

CLIMATE CHANGE AND ENVIRONMENTAL JUSTICE: A CLASSICAL SOCIOLOGICAL ANALYSIS OF SOCIAL SOLIDARITY, INEQUALITY, AND SYSTEMIC TRANSFORMATION

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ABSTRACT: The climate change is among the most pressing issues that the modern society faces now as it is marked by the increase of global warming, dramatic weather changes and rising sea levels. Although such processes appear to be a result of natural phenomena, sociological perspective shows how much the intervention of humans particularly their anthropogenic activities contribute to environmental pollution. The purpose of this review article is to apply classical sociological theories for the analysis of the system foundations of environmental injustice when marginalised people suffer from the negative effects of ecological degradation without being able to participate in the process of their creation. By means of the detailed examination of the approaches by Emile Durkheim and Karl Marx and their theories of functionalism and conflict, respectively, it will be possible to explore the complicated interrelations between social structure, classes, collective consciousness and environmental processes. Thus, environmental injustices can be explained through the disintegration of social unity and common values from the perspective of Durkheim and the capitalism and alienation from Marx's approach. Combining such different but complementary perspectives on the issue under discussion, this review shows how social institutions, inequality and economic relations lead to environmental injustice.

Keywords: climate change, environmental justice, social solidarity, anomie, capitalism, exploitation, alienation

Introduction

The phenomenon known as climate change, which may be described as a long-term change in weather and atmospheric conditions on earth, is arguably among the greatest challenges that contemporary societies face (Jayaweera, 2007). Contemporary times witness various forms of climate change in the form of temperature rise, increase in extreme weather events, glacial meltdown and rise in sea levels, which pose a threat to coastal areas across the world (IPCC, 2021). Although these characteristics can be understood as purely natural, it is evident that the primary cause of such changes in the environment is human interventions, which can be referred to as anthropogenic activities (Jayaweera, 2019; Steffen et al., 2015). Human activities such as burning of fossil fuels, industrial agriculture, deforestation, and consumerism have changed the composition of the atmosphere and resulted in the greenhouse effect.

In addition to climate change, environmental justice is another concept that has been developed to complement climate change with regard to understanding environmental challenges that affect contemporary societies.

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Mohai, Pellow, and Roberts (2009) define environmental justice as equal protection against environmental harm, participation in environmental decision-making, just treatment in implementing policies and equal access to natural resources and environmental services.

Environment justice literature essentially questions the premise of randomness with regards to the distribution of environmental problems in communities and brings forth the patterns of inequality, under which marginalized communities being those communities of people who experience discrimination and marginalization within society due to the imbalance of power carry a disproportional share of environmental burdens (IPBES Secretariat, 2021; Bullard, 1990).

The relationship between climate change and environmental justice can be considered problematic because it is seen that communities with no responsibility for greenhouse gas emissions and environmental damage often face its adverse impact to a greater extent (Parks & Roberts, 2006). It affects individuals in various ways such as increased exposure to pollution, vulnerability to climate change and inability to utilize environmental resources and participate in decision-making (Adger et al., 2006). The indigenous people, racial and ethnic minorities, poor and people from the Global South are found to be highly vulnerable to environment problems and have lesser abilities to cope with these problems and advocate against them (Cutter et al., 2003; Whyte, 2017).

Research Problem

Despite the increasing awareness of climate change as an important global issue, the social aspects of environmental injustice continue to be insufficiently studied. Current environmental discourse tends to focus on technical and economic solutions without considering social and cultural structures and values that lead to environmental inequality. In this regard, a number of interrelated questions should be further researched.

Despite the fact that environmental impacts are distributed along the axis of class, race, and social marginalization, the sociological processes behind this kind of distribution have remained undertheorized within environmental discourse (Bullard, 1990; Mohai et al., 2009). Moreover, despite the richness of sociological theory in providing the tools to understand social inequalities and collective actions, its use within the context of current environmental problems is limited (Foster, 1999; York et al., 2010). Finally, relations and similarities between the functionalist and conflict approaches to environmental issues have remained unexplored, thus, preventing the development of useful theoretical synthesis for informing environmental policy (Giddens, 2009). This way, environmental policies lack consideration of the distributional aspects of climate change mitigation and adaptation, leading to potential environmental injustices (Boyce, 2018; Thomas et al., 2019).

