Media Article

Agroforestry helps farmers adapt in climate sensitive areas of India

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CDKN Media Article

Agroforestry helps farmers adapt in climate sensitive areas of India

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Blossoming trees in the farms provide great joy to the farmers in the semi-arid, drought prone region of Bundelkhand in Central India. This region which comprises of 13 districts in the states of Madhya Pradesh and Uttar Pradesh, is one of the most climate sensitive areas in the country characterised by degraded forests and rapidly reducing surface water bodies. Due to its topography of shallow soil depths and hard rocky substrata, there is minimal groundwater recharge and consequently the region suffers from low water storage in aquifers and low moisture conservation in the soil. A high run off rate causes heavy loss of the top soil. Moreover, an erratic rainfall pattern with increasing frequency of droughts is posing a growing threat to the livelihood security of the rural community here. With over 80% of the population dependent on agriculture, climate change has major economic, social and ecological implications for this region.

It is possible for these vulnerable communities to mitigate some of the negative effects of climate change by practicing agroforestry. Agroforestry is a collective name for a land use system in which woody perennials (trees, shrubs etc.) are grown along with crops. This system provides a set of innovative practices that are designed to enhance farm productivity in a way that contributes to climate change mitigation through enhanced carbon sequestration.

Agroforestry systems use trees to aid the cropping system to increase farm productivity, diversify farmers’ income sources and provide environmental benefits. The trees provide farmers with yields of fruit, oil, fodder, fuel and medicinal products, increasing their livelihood opportunities. Diversification is a key adaptation strategy for the small and marginal farmers living in climate vulnerable areas. Agroforestry reduces dependency on one crop variety and so helps in maintaining agricultural production during both wet and dry years. It has great potential to increase farm income and sustain crop production thereby strengthening the socio-economic situation of the farmers.
Agroforestry is also a practical option for addressing the problem of deforestation – one of the main causes of climate change in Bundelkhand. Dr. Prithvi Pal, agricultural scientist from Krishi Vigyan Kendra (the government’s farm science centre) in Lalitpur district said, “Considering the topography and current environmental conditions of Bundelkhand, farmers in this area should adopt agroforestry - not only from the point of view of economic gain but also for its long term ecological benefit. This integrated model helps in soil and water conservation. The roots of the trees help in binding the soil which results in reducing water run-off thus enhancing water retention in the soil.”

Kailash Narayan, a farmer practicing agroforestry said, “In agroforestry, various tree types can be grown. Fruit bearing trees in the empty spaces between the farm lands are very profitable for us. Agroforestry gives us dual benefits – from crops as well as trees. In my opinion, more farmers should practice agroforestry.”

Dr. A.K. Tiwari, a scientist working at the National Research Centre for Agroforestry, Jhansi emphasized, “In the earlier times also, farmers used to grow trees within their farms. But with scientific understanding, the kind of trees to be grown and the distance to be kept between the trees has helped to improve the yield from those trees. Since the small farmers cannot afford to wait for a very long time to get economic gains from the trees in their farms, our organisation encourages an agri-horticulture model wherein the farmers can harvest the fruits within 3 to 4 years of planting fruit trees like gooseberry and guava.”

Agroforestry definitely stands as a viable adaptation option for farmers in semi – arid regions like Bundelkhand to reduce their vulnerability to climate change.
About the participant groups

Environment Planning and Coordination Organization (EPCO), Government of Madhya Pradesh is registered under the Housing and Environment Department of the Government of Madhya Pradesh. It connects government as well as non-government agencies in solving environmental problems. http://www.epco.in/

The Institute of Development Studies (IDS) at the University of Sussex, UK is a leading global organisation for research, teaching and communication on international development. It acts as a development research and knowledge hub, connecting and convening networks throughout the world. http://www.ids.ac.uk/

Kings College London, Humanitarian Futures Group - The Humanitarian Futures Programme (HFP), works to support organisations with humanitarian roles and responsibilities to effectively anticipate and prepare for long term future crises. www.humanitarianfutures.org/

Third Pole Project is a joint project of the Internews Earth Journalism Network and the bilingual environment news website chinadialogue.net that seeks to improve coverage of climate change issues in the Himalayan region and downstream. The Third Pole – based in New Delhi, Beijing, London and San Diego – designs curriculum and carries out media capacity building and training workshops for local and regional groups across Asia. www.thethirdpole.net/

Development Alternatives (DA) is India’s leading civil society organization engaged in research and development. DA set up the first Community Radio in the Central Indian region of Bundelkhand. http://www.devalt.org/

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Climate and Development Knowledge Network (CDKN) supports decision-makers in designing and delivering climate compatible developments by combining research, advisory services and knowledge management in support of locally owned and managed policy processes. www.cdkn.org

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