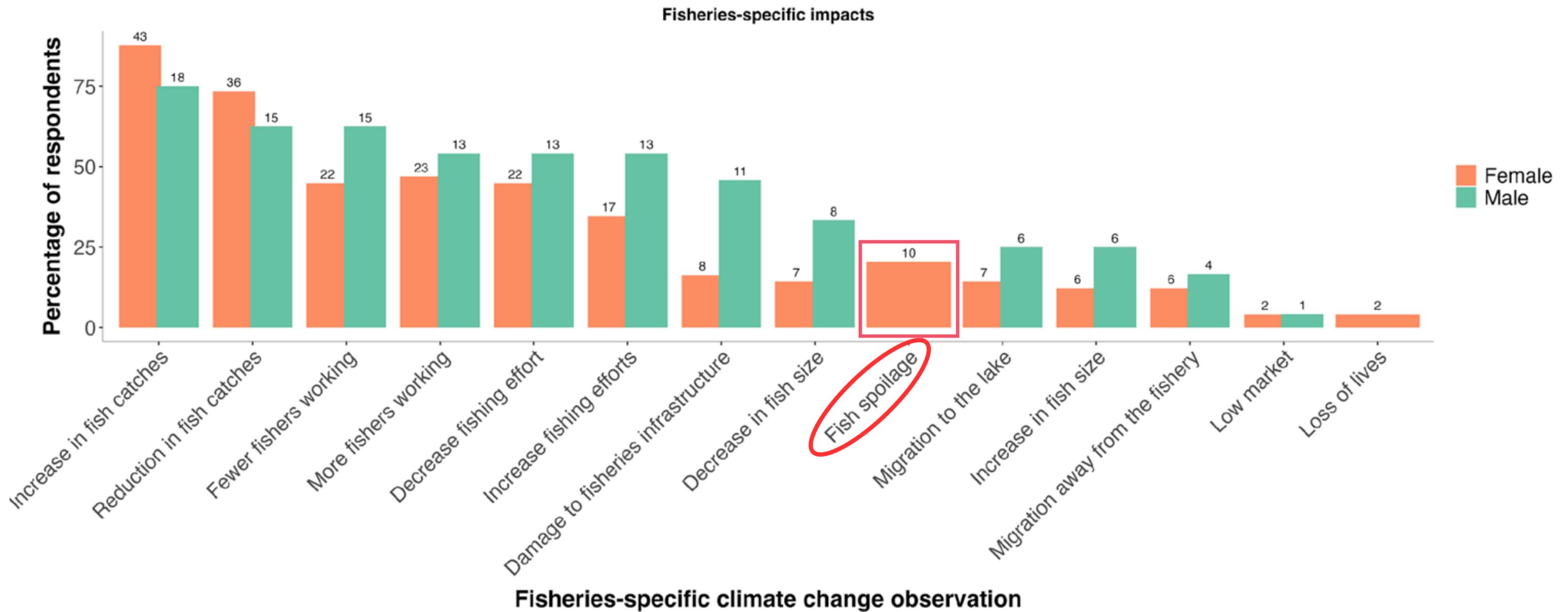


Compared descriptive statistics of survey responses across groups



Thematic analysis of focus group discussion data

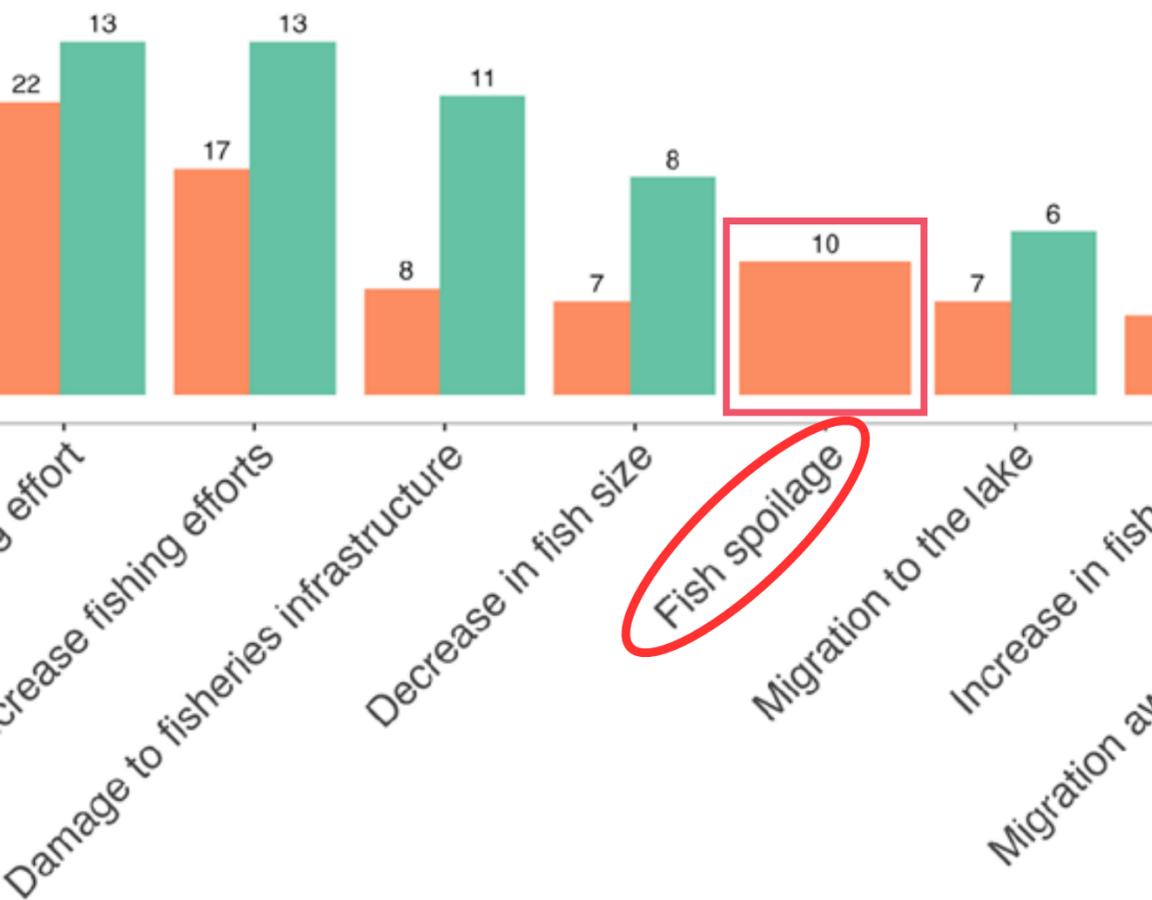
