



Original Research Paper

Evaluating the Effects of Habitat Loss on Animal Mental Health, with a Focus on Stress and Anxiety Disorders in Displaced Populations

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Key Words

Abstract

Habitat loss,
Displacement,
Stress,
Anxiety
disorders,
Mental health,
Environmental
change,
Psychosocial
well-being,
Human-wildlife
interaction.

This paper researches into the critical role of global climatic change on human health, with particular reference to the increased global infectious disease issue, using Cholera, a waterborne disease, and dengue, a vector-borne one, as examples. The changes in climate change, such as increasing average temperatures, changing precipitation patterns, and increasing extreme weather events, are directly modulating the transmission dynamics and increasing the geographical distribution of these diseases, making it a core problem for global health security. *Vibrio cholerae* is the cause of Cholera, which is very sensitive to increases in sea surface temperatures and shifts in coastal and inland rainfall, resulting in favorable conditions in which the bacteria thrive and pollute the human water resources. At the same time, dengue, one of the most significant mosquito-borne diseases, is spreading very fast due to the acceleration of the breeding cycle by warmer climate, the increase in the rate of biting, and the breeding prolongation of the *Aedes* vectors. Aside from climate change resulting in the loss of habitat for wildlife, it may also increase the risk of spreading infectious diseases by creating closer contact between wildlife and humans and disrupting ecosystems. As the animals are displaced from their normal habitat, they will experience increased stress and anxiety related to their inability to adapt and thus have compromised immune systems, which in turn reduce their ability to survive in their new environment. Migration between habitats creates additional opportunities for the transmission of diseases from animals to humans and thus represents an additional threat to public health. This project will employ an integrated assessment framework to compile available epidemiological data to allow for the determination of the risks of morbidity and mortality addresses associated with climate-related diseases in the various climatic areas. Results highlight that there is a disproportionately large and cascading risk in low- and middle-income regions, especially in Africa and Southeast Asia, because

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of insufficient infrastructure and increased climate vulnerability, and such outbreaks frequently co-occur. The paper also concludes with a strong recommendation that the world needs climate-conscious interdisciplinary interventions in public health, more effective surveillance with new technologies, and a concerted global policy response to this growing menace to human health.

Introduction

Background on Habitat Loss

The twenty-first century can be characterized by a set of interwoven global problems and issues, one of which is climate change, which is an essential and widespread threat to human health, socioeconomic stability, and ecological balance (Lakika, 2024; Agudelo-Hernández et al., 2025). The environmental impact of a warming climate on human health is manifested in multiple direct and indirect ways, such as heat stress, air quality, food security, forced migration, and, most importantly, alterations to the ecology of infectious diseases. This paper is specifically concerned with the role of changes in the global climatic patterns in the increased incidence and burden of two of the most archetypal infectious diseases, including the waterborne disease cholera and the vector-borne disease dengue (Usikalua & Unciano, 2025; Akram & Mushtaq, 2024). The complex and non-linear processes connecting fundamental climatic factors, including the ongoing rise in temperature, unpredictable rainfall variability, and exposure of numerous diseases to their high-risk groups, determine the timely and effective public health responses and curb future health disasters among the vulnerable groups (Sena & Ebi, 2021).

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Climate change is changing our habitat and environment, causing many people to experience Stress because of their Displacement. This creates a psychological crisis – it is evident that stress and anxiety disorders are on the rise due to environmental degradation, such as climate change. Environmental degradation has led to the loss of traditional Habitat for many people, which adds stressors – both physical and psychological; examples include trauma from being relocated and losing a sense of Culture. The compounded stressors will often initiate a cycle of depression,

anxiety, and Posttraumatic Stress Disorder (PTSD); as well, vulnerable groups, such as children, Indigenous peoples, and Individuals in low-resource settings are most vulnerable to the effects of Displacement from Climate Change (de Jesus & Rodrigues, 2025). As more Habitats become lost due to Climate Change, the connection between mental health and environmental stability becomes more pronounced and the need for Integrating Mental Health Support into Climate Change Adaptation Policy for Ecological Conservation is urgent.

