



CULTIVATING TOMORROW: NAVIGATING SMALL SCALE FARMERS RELATIONS WITH WATER AND AGRICULTURE IN SAPTARI, NEPAL

A photo story by Manita Raut



Located in the flat plains of eastern Nepal, Sambhunath rural municipality rests within the Saptari district. This collection of photographs offers insight into the ongoing research journey of Manita Raut, a Ph.D. candidate and John Allwright Fellow at Crawford School of Public Policy at Australian National University.

My exploration delves into the world of irrigation technology adoption and its impact on small-scale farmers. Through these pictures, we glimpse the strong bond between farmers, their land, and water in Saptari. The images reveal the reliance on monsoon rains for cultivating rice and the challenges when monsoons don't arrive as expected. We also see how farmers adapt to changing situations, finding new ways of farming due to labor shortages and evolving water systems.

Amid these stories, a glimmer of hope emerges from the local government's presence after federalism in Nepal. They are now closer to communities, offering support including irrigation technologies.



A few glimpses of incredibly hardworking farmers from Saptari taking their produce from farm to the local haat bazaar (local weekly market)

Agriculture is the primary source of livelihood for smallholder farmers in Saptari, Nepal. The rural farming population is categorized into three groups: small commercial farmers, subsistence farmers, and landless/near landless farmers by the Government of Nepal. My research on "Irrigation technology adoption: water use and practices by marginal and tenant farmers in Nepal" focuses on the latter two groups - those who own less than 0.5 hectares and 0.5 to 1 hectares.

Smallholder farmers navigate resource-constrained agricultural settings, relying on limited agronomic inputs. Among these inputs, labor, pesticide usage, and access to water hold pivotal roles.

The utilization of water for agriculture is closely intertwined with access to or lack thereof irrigation technology, land ownership, and government support. Particularly in the context of delayed and erratic monsoons, which these farming communities heavily rely upon, cultivating enough produce to sustain themselves and sell in local markets becomes a challenging endeavor.



From the first furrow, a journey begins – a blend of hard work and hope, nurturing the farms. A family of farmers is preparing land for paddy cultivation: a male farmer plows the land, and a group of female farmers transplant paddy in the adjacent plots. Paddy is a main monsoon season crop for Nepali farmers.



Labor is an important input for agricultural activities such as weeding newly transplanted paddy fields. Household members are the main source of agricultural labor in the region. A family comes together to manually remove the weed from the farm.



Farmers can be seen using their own labor to apply pesticides to their farms. A farmer is applying urea to his paddy field in this photograph.



However, not every family has enough members to support agricultural work. As a result, some farmers mobilize agricultural wage workers on the farm. Here, on a rainy day, a group of agricultural laborers is hard at work.



Beyond labor, the essence of water stands as a vital cornerstone of agriculture. The sustenance of farming in Saptari pivots largely on timely monsoon. Yet this year's delayed and erratic rainfall has cast a shadow over farmers, particularly those tending smaller holdings. Amidst this backdrop, the role of Indian and Chinese electric pumps emerges as pivotal, facilitating irrigation for those fortunate enough to possess or rent these technologies.



Within the realm of these electric pumps, the broader expansion of electricity coverage in rural Nepal assumes a favorable tone. The surge in electric connectivity is compelling farmers to phase out once-prevalent diesel pumps, which bore heavy cost burdens. In the photo, a farmer is intently linking wires to an electric pump to supply irrigation for his paddy field.



The subsidized electricity Nepali government offers farmers for agricultural use has helped. In this image, a group of farmers are submitting applications for an electric meter connection at the agriculture office of Sambhunath Rural Municipality.