The significance of this research problem can be further emphasized by the rapid impacts of climate change and the environmental inequalities that have been reported in a number of studies (IPCC, 2022; Bullard & Wright, 2012). It will become difficult for any attempt to address climate change without the help of sociological theories in order not to reproduce the existing inequalities but instead promote environmental justice.

Research Objectives

This review article pursues four interconnected objectives:

1. To examine environmental injustice through Durkheim's functionalist perspective.
2. To examine environmental injustice through Marx's conflict theory.
3. To synthesize Durkheim's and Marx's approaches to climate change and environmental justice.
4. To derive policy implications that address both structural and cultural dimensions of environmental justice.

Rationale and Significance of the Research

There are many interconnected justifications for why this study is significant. Theoretical justification is in making an important contribution to the field of environmental sociology through showing the validity of classical sociological theories in explaining environmental problems in today's world (Foster, 1999; Pellow, 2016). Although there is no explicit discussion of climate change by Durkheim and Marx, their theories provide insights into the social aspect of environmental problems which remain overlooked within the framework of economic or technological analysis (Giddens, 2009). Combination of functionalist and conflict perspective provides a better theoretical ground for environmental sociology than individual perspectives alone (York, Rosa, & Dietz, 2010).

There are practical motivations behind this research since it is relevant to immediate policy concerns. The impacts of climate change are already seen and expected to increase drastically within next decades, affecting most vulnerable groups disproportionately (IPCC, 2022). It is necessary to understand the social dynamics underlying environmental injustices in order to develop an adequate policy response (Adger et al., 2006). Effective environmental advocacy, community organizing and policy development are all dependent upon sociological knowledge.

Socially, the research addresses fundamental issues of justice and sustainability. Environmental injustice is part of larger inequalities that need to be addressed in modern societies (Schlosberg, 2007). The research reveals the

linkages between environmental, economic, and social justice issues that demonstrate that the issue of environmental justice requires wider social changes (Pellow, 2016).

Materials and Methods

Research Design

This study used a qualitative research design based on secondary content analysis and theoretical review. It is reasonable to use qualitative methods in the investigation of complex social phenomena when meaning, interpretation, and social process become crucial in research goals (Bryman, 2016). Since this research analyzed theories and their applicability to modern environmental problems, qualitative analysis allowed researcher to examine theories and social phenomena in detail. The research design was in line with qualitative literature review techniques that allowed developing new theories based on existing literature (Jesson, Matheson, & Lacey, 2011).

In this qualitative study, there are three linked components of research: theoretical analysis, concept synthesis, and its application to contemporary issues. Theoretical analysis involves systematic examination of Durkheim's and Marx's key concepts and their environmental implications. Conceptual synthesis integrates these perspectives to develop a more comprehensive framework. Application to contemporary issues demonstrates the analytical utility of these theoretical frameworks for understanding climate change and environmental justice.

Theoretical Framework

In order to comprehend the intricate connection between social systems, environmental injustice, and climate change, a multidimensional approach is required. In this review, the basic sociological theories of Emile Durkheim and Karl Marx have been applied to explain this difficult problem, since, although neither of them addresses climate change directly, they provide excellent theoretical tools for the current ecological analysis (Foster, 2002; Giddens, 2009).

Emile Durkheim: Social Order and Functional Integration

Emile Durkheim, who is considered one of the fathers of sociology, spent most of his academic life trying to find out what social order is and how societies ensure their stability and cohesion (Ritzer, 2011). Emile Durkheim made his contribution to sociology by developing two debatable but very important concepts: the priority of social structures in relation to individuals' actions and the possibility to study society by means of scientific researches similar to those used in natural sciences (Giddens, 2009). From his functionalism, society

can be understood as an organism where each element performs certain functions to ensure its stability (Cotterrell, 1977).

Durkheim's view of pollution, which is not much developed, can be viewed as one of the first sociological approaches to the environmental problems. Durkheim viewed pollution as a social problem caused by the violations of social norms and social boundaries (Douglas, 1966). The current World Bank facts indicating that pollution is the greatest environmental source of diseases and early death (with 9 million people dying prematurely every year because of pollution) show that the Durkheimian approach is still relevant for environmental problems (The World Bank, 2023).