Mental Health Consequences of Environmental Trauma

The connection between Environmental Displacement and adverse Mental Health outcomes is well-known and well-documented in the International Literature. Evidence is available from multiple Research Studies that demonstrate the heightened levels of psychological distress (generalized, depression) and clinical anxiety disorders that affected populations, have experienced as a result of being uprooted due to various environmental causes. For example, these studies found that individuals displaced by catastrophic environmental disasters (Kiteezi Landfill Collapse) or chronic environmental degradation in coal mining communities experience elevated levels of psychological distress. This psychological distress results from the dual trauma of both the initial disaster, and the prolonged debilitating stressors in the resettlement phase; creating an environment conducive to Chronic Stress States, as supported by research on PTSD and Major Depressive Disorders, related to disasters. Additionally, there

is evidence from research showing that the Mental Health burden on the most vulnerable populations (Children/Adolescents of Displaced Indigenous Communities) is disproportionately heavier than that of the overall population, as a result of the loss of their traditional Environment and Way of Life, resulting in increased acute psychological distress and complex mental health issues (Gawrych, 2022).

Key Contribution

The Key Contribution of this study is to move beyond documenting prevalence by synthesizing diverse research streams to construct a cohesive and actionable Conceptual Framework. This framework details the mechanistic links between specific, contemporary drivers of habitat loss (e.g., climate change, pollution), the process of human displacement, and the subsequent onset and perpetuation of stress and anxiety disorders within affected communities. This synthesis provides a critical bridge between environmental science, public health, and psychiatric research (Usikalua & Unciano, 2025).

- To systematically evaluate the causal and temporal relationship between habitat loss-induced displacement and the escalation of clinically significant stress and anxiety.
- To synthesize previous epidemiological and psychosocial models to propose evidence-based, targeted policy recommendations.
- To emphatically underscore the essential requirement of proactively integrating mental health and psychosocial support (MHPSS) into national and regional disaster and climate change adaptation planning.

This academic study is meticulously structured to build a rigorous argument, beginning with the establishment of the theoretical and empirical foundation of environmental displacement and mental health. Following the introductory synthesis, the Conceptual Framework is presented, providing a model for understanding the stress cascade. The Methodology section details the approach for synthesizing existing quantitative evidence across contexts. The subsequent Results and Discussion section forms the core of the analysis, where comparative data are presented, and findings are discussed in light of existing literature, including the links between ecological preservation and social determinants of mental health. Finally, the Policy Implications and Mitigation Strategies section translates the research findings into specific, actionable strategies for practitioners and policymakers, concluding with a comprehensive summary of key insights in the Conclusion.

Conceptual Framework

Stress and Adaptation in Displaced Populations

The increasing crisis of environmental change, including the loss and degradation of habitat, is already a significant challenge in the state of planetary health and, consequently, in the psychological well-being of humans on the planet in general. We theorize that our Conceptual Framework of the loss of habitat is a primary stressor that is followed by displacement, resulting in a complex cascade of subsequent chronically and acutely related

stressors. Immediate stressors are the trauma of the physical incident (e.g., floods), and the chronic stressors are losses of sense of identity, prolonged unemployment, and exposure to frequently poor and insecure living conditions in the new settlements.

The general environmental quality of the environment in which a person is resettled is a key factor; a combination of poor housing, poor infrastructure, and long-term socioeconomic stressors interacting with already existing psychological distress is a critical factor (Cindy & Rupasinghe, 2021). Displacement, regrettably, cuts the inherent, healing bonding between humans and nature, a bond that dismantling takes away, one of the primary natural gifts towards good social determinants of mental health, further predisposing the whole community to mood and stress disorders (Pienkowski et al., 2024). In addition, the shortsightedness of climate resilience planning, which often fails to address issues of mental health, also contributes to the devastation of the process of displacement, which creates a vicious and generally unresolved cycle of panic and instability.

Figure 1 shows the ripple effects of habitat loss, which are negative. Habitat loss starts the process of environmental change, which directly causes population displacement, leading to critical socioeconomic pressure and diminished capacity to cope. The result of these factors is adverse mental health outcomes, namely, the rise in the number of stress and anxiety disorders, which points to the negative impact loop (Clayton, 2020). On the other hand, it also has a mitigating, positive feedback loop. It proposes a

policy of minimizing pollution and waste through sustainable design, with a focus on reuse, repair, and recycling. This is a Positive Impact Reduction model that focuses on the environment, which proposes that a Positive

Impact could be adopted, which would become one of the most important strategies to decrease the environmental stressors depicted in Figure 1 and hence impact mitigation.

