

COLLECTIVE ACTION ON LAND TENURE AND CLIMATE CHANGE



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Pathways to sustainable land use through secured land rights: A case story on riverbed restoration in Deukhuri, Dang District

This case study has been prepared based on work carried out in the project area of the Community Self-Reliance Centre (CSRC). The methodology involves reviewing available short cases and relevant information, conducting field observations, and interviewing selected farmers from the community. In addition, CSRC held an interview with the community facilitator who has been supporting and guiding this initiative.

This case study aims to contribute in mainstreaming land rights in the climate change discourse, undertaken as part of GFAiR's Collective Action on Land Tenure and Climate Change coordinated by ANGOC and funded by the EC.

Introduction

Agriculture remains a cornerstone of Nepal's economy, sustaining the livelihoods of nearly two-thirds of the population. Yet, despite its centrality, Nepal faces persistent challenges in securing food rights. According to the Global Hunger Index (GHI) 2024, Nepal ranks 68th out of 127 countries, with a score of 14.7, indicating a "moderate" level of hunger.

Land is the foundation of agriculture, livelihoods, and food sovereignty. For marginalized communities – particularly *Dalits*, indigenous groups, landless peasants, and smallholders – access to land is critical for breaking the cycle of poverty and ensuring sustainable livelihoods.

In Nepal, despite constitutional commitments to land reform and social justice, thousands of landless and land-poor families, especially those dependent on agriculture, face systemic exclusion from formal land ownership and long-term use rights. This insecurity not only undermines livelihoods but also discourages investment in sustainable land use, contributing to environmental degradation and underutilized landscapes.

Climate change has intensified this vulnerability, with erratic rainfall and extreme weather events increasing the frequency and severity of floods. As a result, families face displacement, food insecurity, and deepening landlessness.

Nepal's Land Policy 2019 emphasizes inclusive access and productive utilization of land resources. It ensures that all farmers have access to land, recognizing it as a foundation for livelihood and development. The policy allows arable land to be leased based on suitability for agricultural and industrial purposes, thus promoting economic activities. Additionally, it encourages the development and utilization of riverbanks and other underused public and private lands to maximize their potential for national growth.

This case study covers four municipalities (Gadhawa, Rapti, Rajpur, and Lamahi) of Deukhuri Valley.

Land tenure context of the Deukhuri Valley

In the Deukhuri Valley, approximately 62 percent of households are either landless or informal settlers (see *Table 1*), with the indigenous *Tharu* community comprising around 45 percent of the population. Many of these families cultivate public land or engage in sharecropping under informal agreements, often without written contracts, and the terms are typically renegotiated annually. Former *Kamaiyas* and *Kamlaharis*, promised land under the Bonded Labour (Prohibition) Act, 2002, remain largely excluded in Deukhuri, with some displaced by flooding along the Rapti River and resettled in forested areas. Meanwhile, large portions of fertile land are held by institutions such as the Swargadwari Trust and Sanskrit University. This context of unregistered tenancy and institutional land control has led to recurring displacement of sharecroppers and underscores the urgent need for formalized land rights and equitable access.

Table 1. HHs, population, and land tenure situation

Municipality	Area (Square meters)	Total HHs	Population	Filed applications (HHs)		
				<i>Landless Dalit</i>	<i>Landless</i>	<i>Informal</i>
Rajpur Rural Municipality	577.3	4,473	25,037	469	641	3,938
Gadhawa Rural	345.6	8,034	44,207	338	1,120	6,201
Lamahi Municipality	326.7	9,432	47,655	235	1,337	6,297
Rapti Rural Municipality	161.6	8,763	44,433	224	582	3,929
Total	1,411.2	30,702	161,332	1,266	3,680	20,365

Source: Municipality records, 2025

Notes:

Landless households refer to individuals or households who have no registered land at all in the family members' ownership, and also do not have capacity to purchase even the homestead land.

Informal settlers refer to individuals or households who have registered land and also use government land for more than 10 years.

The *Tharu* community in Dang settled in *Ailani* land¹ after a tough struggle. However, despite the government's commitments, they are yet to get their land ownership certificates. The sharecroppers have no written arrangements, which are renewed or terminated annually at the time of the traditional *Maghi* festival. (*Maghi* is a winter festival in Nepal celebrated mainly by the *Tharu* people, symbolizing new beginnings, harvest, and community bonding.)