A key feature of the Durkheimian theory is the notion of anomie, which refers to the condition of social deregulation, which means the lack of clear norms about what is good and what is bad and the unlimited freedom of individuals (Marks, 1974). Anomie in the environment is seen when individuals do not have any clear indications on what kind of behavior is environmentally sound, and there are no clear collective values related to environmental protection.

The idea of social cohesion through the existence of common values and collective solidarity in Durkheimian theory implies several implications regarding the environment. High social cohesion in the community makes people more environmentally conscious and increases the chances of sustainable behaviors (Szekely et al., 2021). On the contrary, the concept of anomie implies low environmental consciousness as well as lack of collaboration in combating climate change (Twyman-Ghoshal, 2021).

Karl Marx: Conflict, Exploitation, and Systemic Inequality

Karl Marx, an influential German philosopher and economist, has made a critical contribution to the development of sociological thought in relation to inequality and exploitation (Boudon & Bourricaud, 2003). The theory of historical materialism, created by Marx (Giddens, 2009), offers a way to look at how societies arrange the process of production and distribution and how it influences the environment (Foster, 2000).

The discussion of capitalism by Marx highlights the profit motive associated with the exploitation of labor and natural resources in order to generate more profits (Foster, 1999). In capitalist states, profit making is prioritized over environmental sustainability due to the desire associated with wealth acquisition that Marx referred to as the insatiable thirst for money. The focus on profit making by capitalists goes hand in hand with natural resource exploitation, pollution, resource depletion, and ultimately climate change (Foster, Clark, & York, 2010).

Aside from a materialist understanding, alienation in the capitalist society explains the cultural and psychological aspects of natural resource exploitation. Workers under capitalism are alienated from the labor process, alienated from the products of their labor, and alienated from nature (Ollman, 1976). Employees are

alienated from nature because they view it simply as something to be exploited for financial gains as opposed to viewing nature as something of beauty and sustenance (Ritzer, 2011). This alienation reduces the desire for caring for the environment while increasing overconsumption at the same time (Foster, 1999).

Data Collection Procedures

This study systematically examined peer-reviewed journal articles, academic books, and policy papers retrieved from Google Scholar, JSTOR, Scopus, and Web of Science. The search phrases consisted of classical sociological concepts in connection with modern environmental concerns. The data collection methods included database searching, references searching, searches for prominent authors, and grey literature review.

As the inclusion criteria, the source had to cover either (a) classical sociological theory as relevant to the environment, (b) environmental justice, (c) effects of climate change, or (d) connections between those areas. Works that exclusively addressed the natural sciences without any sociological aspects were omitted.

Out of 153 sources found, 87 underwent screening and thus 69 highly relevant publications were selected.

Data Analysis Strategy

The analysis of the gathered data was performed using functionalism framework by Durkheim and conflict approach by Marx in line with the thematic analysis method suggested by Braun & Clarke (2006). This included data familiarization stage, coding of major theoretical concepts (such as social solidarity, anomie, exploitation, alienation), and grouping of codes in major themes that represent both traditions.

Three major themes resulted from iterative analysis process: Durkheimian analysis theme, Marxian analysis theme, and comparative synthesis theme. Techniques of content analysis were applied to assess the depth and use of concepts in sources.

Methodological quality and rigor were ensured by: (a) systematic description of the analysis process, (b) triangulation of sources, (c) taking into account contradictory evidence, (d) data-to-conclusion link, and (e) self-reflection on theoretical biases.

Ethical Considerations

Being a secondary data analysis of published works, no direct interaction with human subjects was involved and thus, no approval from an institutional review board was necessary. Nevertheless, ethics were crucial at all stages of the research. In particular, the analysis was sensitive to power relationships in environmental discourse, taking into account the views of marginalized communities in the way that the analysis made use of the works which brought forward their voices. In the case where environmental injustices were addressed, the

analysis preserved the integrity of affected communities by refraining from re-victimizing them, emphasizing the systemic nature of the problems rather than blaming the communities themselves.