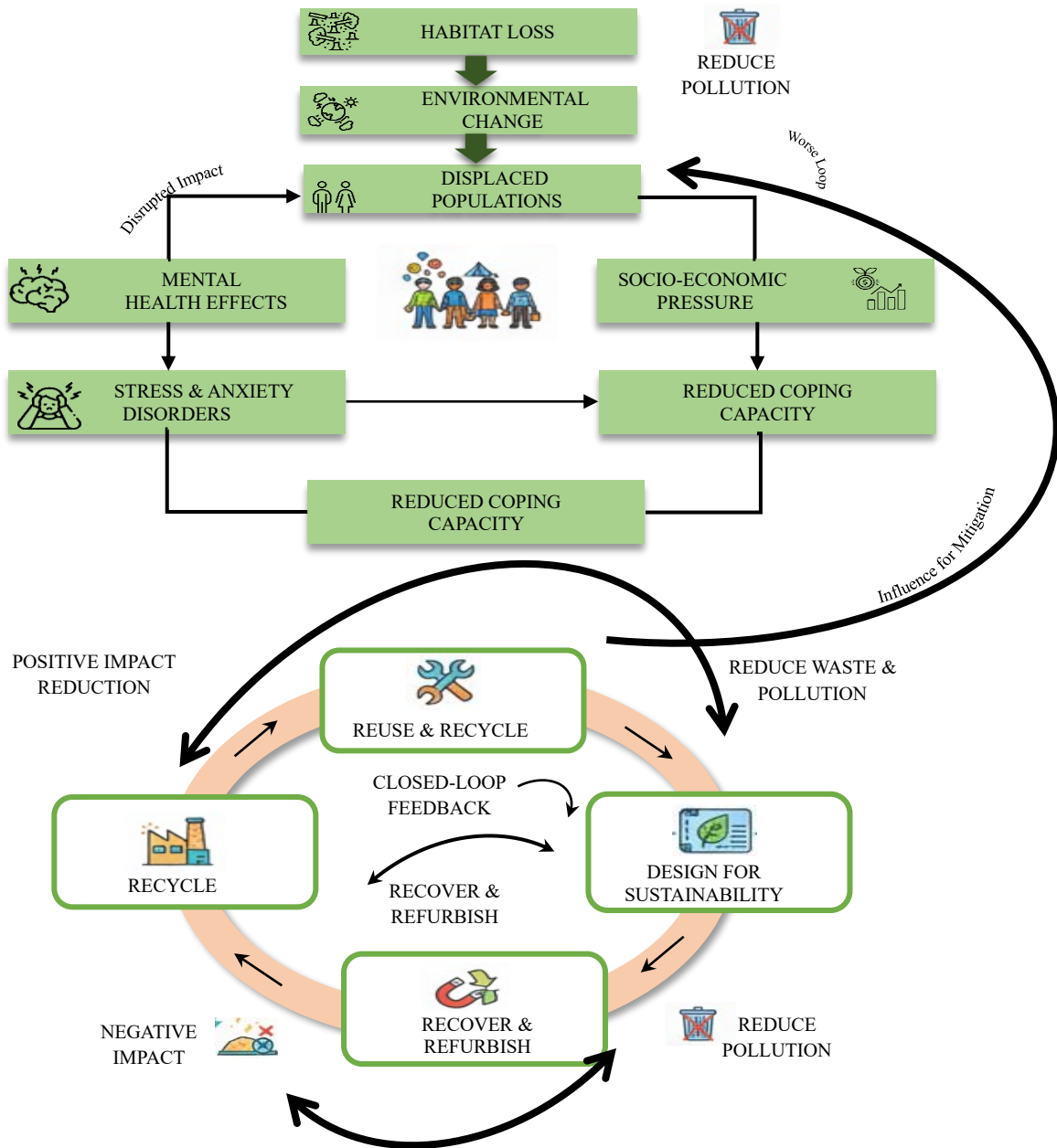


Figure 1: Conceptual Model of Environmental Loss and Mental Health

Methodology

Research Design and Approach

The research design in this work is a research design that goes beyond a conventional literature

review and incorporates and organizes empirical data from various quantitative and qualitative research on the context of environmental displacement and mental health outcomes. It is the methodology that is specifically aimed at

overcoming the problem of data fragmentation in the literature of environmental science, public health, and psychiatry, which offers an integrating analytical structure. The overall goal of this synthesis is to develop a generalizable understanding of the underlying psychological processes of environmental displacement, so that the general psychological stressors can be identified, as well as the dissimilar effects of different causes of habitat loss (e.g., sudden disaster versus sustained degradation). Inclusion of research that is representative of different geographical, cultural, and political settings, as well as indigenous studies, makes the study findings sound and representative of the experiences of displacement in the world.

