

# Integrating Climate-Smart Agriculture (CSA) into Agriculture Sectoral Plans and Local Development Plans

## POLICY BRIEF

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## KEY MESSAGES

- Development and scaling up CSAs needs enabling policies, knowledge, capacities and financing mechanisms. Nepalese policy processes recognise these needs. A high-level, multi-sectoral and multi-stakeholder coordination mechanism would help improve coherence and coordination among sectors to scale-up CSAs.
- A multi-pronged approach by integrating CSA into agriculture plans and local development plans is promising pathway for scaling up CSAs.
- Agriculture policies encourage integration of CSAs into the extension system, however investments in strengthening capacity of the system, both in structure and content, would lead to greater integration of CSAs into agriculture plans and programmes at local, district and national levels.
- Integration of CSA into 14-step planning process is crucial. When investment demands for CSAs emerge from hamlets, wards and villages, CSA would be part of regular development plans.
- Establishment of fund at various level for supporting seed-grants would enable farmers to generate co-investment and resource-leveraging for implementing local adaptation



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## CLIMATE SMART AGRICULTURE FOR NEPAL

Ensuring food security under a changing climate is one of the major challenges for Nepal. It is estimated that the economic costs of current climate variability and extreme events are equivalent to 1.5–2 percent of current GDP/year (approximately USD 270–360 million/year in 2013 prices), and are much higher in extreme years, exceeding 5 percent<sup>1</sup>. While the effect of climate change is felt in all sectors, farmers who depend on subsistence farming are disproportionately affected, especially by rising atmospheric temperatures, prolonged draught, loss of ground water and soil nutrition, unpredictable precipitation, and loss in biodiversity.

Farmers, continuously innovate, adapt and build resilience. Some adaptive strategies include incorporation of agro-ecology and agroforestry into current farming systems, improvement of water management, soil nutrition and pest management, livelihood diversification, and climate risk management<sup>2</sup>. But the scale of innovation and pace of the adaptation is slow compared to the growing impacts of a changing climate.

CSA is an integrated approach that uses a combination of technologies and practices to meet food security goals while adapting to, and mitigating climate change<sup>3</sup>. It includes proven practices, technologies and processes that help achieve a triple win for food security, adaptation, and mitigation<sup>4</sup>. CSA development in Nepal is responsiveness to the specific needs and challenges faced by women and small and marginal farmers as Nepalese agriculture is increasingly feminized. The government has made significant efforts to develop an enabling policy and few institutions (e.g. climate change sections in MoAD) to develop and scale up climate change solutions. Despite greater recognition for climate-smart technologies in policies and strategies, CSA is far from being integrated into annual plans and programmes of agriculture sector. Inadequate institutional framework, sparse studies on scaling up pathways that suits to CSA and insufficient skilful human resources could be among the possible constraints to integrate CSA in agriculture plans and programme.

## SCALING UP BY INTEGRATING CSA INTO DEVELOPMENT PLANS

Translation of policy into reality depends on how actively and effectively governments and stakeholders integrate policies into their plans and programmes at national and local level. Two pathways for scaling up CSAs show great promise, i) integration into agriculture plans and programmes, ii) integration into local development plans.

## INTEGRATING CSAs IN AGRICULTURE PLANS AND EXTENSION

Farmers decisions to adopt CSAs is determined by many factors including access to information, knowledge, skills related to the practices, and access to finance, inputs and services required to apply a practice. Agricultural policies, institutions and plans can facilitate such behavioural change. A review of policies shows there is greater recognition of adverse impacts of climate change. These policies favour the integration of CSA into agriculture sectoral plans.

However, more can be done to fully and effectively integrate CSAs into annual agriculture plans and programmes. Within the agriculture extension system, for example, there are numerous provisions for incentive mechanisms to help small holders adopt CSAs such as a subsidy for organic fertilisers, renewable energy for water mills and irrigation, improved cattle sheds, and crop insurance<sup>5</sup>. However, the coverage remains low compared to the needs as agriculture extension can currently serve only 15% of farmers. In addition, these activities are not designed considering climate risk but made either for other environmental reasons or livelihoods benefits. Subsidy schemes generally cannot yet address great variations in the nature of support required by various groups of farmers, particularly women and socially disadvantaged.