Results and Discussion

Functionalist Approach to Climate Change and Environmental Justice using Emile Durkheim

Functionalism is one of the main sociological approaches which focuses on the elements of social order, stability and social equilibrium (Parsons, 1951). According to the approach, social institutions, values, and norms have a crucial role to play in social functioning. Every element of social structure plays an important function within it (Giddens, 2009). This interdependency of elements creates collective conscience that is the shared value system among people (Cotterrell, 1977). Through Durkheim's functionalist approach to climate change and environmental justice, various perspectives can be developed with regard to environmental behavior and social structure.

Social Solidarity, Shared Values, and Environmental Stewardship

Social solidarity, a primary notion in Durkheimian sociology, is defined as the values, norms, and beliefs shared by people and serving as the foundation of social order (Cotterrell, 1977). As Cotterrell (1977) argues, there are two fundamental kinds of social solidarity identified by Durkheim, which can be regarded as manifestations of different kinds of social organization.

Mechanical solidarity is prevalent in simple and small-scale societies that lack specialization of labor (Ritzer, 2011). People in mechanical solidarity communities do similar work, have identical experience and develop a high degree of common belonging to community because of common traditions, values, and morality (Giddens, 2009). Mechanical solidarity results in collective consciousness with high integration and low individualization of people. When it comes to the environment, mechanical solidarity involves close connections between people and their environment, common values implying resource management and sustainability passed from generation to generation (Berkes, 2018). Traditional ecological knowledge is an example of mechanical solidarity in terms of the environment.

Contrary to mechanical solidarity, organic solidarity arises in more complex modern societies where there is a high degree of specialization of labor (Ritzer, 2011). The individuals in these societies have specialized roles and become dependent on one another through their societal functions, despite their diverse cultures (Giddens, 2009). Organic solidarity leads to the development of collective consciousness through the perception of interdependence and collective societal functions. For environmental issues, organic solidarity means having a sense of joint responsibility towards the protection of the environment due to the fact that environmental

degradation undermines interdependence (Szekely et al., 2021). Internationally, an example of organic solidarity can be seen in the Paris Agreement (UNFCCC, 2015).

Climate change affects both types of social solidarity. Traditional communities whose cultural practices and subsistence systems depend on mechanical solidarity become threatened by the environmental changes associated with climate change (Turner et al., 2016). Indigenous communities who use specific ecosystems to survive culturally and materially become subject to relocation, cultural disturbance, and the loss of traditional knowledge due to the effects of climate change (Wildcat, 2013; Whyte, 2017). At the same time, climate change poses a threat to the functional interdependence of modern societies, which is the basis of organic solidarity. The food system, water resources, infrastructure, and economic systems, all of which are dependent on stable climatic conditions, are becoming dysfunctional due to the changes caused by climate change (IPCC, 2022).

Additionally, Durkheim's focus on shared values offers further analytical power to understand environmental behavior (Ritzer, 2011). Shared values about environmental management or lack thereof significantly influence the collective environmental outcomes. Where strong social norms support environmental management, there will be sustainable behavior resulting from social coordination (Ostrom, 2000). However, the lack of such social norms concerning environmental management leads to unsustainable behavior. Societies that value individual consumption over environmental well-being have developed overconsumption cultures that hasten environmental destruction (Spaargaren & Mol, 1992). Prioritizing economic growth over environmental sustainability, which is an aspect of today's values, represents such normative failure (Hamilton, 2010).

Societies that preserve shared values about living within the environment's limits will recognize the importance of conserving and using resources sustainably. Such social norms concerning waste prevention, energy saving, and sustainable consumption emanate from the collective recognition of environmental interdependence (Szekely et al., 2021). Societies that embrace environmental values will demonstrate more engagement in sustainability practices, adoption of environmental policies, and collective response to environmental issues (Kollmuss & Agyeman, 2002). It means that according to Durkheim's analysis, environmental problems result partly from a weakening of shared values about human-nature relationship.

Anomie and Environmental Disconnection

Anomie, a state of normlessness that involves weak social regulation and unrestricted freedom of the individual according to Marks (1974), gives vital understanding of current environmental issues. Anomie can be described as a situation arising from the failure of social structure to regulate actions, resulting in conditions of people having no norms of behavior. As a result, unlimited needs lead to dissatisfaction, disintegration and pathologies within the social system (Mestrovic, 1988).