# Perceived fisheries-specific climate change impacts



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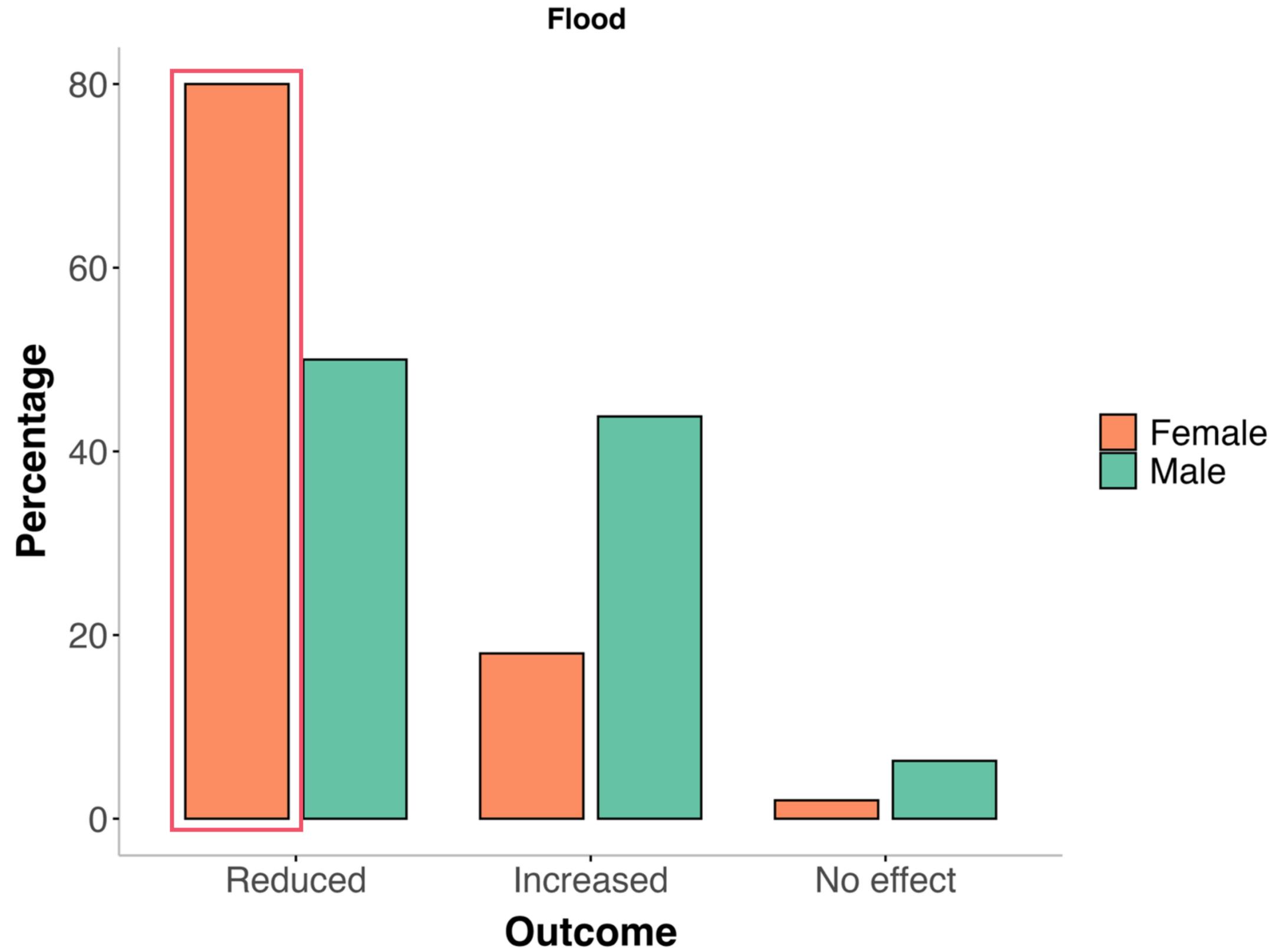
Fisheries-specific impacts