The capacity of frontline extension staffs, especially those in the agriculture service centres and districts, is another issue. Developing the knowledge and skills of frontline staffs on climate change risk assessment and management would help improve the integration of CSAs into the extension system.

A focused strategy for integration of CSAs into sectoral plans would help capitalise on the increasing global and national priority on climate change adaptation. The following actions are offered as suggestions.

- Greater attention to policy provisions during annual planning, budgeting and human resource development would help to back up policy guidance with packages of interventions. MoAD might, for example, include climate risk management approach, CSA in the planning guideline to be used in the beginning of planning period.
- Building the capacity frontline extension is crucial for more effective integration of CSAs. Focused reorientation and capacity to identify climate risks, develop local solutions, and provide technical services would lead to greater integration of CSAs from the beginning.
- Increasing budgets and human resources in extension would also facilitate scaling up CSAs. Farmer-to-farmer

extension has proven a useful approach to leveraging limited resources.

- Revising and refining CSAs requires feedback loops between frontline extension staffs, technology developers, and policy makers during stocktaking and validation of existing good practices, development of operational plans and business models so they can be more easily integrated the plans.
- Enhanced partnerships with I/NGOs, the private sector, and cooperatives could help overcome some of the difficulties stemming from limited human resources and budgets in DADOs. Partnerships with the private sector for 'service against payment', integration and facilitation of I/NGOs, and promotion of 'cooperative-lead service provision' could help generate and mobilise funds for scaling up CSAs.
- Nepalese farmers are highly differentiated hence extension programmes should target their needs and priorities.
- With the effects of climate change increasing, small-scale solutions may be insufficient in the long run. Policies need to visualise long-term effects of climate change and appropriate technologies to address them. A targeted, large-scale CSA programme to scale up CSAs from MoAD would also help to integrate CSA in the plans.

Although incentive mechanisms can encourage farmers to take risks and adopt CSAs, they also increase the workload of extension staffs. Simple and easy-to-monitor support mechanisms are more likely to be integrated into extension systems. A proper evaluation and learning mechanisms may be strengthened.

## INTEGRATING CSAs IN LOCAL DEVELOPMENT PLANS

Nepal's policy and strategy frameworks have opened the way for integrating CSAs into local development plans as a component of climate change adaptation. The Environment Friendly Local Government Framework (ELFGF) 2013 provides incentive mechanisms to integrate climate change adaptation measures and mechanism to make climate-friendly governance, and link the size of a grant to match how local government agencies plan to address climate issues. CSAs such as the use of alternative energy, promotion of agro-forestry, conservation tillage and organic fertiliser have been encouraged by the framework. Similarly, the Local Adaptation Plan of Action (LAPA) framework provides a pathway for integrating CSAs into local adaptation plans. Periodic development plans have consistently integrated climate change issues at objective, strategic and operational policies<sup>6,7</sup>. The current, 14th periodic plans have strategies to, "...develop and disseminate ..... agro-technologies to minimize adverse impacts of climate change".

The National Adaptation Programme of Action (NAPA) 2010 and Climate Change Policy 2011 also emphasise the need to integrate climate change adaptation in regular development plans. Various CSA technologies, particularly related to infrastructure and investment, are included in local adaptation plans of action (LAPA) and have been implemented using earmarked funds. However, a stronger integration in planning, implementation and budget allocation for CSAs in DDCs and VDCs is warranted for sustainable and wider scaling up. The following actions could help:

- Integration of CSA into local planning process is crucial. When powerful investment demands for CSAs emerge from hamlets and wards, there will be a higher priority and increased budget in VDCs and DDCs.
- Mainstreaming CSAs into local climate change adaptation plans such as LAPAs and community disaster reduction plans would also lead to better integration and coordination.
- Integration of CSAs into local government plans requires strong inter-sectoral coordination and policy coherence. Coordination among at least three ministries, i.e. MoFALD, MoAD and MoE, can help make this happen.

## INSTITUTIONAL ISSUES FOR INTEGRATION OF CSAs

Policies and institutions have greater impact if there is coherence, coordination and integration<sup>8</sup>. Policy provisions and plans for CSA are often fragmented and this poses a major challenge for scaling up.