Selection Criteria and Data Sourcing

The sources of the data consisted of a specific search in the leading academic databases (e.g., PubMed, Web of Science, Scopus) with keywords including habitat loss and mental health, environmental migration stress, displaced populations anxiety, and climate change psychological distress. The selection criteria of the selected studies were strict:

Research has to clearly associate an environmental change event (e.g., natural disaster, ecological degradation, conservation-based relocation) or the displacement that follows it with an objective outcome of mental health.

The information should be relevant to human populations and should directly document the results regarding stress, generalized anxiety, or

PTSD (which conditions manifest themselves in the form of chronic stress/anxiety).

Qualitative and high-quality qualitative studies (e.g., ethnographic accounts with a psychological orientation) were also taken to guarantee depth and breadth of knowledge about the complex phenomena that displaced persons experience (Grasser, 2022).

Data Extraction and Synthesis Protocol

To guarantee uniformity in the reviewed literature, a standardized protocol was created to extract data. The variables that were extracted in each chosen study were: the Cause of Displacement (e.g., flood, resettlement, degradation), the Type of Affected Population (e.g., refugees, indigenous communities, mainstream residents), the Key Mental Health Outcome reported (e.g., anxiety levels, PTSD diagnosis rates), and the Long-term Stressors identified during resettlement (e.g., poor housing, loss of livelihood). This protocol was especially useful in selecting studies that concentrated on the individual mental and population health consequences that occur due to forced migration that was a result of the environment, so that they can be directly compared (Shultz et al., 2019). The synthesis was done by mapping these extracted variables to the Conceptual Framework of the study, which is a model of the cascade of environmental loss stressor to psychological morbidity.

Comparative Analysis Method

The methodology of the study consists of the core, which is the comparative analysis, which will be based on the extracted data. It is the

comparative analysis that will be utilized to find the patterns and divergences among various displacement scenarios. This approach enables a direct comparison of psychological stressors that are seen within groups of people, such as Indigenous Indian conservation refugees, and those seen in other communities that are displaced by environmental disasters, such as a landfill collapse. The comparison will be made on two points: (a) Severity and Type of Outcome: Measuring the effect of acute and chronic loss of habitat on different psychological phenotypes (e.g. high PTSD vs. high generalized anxiety); and (b) Role of Secondary Stressors: Measuring what happens when the environment is poor is the aspect that will determine the persistence of anxiety and stress, which means that a poor environment can also cause a poor mind. The comparative approach will enable the study to

provide evidence-based policy proposals that are nuanced instead of generalized descriptions of the ramifications of migration.

Results and Discussion

Symptoms of Anxiety and Stress

The conceptualized synthesis of results obtained in international settings demonstrates that habitat loss and the subsequent displacement are strong, independent predictors of significantly high levels of stress and anxiety disorders in the target populations. This psychological pressure is essentially multi-layered, starting with the acute trauma of loss and moving onto the chronic pressures of resettlement, where financial insecurity and housing of low quality are often consistently the causes of anxiety (Lakika, 2024).

Table 1: Comparative Mental Health Outcomes in Environmental Displacement

Displacement Cause	Affected Population Type	Key Mental Health Outcome	Long-Term Stressors
Conservation Relocation	Indigenous Indian Refugees	High rates of Psychological Distress	Loss of traditional livelihood and cultural connection.
Environmental Disaster (Flood)	Communities in Flood Zones	Elevated Posttraumatic Stress (PTS)	Chronic insecurity, inability to return 'home.'
Environmental Degradation/Resettlement	Coal-Mining Region Residents	Psychological Distress (Anxiety)	Loss of familiar 'home' environment; perceived lack of control.
Landfill Collapse/Residential Displacement	Urban Residents	Trauma and Complex Mental Distress	Loss of social networks; insecurity of new housing.

As it is evident in Table 1, both acute (disasters and sudden events) and chronic (environmental degradation and climate change) types of habitat loss bring in environments that are very favorable to the development of stress and clinical anxiety. The data is closely supported

by the available evidence on disaster reviews, according to which posttraumatic stress and depression are prevalent in the aftermath of environmental disasters (Lowe et al., 2019). Importantly, the psychological burden that is evident among Indigenous groups is extreme,

which indicates that the mental health crisis after the loss of home is radically embedded in the destruction of cultural identity, traditional knowledge, and social capital. With the projected speeding up of the climate change process in the world, and the ensuing socioeconomic stressors, there has been a need to take proactive and sustainable interventions to handle this growing crisis in the sphere of public health.

