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Local agriculture traditional knowledge to avoid erosion in a changing climate: Ensuring agricultural livelihoods and food security

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In the regions that experience substantial climatic risks, considerable traditional expertise exists that is underutilized and that could be valuable as a starting point to build more effective strategies for adapting to climate change and ensure food availability. Some of these are agronomic strategies for soil conservation targeting erosion avoidance as a form to ensure soil fertility and thus, crop production and food availability. Following an extensive literature review in the Indogangetic Plans, we have identified many different practices derived from local traditional knowledge that can be classified as i) Reshaping the landscape (terracing, bunding, efficient distribution of land uses); ii) Stream diversion to reduce flood impact (channels along the edges of the fields, embankments, dams, network of ponds, outlets, walls and fencing); and iii) Others (agroforesty, use of specific trees as indicators of soil erosion, crop-fallow rotation, preservation of patches of forests, reforestation, collective management of forests). These endogenous-based practices have a great potential for adaptation since they are more easily adopted by communities, they require of minimum or not external expertise and aid, and usually, are cheaper than other strategies. A combination of local knowledge with other scientific knowledge may be the most effective way to face climate change. This work was performed as part of the CCAFS-Program of the CGIAR in South Asia.