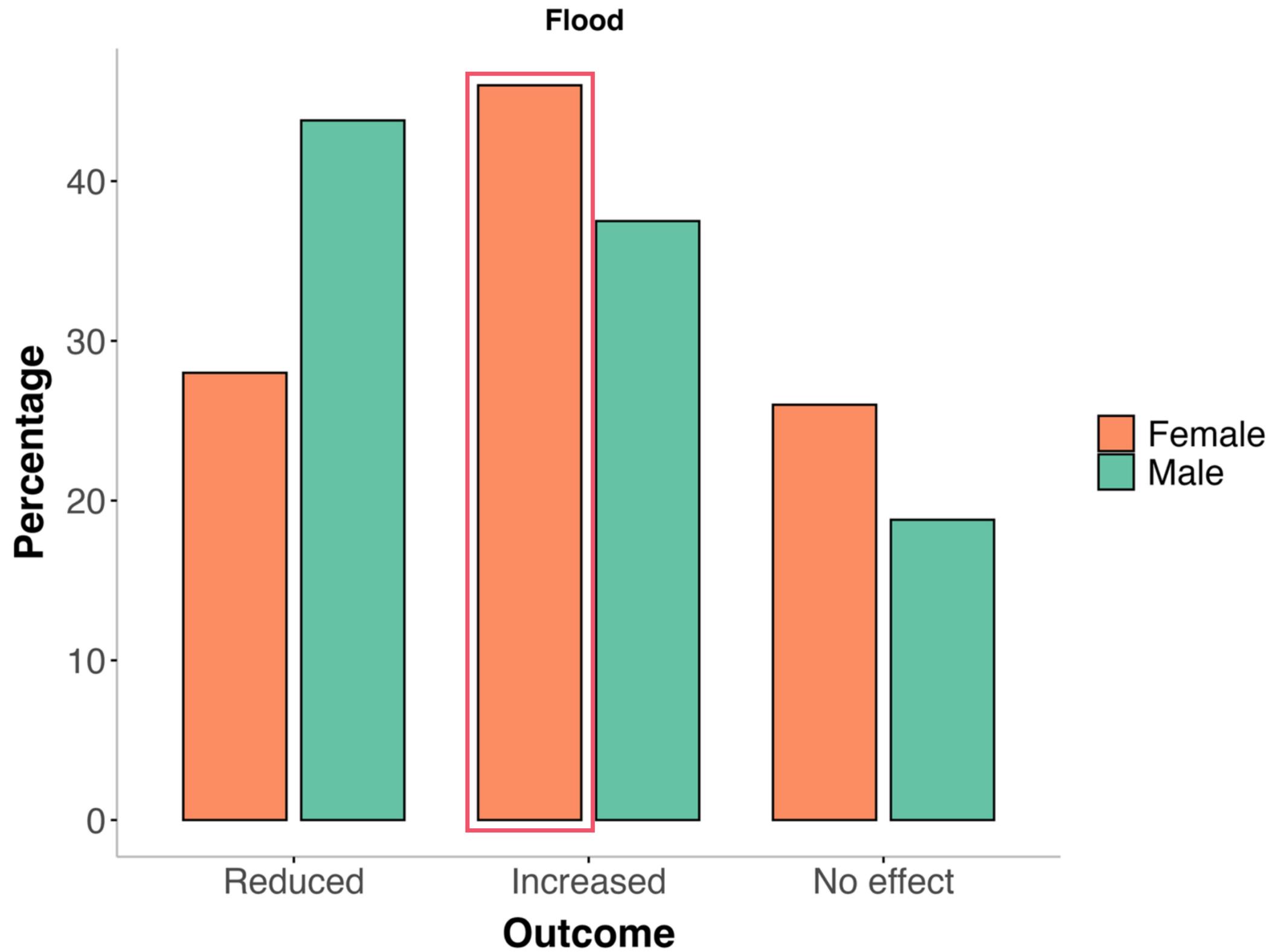
Fisheries-specific climate change observation