Applying the idea of anomie to environmental behavior helps to understand how weak norms can foster environmentally unsustainable behavior. Weakness of norms concerning environmentally friendly behavior causes an uncertainty in the conduct of people (Twyman-Ghoshal, 2021). It occurs in several forms including lack of clear norms of adequate consumption, uncertainties of waste disposal, sustainable transportation and duties of environmental citizenship (Szekely et al., 2021). The emergence of green marketing and environmental claims may only increase uncertainty rather than solve the problem (Lyon & Montgomery, 2015).

The pace of environmental change is a driver of anomie because it disrupts the environmental knowledge and practices that people are accustomed to. With the onset of climate change, weather patterns change, as well as ecosystems, making traditional knowledge and practices based on generations-long stable climate conditions less relevant (Turner et al., 2016). Particularly affected by anomie are indigenous societies as their traditional ecological knowledge becomes less relevant to the environment around them (Wildcat, 2013). In addition, the magnitude of climate change may lead to powerlessness and indifference characteristic of anomic state (Twyman-Ghoshal, 2021). People who do not see their actions influencing the global environment become indifferent to the environmental situation.

Consumer culture, with its focus on accumulation and conspicuous consumption, is both a reflection of and reinforcement of anomic environmental circumstances. The abundance of consumer goods, advertising that encourages endless consumption, and social stratification systems based on material possessions generate normative structures that favor consumption over conservation (Spaargaren & Mol, 1992). This consumerism mentality, known as “competitive consumption” according to Schor (1998), leads to the depletion of resources, as well as waste production, while discouraging sufficiency and moderation (Princen, 2005). Ecological footprint of consumer society exceeding earth's boundaries demonstrates anomic environmental behavior made possible due to weak normative control over consumption (WWF, 2020).

From the Durkheimian standpoint, tackling anomic environmental circumstances entails creating clear social norms concerning environmentally proper conduct (Twyman-Ghoshal, 2021). This means developing common understanding of sustainable consumption, reduction of waste, conservation of energy, and environmental citizenship (Szekely et al., 2021). Environmental norms clarification via educational programs, creation of expectations around environment collectively, and institutionalization of sustainable behaviors can work as solutions to anomic environmental behavior (Kollmuss & Agyeman, 2002). However, according to Durkheim, such normative regulation needs to develop through collective processes rather than imposed from the outside (Cotterrell, 1977).

Institutional Responses to Environmental Crisis

The functionalist focus on strong social institutions as ensuring social order is directly relevant to environmental management (Cotterrell, 1977). From the functionalist perspective, effective environmental protection involves institutions that help create and uphold environmental norms along with raising environmental consciousness (Ritzer, 2011). This theoretical orientation offers support for claims about the need for resilient environmental institutions capable of enacting robust environmental regulation (Vaughan & Nordenstam, 1991).

Environmental agencies, environmental regulation, and enforcement mechanisms represent an institutional response to environmental issues that can be analyzed within Durkheim's framework. The creation of environmental protection agencies, emissions standards, pollution control measures, and sustainability policies institutionalizes environmental norms that may be unclear otherwise (Dryzek, 2013). Effective environmental institutions, equipped with enforcement and legitimate authority, can offer the normative regulation needed to address anomic environmental tendencies (Vaughan & Nordenstam, 1991). The effectiveness of such institutions in part rests on their ability to generate collective commitment to environmental values beyond mere adherence to regulation (Szekely et al., 2021).

However, the functionalist perspective of Durkheim raises some issues with the limitations of institutional approaches. Environmental authorities may regulate the establishment of the rules and their implementation, but transformation to a new environmentally-friendly environment implies a collective commitment to the environmental values that go beyond mere regulation (Cotterrell, 1977). Durkheim warned about the dangers of “forced solidarity,” which is imposed by law and sanctions in the absence of any moral commitment, stating that sustainable environmental norms have to develop organically through collective processes.

Moreover, Durkheim stresses the point that individual contribution to environmental protection, including eco-purchase, sustainable household activities, and waste reduction, is not enough to solve the issue in a collective manner (Szekely et al., 2021). Even though behavioral changes make an impact on environmental protection, systemic environmental issues require a collective response and cannot be solved by individuals on their own (Maniates, 2001). The concept of social solidarity by Durkheim indicates that it is the development of collective responsibility for environmental protection that leads to sustainable results (Szekely et al., 2021).

