

# Women's Concerns in Promoting Climate-Resilient Agricultural Practices for Sustainable Livelihoods and Food Security from the Social Inclusion Perspective: The Case of Koshi River Basin, Nepal

*Milan Adhikary\* and Anita Pandey Pant*

*Association of Women Professionals in Land Use Sector (WPLUS), Nepal*

*Abstract history:*

Received: May 14, 2024

Revised: December 17, 2024

Accepted December 18, 2024

Keywords: Climate-resilient agricultural practices, Food security, Social inclusion, Sustainable Livelihood

Nepal's agricultural sector, engaging around two-thirds of the population and contributing about one-quarter to the gross domestic product (GDP), has been experiencing tremendous impact of climate change for over a decade. Rising temperatures, long drought spells during the monsoon, and unseasonal heavy rains during winter have caused serious distress to agriculture-dependent communities in the country. Nepal is characterized by diverse geographical, economic, and social contexts, with varying socially driven roles and responsibilities for women and men. Besides conducting household chores, women are more involved than men in agriculture and natural resource management for securing their livelihoods, often exposing them to the impacts of climate change. Their vulnerability is further aggravated by the outmigration of men, resulting in added workload both on the farm and at home. Particularly, women from small-holding farming communities and landless women laborers, who belong to marginalized communities face even more severe challenges. To deal with the impacts of climate change, women have adopted various measures using indigenous knowledge. This paper focuses on women from diverse social backgrounds in the context of changing agricultural practices due to climate change in the Koshi River Basin (KRB) of Nepal with the following objectives:

1. Identify impacts of climate change on women farmers.
2. Understand adaptive capacities of women farmers to climate-induced impacts.
3. Recommend measures for social equity and inclusive climate change policies and practices for sustainable livelihoods and food security.

This study used qualitative and quantitative information acquired from primary and secondary sources. Relevant literatures were also reviewed. Focus Group Discussions (FGDs) were conducted in September-October 2021 with a total of 74 women and men from various social groups across the three ecological regions of KRB, covering the districts of Dolakha, Ramechhap (the Mountains), Sindhuli, Udaypur (the Hills), Sunsari and Saptari (the Terai).

Of the study participants, 43 percent were Brahmin/Chhetri, 34 percent were Indigenous Peoples/Janajati, 16 percent were Dalit, and 7% were Madheshi (omitted from analysis due to small number). Approximately 90 percent of the participants were women. Findings showed that women spent

3 to 7 more hours a day on agricultural activities and household chores compared to men. Yet they had limited access to and control over resources (10–30 percent), particularly financial, reflecting a high prevalence of gender disparity. Furthermore, women from all social groups bore increased farm labor burden and stress due to shortages of foodgrain, fodder, and fuelwood caused by climate change-induced disasters, such as floods, landslides, air and water pollution and insect/pest infestations, as well as the outmigration of men. Indigenous Peoples/Janajati women in the Mountains reported decreased potato and yak production due to reduced snowfall.

The Hill and Mountain women across all social groups spent more time fetching water and collecting fuelwood due to the drying up of water sources caused by longer drought seasons and the damage to roads from flooding. They suffered from health problems such as uterine prolapse and back pain. Indigenous Peoples/Janajati and Brahmin/Chhetri women in the Mountains and the Terai reported asthma and eye problems, respectively, due to the air pollution. Landslides, deforestation, and forest fires, caused by heat waves, impacted traditional occupations and income generation, resulting in malnutrition among children, as reported by Indigenous Peoples/Janajati women of the Hills and Dalit women of the Terai. Among all social groups, Dalit women, irrespective of the regions, were found to be the most vulnerable to the impacts of climate change.

Women farmers applied indigenous and scientific adaptive practices as risk mitigation measures. For instance, Indigenous Peoples/Janajati women in the Mountains and the Terai sprayed a mixture of animal urine and water, and herbs like *Titepati* (*Artemisia vulgaris*) and *Bakaino* (*Melia azedarach*) to protect their crops from insects and pests. Likewise, Indigenous Peoples/Janajati women in the Terai raised bunds of ponds and used bamboo sticks and nets to prevent fish overflow during the floods. Similarly, Brahmin/Chhetri women in the Mountains plucked out diseased parts and mulched the plants to protect them from heat and cold waves. Dalit women in the Hills shifted their livestock and chicken to safer places to safeguard them from the adverse effects of climate change. These instances illustrate that women farmers of KRB possess vast knowledge and skills that help them cope with the impacts of climate change.

\* Corresponding author. E-mail address: milan.adhikary@gmail.com

In addition to the practices presented above, more than 80 percent of women farmers adopted a wide range of farming practices such as tunnel farming, crop rotation, and drip irrigation. Women belonging to all social groups except Dalit were found to have in-depth adaptive knowledge of and capacity for applying Climate Resilient Agricultural (CRA) practices. Dalit women reported that they possessed limited adaptive capacity. Although the practices followed were found to be diverse among various social groups, a common phenomenon was that they were well-responsive to the local environment and socio-economic context. This explains how women farmers in KRB adopted multiple farming practices to address their multi-dimensional vulnerabilities to climate change. Women farmers in KRB, irrespective of their social groups and ecological regions, were disproportionately affected by climate change and highly vulnerable to its impacts.

In conclusion, this study represents an important milestone in bringing transformative changes in the agricultural sector through social integration

in the adoption of CRA practices. The findings mark an entry point to promote opportunities for enhancing socially equitable and inclusive CRA policies and programs that address household food security challenges and uplift the livelihoods of marginal communities. Moreover, such initiatives aid in meeting Nepal's targets of sustainable development goals (SDG) through women's empowerment. The findings also contribute to meeting the Nationally Determined Contributions (NDCs) targets through formulating and implementing climate-resilient and socially inclusive adaptation plans at the local level. In this regard, women should be provided with adequate knowledge, information, technology, and skills for making agricultural systems climate-resilient. Furthermore, it is imperative to identify socially-sensitive women-focused strategies that respond to the needs of women from diverse backgrounds. This approach will reduce their vulnerability by enhancing their adaptive capacity, eventually creating transformative and climate-resilient agriculture for sustainable livelihoods and food security.

**Citation:** Adhikary, M, & Pandey Pant, A. (2024). Women's concerns in promoting climate-resilient agricultural practices for sustainable livelihoods and food security from the social inclusion perspective: the case of Koshi River Basin, Nepal. *Global Journal of Agricultural and Allied Sciences*, 5(S1), 5-6. <https://doi.org/10.35251/gjaas.2024.006>