# Perceived climate change impacts on fisheries-based income

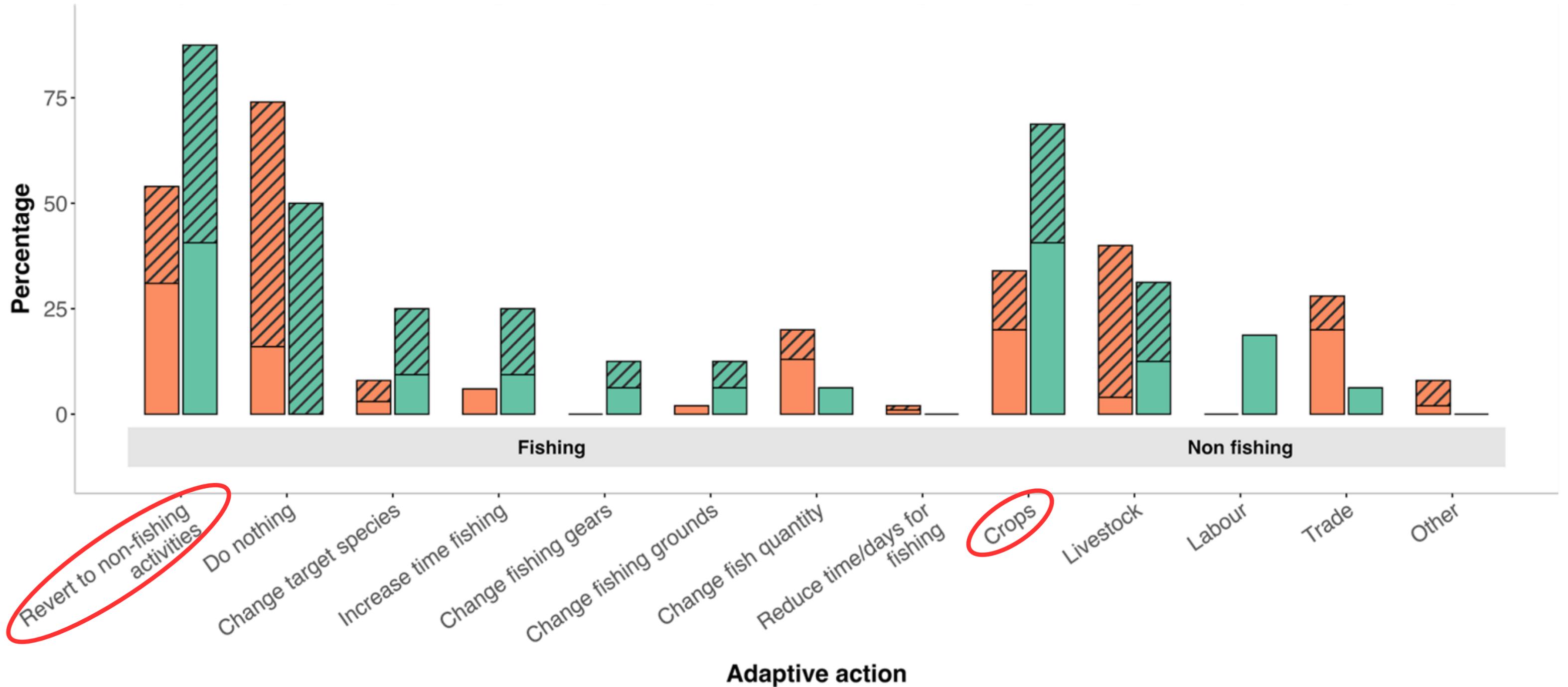


# Perceived climate change impacts on fish consumption



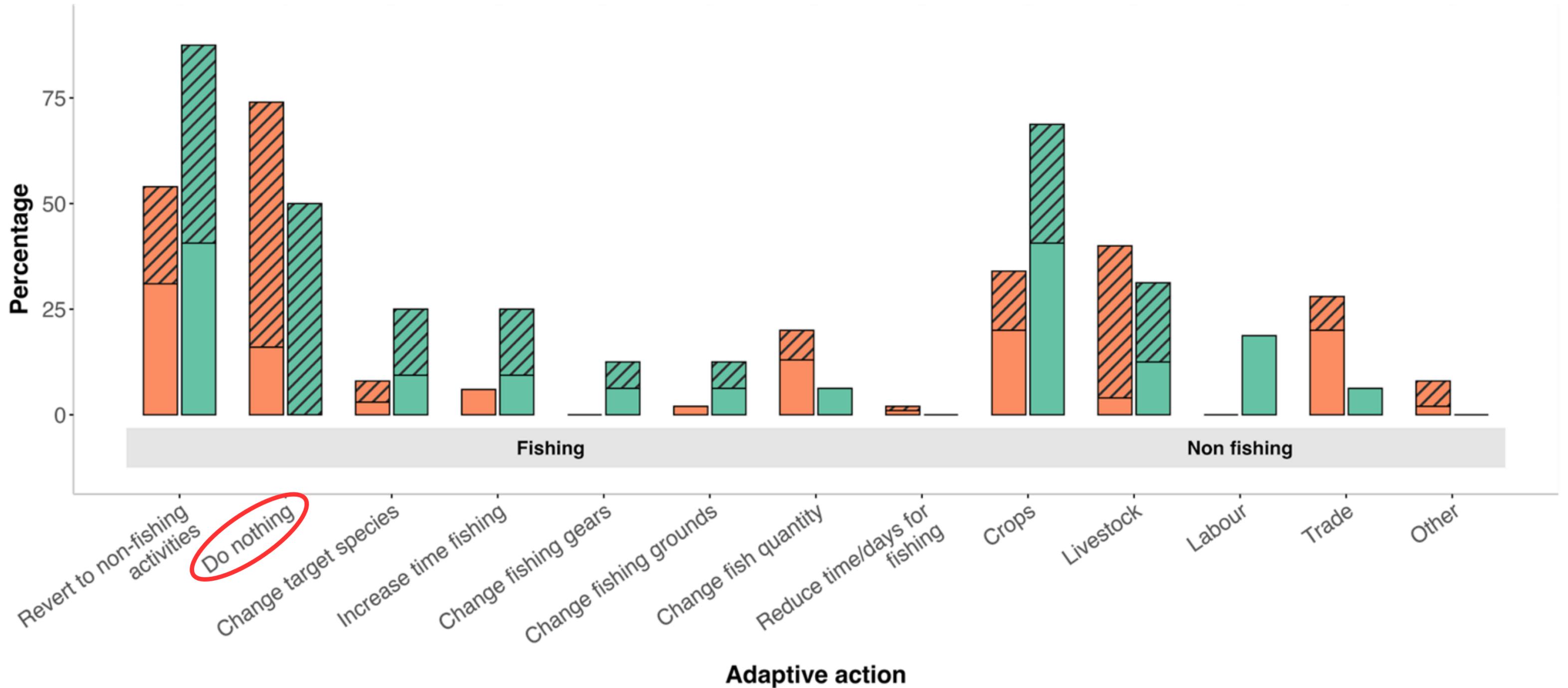
# Adaptive actions for climate change and their efficacies

Perceived impact on food security and income  
Decrease/No Change Increase Women Men