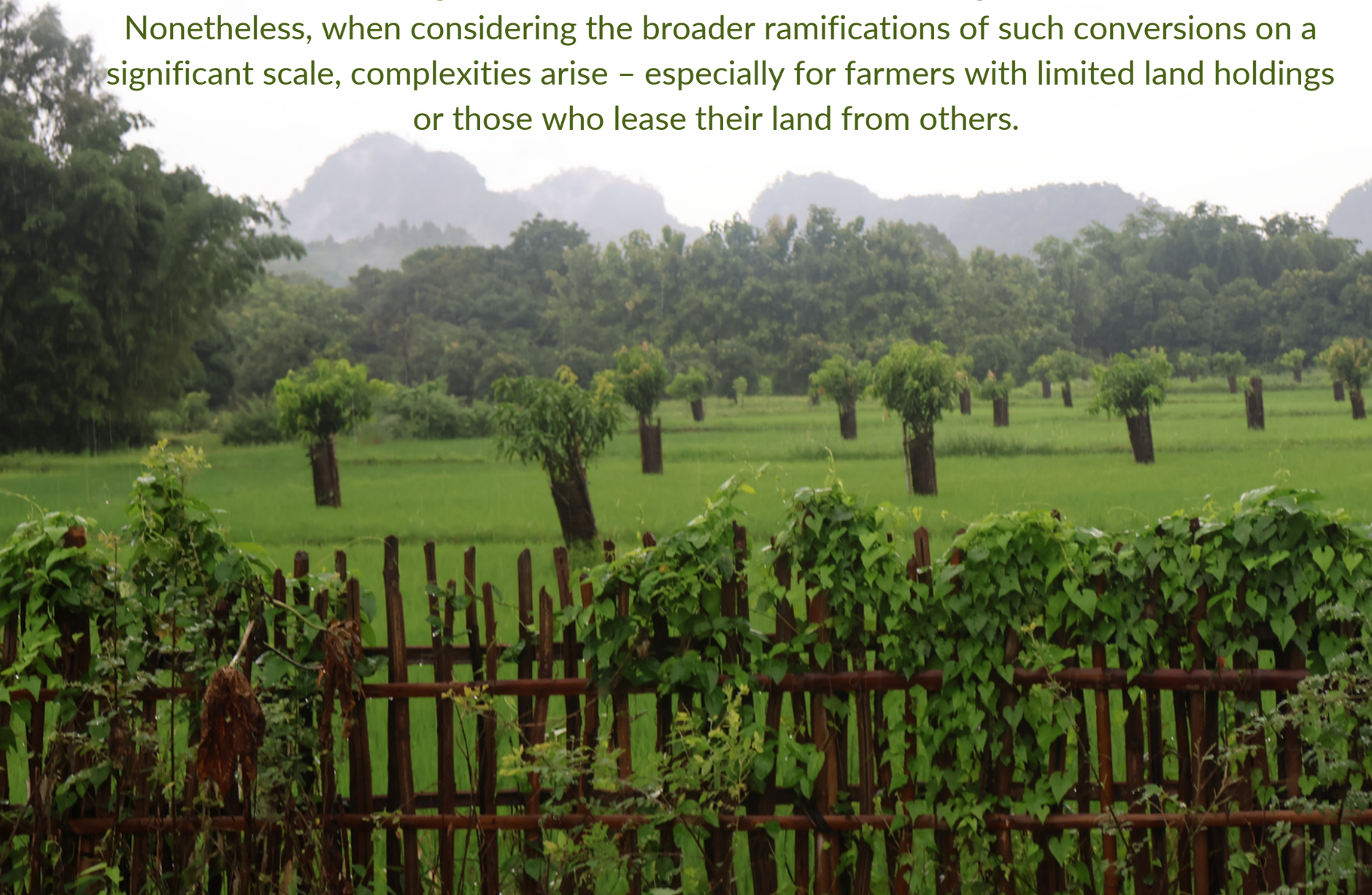


Despite the expansion of electric pumps and connections, not everyone has easy access to water or these technologies. Farmers who had little to no access to irrigation technologies made the decision to leave the land fallow this season due to the delayed and erratic monsoons. This choice was made after taking into account the higher cost of purchasing water for irrigation alone, in addition to labour and other input costs.



The sight of fallow land in the monsoon which is supposed to be a relatively water-abundant season is unnerving. When I first visited Saptari in the dry month of May, the farms appeared desolately barren, as captured in the photo on the left. The photo on the right shows the scene in August after the delayed monsoon's arrival. In Nepal, the monsoon typically begins in June.

In some instances, farmers have opted to cultivate mangoes in fields that were previously used for paddy. These transformations are occurring in the context of lack of and expensive water, and the increased costs associated with traditional farming overall. For those who possess their own land, this shift to mango orchards represents an adaptive strategy that has the potential to reshape agricultural dynamics. Nonetheless, when considering the broader ramifications of such conversions on a significant scale, complexities arise – especially for farmers with limited land holdings or those who lease their land from others.





As we delve into this photo journey, one thing becomes clear: supporting these farmers with reliable and sustainable water services and agronomic inputs are crucial. Smaller farmers' well-being isn't just about their livelihoods, but of their children and affects Nepal's food security at large.



Farmers from around gather to sell and purchase agricultural produce in the weekly haat bazaar

The availability and utilization of sufficient and timely water and agricultural inputs on farms would be a significant boon for farmers, potentially alleviating concerns tied to their agricultural endeavors. This could ensure a steady food supply for their families and enable them to sell surplus produce in the local market, thus underpinning a stable agricultural livelihood. While ensuring water provision is essential, it is equally imperative to devise sustainable and inclusive approaches to facilitate easy and straightforward access to water for these farmers.



I want to extend gratitude to the farmers who graciously shared their stories and consent to capture their experiences through photographs. This photo story is a part of my Ph.D. research on "Irrigation technology adoption: water use and practices among marginal and tenant farmers in Nepal". *Photo credit: Narayan Sah*



I am thankful for the 2023 Crawford Fund Students Award that is supporting my fieldwork and to The Crawford Fund for the generosity. I also appreciate the opportunity provided by the John Allwright Fellowship, made possible by ACIAR.

My sincere thanks go to the farmers, The Crawford Fund, and ACIAR for their invaluable support in furthering my research and academic journey.

Kindly note that all the photographs presented here, with the exception of the one featuring myself, have been captured by me. The credit for the photograph featuring me goes to Narayan Sah.