

Environmental Stress, Community Health, and Social Cohesion: A Case Study from Climate-Affected Communities in Sri Lanka

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Abstract

Climate change and environmental degradation are increasingly affecting both health and social stability. In Sri Lanka, frequent floods, droughts, and extreme weather events disrupt livelihoods, damage infrastructure, and place additional pressure on already limited health services. These environmental stresses not only affect physical health but also influence social relationships, increasing vulnerability and tension within communities, particularly in rural and low-resource settings. This case study explores the relationship between environmental stress, community health, and social cohesion in climate-affected communities in Sri Lanka. The study is based on field observations from primary healthcare practice and community interactions in areas repeatedly affected by flooding. The focus was on understanding how environmental shocks influence disease patterns, access to healthcare, and interactions within communities. No personal or identifiable information was collected. The observations indicate that environmental stress increases infectious diseases, disrupts routine healthcare, and affects management of chronic illnesses. Communities also experience psychological stress, economic insecurity, and reduced access to services. These pressures sometimes create competition for limited resources and weaken trust in institutions. At the same time, strong community cooperation and mutual support were observed during recovery periods, demonstrating local resilience. The findings suggest that community health plays an important role in environmental peacebuilding. Strengthening primary healthcare services, supporting community-based responses, and improving preparedness for environmental events may reduce social tension and promote long-term resilience. This case study highlights the importance of integrating health, environmental management, and social cohesion in climate-affected settings and provides practical insights for policymakers and practitioners.

Keywords: Climate change, Community health, Environmental peacebuilding, Social cohesion, Sri Lanka

Introduction

Environmental change has become a major challenge affecting both human health and social stability. Climate change, deforestation, floods, droughts, and pollution are increasingly influencing how communities live and interact. These environmental pressures are especially important in

low- and middle-income countries, where health systems are often limited and communities are more vulnerable to external shocks. Sri Lanka is highly exposed to climate-related events. Floods, landslides, prolonged droughts, and extreme rainfall occur regularly in different parts of the country. These events damage homes, disrupt livelihoods, and affect public infrastructure. They also



increase the risk of communicable diseases such as dengue, leptospirosis, and water-borne infections. In addition to physical illness, affected communities often experience stress, anxiety, and uncertainty about income, safety, and access to services. Environmental stress also influences social relationships within communities. When essential resources such as clean water, food, housing, and healthcare become limited, tension may arise between individuals and groups. Unequal distribution of relief support or delays in assistance can reduce trust in institutions. At the same time, shared environmental challenges can also encourage cooperation, with communities supporting each other during response and recovery periods. Environmental peacebuilding is an emerging concept that links environmental management with social harmony and sustainable development. It emphasizes cooperation, fairness, and community participation in addressing environmental challenges. Health is an important component of this approach, as strong and accessible healthcare services can reduce vulnerability, support recovery, and strengthen trust within communities during crises. The aim of this case study is to explore how environmental stress affects community health and social cohesion in climate-affected areas of Sri Lanka. Using observations from primary healthcare practice, this paper examines both the health impacts of environmental events and the ways communities respond. The study highlights challenges faced by communities as well as opportunities for strengthening resilience and promoting social cohesion through health-focused environmental action.

Literature Review

Previous studies show that environmental change has a strong influence on both human health and social stability. Climate change, natural disasters, and environmental degradation affect livelihoods, access to services, and community interactions. These effects are more pronounced in low- and middle-income countries, where health systems and social support structures are already under pressure. As a result, environmental shocks often lead to wider health and social consequences in vulnerable populations. Climate-related events such as floods, droughts, and extreme rain-

