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Review paper

Emerging Perspectives on Environmental Challenges

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ABSTRACT

Human activities significantly impact the global environment, reshaping it in ways that affect nature, societies, and economies. As a result, humans are compelled to confront environmental challenges, responding to the ensuing changes. The response involves not only individual and collective actions but also encompasses broader social, political, and economic processes and institutions that shape how humans interact with the environment. This human dimension of global change emphasizes the practical application of scientific information and the need to enhance its relevance for decision-making. The evolving economic landscape plays a crucial role in influencing environmental policies, as many environmental issues fundamentally intertwine with economic considerations. Environmental laws serve as mechanisms to internalize the environmental costs associated with economic activities in real time. This article delves into the complexities of integrating environmental concerns into social work practice and research.

1. Introduction

Analysis of the human dimension of environmental change revolves around the paradox of human causality in the global environment. In one way or another, it has resulted in significant repercussions for both social and economic cooperation (Stiglitz, 2015). The transformation of humans in the global environment has a historical context. One aspect of the human dimensions of global change focuses on the practical application of scientific information and the challenge of making such information more user-friendly for decision-making (Oxfam, 2014). As we shift our attention to climate change, human dimensions research is expanding to address alterati-

-ons in biodiversity, land and water, pollution, and other globally significant resources, emphasizing the pervasive framework that encompasses human-environment interactions (Narayan, 2002). This human activity has escalated on a large scale, resulting in altered changes in the global environment (Sachs, 2004). The strategy of identifying these variations, often termed driving forces, extends considerably beyond specific zones and populations, influencing habitat quality and human health. Human population is also a major contributor to environmental issues. If the population continues to rise at the current rate, future generations may not

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witness the natural environment. Environmental crises represent a significant public policy issue for global peace and human development (Ortiz & Cummins, 2011; Steffen et al., 2007). They play an essential role in shaping a scenario that endorses the social science focus on climate research within the social science community (Okafor, 2008). This includes understanding the sources and processes of technological changes (Thorbecke, 2006). Attention must be given to the causes of "autonomous" decreases in energy intensity, the determinants of adopting environmental strategies, and the effects of adoption agendas on rates of innovation and the role of technology in driving changes (Nelson et al., 2007).

2. Question Raising for the Research on the Human Dimension of Global Changes in the Environment

The primary human causes of global environmental changes and their evolution over time and across economic sectors and social groups are critical questions. Understanding the human consequences of environmental change, specifically in terms of water, health, and agriculture, is imperative. Exploring the potential of humans in the face of global change is also essential, as is delving into human attitudes and perspectives regarding population dynamics and social and economic changes.

The human dimension of global environmental change holds significance in both scientific inquiry and informing environmental decisions. While recognizing this importance, it is crucial to acknowledge the historical impact of past environmental alterations on human well-being. The development of research in human-environment dynamics has contributed to enhancing our knowledge and anticipation of future environmental changes (Oxfam, 2014).

3. Major Causes of Environmental Change in Global Environment

According to research by the World Health Organization (WHO), significant and global environmental threats to human health include climate change, ozone depletion, ecosystem changes due to biodiversity loss, freshwater supply issues, land degradation, urbanization, and food production systems (Nelson et al., 2007).

Stratospheric Ozone Depletion and UV Radiation Concentration: Over several decades, the release of environmental toxins has depleted stratospheric ozone, leading to increased human exposure to UV radiation and resulting in skin cancer and other skin-related diseases (Oxfam, 2014). The World Health Organization has developed the UV index to inform and educate the public about UV protection (Sen, 1999).

Urbanization and Health: Urbanization, the process of population concentration on every continent (Ortiz & Cummins, 2011), has globally transformed the scale and environmental landscape (Okafor, 2008). In 2007, the world surpassed half of its population residing in cities and towns. Unplanned and unmanageable urban development patterns are creating health risks for developing urban areas on a global scale (Stiglitz, 2015). The increase in urban population will impact overall health, addressing issues such as solid waste disposal, provision of safe water and sanitation, and the interconnection between urban poverty, environment, and health (Steffen et al., 2007).

4. Human Cause for Change in Global Environment

Human activities have been altering the distribution and utilization of land for an extended period. There is no direct correlation between population growth and deforestation, or between traditional property rights and the degradation of resources (Townsend, 1993). The age and gender composition of landholding significantly influence the extent to which forests are cleared for agricultural purposes, emphasizing the crucial role of secure land tenure in long-term resource conservation. The primary driver behind these changes is the greenhouse effect (Sachs, 2004).

5. Consequences of Future Climate Change

Continued emissions of greenhouse gases will induce lasting changes across all components of the atmospheric system, escalating the likelihood of severe and irreversible consequences for both individuals and ecosystems. Future scenarios of greenhouse gas emissions vary widely, contingent upon economic development and future climate policies. The overall emissions of CO2 predominantly determine global mean surface warming by the late 21st century and beyond. Climate change will heighten risks and create new challenges for both natural and human systems (Ortiz & Cummins, 2011). These hazards disproportionately affect individuals

and communities across nations at all levels of development. Mitigating climate change necessitates substantial and sustained reductions in greenhouse gas emissions, coupled with adaptive measures to minimize climate risks (Nelson et al., 2007; Okafor, 2008).

Diminished water availability will have economic and environmental repercussions in the Midwest. Extreme heat, heavy rainfall, and flooding will impact infrastructure, health, agriculture, forest services, transportation, and air and water quality, among other aspects. Environmental change will introduce a range of threats to the Great Lakes and surrounding regions (Townsend, 1993).

Recent studies indicate that under 4°C warming, the west coast and southern India are projected to shift to new, high-temperature climatic regimes with significant impacts on agriculture. This shift may also lead to disruptions in the monsoon, which has already been observed. Under a 2°C increase in the world's average temperatures, India's summer monsoon is anticipated to become highly erratic (Sen, 1999). At 4°C warming, an extremely wet monsoon, previously occurring once in 100 years, is projected to happen every 10 years by the end of the century. A rapid change in the monsoon could trigger a major crisis, leading to more frequent droughts and increased flooding in large parts of India (Nelson et al., 2007). The northwest coast of India to the southeastern coastal region may experience higher-than-average rainfall. Summers are expected to be hotter than anticipated, with wet years becoming wetter.

Regarding health, the impact of atmospheric changes is likely to affect the well-being of individuals in India, resulting in various deficiencies such as malnutrition and major health disorders. Child stunting, a common disorder, has seen an increase of about 30 to 35% due to the changing scenario of climate change. Strengthening the health setup is crucial, and technological advancements can aid people in protecting themselves before weather-related disasters strike (Townsend, 1993).

6. Conclusion

To comprehend global change, a crucial focus lies in the collaboration of environmental philosophy, encompassing the biosphere, geosphere, hydrosphere, and other elements, along with political and sociocultural aspects. Human actions significantly contribute to environmental changes, prompting the vital consideration of whether human activities disrupt the societal driving forces accelerating environmental change. The question of how humans will respond to genuine global change becomes paramount. Human activities play a substantial role in the extinction and alteration of habitats. Both human beings and other existing creatures rely on the environment and natural climate. The restoration of our environment can be achieved through the implementation of pollution control laws, strict restrictions on the use of fossil fuels, and the promotion of nonconventional energy sources. It is imperative to strictly control the emission of carbon dioxide and other greenhouse gases to safeguard our environment from the looming threat of global warming.

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