Climate change has so far been a priority for the Ministry of Population and Environment. MoAD has the mandate for formulating and implementing policies for agricultural development and food security, which includes a role for scaling up CSA. MoAD has institutions for conducting research (i.e. NARC with substations in different agro-ecological zones) and facilitate agriculture extension through 75 DADOs and hundreds of ASCs.

Scaling up CSA requires multi-sectoral coordination, particularly among forestry, agriculture, water and energy. Effective inter-ministerial and inter-departmental coordination would lead to more effective implementation and synergy. Relevant agencies include: The Ministry of Population and Environment (climate change adaptation and mitigation), Ministry of Federal Affairs and Local Development, Ministry of Irrigation, Ministry of Livestock Development, and Ministry of Cooperatives and Poverty Alleviation (agriculture cooperatives). More clarity in terms of roles, mandates and authority would help improve integration of CSA into annual plans. Setting up a high-level, multi-sectoral and multi-stakeholder coordination mechanism would help improve coherence and coordination.

## INTEGRATION AS A FINANCING MECHANISMS FOR SCALING UP CSAs

Financing is critically important for development of CSA as it incentivizes farmers and communities to invest. Many international climate funds such as Green Climate Fund, offer opportunities to access funds for scaling up CSA. Access to climate funds requires early preparation and follow up. It would be easier to access those funds with an explicit scaling up strategy for CSAs.

Integration of CSAs into agricultural and local development plans would increase the likelihood of co-finance and co-investment for climate change adaptation. Nepal's Climate Change Policy 2011 stresses that about 80% of the climate change funds received by institutions should be invested at village level. Innovative approaches such as climate-adapted village (CAV) have shown that integration of CSAs into LAPAs and support through small seed grants would enable communities to generate local funds.

The government is not the only actor addressing climate change. Non-government organisations, farmers' association,

cooperatives and the private sector have a role to play. Government can facilitate the integration and mainstreaming of all actors by making a common goal. Understanding the crosscutting nature of interventions needed to respond to climate change, the National Planning Commission has provisioned for a separate budget code that requires all sectoral ministries to analyse and indicate what kind of activities are planned and how much budget is allocated to climate change initiatives, including CSA.

## CONCLUSION

Nepal's policies and strategies has increasingly recognise the need for integrating climate smart interventions into development plans. These policies offer an opportunity for a multi-pronged approach to scaling up CSAs and integrating them into agriculture sectoral and local development plans. Greater integration of the CSAs into agriculture plans and local development plans would establish a sustainable mechanisms for planning, implementing and financing for CSAs. Focused actions during planning of agriculture development plans and formulation of local plans, along with multi-stakeholder actions and coordination would facilitate faster integration of the CSAs into agriculture sectoral and local development plans.

- 1 MoSTE (2014). Economic Impact Assessment of Climate Change in Key Sectors in Nepal, Ministry of Science, Technology and Environment (MoSTE), Government of Nepal
- 2 Synnott P (2012). Climate Change, Agriculture, & Food Security in Nepal, Developing Adaptation Strategies and Cultivating Resilience. Mercy Corps Nepal
- 3 El-Fattal, L (2012) POLICY BRIEF. Climate-Smart Agriculture is "Smarter" When Informed by a Gender Perspective, Women Organizing for Change in Agriculture and Natural Resource Management WOCAN
- 4 Policy Brief: Opportunities and Challenges for Climate Smart Agriculture in Africa, agriculture, forestry and fisheries/ African Union
- 5 MoAD (2007). Nepal Agriculture Extension Strategy, Ministry of Agriculture Development, Government of Nepal
- 6 NPC (2010). Three Year Plan (2010-2013), National Planning Commission, Government of Nepal
- 7 NPC (2013). Three Year Plan (2013-2016), National Planning Commission, Government of Nepal
- 8 Thapa B (2016). Climate Smart Village: climate Smart Village: Adaptation, Institutionalization & Scaling up CSV approach in Nepal. Paper presented at CSV International workshop, 12-14 Sep 2016, Nepal

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