POLICY BRIEF

February 2025

Scaling up Sustainable Land Management for Sustainable and Climate -Resilient Agriculture in Bhutan

Executive Summary

Sustainable Land Management (SLM) is a proven Climate Smart Agriculture (CSA) technology that strengthens resilience to climate change impacts, improves land productivity, enhances food security, and mitigates land degradation. Bhutan's mountainous terrain and steep agricultural slopes make the farming system particularly vulnerable to soil erosion, landslides, and extreme weather events.

Adoption and integration of SLM technologies such as terracing, contour bunding, hedgerow planting, check dams, and soil fertility management have demonstrated significant benefits in conserving soil and water, reducing erosion by up to 46%, and building adaptive capacity for rural farming communities.

This policy brief stresses the importance of SLM in CSA, challenges to its wide-scale adoption, and recommendations to integrate and scale it up in Bhutan's agricultural development framework.

1   Background and Context

Bhutan's agriculture is predominantly practiced on sloped terrain, with over 70% of farmlands situated on steep gradients. Climate-induced risks such as erratic rainfall, prolonged droughts, landslides, and land degradation severely affect agricultural productivity and livelihoods.

Since 2006, the Sustainable Land Management Project (SLMP) was implemented to address land degradation and climate vulnerabilities. The SLM technologies, now mainstreamed under Agriculture Land Development, have proven effective in improving soil stability, moisture retention, and crop productivity.

SLM not only supports climate adaptation but also contributes to mitigation through carbon sequestration and ecosystem restoration. It is a vital pillar for achieving CSA goals in Bhutan.

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2   Current Challenges

Despite the benefits, several constraints hinder the wider adoption of SLM technologies:

- High labor and capital requirements, especially burdensome for smallholder and women-headed farms.
- Limited awareness and technical knowledge among farming communities.
- Inadequate integration of SLM into national policies, regulations, and plans.
- Limited institutional and human capacities to implement and monitor SLM effectively.
- Fragmented landholdings and highly fragile landscapes prone to degradation.
- Need for multi-stakeholder coordination, which is currently weak at the field level.

3   Policy Recommendations

To promote and scale up SLM as a key climate smart agriculture strategy, the following actions are recommended:

i.   Strengthen Policy and Institutional Integration

- Integrate SLM principles into national and sectoral policies, strategies, and plans.
- Develop a National Action Plan on SLM and harmonize it with CSA and food security frameworks.
- Promote inter-sectoral coordination among RNR sectors, local governments, and communities.

ii.   Financial and Technical Support

- Revise cost-sharing mechanisms to make SLM technologies affordable for smallholders.
- Offer incentives, subsidies, and low-interest loans to promote SLM infrastructure and labor-saving tools.
- Provide long-term funding support for community-led SLM initiatives.

iii.   Capacity Building and Awareness

- Strengthen extension services and local institutions through regular training and refresher programs.
- Raise awareness among farmers through demonstrations, farmer groups, and community learning platforms.

iv.   Enhance Community Participation and Ownership

- Promote bottom-up planning and community-driven land management decisions.
- Support farmer-based groups and cooperatives to manage SLM activities and mobilize local resources.

v.   Monitoring, Evaluation, and Knowledge Sharing

- Establish participatory monitoring systems with clear indicators for tracking environmental and socio-economic impacts.
- Document and disseminate success stories (e.g., Salamjee village) to encourage replication and upscaling

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4   Conclusion

Sustainable Land Management is not only a climate adaptation measure but also a long-term investment in Bhutan's agriculture and landscape resilience. By institutionalizing SLM in climate smart agriculture framework and providing policy, technical, and financial support, Bhutan can accelerate the transition toward sustainable, resilient, and productive agriculture.

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Figure 1: Before SLM intervention

Figure 2: After SLM intervention