

TRADITIONAL AGROFORESTRY SYSTEMS IN GARHWAL HIMALAYA

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Abstract: The study was carried out for documentation of agrobiodiversity in traditional agroforestry systems in Garhwal Himalaya, Uttarakhand. A total of nine villages were taken for the study from the different geographical regions and were categorized into three different elevation ranges. The predominant agroforestry systems were found viz. agrisilviculture, agrisilvopastoral and silvipastoral system. In agrisilviculture system total 30 species were documented. In agrisilvopastoral system (home garden) total 53 species were documented among them *Trichosanthes dioica*, *Mangifera indica*, *Vitis vinifera*, *Emblica officinalis*, *Carica papaya*, *Prunus amygdalus*, *Annona squamosa*, *Annona reticulate* and *Artocarpus heterophyllus* were newly documented species. In silvipastoral system about 27 species of tree, shrub and grass species are documented with livestock unit. In three agroforestry systems some new species were documented due to adaptation of changing climate and different traditional farming practices.

Keywords: Agroforestry, Agrisilviculture, Homegarden, Silvipasture

REFERENCES

- Alam, M. S. and Masum, K. M. (2005). Status of homestead biodiversity in the offshore Island of Bangladesh. Res. J. Agri. and Biol. Sci, 1: 246-253.
- Anonymous (2013). Forest survey of India, (Ministry of Environment & Forests), Dehradun, India.
- Bijalwan, A.; Sharma, C. M. and Sah, V. K. (2009). Productivity status of traditional agri silviculture system on northern and southern aspects in mid-hill situation of Garhwal Himalaya, India. J. of For. Res, 20 (2): 137-143.
- Kala, C. P. (2010). Status of an indigenous agroforestry system in changing climate: A Case study of the middle Himalaya region of Tehri Garhwal, India. J. of For. Sci, 56 (8): 373-380.
- Maikhuri, R. K.; Rawat, L.S.; Phondani, P.C.; Negi, V.S.; Farooque, N.A.; Negi, C. (2009). Hill agriculture of Uttarakhand: Policy, governance, research issues and development.
- Maikhuri, R. K.; Semwal, R. L.; Rao, K. S.; Singh, K. and Sexana, K. G. (2000). Growth ecological impacts of traditional agroforestry tree species in Central Himalays, India. Agrofor. Systems, 48: 257-272.
- Makino, Y. (2009). Oak forests, lopping and the transformation of rural society in central Himalaya, India [Ph.D. thesis]. USA: The University of Michigan; NRCAF, Vision 2050. National Research Centre for Agroforestry, Jhansi, 2013, p.30.
- Makino, Y. (2009). Oak forests, lopping, and the transformation of rural society in central Himalaya, India [Ph.D. thesis]. USA: The University of Michigan; NRCAF, Vision 2050. National Research Centre for Agroforestry, Jhansi, 2013, p.30.
- Partap, T. (2001). Mountain agriculture marginal land and sustainable Livelihoods: Challenge and opportunities. Paper Presented in International Symposium on mountain agriculture in the Hindukush Himalaya region. Organized by ICMOD. Kathmandu, Nepal. Priorities for sustainability. The India Economy Review, 6: 116-123.
- Sachan, M.S. (2004). Structure and functioning of traditional agroforestry systems along an altitudinal gradient in Garhwal Himalaya, India. PhD Thesis, H.N.B. Garhwal University, Srinagar (Garhwal) Utranchal, India. 157.
- Sahoo, U. K. (2009). Traditional home gardens and livelihood security in North-East India. J. of food, Agri. & Env., 7 (2): 665-670.
- Samant, S. S. (1998). Diversity, distribution and conservation of fodder resources of West Himalaya, India. In B. Misri (Ed.), Proceeding of the third temperate pasture and fodder network (TAPAFON), Pokhr, Nepal, 9-13 March, 1998, sponsored by FAO, Rome. pp. 109-128.
- Sharma, R.; Xu, J. and Sharma, G. (2007). Traditional agroforestry in the eastern Himalayan region: Landmanagement system supporting ecosystem services. Trop. Ecol., 48:1-12.
- Srivastava, A.K. (2007). Enhancement of livelihood security through sustainable farming systems and related farm enterprises in North West Himalaya. [Project Report.] Almora Vivekananda Parvatiya Krishi Anusandhan Sansthan: 16.

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