¹ *Ailani* land refers to land that is not registered under any individual's name. It is considered public property and part of the government's wealth.

Table 2. HHs in agriculture and sharecropping

LGs	Total HHs	HHs involved in agriculture	Cultivated land	Irrigated land (ha)	Cultivated own land only	Own and sharecropping	Sharecropping
Lamahi	13,458	8,244	3,963.1	2,780.2	3,509	3,656	1,079
Rapti	11,826	8,063	2,774.8	2,256.7	6,046	944	1,073
Gadhawa	9,964	7,562	3,582.2	2,115.3	5,767	900	895
Rajpur	5,829	5,196	3,667.8	2,171.4	4,004	119	1,073
Total	41,077	29,065	13,987.9	9,323.6	19,326	5,619	4,120

In Deukhuri, 71 percent of households are engaged in agriculture, which is higher than the national average. Nineteen percent cultivate both their own land and sharecropped land, while 14 percent rely entirely on sharecropping or rented land for their livelihoods.

Now, Deukhuri Valley has emerged as an exemplary model for land rights advocacy, particularly as landless and indigenous communities reclaim riverbed and public lands for cultivation. The Rapti River, which flows through the valley, has shaped both the landscape and the livelihoods of its people. Fertile riverbed lands lie unproductive year after year, despite their potential to support food production and ecological restoration.

Riverbed farming in Deukhuri valley

Since 2004, landless families and smallholder farmers in the Deukhuri Valley have been organizing themselves to claim their rights and strengthen their collective voice. Today, nearly one hundred villages have formed Land Rights Forums, creating a strong grassroots movement across the valley.

In 2013, the Community Self-Reliance Centre (CSRC) carried out a detailed context analysis in a number of communities where these forums had been established. Through social mapping, CSRC identified landless families, small farmers, and households cultivating other landowner's land under informal arrangements. Similarly, resource mapping was used to assess available land, riverbed areas, and other natural resources.

During this process, it became evident that large stretches of riverbed land were lying unused and unproductive. In community discussions, landless families and small farmers expressed a strong desire to cultivate these riverbeds and use them as a source of livelihood.

Following consultations carried out by CSRC with the Land Rights Forums and the rural municipality, the municipality decided to formally allow landless and small farmers for long-term use of these riverbed areas at zero rent. The first riverbed farming initiative began on the banks of the Rapti river called Parsa in 2013.

Ninety-six (96) families from Parsa community embarked on riverbank farming in 44.02 hectares. Similarly, in Parsiya, 86 families have been farming in 14.90 hectares, while 25 families have been farming in 2.71 hectares in Bhagwanpur. In Takyapur, 23 families have been farming in 5.42 hectares. In Dharampur, 82 families have been farming in 10.84 hectares. They have been cultivating paddy, maize, groundnuts, sweet potato, and various vegetables in these areas.

Over time, the visible benefits encouraged other communities to identify fallow riverbeds and start similar farming practices. As this practice expanded, local governments took steps to institutionalize it by developing policies and operational guidelines for the productive use of riverbed land. These efforts ensured fair access, transparency, and long-term continuity.

This initiative now expanded to all four municipalities, with 952 families farming 219 hectares of land. In 2025, 89 farmers in Lamahi, 24 farmers in Rapti, and 34 farmers started to use 13 hectares of riverbed land.

To transform barren land into a foundation for regenerative farming, communities are mobilized through the formation of Land Rights Forums (LRFs), creating spaces to collectively advocate for their rights and engage with local governments. These LRFs identified unused riverbed lands and mapped out challenges and opportunities. Through dialogue with local governments, communities secured long-term use rights to previously uncultivated riverbed areas.

This breakthrough enabled poor and landless families to begin farming -- introducing seasonal crops, agroforestry, and plantation efforts that not only improved food security but also contributed to soil stabilization and flood resilience.

