

GENDER AND EMOTIONS IN THE MANAGEMENT OF CLIMATE-RELATED RISKS IN INLAND AQUACULTURE

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AFAF11, Bangkok, Aug 2016



Aquaculture in northern Thailand

- **Tilapia** and a few other species, are reared in earthen ponds as well as cages in rivers and reservoirs
- This talk focuses on farms with **river cages**, most of which are stocked with hybrid red tilapia
- **Women** often play a major role in taking care of fish and in rearing decisions



Extreme weather and climate-related risks



Extreme weather events and **climate** have significant impacts on farm profits, in particular, floods and droughts

Rationale

- Climate risk management & investment decisions are important to farm profitability
- Many other studies have found that farmers are **risk averse** (but often do not consider gender differences or relations)
- Unexpected findings in own research suggest rearing or stocking decisions not only based on **analytical logic**

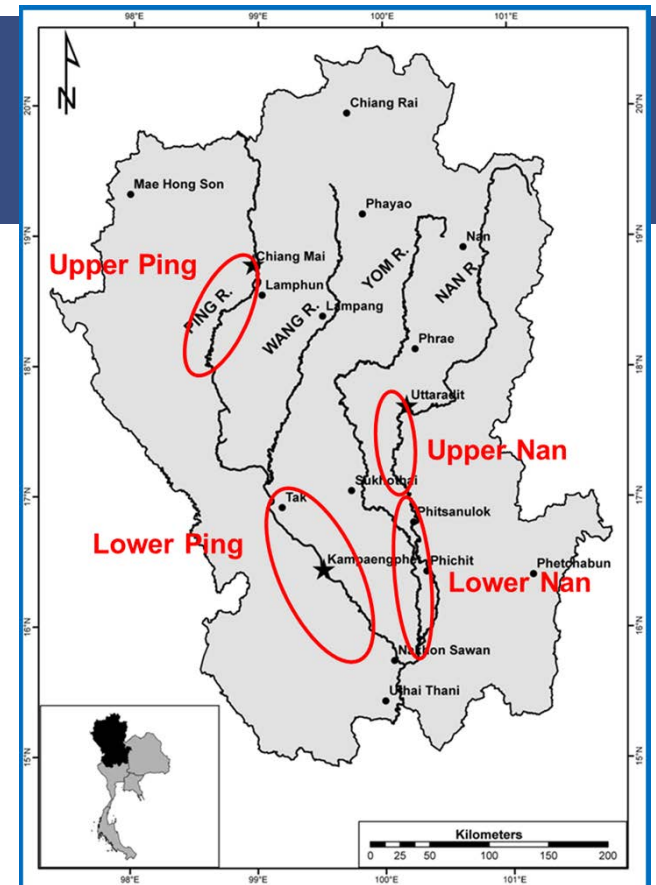
Propositions

Perhaps risk decisions also involve:

- **Attitudes** as underlying or fixed individual trait
- **Emotions** that are flexible and situation specific
- **Gender** differences in perceptions, confidence or decision-making powers

Mixed methods

- A **combination of methods** were used in this study to gather information about gender and risk:
 - Quantitative survey of fish farming households (n=662)
 - In-depth interviews about risk management practices (n=66)
 - Focus group discussions on gender (n=4)
 - Direct observations in extremes
 - Role playing simulation game to explore risk decisions (n=200)
- The study was done in 4 regions in northern Thailand with **different climates and river flows**