fall are associated with increased health risks. Flooding can contaminate water sources, damage sanitation systems, and create conditions that promote infectious diseases. Studies from South Asia report increased cases of dengue, leptospirosis, diarrheal illnesses, and skin infections following flood events. Droughts also affect food production and water availability, contributing to malnutrition and poor health, particularly among children, older adults, and economically disadvantaged groups. Environmental stress also has important mental health effects. Communities affected by repeated disasters often experience fear, uncertainty, and psychological distress. Loss of homes, livelihoods, and social networks can increase anxiety and depression. Limited access to mental health services in rural settings further worsens recovery. These psychological impacts often persist beyond the immediate disaster period and affect overall community well-being. Another key issue highlighted in the literature is the strain placed on health systems during environmental crises. Disasters can damage healthcare facilities, interrupt transport, and reduce availability of medicines and staff. Healthcare workers may also be directly affected by disasters, limiting service delivery. Studies show that routine healthcare services such as maternal care, chronic disease follow-up, and preventive services are often disrupted during floods and droughts. These interruptions increase the risk of complications and long-term health problems. Environmental stress can also influence social relationships and community cohesion. When essential resources such as water, food, shelter, and healthcare become limited, competition may increase within communities. Unequal access to relief support can lead to dissatisfaction, mistrust, and social division. In some settings, this may contribute to conflict between groups or reduced confidence in authorities. However, the literature also describes positive social responses to environmental challenges. Many studies highlight community cooperation, mutual support, and collective action during and after disasters. Neighbors often share food, provide shelter, and support vulnerable individuals. Community-based organizations and local leaders play important roles in organizing relief and rebuilding trust. These responses are commonly described as community resilience. The concept

of environmental peacebuilding has emerged to link environmental management with social stability and cooperation. This approach emphasizes fair resource management, community participation, and collaborative responses to environmental challenges. Environmental stress, when managed effectively, can create opportunities for cooperation rather than conflict. Joint efforts in disaster preparedness, water management, and environmental protection may strengthen trust and social cohesion. Health is increasingly recognized as a key component of environmental peacebuilding. Strong primary healthcare systems help communities cope with environmental stress, reduce disease burden, and maintain trust during crises. Access to healthcare, health education, and preventive services can reduce vulnerability and support recovery. Studies suggest that effective primary healthcare services can help stabilize communities and reduce social tension during environmental disasters. In the Sri Lankan context, literature highlights the country's vulnerability to climate-related hazards, including floods, droughts, and landslides. These events affect livelihoods, health, and infrastructure. Some studies indicate that disaster responses often focus on short-term relief, while long-term health and social impacts receive less attention. Research examining the combined effects of environmental stress, health, and social cohesion remains limited. Overall, existing literature suggests that environmental stress affects health systems, community well-being, and social relationships. At the same time, community-based responses and strong health systems can promote resilience and cooperation. These findings support the need for case studies that examine how environmental stress, community health, and social cohesion interact in real-world settings.

Methodology

This study used a qualitative case study approach to explore how environmental stress affects community health and social cohesion in climate-affected areas of Sri Lanka. A case study design was selected because it allows examination of real-life situations where environmental, social, and health factors interact. This approach helps to understand how communities experience envi-

ronmental challenges and how they respond during and after such events. The case study was based on field observations from primary healthcare practice in areas affected by recurrent flooding and related environmental events. These observations were gathered over time during routine professional work as a healthcare provider. The focus was on identifying common patterns in health problems, healthcare access, and community responses, rather than documenting individual cases. No personal or identifying information was recorded. The setting included rural and semi-rural communities where livelihoods mainly depend on agriculture, daily wage labor, and small-scale economic activities. These communities are often located in flood-prone areas and have limited access to healthcare and other resources. During periods of heavy rainfall and flooding, households frequently experience damage to homes, loss of income, displacement, and disruption of daily activities. Health facilities serving these areas are typically small, with limited staff, medicines, and infrastructure. The observations focused on health-related impacts seen during and after environmental events. These included increases in infectious diseases, difficulties in accessing routine healthcare, interruptions in medication supply for chronic illnesses, and psychological stress among community members. In addition, attention was given to how healthcare services adapted during these periods and how communities supported vulnerable individuals. Ethical considerations were maintained throughout the study. This was an observational case study based on professional experience, and no interviews or formal data collection tools were used. All observations were presented in a generalized manner to protect confidentiality. The purpose was to describe broader trends affecting communities and health systems rather than individual experiences. The analysis followed a descriptive thematic approach. Observations were organized into key themes, including environmental stress, health system disruption, community response, and social cohesion. These themes were interpreted in relation to environmental peacebuilding and community resilience concepts identified in the literature. This approach provided practical insights into how environmental challenges influence both health and social relationships. It also highlighted the role of

primary healthcare services and community cooperation in supporting resilience and maintaining social cohesion in climate-affected settings.

Results and Discussions

The case study shows that environmental stress has wide-ranging effects on community health and social cohesion in climate-affected areas of Sri Lanka. These effects occur at individual, family, community, and health system levels. The impacts are interconnected and often reinforce each other during and after environmental events such as floods.