Riverbed farming has since brought significant improvements to households' food security and income levels. For landless and small farmers who previously had very limited or no access to land, these areas have become an important source of livelihood and dignity. The initiative stands as a powerful example of how organized communities, supportive local governments, and practical land-use strategies can transform marginal land into a foundation for resilience, prosperity, and social justice.

Change case of Shantarami, landless farmers

For Shantarami Chaudhary and her family from Gadhawa Rural Municipality, the reclaimed riverbed land became more than a source of food, it became a foundation for possibility. What once felt like an unreachable dream, such as sending her children to school, is now a reality made possible through the income earned from cultivating grains, raising livestock, and poultry on this land. *"We never imagined we could afford their education. Now, this land helps us cover school fees and even some health costs. Without it, I do not know what our future would look like. Our crops of paddy rice, corn, and wheat are flourishing. Once the grains and crops are enough for our family, we sell the surplus and store some for later."*

Her journey is part of a collective effort that began in 2018, when Shantarami joined other farmers to revive the neglected river terrace along the Rapti River. Through consistent plowing and years of hard work, they

gradually transformed the sandy, barren stretch into fertile farmland. After seven years of dedication, the once-abandoned land now thrives as a productive space that sustains their families and affirms their right to cultivate, belong, and dream.

Facilitating land leasing in private land

In addition to facilitating riverbed farming, CSRC has now begun promoting formal land-leasing practices under the leadership of local governments, with the aim of ensuring long-term access to agricultural land for land-poor families. The current system of verbal or informal permissions does not motivate farmers to invest in sustainable farming. Because they can cultivate the land only for a short period – often just for one year – many farmers rely heavily on chemical fertilizers to maximize short-term yields, while neglecting the use of organic manure. This practice significantly degrades soil fertility and reduces the long-term productive capacity of the land.

The absence of secure tenure leaves farmers vulnerable to sudden eviction, restricts their access to agricultural services and government support, and discourages investment in soil conservation, agroecology, or other sustainable practices. Recognizing these challenges, local governments have begun institutionalizing contract farming arrangements.

Formal contract farming has already started in two rural municipalities. In Rapti Rural Municipality, 901 households are currently practicing contract farming, and another 631

households are doing so in Rajpur Rural Municipality. Building on the positive lessons from riverbed farming, CSRC is also facilitating written lease agreements with private landowners, which provides greater security to both parties. These formal agreements encourage farmers to adopt more sustainable and responsible farming methods, as they have assurance of stable access to land.

Sharecropping and land leasing continue to play a vital role in addressing landlessness and supporting marginalized communities, including freed *Kamaiyas* and *Kamlaharis*. These arrangements provide crucial access to land, which remains essential for immediate food security and livelihood improvement. However, in the absence of written agreements, sharecroppers also face uncertainty regarding tenure. This



Fallow riverbeds have been transformed into productive vegetable plots.
Photo by CSRC

discourages them from investing their time, resources, and labor into improving the land, ultimately limiting the potential benefits of sharecropping systems.

By promoting formal written agreements – both for leasing and sharecropping – CSRC aims to strengthen tenure security, encourage sustainable agricultural practices, and build a more equitable land-use system for land-poor households.

Narrative of the climate change event

In recent years, erratic rainfall patterns and intensified monsoon flooding linked to broader climate change trends have repeatedly inundated the Rapti River basin. The 2023 monsoon season witnessed unusually high river levels, resulting in widespread erosion of riverbanks and crop destruction. The landless farmers remain most vulnerable due to lack of formal rights. Similarly, women-headed households are also vulnerable as they are often excluded from land negotiations. Unregistered tenant farmers are unable to claim compensation or support due to informal status. An embankment is currently under construction to control soil erosion and flooding along the Rapti River.

Local responses

Despite challenges, riverbank communities have mobilized to restore degraded land. Farmers have adopted low-cost soil conservation techniques such as contour planting and mulching. Some have experimented with intercropping legumes to improve soil fertility and reduce erosion.

The transformation of riverbed land into productive farmland was made possible through the coordinated efforts of local farmer cooperatives, self-help groups, community forest user groups, climate-focused civil society organizations, and ward-level officials. Together, they introduced erosion-resistant methods to replant groundnuts and sweet potatoes, conducted training sessions on climate-smart agriculture, and collectively advocated for the recognition of informal tenure rights. These efforts have helped stabilize some riverbank areas and restore partial crop yields. However, lack of formal tenure continues to limit access to government subsidies and climate adaptation programs.



