SESSION 4: CASE STUDY 1

Cultivating Resilience: Feminisation as a Pathway to Climate Adaptation in Cambodia's Agriculture

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Abstract

Climate change is intensifying the frequency and severity of climatic hazards, disrupting agricultural systems and reshaping rural livelihoods worldwide. In climate-vulnerable countries like Cambodia, these disruptions are also transforming gender roles within agriculture. While the feminisation of agriculture—where women assume greater agricultural responsibilities as men transition to non-farm work—has been widely observed, less is known about whether this trend also extends to women's involvement in farm-level decision-making. This case study examines the relationship between climate change adaptation, climatic hazards, and the multidimensional feminisation of agriculture in Cambodia.

Using nationally representative, sex-disaggregated data from the Cambodia Agriculture Survey (2019–2021), covering over 40,000 households, we analyse shifts in women's roles as unpaid family labourers, hired workers, and decision-makers in agricultural production. Our findings show a significant increase in women's participation in all aspects of agriculture during the study period. Feminisation was more pronounced in female-headed households, those heavily dependent on agriculture for income, and those exposed to climatic shocks—especially droughts and floods. We find that crop and livelihood diversification, key household adaptation strategies, are strongly associated with increased female labour and decision-making roles.
By contrast, we find little evidence that male outmigration or non-climatic hazards (e.g., pests & diseases) are major drivers of feminisation in this context. These results highlight the need for gender-responsive agricultural and climate adaptation policies. In particular, agricultural extension programs should actively support women's access to climate-smart technologies, training, and resources—especially in areas most affected by climate change—so that women's growing role in agriculture translates into greater resilience rather than deepening the burdens of climate stress.

Introduction

Thank you for giving me the opportunity to share our work in Cambodia. Today, I want to speak about our case study on agricultural feminisation and climatic hazards, a project carried out with

the support of the ACIAR and with valuable contributions from my colleague, Ms Lynn Bui.

Cambodia is a lower-middle-income country that relies heavily on agriculture. About a quarter of GDP comes from agriculture, and over a third of the workforce is employed in the sector. Importantly, two-thirds of employed women in Cambodia work in agriculture. Farming is predominantly subsistence-based, with rice as the major crop, and the sector is highly vulnerable to climate change.

Cambodia ranks 12th on the Global Climate Risk Index, with floods, landslides, and droughts as the most pressing climatic hazards. This vulnerability, combined with shifting labour patterns, makes it a crucial case to examine.

Why Focus on Feminisation?

Across South and Southeast Asia, agriculture is becoming increasingly feminised. Men are often migrating for work, leaving women to assume more responsibilities in the fields. But key questions remain unanswered:

- Does feminisation mean women are gaining greater decision-making power in agriculture, or are they simply working more as unpaid or low-paid labour?
- How is climate change adaptation influencing women's roles in agriculture? Are women taking on more responsibilities or authority as part of household adaptation strategies?
- How do climatic hazards drive agricultural feminisation? Are women stepping into key agricultural roles due to extreme weather events?

These are the questions we set out to explore.

Methodology

To investigate, we used the Cambodia Agricultural Surveys of 2019, 2020, and 2021, collected by the Cambodian National Statistics Agency. These nationally representative datasets, covering about 40,000 households, are unique because they include sex-disaggregated data and specifically ask about decision-making roles in agriculture — a rarity in most national datasets.

This allowed us to examine both the extent of feminisation and its relationship with climate adaptation and climatic hazards.

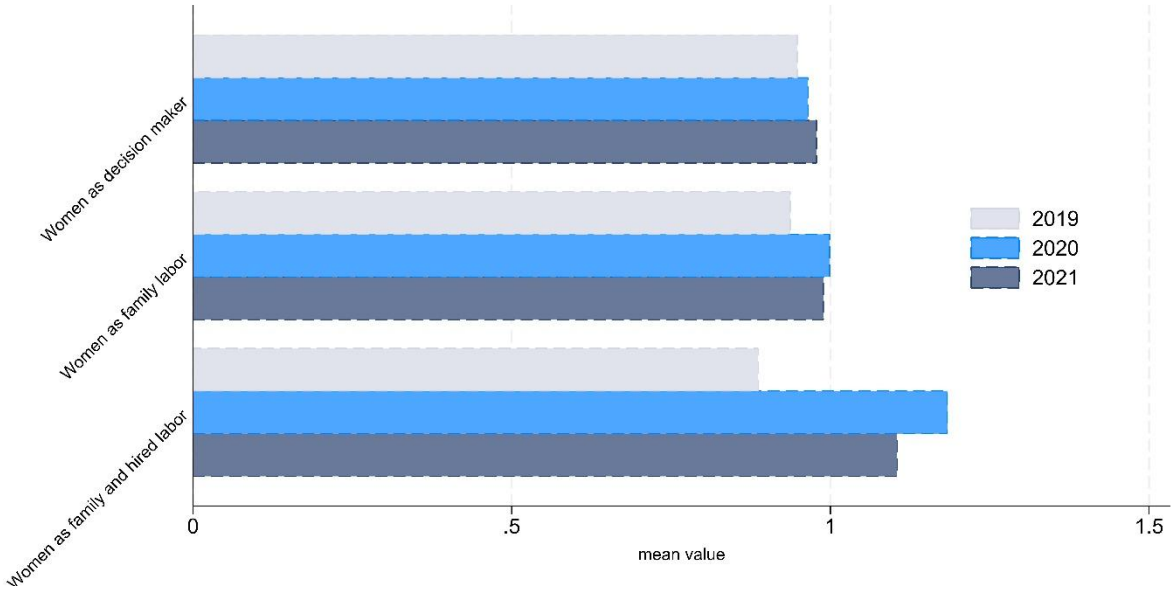
Findings: Trends in Feminisation

We measured feminisation in three ways:

1. Women's participation in decision-making relative to men.
2. Women's participation as unpaid family labour relative to men.
3. Women's participation as paid and unpaid agricultural workers.

