

Agroforestry to Achieve Global Climate Adaptation and Mitigation Targets: Are South Asian Countries Sufficiently Prepared?

Abstract: Traditional agroforestry systems across South Asia have historically supported millions of smallholding farmers. Since, 2007 agroforestry has received attention in global climate discussions for its carbon sink potential. Agroforestry plays a defining role in offsetting greenhouse gases, providing sustainable livelihoods, localizing Sustainable Development Goals and achieving biodiversity targets. The review explores evidence of agroforestry systems for human well-being along with its climate adaptation and mitigation potential for South Asia. In particular, we explore key enabling and constraining conditions for mainstreaming agroforestry systems to use them to fulfil global climate mitigation targets. Nationally determined contributions submitted by South Asian countries to the United Nations Framework Convention on Climate Change acknowledge agroforestry systems. In 2016, South Asian Association for Regional Cooperation's Resolution on Agroforestry brought consensus on developing national agroforestry policies by all regional countries and became a strong enabling condition to ensure effectiveness of using agroforestry for climate targets. Lack of uniform methodologies for creation of databases to monitor tree and soil carbon stocks was found to be a key limitation for the purpose. Water scarcity, lack of interactive governance, rights of farmers and ownership issues along with insufficient financial support to rural farmers for agroforestry were other constraining conditions that should be appropriately addressed by the regional countries to develop their preparedness for achieving national climate ambitions. Our review indicates the need to shift from planning to the implementation phase following strong examples shared from India and Nepal, including carbon neutrality scenarios, incentives and sustainable local livelihood to enhance preparedness.

Keywords: agroforestry; South Asia; climate change; mitigation; adaptation; policy; REDD+; national determined contributions; climate neutrality