*Riverbed communities benefited from restoring degraded land and have contributed to mitigating the effects of climate change.
Photo by CSRC*

Where farmers have secure tenure either through formal titles or long-term informal arrangements, they are more likely to invest in sustainable practices. In contrast, those facing eviction or uncertainty avoid long-

term planning, leading to overexploitation and environmental degradation. Secure tenure has proven essential for enabling community-led restoration and resilience.

Local governments have initiated land-use mapping but have yet to formalize tenure for riverbank farmers, as many households involved in farming do not have any kind of written contract. Provincial climate adaptation programs offer support, but eligibility often requires formal land documentation.

Assessment

The experience of Deukhuri Valley demonstrates that secure land rights are fundamental for building sustainable, climate-resilient agriculture among landless and marginalized communities. Riverbed farming, initiated through community mobilization and institutional support, shows how previously underutilized and degraded lands can be transformed into productive, regenerative spaces when farmers have assurance of access. The initiative has strengthened food security, improved household incomes, and restored degraded river ecosystems – all while reinforcing the dignity and agency of land-poor families. These gains underscore the importance of formalizing land access arrangements and ensuring that land governance frameworks are inclusive, transparent, and responsive to the needs of vulnerable groups.

At the same time, the case highlights the persistent risks posed by insecure tenure, especially in the face of intensified climate hazards such as flooding and erosion. Where written agreements and structured leasing systems exist, farmers are more likely to invest in soil conservation, agroecology, and long-term land stewardship. However, those without formal rights remain excluded from subsidies, compensation, and adaptation programs. Strengthening tenure security – whether through riverbed use rights, contract farming, or private land leasing – is therefore essential for scaling climate adaptation and ensuring equitable development. The Deukhuri experience offers a compelling model for integrating land rights into climate strategies and demonstrates how collaborative action between communities and local governments can pave the way toward sustainable land use pathways across Nepal.

The case of riverbank farming in Gadhwā and Rapti highlights a complex intersection of climate vulnerability, informal land tenure, and grassroots resilience. Farmers without formal land rights face significant barriers to sustainable land use and climate adaptation, often hesitating to invest in soil conservation or flood mitigation due to tenure insecurity.

Recommendations

To ensure the long-term viability and equity of riverbed farming, the following measures are recommended:

- **Promote participation of communities.** Community-based organizations (CBOs) play an essential role in engaging with local governments to prepare comprehensive databases of landless households, riverbed land availability, current land access and use, and private lands being cultivated through sharecropping. Their facilitation is also crucial for promoting long-term land leasing arrangements that ensure secure and sustainable access for land-poor families.

- **Formalize land use through written agreements.** Facilitating written agreements between landowners and tenant farmers including *adhiya bataiya* (sharecropping system) to ensure transparency, reduce disputes, and protect the rights of cultivators will help in the sustainability of the land use.
- **Promote continuity where beneficial.** If farmers are experiencing tangible benefits from riverbed farming, efforts should be made to support the continuity of their practices. Recognizing and reinforcing successful models can motivate others and foster knowledge-sharing within communities.
- **Conduct risk assessments and implement mitigation measures.** Given the vulnerability of riverbed areas to unexpected flooding, it is essential to carry out localized risk analyses. Based on these assessments, appropriate mitigation strategies such as early warning systems, embankments, or seasonal planning should be adopted in coordination with the wards and rural municipalities.
- **Sustain collective efforts through smart agri-technologies.** Recognize and strengthen the role of social organizations that have contributed to restoring degraded land. To ensure the long-term impact of these collective initiatives, farmers and communities should be supported in adopting smart agricultural technologies such as drip irrigation, improved seed varieties, and soil health monitoring.
- **Support farmers in tracking income and investment returns.** Farmers should be encouraged and supported to maintain basic records of production costs and income. This will help them assess the profitability of riverbed farming and make informed decisions about future investments. 💧

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Disclaimer

The views expressed in this case study do not necessarily reflect those of GFAiR, EC, and IFAD.