

Understanding resilience and interlinkages in rural agri-food nexus

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Introduction

The nexus of Agriculture, Forest, Water, and Energy (AFWE) in the Hindu Kush Himalayan region is characterized by unique interlinkages influenced by biophysical, socio-cultural, and socio-economic factors. This study aims to identify strategies for enhancing this nexus to build climate resilience and promote environmental sustainability in the region.

Research questions

- What are the interlinkages between the different dimensions of AFWE nexus?
- How do the interlinkages between AFWE contribute to the resilience of the agri-food nexus?
- What best practices can enhance this resilience?

Methodology

Data was collected in Bheriganga Municipality and Bhairabi Rural Municipality of Karnali province and Budhinanda Municipality of Sudurpashchim province of Nepal using qualitative and quantitative methods (personal observation, household surveys-118, and focus group discussions-15). The study examined the interactions between the core elements of AFWE in respective areas.

Key findings

Positive and negative interactions between AFWE components were observed (Figure 1). For example, forest provides input to farmland (+) whereas it can have impacts such as wildlife intrusion, pest infestation, and forest fire (-). The key external drivers impacting the AFWE nexus are changes like climate, land use, socio-demographic, technological and ecological and institutional (Figure 2).



Conclusion

Resilience in these areas can be enhanced through targeted interventions that focus on both ecological (water and forest) and livelihood (agriculture and energy) components of the AFWE nexus, including improved water management, sustainable agricultural practices, forest restoration, and efficient energy introduction.

Figure 1 | Interactions between the components of the AFWE nexus

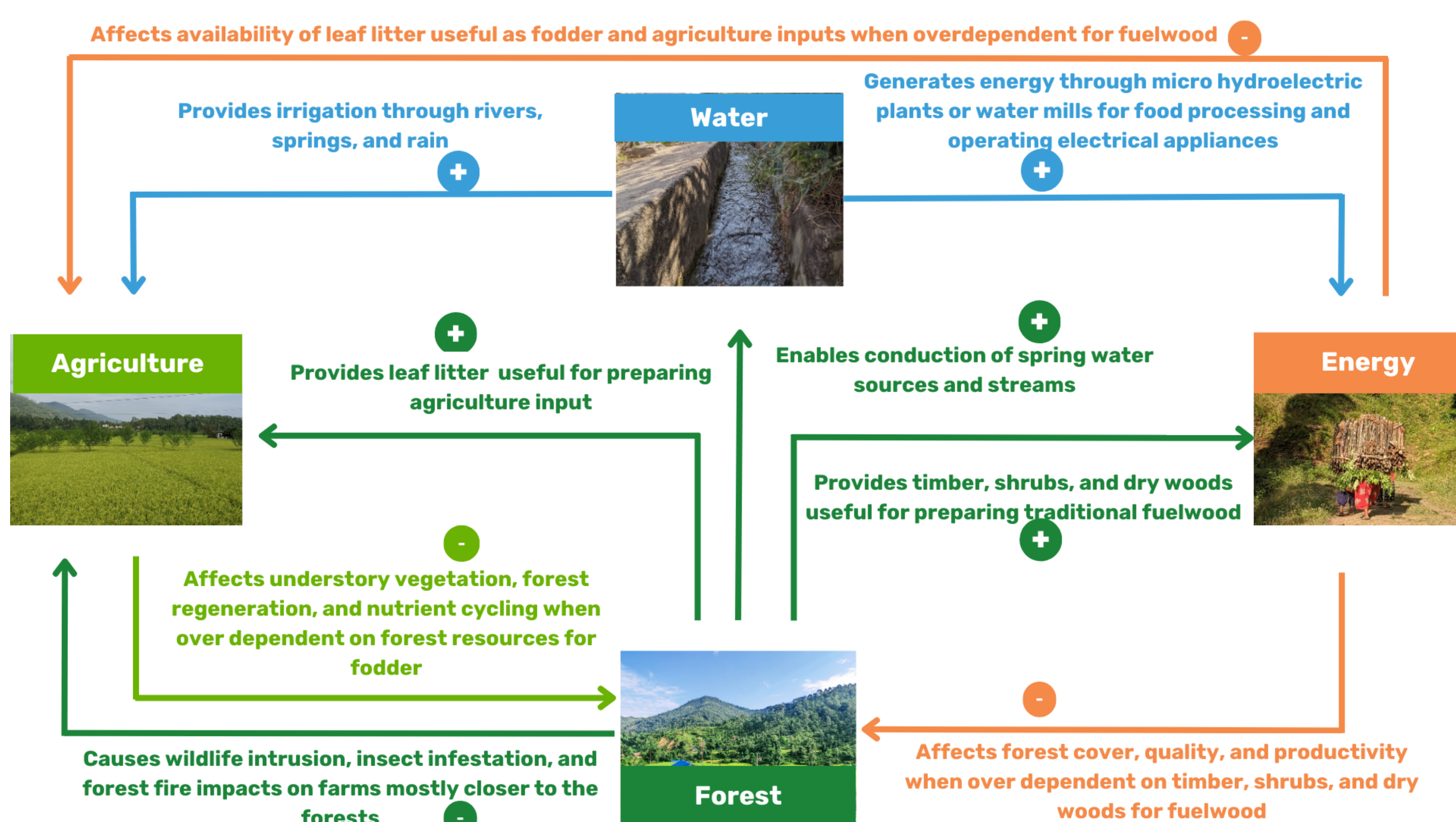


Figure 2 | External drivers impacting the AFWE nexus

