

Journal Name:	International Journal of Environment and Climate Change
Manuscript Number:	Ms_IJECC_127136
Title of the Manuscript:	Soil organic carbon in three selected agroforestry system at temperate zone (2000-2800m) of North Western Himalaya, Uttarakhand, India
Type of the Article	Original Article

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	1. Silvopasture Systems (combining trees and pasture/grazing land) Soil Fertility and Carbon Sequestration, Improved Water Holding Capacity, Enhanced Nutrient Cycling. 2. Agri-silviculture Systems (combining trees and crop cultivation) Soil Health and Crop Productivity, Reduction of Fertilizer Needs, Climate Adaptation and Resilience. 3. Homegarden Agroforestry Systems (multi-layered systems combining trees, shrubs, and herbs for household use) Soil Fertility and Biodiversity, Enhanced Organic Matter Recycling, Improved Microclimate and Soil Stability, In conclusion, SOC is integral to the sustainability, productivity, and ecological function of temperate agroforestry systems in the North-Western Himalaya. It enhances nutrient cycling, soil fertility, water retention, and erosion control, providing essential ecosystem services that support the resilience of these agroforestry systems and the livelihoods that depend on them.	
Is the title of the article suitable? (If not please suggest an alternative title)		
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	Soil organic carbon (SOC) plays a pivotal role in maintaining soil health, productivity, and ecological resilience in agroforestry systems, particularly in the temperate zone (2000-2800m) of the North-Western Himalaya, Uttarakhand, India. This study examines SOC dynamics across three selected agroforestry systems—silvopasture, agri-silviculture, and homegarden systems—each widely practiced in the region. SOC is fundamental to soil fertility, water retention, and nutrient cycling, and it contributes significantly to carbon sequestration and climate adaptation in these sensitive, high-altitude ecosystems. In silvopasture systems, SOC enhances pasture productivity, increases water holding capacity, and supports sustainable livestock production. Agri-silviculture systems benefit from SOC's role in soil structure improvement, erosion reduction, and steady nutrient release, which are critical for crop and tree productivity on steep Himalayan slopes. In homegarden systems, SOC supports plant diversity, enriches biodiversity, and promotes sustainable nutrient cycling through organic matter recycling. The findings underscore the importance of SOC in sustaining agroforestry practices in the temperate Himalayas, offering insights into sustainable land management strategies for mitigating climate change impacts, enhancing soil health, and supporting rural livelihoods in mountainous regions.	
Are subsections and structure of the manuscript appropriate?	Yes	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	The scientific study of soil organic carbon (SOC) in agroforestry systems within the temperate zone of the North-Western Himalayas (2000-2800m) in Uttarakhand is well-founded, as SOC plays a crucial role in soil fertility, carbon sequestration, and ecosystem stability. Key factors supporting the scientific correctness of this topic are as follows: Study of SOC in agroforestry systems in the North-Western Himalayas is scientifically robust, aligning with global and regional ecological research. Focusing on SOC in these systems contributes to our understanding of sustainable land management, climate resilience, and agricultural productivity in mountainous regions. The topic is scientifically sound and	

	<p>crucial for informing conservation policies and sustainable practices tailored to high-altitude agroecosystems.</p> <p>Overall, studying SOC across different agroforestry systems in the North-Western Himalayas holds immense ecological, agricultural, and socio-economic value. It provides a foundation for sustainable land management in an environmentally sensitive region and offers practical solutions for mitigating climate change while supporting local livelihoods. Through this research, we can better understand the interplay between biodiversity, soil health, and carbon sequestration, informing policies and practices for sustainable development in mountainous regions.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p> <p>=</p>	<ul style="list-style-type: none"> • Nair, P. K. R., & Garrity, D. (Eds.). (2012). <i>Agroforestry - The Future of Global Land Use</i>. Springer Science & Business Media. • Jose, S. (2009). "Agroforestry for ecosystem services and environmental benefits: an overview." <i>Agroforestry Systems</i>, 76(1), 1-10. • Lal, R., & Stewart, B. A. (Eds.). (2019). <i>Soil and Climate</i>. CRC Press. • Singh, S. P., & Singh, R. P. (1992). "Structure and function of the temperate forests of the Himalaya. I. Dry matter dynamics." <i>Annals of Botany</i>, 69(1), 87-93. • Sharma, E., Rai, S. C., & Sharma, R. (2001). "Soil, water, and nutrient conservation in mountain farming systems: Case-study from the Sikkim Himalaya." <i>Ecological Economics</i>, 39(1), 49-62. • Mandal, D., & Sharda, V. N. (2013). "Appraisal of soil erosion risk in the Himalayan foothill region of India for soil conservation planning." <i>Land Use Policy</i>, 27(4), 520-528. • Pandey, C. B., & Singh, J. S. (1981). "Soil fertility and moisture characteristics under different plantation types of central Himalaya." <i>Forest Ecology and Management</i>, 3, 123-133. • Ghosh, S. M., & Singh, H. S. (2014). "Soil organic carbon pools and dynamics under temperate agroforestry systems in the northwestern Himalaya." <i>Agroforestry Systems</i>, 88(5), 841-856. • Chavan, S. B., Keerthika, A., Dhyani, S. K., Handa, A. K., Newaj, R., Rajarajan, K., & Ajit. (2015). "Carbon sequestration in agroforestry systems in India: a review." <i>Agroforestry Systems</i>, 91(6), 1101-1118. • Walkley, A., & Black, I. A. (1934). "An examination of the Degtjareff method for determining soil organic matter, and a proposed modification of the chromic acid titration method." <i>Soil Science</i>, 37(1), 29-38. • Singh, K. A., & Jain, S. K. (2002). "Agroforestry systems in the Himalayan region." <i>International Journal of Agricultural Research</i>, 3(2), 99-106. 	
<p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>Yes, It is undarstable . In future you may improve scientific writing skills</p>	
<p>Optional/General comments</p>		

PART 2:

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Are there ethical issues in this manuscript?</p>	<p><u>(If yes, Kindly please write down the ethical issues here in details)</u></p>	

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