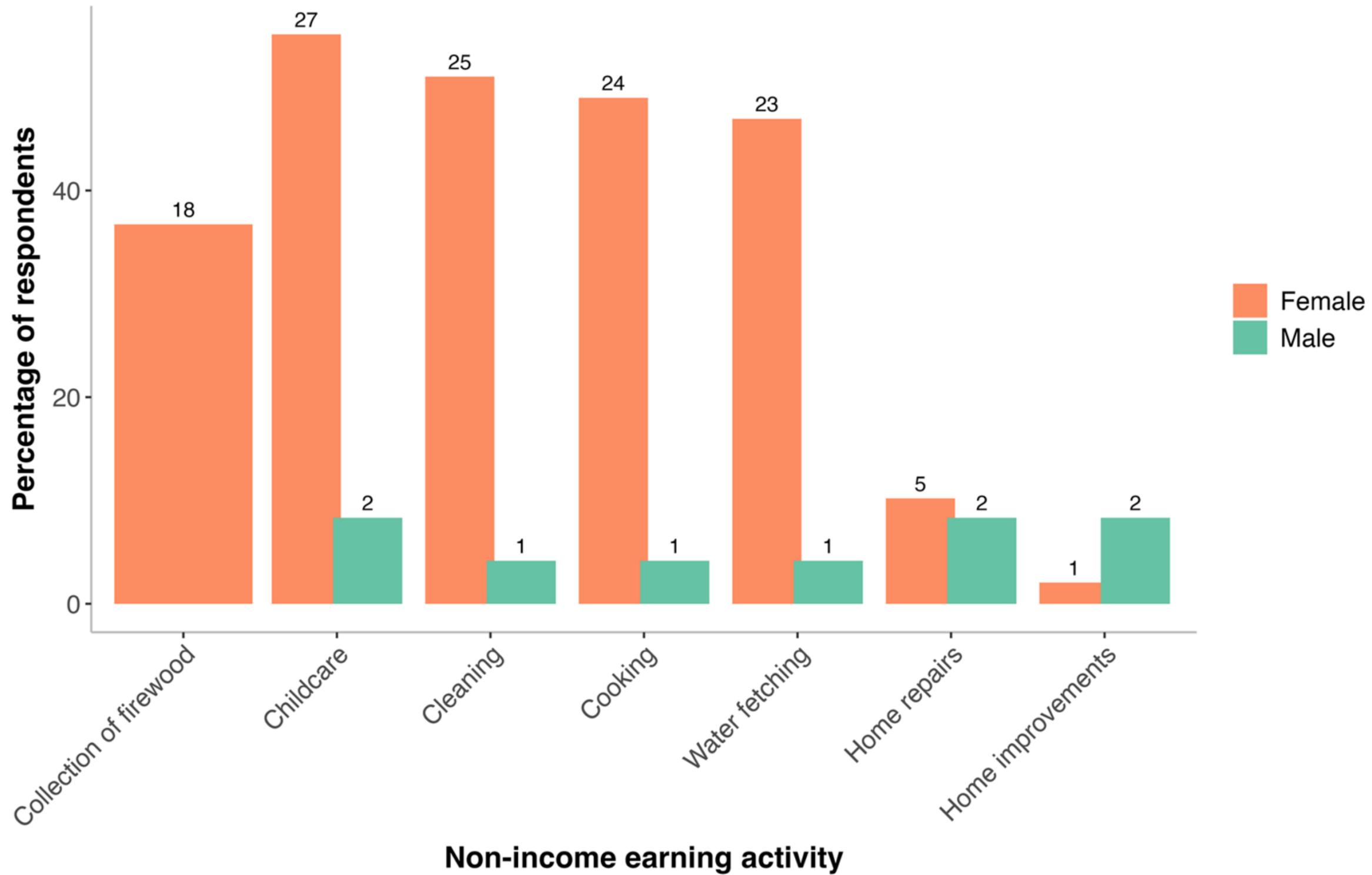


# Adaptive actions for climate change and their efficacies

Perceived impact on food security and income  
Decrease/No Change Increase Women Men



# Reported non-income earning activities

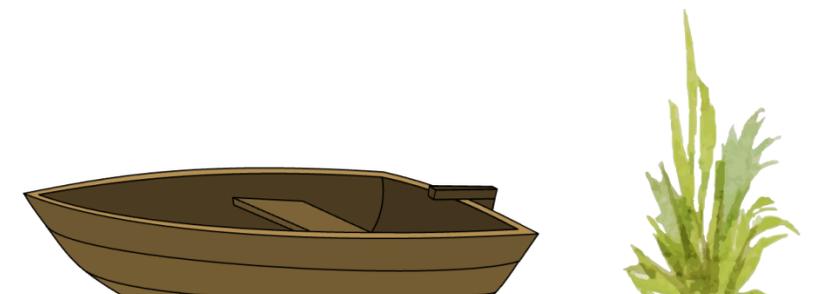


# Households are upheld by women

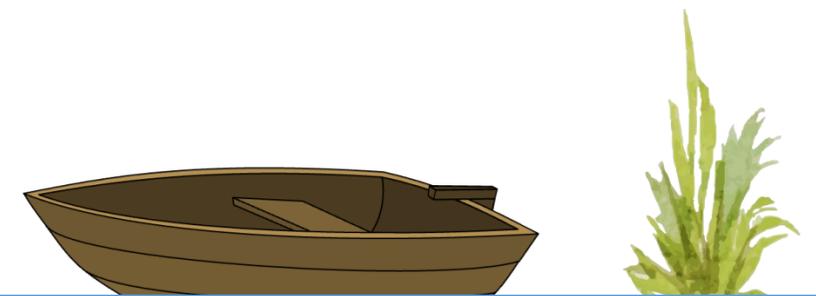


*"it's the women who are responsible for the children, we have to look for fees, we have to look for food, and we have to look for clothing"*

