

**LANDSCAPE AND SETTLEMENT DIVERSITY IN THE HIGH HIMALAYAN REGION A CASE STUDY OF HAR KI DUN**

**D. K. Shahi\***

\*Associate Professor,  
Department of Geography,  
DAV PG College,  
Dehradun, Uttarakhand, INDIA  
Email Id: dkshahi.dehradun.india@gmail.com

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**ABSTRACT**

*The high mountain settlements are often described by the diversity of their geographical spaces. This diversity is defined by differences in land use. In fact, the landscape shapes the land use and it gets shaped by the land use. The rural communities adopt a diversity of livelihood strategies and adapt the land use according to the diversity of the landscape. Therefore, every village has a diversity of landscapes with a diverse mosaic of land use. The multifunctionality of the landscape adds to the sustainability of mountain settlements. These landscapes are shaped to enhance economic possibilities or opportunities. The economic possibilities or opportunities of the mountain settlements are further enhanced by the spatial organization of settlements at different landscapes. Landscape diversity influences livelihood diversification and diversity of crop production and animal husbandry. It enhances the economic viability and sustainability of the mountain communities and also the settlements. This research presents the spatial and functional diversity of the high mountain settlements. This research also presents the relationship between landscape diversity, adaptability, in the form of land use diversity and consequent sustainability of mountain settlements. To present the relationship between spatial and functional diversity of mountain settlements it makes an intensive study of the mountain settlements of Har ki Dun (Uttarakhand Himalayas).*

**KEYWORDS:** *Landscape Diversity, Spatial Diversity, Settlements, Sustainability, Har Ki Dun,*

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**REFERENCES:**

1. Premke K, Attermeyer K, Augustin J, Cabezas A, Casper P, Deumlich D, et al. The importance of landscape diversity for carbon fluxes at the landscape level: small-scale heterogeneity matters, *WIREs Water*, 2016;3(4): 601-617.
2. Palang H, Mander U, Luud A. Landscape diversity changes in Estonia. *Landscape diversity changes in Estonia. Landscape and Urban Planning*, 1998;41(3-4):163-169.
3. Haberl H, Wackernagel M, Wrabka T. Land use and sustainability indicators. An introduction. *Land Use Policy*, 2004;21(3):193-198
4. Kuchma T, Tarariko O, Syrotenko O. Landscape Diversity Indexes Application for Agricultural Land Use Optimization. *Procedia Technology*, 2013;8(2013):566 – 569.
5. Palacios MR, Huber-Sannwald E, Barrios LG, et al. Landscape diversity in a rural territory: Emerging land use mosaics coupled to livelihood diversification. *Land Use Policy*, 2013;30(1):814-824.
6. Christophe K. Koffi, Houria Djoudi and Denis Gautier, 2016 Landscape diversity and associated coping strategies during food shortage periods: evidence from the Sudano-

- Sahelian region of Burkina Faso, Regional Environmental Change, volume 17, DOI 10.1007/s10113-016-0945-z
7. Grossman D. The bunched settlement pattern: Western Samaria and the Hebron Mountains. *Transactions of the Institute of British Geographers N.S.* 1981;6(1981):491-505.
  8. Kumar A, Gupta SK, Padmanaban P. Some selected fauna of Gobind PashuVihar. *Conservation Area Series*, 2004;18:1-90.
  9. Shahi DK, Dutt A. Climate Change Concerns: Vulnerability and Adaptation of Mountain Communities, *National Research Journal of Humanities and Social Sciences*, 2014;2(4).
  10. Belcakova I, Olah B, Slamova M, Psenakova Z. A Cultural and Environmental Assessment of a Landscape Archetype with Dispersed Settlements in Cadca Cadastral District, Slovakia. *Sustainability*, 2021;13(1200):1-23.
  11. Hanusin J. Impact of Dispersed Settlement on the Structure and Diversity of Rural Landscape (Case Study of Village Hrusov, Slovak Republic). *Geographia Polonica*, 2021; 94(1):29-46
  12. Patil S. Dispersal Index of Rural Settlement in Panhala Tahsil: A Statistical Approach. *Think India Journal*, 2019;22(38):176-181.
  13. Čurović Ž, Čurović M, Spalević V, Janic M, Sestras P, Popović SG. Identification and Evaluation of Landscape as a Precondition for Planning Revitalization and Development of Mediterranean Rural Settlements—Case Study: Mrkovi Village, Bay of Kotor, Montenegro. *Sustainability*. 2019;11(7):2039.
  14. Gormus S. Land Use Effects on Landscape Diversity in Protected Areas. Conference: ICOEST Cappadocia, 2013. <https://www.researchgate.net/publication/278411218>
  15. Sarlak M, Ferretti LV, Biasi R. The Productive Landscape in the Desert Margin for the Sustainable Development of Rural Settlements: An Innovative Greenbelt for Maranjab Desert in Iran. *Sustainability*, 2021;13(4):2077.
  16. Ayantunde AA, Asse R, Said MY, Fall A. Transhumant pastoralism, sustainable management of natural resources and endemic ruminant livestock in the sub-humid zone of West Africa. *Environment Development and Sustainability*. 2014;16(5): 1097-1117.
  17. Gergel SE, Powell B, Baudron F, Wood SLR, Rhemtulla JM, Kennedy G, et al. Conceptual Links between Landscape Diversity and Diet Diversity: A Roadmap for Transdisciplinary Research. *Bioscience*. 2020;70(6):563-575.
  18. Abson DJ, Fraser ED, Benton TG. Landscape diversity and the resilience of agricultural returns: a portfolio analysis of land-use patterns and economic returns from lowland agriculture. *Agric & Food Secur* 2013;2(2).
  19. Aryal S, Maraseni TN, Cockfield G. Sustainability of transhumance grazing systems under socio-economic threats in Langtang, Nepal. *Journal of Mountain Science*. 2014;11(4): 1023–1034.

20. Holling CS. Understanding the Complexity of Economic, Ecological, and Social Systems, Ecosystems. *Ecosystems*, 2001;4(5);390-405.
21. Schippers P, van der Heide CM, Koelewijn HP, Schouten MAH, Smulders MJH, Cobben MMP et al., Landscape diversity enhances the resilience of populations, ecosystems and local economy in rural areas. *Landscape Ecology*, 2015;30(2):193-202.
22. Balta S, Atik M. The role of rural landscape characters in the preparation of village design statements: the case study of Elmalı, Antalya, *Mediterranean Agricultural Sciences*, 2019;32(1):1-9.