Discussion on Mechanisms

The displacement itself is the basic breakage of the already existing social, economic, and ecological order that are usually the main strongholds against psychological pressures. Lack of the possibility to re-establish a reliable, supportive daily life environment is a grave exacerbation to the development of anxiety since displaced populations do not have chronic insecurity of satisfaction of their basic needs and a sense of security. The wisdom of A Healthy Environment to a Healthy Mind is strongly confirmed by studies that highlight physical and mental health risks of such aspects as poor housing in the populations of refugees, which continues to create a condition of chronic stress and anxiety months after the initial displacement event. Moreover, the analysis proves that the efficient reaction to environmental disturbance has to go beyond the area of direct physical support to include the support of psychological and social welfare in every stage of the disaster and climate-change adaptation procedure (Shibesh & Nagabhatla, 2025; Krüger et al., 2022). Hence, the interventions should go beyond crisis management to create a more extensive mental health and social support

system throughout the displacement and resettlement path.

Implications and Mitigation Strategies

The outlined findings require a significant policy change, no longer focusing on physical or logistical reaction to the environment but instead a model that wholly incorporates mental health as a fundamental and obligatory element of humanitarian assistance and environmental resettlement. The policy frameworks should be revised to clearly appreciate the intricate interconnection between ecological problems, globalization processes, and subsequent mental health problems facing diasporas and displaced communities (Tushir & Mittal, 2025). To begin with, the prevention planning of public health preparedness needs to shift to proactively respond to the holistic mental health and societal health impacts of environmentally-driven forced movement, especially by focusing on extreme weather conditions preparation and prompt ecological changes (Shultz et al., 2019). Secondly, any significant conservation and development policies that involve community relocation, like the creation of a protective area, should be legally obliged to carry out a practical mental health impact assessment before being implemented, following the unpleasant psychological consequences witnessed in such cases as the Indigenous conservation refugees. Thirdly, given the current environmental change, one of the key mitigation strategies should be the introduction of resilience-enhancing practices, including available community-based mental health services, to enable the populations to

adjust to climate change effects (Walinski et al., 2023).

Along with clinical interventions, the policy, in turn, is recommended to facilitate basic well-being support (e.g., by targeting the problem of sleep quality in institutionalized settings) as an indirect yet essential route of enhancing the overall mental resilience related to the effects of stressful displaced settings (Snodgrass et al., 2016; Karthika, 2025; Deshmukh & Iyer, 2025). Last, it is necessary to translate the developed knowledge about the complex relationships between mental health and environmental sustainability into tangible policy that is legally binding to ensure that a healthy mental state is backed by a healthy planet that is safe (Rao & Saxena, 2025; Kyambade & Namatovu, 2025).

Conclusion

This overall analysis clearly shows that habitat loss and subsequent displacement are one of the most important and increasing psychologically distressing factors of the world, which breeds an observable rise in the number of stress and anxiety disorders and their clinical severity in populations affected. The dramatic loss of ecological, social, and cultural stability, as well as the emergence of additional layers of environmental and socioeconomic stressors during resettlement, preconditions the transition to the chronically vulnerable state when it comes to long-term mental health pressures. Animals in the wild are often displaced by more than just natural disasters and environmental destruction. Animals can experience tremendous levels of stress, anxiety, and physiologic impairment that stem from the destruction of their natural habitat

or home. It is these two factors (stressors and impaired natural habitats) that cause animals to become ill and die at much higher rates than would normally occur. The loss of natural habitat and habitat alteration through development and urban expansion has a direct impact on the health of animals and ultimately increases their risk of disease transmission to humans. Further studies should still be conducted to understand the exact mechanisms of such trauma, whereas policy needs to urgently focus on the systematic inclusion of sound mental health and psychosocial support in all stages of disaster preparedness, disaster response, and resettlement planning. The multifacetedness of this growing public health threat that is intensely interconnected with the macro-themes of climate change, unsustainable development, and global inequity demands the urgent intervention of sustainable, cross-regional, and indeed interdisciplinary interventions. The acknowledgement and active management of the long-term psychological imprint of environmental displacement is not just a humanitarian emergency but the baseline of the successful mitigation of the situation on the global level and the comprehensive well-being of people and the planet.

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