

Invisible Geographies: Theoretical Perspectives on Hidden Human–Environment Interactions

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Abstract:

Changes in the landscape and environment directly relate to humans, often visibly and understandably. Though a large part of this interrelationship remains hidden and socially marginalised. This paper discusses the environmental process while overlooking the concept of invisibility in geography. This study highlighted the power, knowledge, perception, shape, and spatial invisibility in the context of theoretical development, i.e., discussed from the environmental phenomenon to political ecology. The reason for understanding this concept in this way is that it seems to find the hidden process with deeper about the behaviour of the Anthropocene and to achieve sustainability. The author has tried to uncover the hidden relationships and activities in geography through this review article.

Keywords: Invisible Geography, Human–Environment Interaction, Political Ecology, Slow Violence, Anthropocene, Spatial Theory

1. Introduction

One of the most important roles of geography is to understand the interrelationship between the environment and human beings. The traditional relationship between humans and the environment was explored by the observation of landform, cement pattern, climate, and resource distribution. Besides that, a huge part of this relationship remains as an untouched and unnoticeable condition, and that is much significant. However, the unnoticed part has occurred: environmental degradation occurs slowly and cumulatively, social and economic inequalities persist, and climate change is referred to as "invisible geographies."

Although human activity is most dominant in the Anthropocene era and is changing the shape and system of the Earth, it is not always expressed dramatically through different events in that dimension. Rather, sometimes the whole perception remains outside of human activities. According to Tuan (1977), sometimes, spatial perception holds a more important part than direct observation, which makes a deeper experience of the hidden incident with more marginalised and dimension (Tuan, 1977).

2. Evolution of Human–Environment Thought

As everything is changing with time, likewise, the traditional human - environment relationship has evolved significantly. Early in the discussion of geography, the concept of determinism was a unique and original thought. This concept posits that the physical environment dominated humans. Friedrich Ratzel emphasised the environment over human society and neglected the interrelationship between humans and the environment.

After the phase, the concept of possibilism was propounded by Paul Vidal de la Blache, remarkably in geographical thought, which changed the concept and approaches of the relationship between both attributes. The shifting of human activity and right of choice was significantly remarkable. According to this concept, humans could have modified the physical environment by their choice. However, these two concepts, determinism and possibilism, were more complex

and were not fully accepted in geographical thought.

Since then, various modifications to geographical approaches have resulted in more integrative methods. This is occurring gradually, and moving forwards the approaches focus on the relationship between humans and the environment. According to Zimmerer (2017), another reciprocal relationship, society and nature, was recognised in the field of geography in the contemporary period. This approach highlighted the feedback of appliances, the non-linear processes, and the multi-dimensional relationships. It was the base to discussion about the concept of those perspectives, which exist in the world without viability, but they have significantly played a crucial role in changing the shape and view of earth.

3. Conceptualising Invisible Processes

Different types of physical and social environmental activities, such as soil degradation, groundwater depletion, biodiversity loss, climate variability, inequality, marginalisation, and uneven access to resources, are included with invisible geographies, and these have a long-term impact on the environment. Nixon (2011) applied the term “slow violence,” meaning hampering the environmental quality slowly and gradually in a hidden way. Slow violence works silently across the space and time and causes damage up to unrecovered like a disaster (Nixon, 2011).

Massey (2005) stressed invisible geographies from a political perspective. Power recommended the removal of visible and invisible parts of the political spaces, that are shaped by the power. This reveals the invisible political dimension and excludes the environmental experiences of the marginalised communities (Massey, 2005).

Therefore, invisible geographies build social infrastructure through power, perception, and knowledge besides the physical environments.

4. The Anthropocene and Gradual Environmental Change

The Anthropocene era is indicating to a new geological epoch that is significantly influenced by human beings of the contemporary geological period. But recently, the excessive negative impact has been creating the most harmful environmental hazards, such as extreme climatic and neotectonics events, and it now has a cumulative effect.

The IPCC report (2021) documented that climate change is a phenomenon where the average temperature of the world rises slowly, changes the precipitation pattern, and raises the sea levels. It is a long-term effect, but the impact is highly intolerable and unrecoverable manually.

Morton (2013) applied the term “hyper-object” to mention some phenomenon whose concept was very complex, along with vast, and its scale of dimension is too large to discuss. So, it was very difficult to understand and cover the matter fully. The appropriate example of this phenomenon is climate change, for its large extension of impact across the world (Morton, 2013).

Thus, the current era needs a new tool for exploring the invisibility and complex concepts of the Anthropocene.

5. Political Ecology and Power Relations

It has been discussed that the invisible is deeply connected with socio-political factors, such as the environment and humans. Different processes of the environment are unequal in terms of power, access, and presentation, so the shape of the space is not uniform.

Blaikie (1985) stated that, despite physical phenomena, landslides are related to economic and political components, as discussed in political ecology. It tries to find the causes of such a relationship and the environmental aspects of social inequalities behind it (Blaikie, 1985)

The people who reside in the marginal area experience the multiple characteristics and changes very closely, but still they are exempted from the politically powerful entities. They are far from decision-making and academic decisions. This inequality is called "epistemic invisibility," even though they are knowledgeable and experienced. It is a type of surrender to the invisible political power. Therefore, it requires a scientific and critical evaluation of the relationship between power and knowledge.

6. Knowledge, Perception, and Technological Mediation

Human perception's limitations are connected with the invisibility of environmental processes. Gradual change of environment and its relation and effect are not observed directly, but it works itself out. Here, technology, such as GIS and remote sensing, is the tool that can identify and analyse the incidents and reveal the hidden causes.

Goodchild (2007) wrote that geography has increased its capacity to drive the required data for detecting the change pattern of the environment. To update this position, geography was supported by technological, institutional, cultural, and epistemological factors.

Thus, invisible geographies are understood by the combination of factors of technological innovation and critical identification.

7. Toward a Conceptual Framework

There should be included the following factors for researching invisible geographies in a thorough framework:

- Acknowledging cumulative and sluggish processes can identify the relationship between the work and the environment.
- Including multidisciplinary methods to identify the relationship between the environment and humans.
- Use advanced geospatial technologies to search for invisible activities.
- Inclusion of marginalised perspectives, because they are knowledgeable and able to help in taking sustainable decision-making.
- A focus on resilience and sustainability can help identify hidden activities in the environment.

Such a paradigm makes a more comprehensive understanding of human-environment interactions possible.

8. Conclusion

Invisible geographies provide a powerful lens for examining the hidden relationships between humans and the environment. This approach expands the scope of geography and focuses on some topics like gradual processes, power relations, and perceptual limitations. The environmental challenges have increased gradually and become more complicated and interconnected. The recognition of the invisible geographies is essential in the age of the Anthropocene. If the hidden dynamic can be identified and focused on, the entire matter of sustainability is explained.

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