

Women's Role in Climate Adaptation and Agricultural Innovation in Vietnam

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Women account for nearly half of the agricultural labor force yet face more barriers when adapting to economic risk and natural disasters. Prior studies have shown that women do not often have the same access to mainstream agricultural technology development. Rather than framing women primarily through deficits in access, it is equally important to understand how they innovate. Understanding their innovation process allows agricultural technologies to be designed around practices they already trust and use.

Migration and the Gendered Division of Agricultural Risk

In Vietnam, climate-related disasters and economic insecurity increasingly drive rural migration. Men are more likely to migrate temporarily for wage labor, sending remittances home to support household recovery after disasters and reduce future financial vulnerability. Women are typically left behind to manage farms, households, and caregiving responsibilities, often while coping with the aftermath of floods, droughts, storms, and landslides (Simelton, Duong, & Houzer, 2021).

In South Vietnam, migrant households tend to employ less climate-resilient practices than non-migrant households (Maharjan et al., 2020). Migration may reduce the household's capacity to implement labor-intensive adaptation strategies. Women remaining on farms therefore have greater agricultural responsibilities while often having fewer resources and less institutional support. Climate change only increases the frequency and severity of natural disasters rendering migration more common. Without targeted support, women are left with increased workloads on farms facing more natural disaster risks.

Gendered Pathways to Agricultural Innovation

In the Northern uplands of Vietnam, ethnic minority women tend to develop agricultural innovations through informal social networks and family-based learning (Kawarazuka and Prain, 2019). Agricultural knowledge is commonly exchanged through neighboring villages, kinship networks, and family relationships. Women may introduce cultivation techniques learned in their birth villages after marriage or adapt practices observed among nearby farmers. Women also tend to favor incremental innovation. Because agricultural decisions often require the support of husbands or extended family members, gradual changes are perceived as less risky and are therefore more likely to gain household acceptance.

Men, by contrast, define innovation through measurable improvement such as increased yields or income. This perception is influenced by the long-lasting expectation that they must financially support their families, and men often rely on public networks to adopt new innovative practices. They also rely more heavily on formal institutions including government extension

services and public agricultural networks for access to new technologies and farming practices.

Women's ability to innovate also varies by age, wealth, and ethnicity. Younger women generally possess less decision-making authority within households, while middle-aged women often gain greater autonomy and confidence to experiment with new practices before sharing successful approaches with younger generations.

Wealth further shapes innovation capacity. Women from wealthier households typically possess greater financial security and face fewer constraints when adopting new agricultural practices. By contrast, limited land ownership and asset control leave many women economically dependent on male relatives, restricting their ability to take production risks.

Policy Alignment and Proposed Response

These findings suggest that agricultural technologies should complement rather than replacing existing community knowledge systems. Rather than relying solely on government extension services, pilot programs should be introduced through trusted women lead-farmers and Women's Union chapters, allowing innovations to spread through the informal social networks women already use. This diffusion strategy aligns with women's preference for gradual experimentation and community-based learning. To ensure accessibility in rural areas, the platform should adopt an offline-first architecture with SMS functionality for users with limited internet connectivity.

Sources

Kawarazuka, N., & Prain, G. (2019). Gendered processes of agricultural innovation in the Northern uplands of Vietnam. *International Journal of Gender and Entrepreneurship*, 11(3), 210–226. <https://doi.org/10.1108/IJGE-04-2019-0087>

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