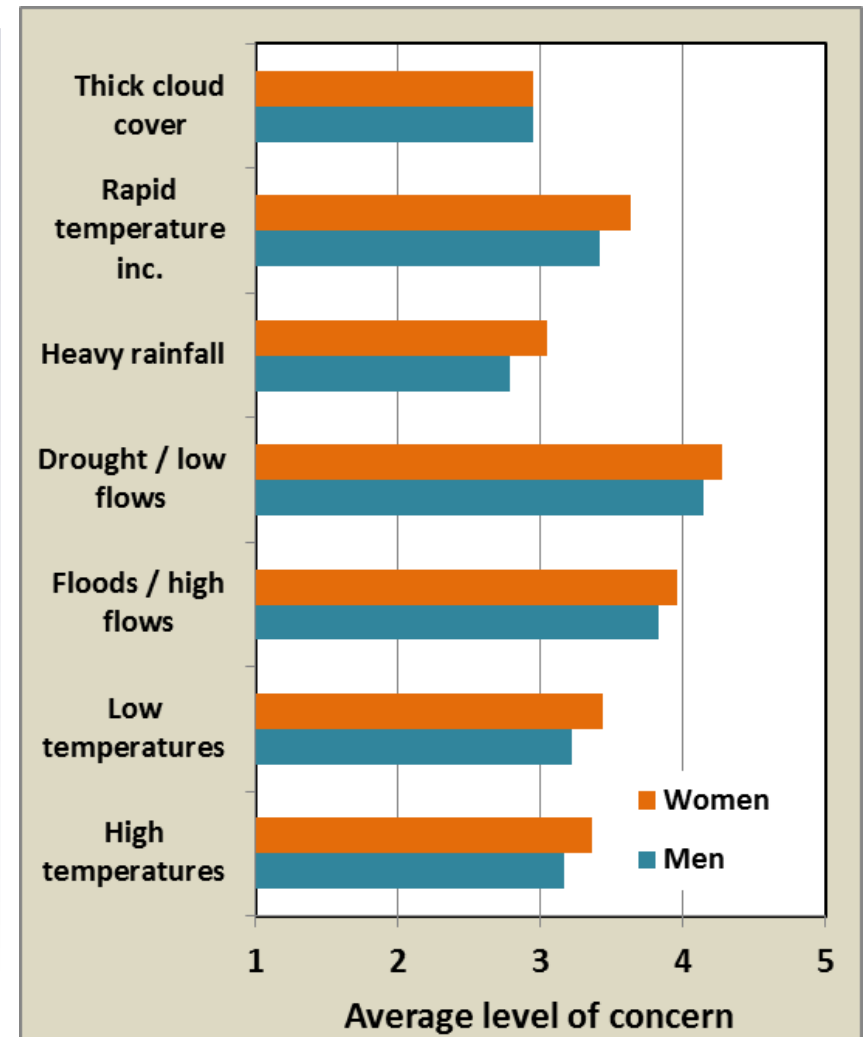
Risk perceptions

Perceived Risks

most important climate-related perceived risks to profits are also floods, droughts and extreme temperature changes