Across all three measures, we found a clear increasing trend of feminisation over the three years (Figure 1). Decision-making power is inching closer to parity between men and women, unpaid family labour is rising, and the most rapid growth is in women's roles as both paid and unpaid agricultural workers.

Figure 1 Agricultural feminisation in Cambodia 2019–2021.



Notes: The figure presents mean values of agricultural feminization scores.
Source: Authors' calculation using Cambodia Inter-Censal Agriculture Survey 2019 and Cambodia Agriculture Survey 2020, 2021

Female-headed households showed significantly higher levels of feminisation, though the upward trends were similar across household types. Feminisation was also more pronounced in subsistence households compared to commercially oriented ones.

Drivers of Feminisation: Adaptation and Diversification

We then explored the relationship between feminisation and climate adaptation strategies. Diversification emerged as a central theme. Households growing more crops, producing a wider variety of food groups, or pursuing multiple livelihood strategies showed higher levels of feminisation.

One possible explanation for this is that diversification demands significant labour and flexibility. Women may be disproportionately involved in these roles because they often integrate agricultural tasks with household duties. Their frequent engagement in homestead-based activities—such as vegetable gardening, small livestock rearing, and food processing—could suggest a comparative advantage in this type of diversified work.

Climatic Hazards and Gender Roles

We also examined how climatic hazards such as droughts and floods influence feminisation. We found that households affected by climatic shocks experienced:

- Reduced reliance on agricultural income.
- Lower commercialisation of produce.
- Declining savings and increased borrowing.

At the same time, these households showed higher levels of feminisation in both labour and decision-making. Interestingly, households with greater feminisation were more food secure in the face of shocks, often because women drove diversification strategies.
From my experience in other contexts such as Bangladesh and Pakistan, I have seen how crises

reshape gender norms. After floods, women entered the labour market while men took on more domestic responsibilities — solidarity and role flexibility emerged as strategies to survive. A similar dynamic may be unfolding in Cambodia.

Key Insights

To summarise, our study shows:

- Cambodian agriculture is becoming increasingly feminised, with women taking larger roles in labour and decision-making.
- Diversification as a climate adaptation strategy is strongly associated with feminisation.
- Climatic hazards, while damaging to household welfare, are also accelerating women's roles in farming and decision-making.

Policy Recommendations

These findings highlight the urgent need for gender-responsive agricultural policies, especially in climate-vulnerable regions. Specifically, Cambodia should:

1. Ensure agricultural and climate policies explicitly recognise and support women's contributions.
2. Provide climate-smart extension services that reach and empower women.
3. Promote women's leadership in crop diversification and climate adaptation initiatives.

As climate change reshapes gender roles in agriculture, our policies must evolve too.

Conclusion

The shifting gender roles in Cambodian agriculture must be actively accounted for within national policies. To harness this transition effectively, targeted investment is needed to build the capacity of women—who are increasingly central to the sector—enabling them to adopt climate-resilient practices, access new technologies, and participate in profitable value chains. Integrating these gender-responsive strategies is not merely an issue of equity; it is a fundamental component of building a sustainable and climate-resilient agricultural future for all.

Thank you.

Dr Sonia Akter joined the Crawford School of Public Policy as Senior Lecturer in January 2023. Her research is situated on the nexus of agriculture, environment and development in the Asia-Pacific region. She has worked extensively on agriculture and food policy, natural disasters and women's empowerment in South and Southeast Asia.

Sonia has published single and co-authored articles in top journals in the field of environment and development studies and is a Senior Editor for the journal Food Security and Associate Editor for the Australian Journal of Agricultural and Resource Economics (AJARE).

Sonia graduated with a PhD in Environmental Management and Development from the Australian National University in 2010 and holds a MS degree in Economics from York University, Toronto, Canada. Prior to joining the Crawford School of Public Policy in 2023, she was Assistant Professor at the Lee Kuan Yew School of Public Policy at the National University of Singapore (2015-2022). She was Scientist at the International

Rice Research Institute (IRRI) (2014-2015) and Senior Researcher at Helmholtz Centre for Environmental Research-UFZ, Leipzig, Germany (2011-2013). She has served in numerous advisory roles and expert panels including the Australian Center for International Agricultural Research (ACIAR), the Asian Development Bank, the World Bank and the Ministry of Environment and Water Resources, Singapore where she contributed broad-ranging methodological and strategic insights around valuation of water resource, strengthening women's participation in agricultural programs and designing instruments for capturing the gender differentiated impact of natural disasters.