- Ggolo, Women



# Home- and food- based adaptations

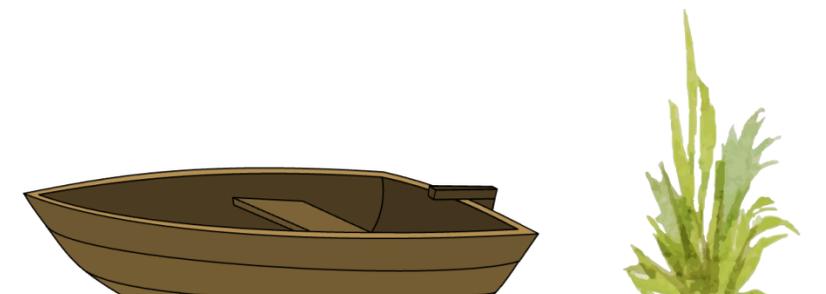


# Home- and food- based adaptations



*"we being early [for floods] to dig channels and then we get marram and raise the floors in our houses."*

- Nakiga, Women



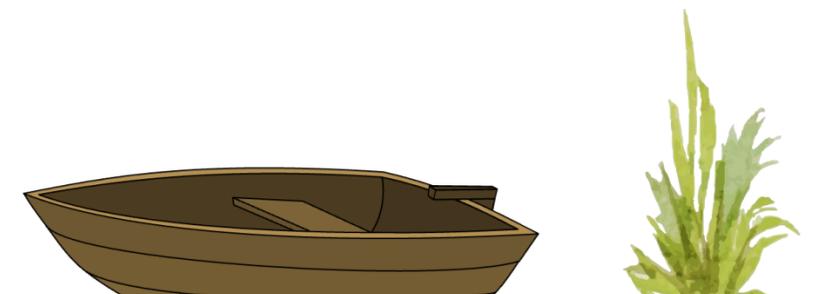
## Home- and food- based adaptations



*"we being early [for floods] to dig channels and then we get marram and raise the floors in our houses."*