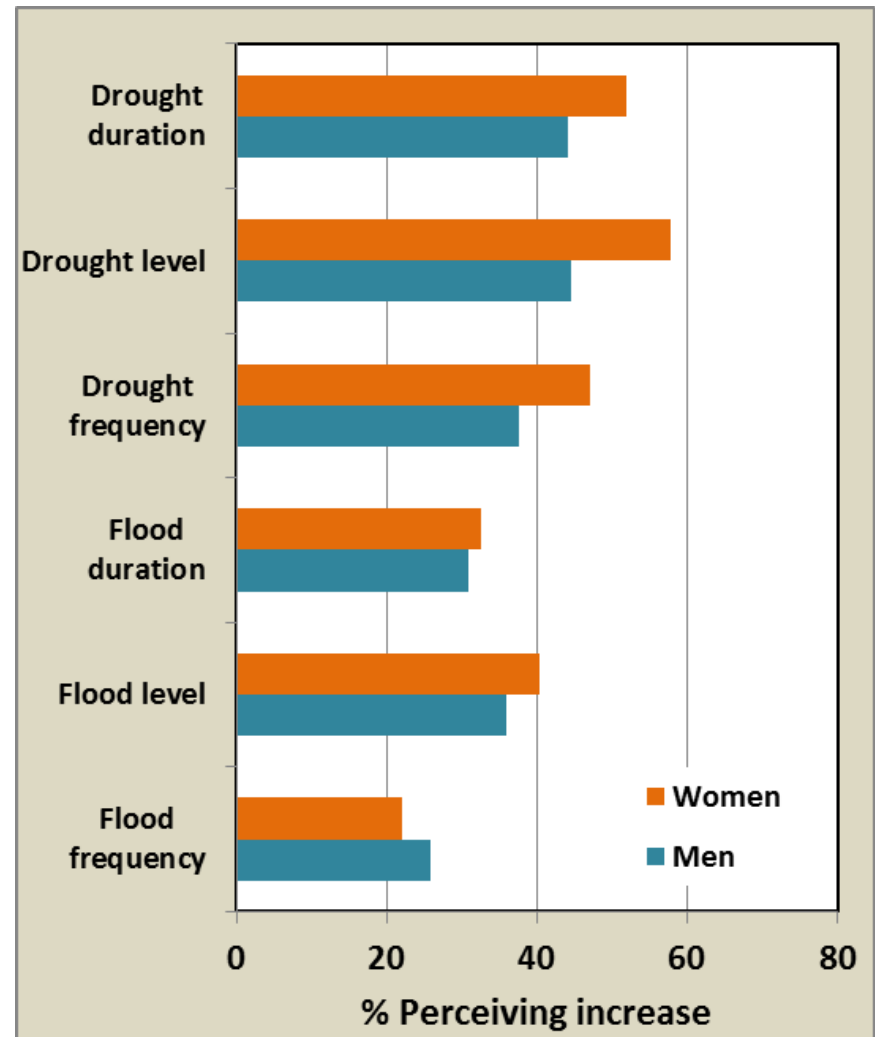
Gender differences

Women, on average, were a bit more concerned than men about most climate-related risks



Historical changes

- Men and women had similar views on how floods have changed since they first started rearing fish
- But women were significantly more likely than men to perceive that droughts have got more severe in terms of duration, water levels, and frequency



Future changes

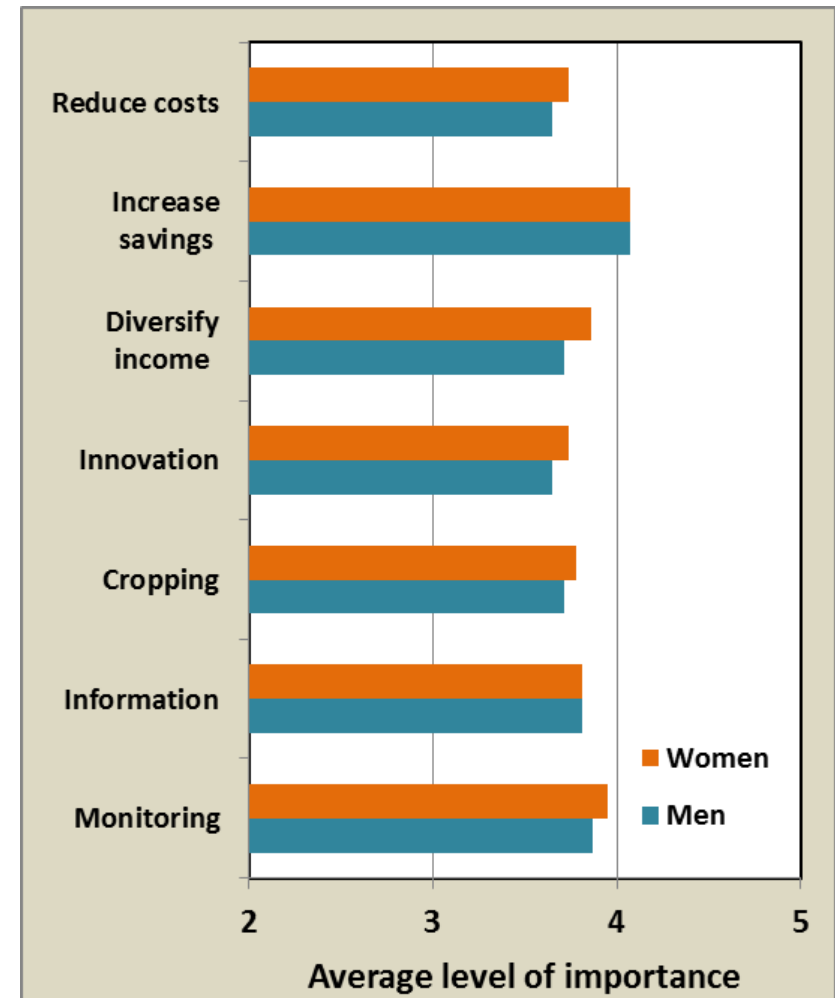
- Women (94%) were slightly more likely to have heard of climate change than men (89%)
- Women (67%) were also more likely to be *very concerned* with climate change than men (56%)
- Most men and women (87%) thought global warming was already occurring

“It is not the same as before. Everything is warmer. Nature has changed a lot. Rain falls out of season. Cold weather comes at the wrong time.”