Increase in health problems

One major observation was the increase in health problems following environmental disasters. During flood periods, infectious diseases such as dengue, leptospirosis, diarrhea, and skin infections were more common. Poor sanitation, stagnant water, and overcrowded living conditions contributed to disease transmission. Many families were displaced or forced to live in damaged homes, increasing exposure to health risks. Children, older adults, and individuals with chronic illnesses were particularly vulnerable.

Disruption of routine healthcare services

Environmental events also disrupted routine healthcare delivery. Flooded roads and transport difficulties limited access to health facilities. Health centers experienced shortages of medicines, staff, and basic equipment. Patients with chronic conditions such as diabetes, hypertension, and asthma missed follow-up visits or ran out of medication. These interruptions increased the risk of complications and worsening of long-term illnesses.

Mental and emotional impact

Environmental stress had noticeable psychological effects. Community members reported fear, uncertainty, and anxiety during and after disasters. Loss of income, damage to homes, and concerns about family safety contributed to emotional strain. Some individuals experienced sleep disturbances, reduced appetite, and feelings of

helplessness. Mental health services were limited, and emotional distress was often managed within families or through informal community support.

Social tension and resource competition

Environmental stress also influenced social relationships. When essential resources such as clean water, food, and healthcare became limited, tension developed within communities. Competition for relief assistance sometimes led to frustration and mistrust. In certain situations, perceptions of unequal aid distribution reduced trust in authorities and institutions.

Community resilience and cooperation

Despite these challenges, strong examples of community resilience were observed. During and after floods, community members supported each other by sharing food, shelter, and information. Neighbors assisted vulnerable individuals, including older adults, children, and those with illness. Local leaders, volunteers, and community organizations played important roles in coordinating relief and recovery. These cooperative actions helped reduce tension and strengthened social bonds.

Role of primary healthcare in social cohesion

Primary healthcare services acted as a stabilizing factor during environmental crises. Healthcare workers continued to provide essential services despite limited resources. Health facilities became trusted spaces where communities sought treatment, advice, and reassurance. This supportive role helped maintain trust and contributed to social cohesion during difficult periods.

Environmental peacebuilding perspective

From an environmental peacebuilding perspective, the findings suggest that community health is an important entry point for strengthening resilience. Addressing health needs during environmental crises reduces stress, fear, and competition for resources. When communities feel supported, the likelihood of social conflict decreases.

Health-focused responses also promote cooperation and shared responsibility.

Overall, the findings indicate that environmental stress does not automatically lead to conflict. The outcome depends on how communities and institutions respond. Inclusive healthcare services, fair resource distribution, and strong community engagement can transform environmental challenges into opportunities for cooperation and peacebuilding. These observations highlight the need to integrate environmental management, health systems, and social cohesion within sustainable development approaches.

Conclusion

This case study explored how environmental stress affects community health and social cohesion in climate-affected areas of Sri Lanka. The findings show that environmental events such as floods place considerable pressure on both communities and health systems. These pressures increase the risk of infectious diseases, disrupt routine healthcare services, and create emotional and social strain among affected populations. The study highlights that the impact of environmental crises extends beyond physical illness. Mental stress, fear, and uncertainty were common, particularly when livelihoods and access to services were disrupted. Interruptions to routine healthcare, especially for individuals with chronic diseases, increased the risk of long-term health complications. These challenges were more pronounced in rural and low-resource communities where access to healthcare and support services was already limited. At the same time, the findings demonstrate that communities are not passive during environmental crises. Strong examples of cooperation and mutual support were observed. Community members shared resources, assisted vulnerable individuals, and worked together during recovery periods. Local leaders and healthcare workers also played an important role in maintaining essential services and providing reassurance. These responses helped reduce tension and strengthen trust within communities. This study contributes to the understanding of environmental peacebuilding by highlighting the central role of community health. Strengthening primary healthcare services during environmen-

tal crises can reduce suffering, support recovery, and prevent social tension. Health-focused responses can also build trust between communities and institutions, promoting cooperation during difficult periods. The findings also emphasize the importance of long-term planning. Disaster responses should extend beyond immediate relief and include strengthening primary healthcare, improving disease prevention, supporting mental health, and enhancing community preparedness. Integrating environmental protection, health systems, and social support mechanisms is essential for building resilience. Overall, the study suggests that environmental peacebuilding should place community health at its core. Protecting health and supporting communities during environmental stress can reduce social tension, strengthen cohesion, and contribute to sustainable and peaceful development.

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