*"During drought we normally store food like posho, maize, cassava, potatoes"*

- Nakiga, Women



# Home- and food- based adaptations



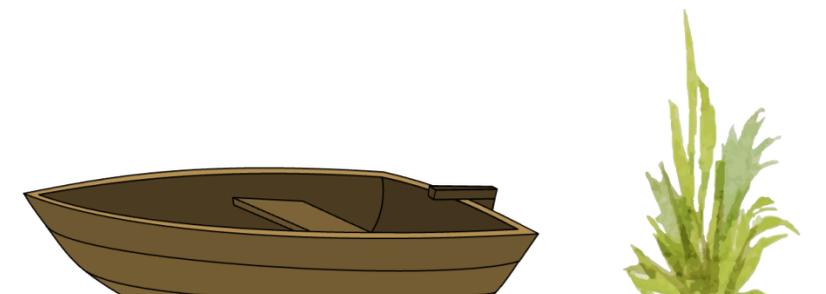
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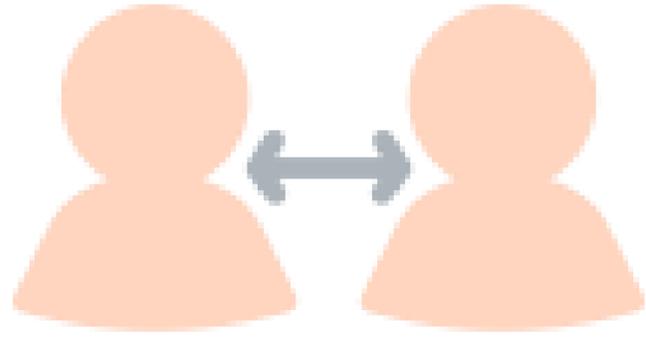
- Nakiga, Women

*"we would raise the place with marram to prevent the water from entering our houses [during floods]"*

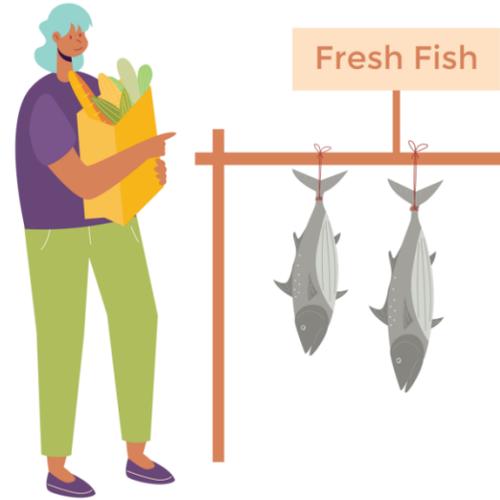
- Lambu, trader



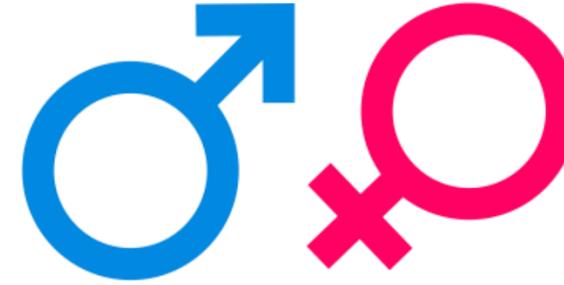
# Arising themes of barriers to adaptation