“If climate changes it has a lot of significance for us. Maybe it gets hotter quickly. It is because of human activity. But cannot respond alone; everybody needs to do their bit”.

Risk management

- Women fish farmers gave greater importance than men to many farm-level risk management practices, including:
 - monitoring
 - reducing costs, and
 - diversifying income sources
- This is consistent with the higher levels of risk perceived by women



Making observations

- Monitoring fish, cages and water is an important part of climate risk management on a fish farm
- Views differed however, on whether men or women made better observations of weather and climate
 - Women believe women do better
 - Men believe men do better
 - A few think it makes no difference who observes
- *“Women pay more attention to details than men. Men are gruffer, and when they feed fish they do so without thinking about the weather or climate; whereas women are more observant about weather and climate” (W)*
- *Men perceive more. We are more calm, but women get excited. We look at the water situation each year. See that water flows, see dust, bubbles, then we know that rubbish will follow (M)*

Preparing for floods and droughts

- There was no evidence of gender differences in practices with respect to preparing in advance for floods
- For slower-onset droughts however, women were more likely to prepare aerators and pumps than men



Reaching a decision

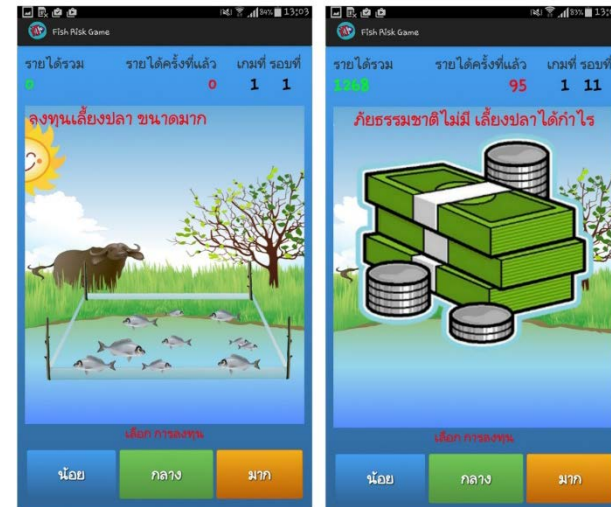
- Men and women may differ in how they make decisions – a common view was that men decide things more quickly
- women in wealthier and more educated households, have more influence on decisions over agricultural investments

“Men decide faster, women can’t think fast.”

“Men sometimes get too excited, irrational, men go ahead, use more physical power. The risk decreases because women stop them by paying more attention to details”

Risk decisions in a role-playing simulation

- farmers had to choose between stocking at low, medium or high levels
- Simulation program then responds with animations of floods or benign conditions and profit-loss information

