

POLICY BRIEF

Traditional and local knowledge to disaster risk reduction

July 2023 | No. 04

Reinvigorating neglected land: a policy brief for harnessing economic opportunities in river floodplains

Prakash K. Paudel^{*}, Meena Bohara¹

¹ Center for Conservation Biology, Kathmandu Institute of Applied Sciences, Kathmandu, Nepal

SUMMARY

Floodplain areas in Nepal have been prime locations for agriculture-related activities, as these areas can be easily irrigated and consist of nutrient-rich soil. However, with the expansion of agricultural infrastructure in other areas (e.g., irrigation systems, chemical fertilizers, high-yielding seeds), many of these floodplains are now abandoned due to the risks of potential flood hazards. The Government of Nepal should focus on harnessing economic opportunities in these areas. This requires tailored-made programs focusing on agriculture production, animal husbandry, fisheries, and nature-based tourism.

Background

River floodplains are characterized by fertile soil and abundant water resources (Bastakoti et al. 2017). Rivers deposit nutrient-rich sediments during periodic flooding, which replenish the soil and make it highly suitable for agriculture. The fertile soil, combined with the availability of water resources, creates favorable conditions for crop cultivation. Such floodplains in Nepal's Terai region, despite being susceptible to floods and erosion, were attractive destinations for migrants due to high agriculture productivity and opportunities for animal husbandry. Koshi floodplains, stretching from south of Chatara to the Nepal-India border, are one such example. Local communities reported that these floodplains were the most preferred areas for migrants from hills and lowlands due to high agriculture productivity until the 1980s. Even now, local communities are still making a good income from agriculture and milking buffaloes. Our preliminary results indicated that nearly 60% of households in Srilanka Tappu and Gobargada had an annual income more than US \$ 2,200, with 25% earning more than US \$ 3,800 (1 US \$ = 130 Nepali Rupee). However, these areas gradually became less attractive with the expansion of agriculture infrastructure

(irrigation, and fertilizer) throughout the Terai. Such opportunities are not well acknowledged, and the vast floodplains are underutilized and neglected as disaster-prone areas.

Challenges

Such floodplains were once a lifeline for agricultural production, contributing to the local economy and food security. Now, most of the areas are abandoned, except in certain locations where a few traditional communities take advantage of economic opportunities. The vast river floodplains present immense economic potential, but there are significant policy gaps. Nepal's public policies do not have any plans for using such areas; instead, they consider them disaster-prone areas with little economic value. There is a need for a comprehensive floodplain management plan that integrates both disaster risk reduction and the economic use of these areas. An ecosystem-based approach that prioritizes use of local resources, traditional knowledge and minimum use of infrastructure would be an appropriate modality, given to high risks of disasters.



Figure 1. Farming in Koshi flood-plain

^{*} Coresponding author: Center for Conservation Biology, Kathmandu Institute of Applied Sciences, Kathmandu, Nepal

E-mail addresses: pk.paudel@gmail.com (PK Paudel)



Figure 2. Animal husbandry along the Koshi floodplain, a main source of livelihood in Gobargada

Policy Recommendations:

The Government of Nepal needs to acknowledge the economic potential of floodplains and make a broad policy to tap opportunities, taking into consideration of local characteristics and potentials. A ‘business as usual’ and ‘one size fits’ all model may be neither feasible nor desirable in such areas due to varying degrees of risks and local environments. Government should develop legislative and economic instruments to promote a community-based farming system incorporating traditional knowledge and private sectors. Here, the focus should be on the nature-based solution to disaster risk reduction and site-specific resilient infrastructure (e. g., the use of local materials, and low-cost mobile houses).

Besides agriculture and animal husbandry, agroforestry, fisheries and eco-tourism are new avenues of economic development.

References

Bastakoti RC, Bharati L, Bhattarai U, Wahid SM. 2017. Agriculture under changing climate conditions and adaptation options in the Koshi Basin. *Climate and Development* 9:634–648. Taylor & Francis.

About Us

This policy brief is part of a project titled “*Enhancing ecosystem-based adaptation to disaster risk reduction in the Himalayan river basin: Integrating traditional and local knowledge in disaster management plan in Nepal, India and Bangladesh*” which is funded by Asia Pacific Network for Global Change Research. More information about the project can be found on the [APN](#) and [KIAS](#) websites.

Citation

Paudel, P. K., Bohara, M. (2023). Reinigorating neglected land: a policy brief for harnessing economic opportunities in river floodplains Policy Brief No. 04. Center for Conservation Biology, Kathmandu Institute of Applied Sciences, Kathmandu, Nepal.