Social norms



Marketing challenges



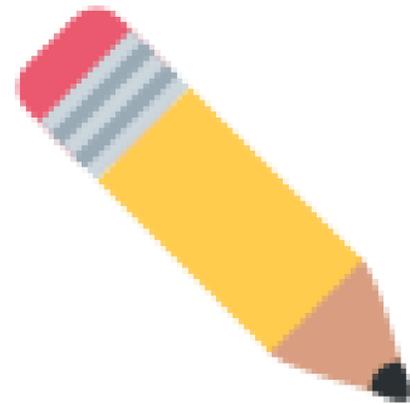
Gender-based



Capital



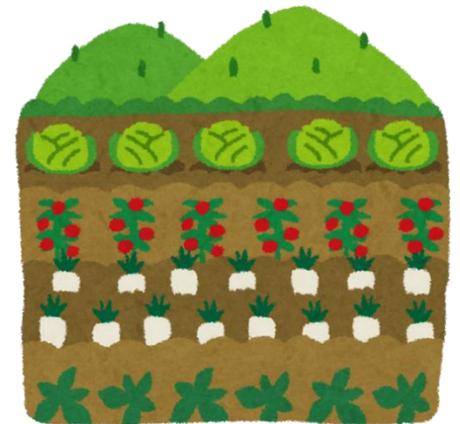
Lack of community cohesion



Lack of education



Governance



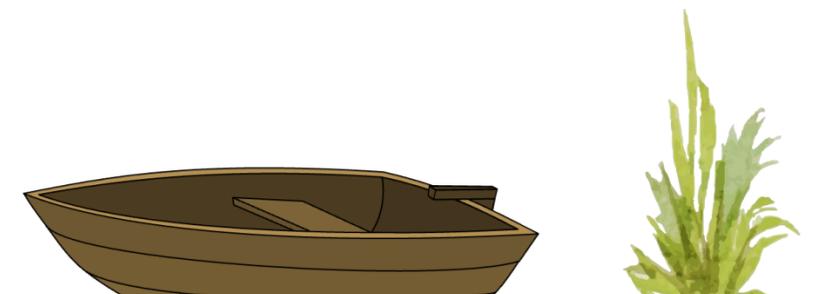
Land



Marketing challenges, capital, gender-based

*“These days we only land immature fish, and the big ones are bought by the fridge men”*

- Ggolo, Women





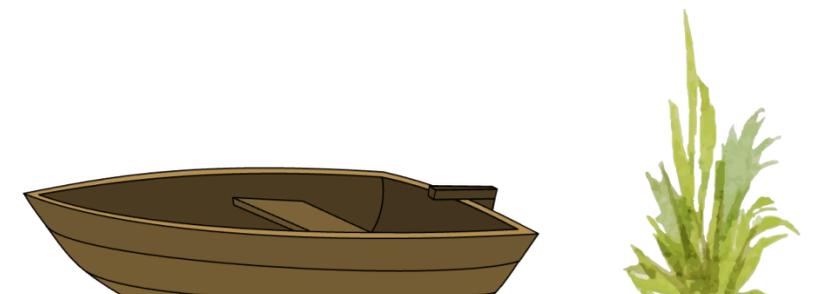
Marketing challenges, capital, gender-based

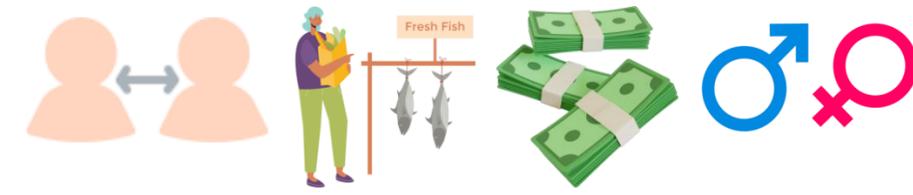
*“These days we only land immature fish, and the big ones are bought by the fridge men”*

- Ggolo, Women

*“It all depends how much money people have. There are some women traders who have more money than even men”*

- Ggolo, Trader

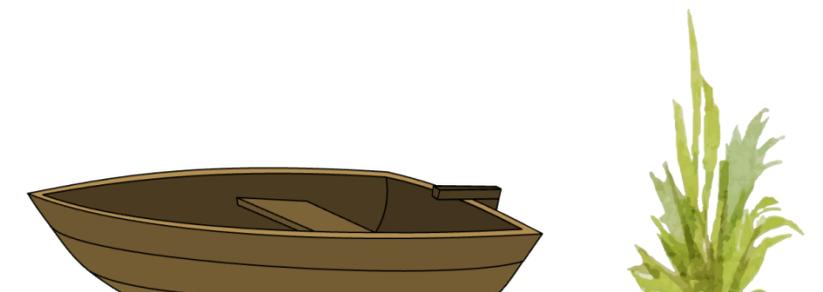




Social norms, marketing challenges, capital, gender-based

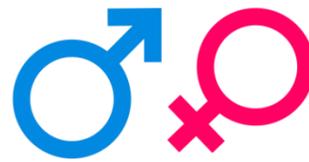
*“Men have more capital than women. And ... transport like motorcycles and bicycles that enable them to take fish further to different villages but women only ... wait for customers at home ... We [women] buy haplos ... and sell to people in village and men trade in Nile tilapia and Nile perch”*

- Bbaale/Kaziru, Women





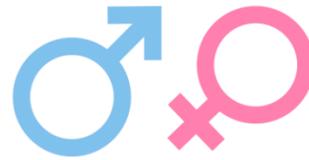
## Conclusions



Women and men are **affected** by climate change **differently** and each have **unique barriers** to climate change adaptation



## Conclusions



Women and men are **affected** by climate change **differently** and each have **unique barriers** to climate change adaptation



Policy and governance should ensure the well-being of **all individuals** who rely on vulnerable rural livelihoods, there needs to be **deliberate attention** given to women

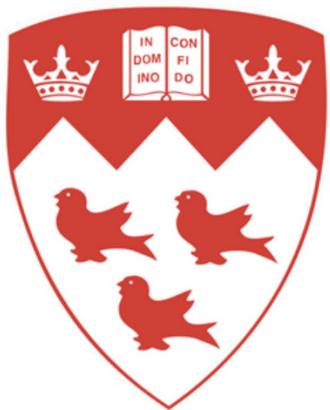
# Acknowledgements



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VIRGINIA TECH.



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Questions/feedback?



(photo courtesy of Beth Nyboer)