

Carrying Mountains on Their Shoulders: Gendered Labor and the Climate Crisis in the Indian Himalayas

Padma's steps were quick yet measured, her upper back bent at an angle just enough to glance ahead as she navigated a steep, uneven, and narrow downhill trail strewn with rocks and boulders. This posture allowed her to carry a substantial load of long wooden sticks on her upper back without letting them touch the trail, which could throw her off balance. Each summer, Padma makes 25–30 trips, collecting and carrying thick wooden sticks from the forest atop a Himalayan Mountain to her step farms at the foothill. This load is enough to support the growth of kidney beans, a climbing plant, on her terraced fields. It was meant to be her final round for the summer of 2023. But over the next few days, runoff from an unseasonal downpour lasting two consecutive days washed away not only the wood sticks used for supporting the harvest but also the labor and sweat of her past month. A week later, on a chance encounter, Padma—back still bent, steps still careful—was at it all over again. This time, she was already on her third trip back to her step farm from the forest.

The debates on the sociality of climate change in Joshimath, located in the Garhwal region of the higher Himalayas in Uttarakhand, India fraught with massive biophysical changes, have neglected women like Padma. Degrading soil fertility, coupled with changing weather conditions, has socially manifested as intensified labor for rural Himalayan women. Over the past decade, women's labor in these higher hills has become an embodiment of climate change, as they bear its brunt. The Garhwal Himalayas are known, both in popular culture and scholarship, for their hegemonic patriarchy, which has generationally overburdened women with almost all the labor necessary to sustain life. Therefore, it is essential to understand the lives of women like Padma, who stand at the forefront of a changing climate, transforming their labor to

ensure life continues in these Himalayan mountains.

Joshimath, a region in the northern Himalayas of Uttarakhand, has been at the epicenter of significant biophysical changes, including frequent landslides, land subsidence, glacial floods, and erratic weather patterns. Popular discourse has largely attributed these life-altering consequences to anthropogenic, state-led developmental activities as the primary driver. These higher hills, bordering Tibet to the north and Nepal to the east, hold substantial geopolitical significance for the Indian state. Consequently, political stability has often come cloaked in state-driven developmental initiatives, which have directly impacted the biophysical climate of an already unstable seismic zone. Climate scientists and geologists have established a causal link between these developmental activities and worsening weather conditions.

Over the past decade, Joshimath has received little to no snowfall, a necessary condition for sustaining year-round agriculture. The area now faces rising temperatures, untimely frosts, extreme rainfall events, and degrading soil fertility, all contributing to acute agrarian distress. In assessing these spatial anxieties, the focus has remained on "techno-managerial aspects" (Ranjan, 2024: 159) rather than the "internal dynamics and contradictions of social formations" (Watts, 1983: 33). Obscured from view are the lives of rural Himalayan women like Padma, whose labor, both past and present, personifies the shifting biophysical realities of the Himalayas.

The social life of climate change is now a burgeoning field of study within sociology and related disciplines. While much of the focus has been on the entanglements of structures linking climate change to capitalism in the Global North, interpretations from the Majority World have centered on unfolding modernity and agrarian shifts, all while absorbing the pressures of state and global capitalism. Borras et al. (2022) highlight the intertwining of capitalist development with climate change but also point to persistent gaps in understanding how rurality intersects

with these processes. In Joshimath, historical socio-material transformations have created and normalized a crisis for rural Himalayan women, one that is both sociologically complex and spatially variegated. The region represents a stratified, complex ecosystem where social differentiation intersects with climate change, revealing distinct realities.

Through ethnographic examination and in-depth interviews with 60 rural Himalayan women, this paper explores women's mundane labor as an embodiment of the climate crisis. It conceptualizes women's labor as dialectically bound within historical socio-ecological transformations in the region. This analysis illuminates the processes that shape and reproduce gendered labor relations, situating their precarity within a "materialist conception of nature and social history" (Holleman, 2015: 6). Grounded in Marxist theory, this paper advances a framework of historical-environmental materialism (Foster, 2000), placing women's labor at the center of the analysis. The intersection of Himalayan rurality and climate change reveals the uneven distribution of risks and challenges (Taylor, 2015). Through a nuanced examination of the changing and worsening labor conditions for women, this paper seeks to move beyond flattening narratives of the climate crisis that obscure social heterogeneity.

Rural Himalayan women, as the region's primary cultivators, remain unrecognized as farmers in climate-related policies and solutions, relegating them to spaces of obscurity both academically and socially. By tracing their social histories and connection to material changes in the region, this paper highlights how rural Himalayan women's labor becomes an embodiment of climate change, as they quite literally carry these mountains on their shoulders.

To that end, this paper is structured as follows: Section 1 offers a primer on Joshimath's changing biophysical landscape in relation to state-led interventions. Section 2 situates women's labor within labor studies and Social Reproduction Theory (SRT), while also accounting for

ecological changes in the region, both past and present. Section 3 presents women's voices and narratives surrounding shifts in labor and environmental degradation. Section 4 offers an analysis of how these evolving labor conditions embody the lived realities of climate change.