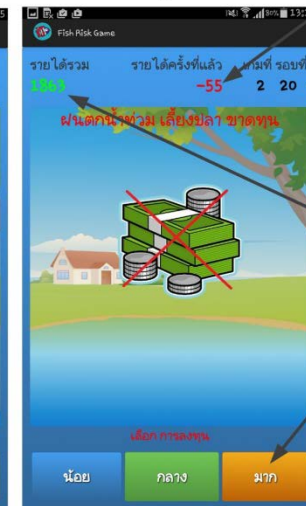


No flood

Net profit



Flood

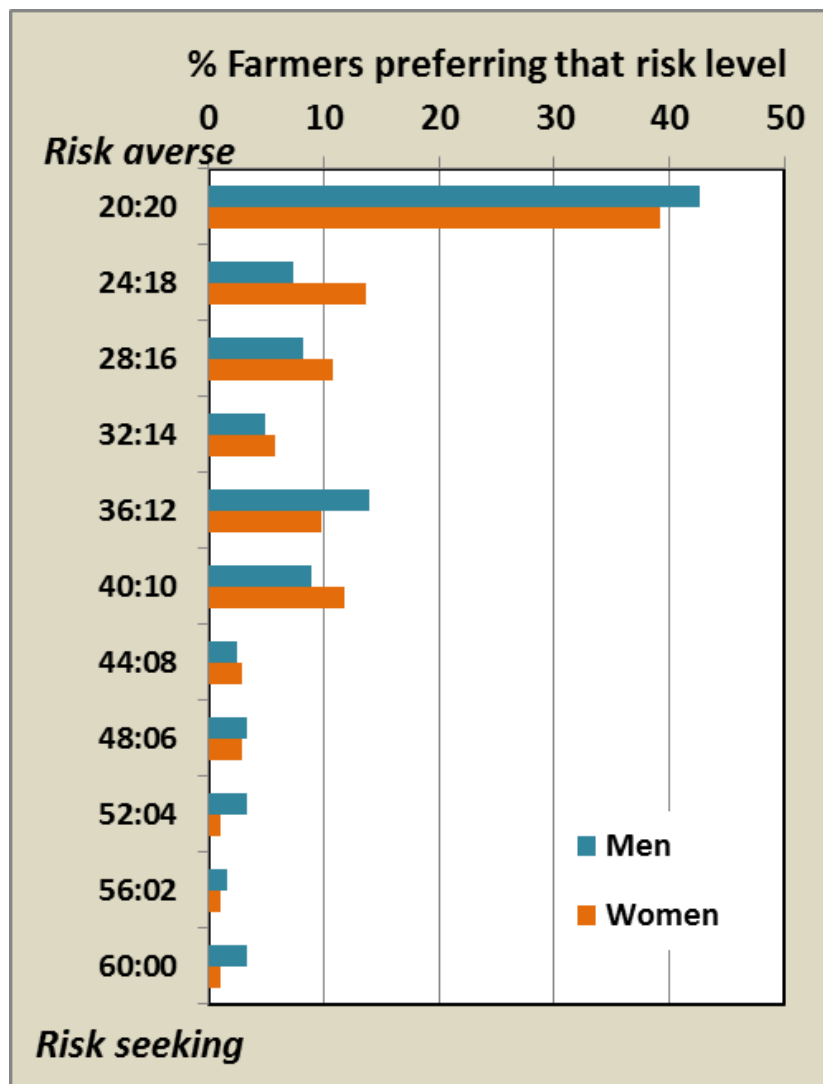


Net Loss

Response to loss

After a flood loss women were more likely to respond by choosing a safer option (reducing stocking) than men

Risk attitudes are very similar



No explanation

risk attitude measures did not help explain risk perceptions or decisions of men or women

Alternatives?

Might emotions also play a role in making risk decisions?

'Negative' Risk emotions



In-depth interviews...

- men and women expressed similar emotions when discussing fish farming risks and decisions
- But, men were significantly more likely to express frustration or dissatisfaction

'Positive' risk emotions

- men were also more likely to express feelings of **pride** and those that did performed better in the simulation game; whereas for women, there was no difference
- Men who expressed feeling **excited** or thrilled, chose higher stocking levels in the game (i.e. riskier option) more often than women



Emotions and analysis

Belief

A common belief among farmers was emotions had little impact on decisions, but rather were just a response to success and failure

Findings

- Emotions are also important prior to stocking decisions, and while waiting for the harvest
- Fear of loss leads to greater caution in **stocking decisions**
- fear and anxiety **prior to harvest** appears to help motivate risk management practices, such as close monitoring and aeration

Conclusions

- Gender influences the perception, and management of climate-related risks, but not risk attitudes
- Emotions may also influence (or be affected) by risk decisions, in some cases in gender-specific ways
- Emotions and gender should be taken into account in efforts to improve climate risk management and in adaptation to climate change

Thanks

Fish farmers of the North
Department of Fisheries

AQUADAPT advisory group
and research team

International Development
Research Centre, Canada

