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Commentary

Can Agroforestry Alleviate Climate Change-Induced Mental Health Issues?

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ABSTRACT
We review existing published literature to assess the ecological grief and eco-anxiety on livelihoods of rural households. It is suggested that agroforestry can effectively alleviate the adverse effects of climate change induced losses to rural households.

Key words: Climate change, Agroforestry, Mental health

ALLEVATING MENTAL HEALTH ISSUES WITH AGROFORESTRY – A VIEW POINT

Climate change has far-reaching impacts that affect the physical environment and significantly influence mental health (Charlson et al. 2021, Lawrance et al. 2022). Persistent climate-related disruptions, such as prolonged droughts or unpredictable weather patterns, can lead to feelings of hopelessness and depression, resulting in increased stress and anxiety (Ogunbode et al. 2022). Eco-anxiety, characterized by the chronic fear of environmental doom, is becoming more widespread (Passmore et al. 2022). Additionally, "ecological grief" emerges from witnessing the decline of cherished natural areas or species (Cunsolo and Ellis 2018). The loss of crop productivity and livelihoods, particularly in agriculture-dependent communities, exacerbates these mental health issues (Rahut and Timsina 2024). Younger generations, who are increasingly aware of the long-term impacts of climate change, are particularly affected (Cunsolo and Ellis 2018). Climate change can also worsen social determinants of mental health, such as poverty, migration, and inequality (Hazarika et al. 2024). These indirect impacts create additional stressors that negatively affect mental well-being. By understanding and addressing these challenges, we can foster more resilient and supportive communities in the face of climate change. Furthermore, climate change significantly contributes to suicides among farmers. The lack of irrigation, especially during rainfall variability or non-monsoon seasons, greatly exacerbates their distress (Shaban et al. 2024). Agroforestry systems, which integrate trees and shrubs with crops and livestock in agricultural landscapes, are globally distributed across approximately 1.6 billion ha, with about 78% located in tropical regions and the remaining 22% in temperate regions (Nair et al. 2021). These systems are tailored to each region's specific environmental and socio-economic conditions. Agroforestry provides diverse income sources through multiple crops, timber, fruits, and medicinal plants, thus reducing dependency on single cash crops and ensuring economic stability (Reang et al. 2022, Sileshi et al. 2023). Agroforestry fosters social connections and a sense of belonging by promoting individual or community participation and cooperation. Strong community ties and social support are crucial for mental health, as they help reduce feelings of isolation and provide emotional backing (Haslam et al. 2022). Agroforestry thus empowers farming communities by creating opportunities for involvement in sustaining livelihoods. This inclusivity promotes social equity and resilience, helps achieve common goals, and enhances environmental and economic well-being.

Additionally, agroforestry enhances the beauty of landscapes, creating more visually appealing environments. Green spaces and natural settings have been associated with reduced stress and improved mood (Franco et al. 2003, Pramova et al. 2021). These areas can also serve as recreational spaces for walking, promoting physical and mental well-being. Working in or near agroforestry systems provides regular opportunities for individuals to connect with nature, which has been shown to reduce symptoms of depression and anxiety, improve mood, and enhance cognitive function (Chan et al. 2023). Diverse agroforestry systems create habitats that support various plant and animal species, playing a crucial role in sustaining and enriching biodiversity. Overall, agroforestry systems provide numerous ecosystem services that significantly contribute to human well-being (Castle et al. 2022).

Ecosystem services such as cleaner air and water provided by agroforestry contribute significantly to a healthier living environment, enhancing overall well-being. These systems promote carbon sequestration, which helps mitigate climate change and strengthens the adaptive capacity of local communities (Hazarika et al. 2024). Additionally, agroforestry diversifies income sources - including timber, fruits, nuts, and other products - thereby improving economic stability for farmers (Sileshi et al. 2023). Numerous studies have demonstrated that agroforestry enhances food security and economic resilience by creating sustainable, diversified agricultural systems that benefit farmers, communities, and the environment amidst climate variability (Bishaw et al. 2002, Sileshi et al. 2023, Reang et al. 2022). Furthermore, agroforestry systems bolster the resilience of agricultural landscapes to climatic changes by preserving ecological functions and providing alternative sources of food and income during adverse climatic events (Sileshi et al. 2023). Reducing food and financial stress can lead to improved mental health, as economic uncertainty is a significant contributor to anxiety and depression. Moreover, diminished vulnerability to climate impacts can alleviate anxiety related to climate change and environmental degradation (Hazarika et al. 2024).

We propose that agroforestry may help alleviate climate change-related mental health issues. Although direct evidence is lacking, agroforestry can contribute to this goal by creating beautiful, biodiverse environments, fostering community cohesion, providing economic advantages, and promoting a strong connection to nature. Collectively, these factors can lead to a more supportive and health-enriching living environment. We recommend pursuing this as a new area of research. Additionally, we advocate for promoting and adopting agroforestry through robust policy and institutional support, research and development, capacity building, appropriate financial mechanisms, and integration into farming systems. These initiatives will enhance agricultural sustainability, facilitate environmental conservation, and yield socio-economic benefits for farmers and communities while addressing mental health issues.

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