Climate Change and Environmental Justice through Karl Marx's Conflict Theory

The conflict theory, mainly derived from the works of Karl Marx on capitalism, suggests that social structures result from and continue to maintain the struggles for power among social groups with different interests (Boudon & Bourricaud, 2003). In Marx's interpretation, the dominant social class, called the bourgeoisie or the capitalist class, exploits the working class, which is referred to as the proletariat, and extracts value surplus

from the labor of the workers. The exploitation causes an unequal distribution of wealth and resources, which leads to the development of structural inequalities, influencing all social results including the environmental ones (Foster, 2000). The workers become alienated from the work and do not have any control over the production process considering it just a way of living rather than satisfaction (Ollman, 1976).

Historical Materialism and Capitalist Environmental Degradation

Historical materialism, the theory used by Marx to analyze social development, suggests that social relations, institutions, and results are largely determined by the mode of production (Giddens, 2009). It means that societies organize production and distribution according to class relations, where the existing mode of production defines the nature of the superstructure (Marx & Engels, 1970). From the point of view of environmental analysis, historical materialism allows recognizing the priorities of economic systems in relation to environmental consequences. In particular, the priority of capitalist organization of the economy is economic growth and resource exploitation rather than sustainability (Foster, 2000).

In capitalist economic organizations, the interests of the bourgeois the owners of the means of production are to maximize profit (Marx, 1976). Consequently, the capitalist “treadmill of production” encourages industries to exploit natural resources to produce cheap goods, externalizing the cost and putting profit above sustainability (Foster, Clark, & York, 2010). The consequences include pollution, natural resource extraction, and eventually climate change, all the things which Marx would identify as the tendencies of the process of capital accumulation (Foster, 1999). Schnaiberg (1980) calls such processes environmental degradation.

The empirical support for this analysis is strong. Emissions of carbon dioxide, which cause climate change, are strongly correlated with industrial production and growth in capitalist economies (IPCC, 2022). Although there have been reductions in emissions through technical advances in certain industries, total emissions keep increasing because production keeps increasing (Steffen et al., 2015). The search for economic growth, measured by GDP increases, still leads to natural resource consumption and greenhouse gas emissions in spite of the recognition of environmental limits (Hamilton, 2010). Natural resource access and exploitation are more and more important for capital accumulation, creating cheap nature, as defined by Moore (2015).

Marxist analysis shows that environmental crises are rooted in the contradiction of the unlimited expansion of capital accumulation and the limitations of ecological systems (Foster, 1999). Capitalism has to grow all the time to survive because of capital accumulation, increased production, and market creation and resource search (Harvey, 2014). However, planetary ecology is finite, with limits of resource extraction and waste assimilation (Rockström et al., 2009).

This contradiction appears in the form of environmental problems like climate change, loss of biodiversity, and resource degradation (Moore, 2015). Tackling the problem of environmental crisis therefore involves addressing the problem of infinite growth in the capitalist system a position that is antithetical to mainstream environmental theories that advocate for technology-based solutions within the current economic framework.

Labor and Environmental Exploitation

The idea of exploitation in Marxism as the appropriation of surplus value through low-wage employment by capital below the full value of the labor process applies environmentally as well (Foster, 1999). While surplus value is extracted from labor by the capitalist system, so too is the surplus value of the environment with little consideration of sustainability issues (O'Connor, 1998).

Environmental exploitation is achieved via underpricing of natural resources, ecosystem services, and waste assimilation capacity (Foster, 2000). Capitalist firms employ fossil fuels, water, forests, and other resources, without taking into account environmental costs, thereby appropriating surplus-value from nature, similar to their ability to extract surplus-value from labor (Moore, 2015). Environmental exploitation results in negative externalities such as pollution, depletion of resources, and climate change that negatively affect other people, yet they do not figure in any cost in the market (Kapp, 1978). Such externalities have to be paid by communities that lack political leverage to oppose them (Bullard, 1990).

Negative outcomes of environmental exploitation differentially impact working class people and minorities and constitute an instance of environmental injustice that arises due to capitalist production processes (Bullard & Wright, 2012). Hazardous facilities, hazardous waste sites, and environmental threats disproportionately occur in poor neighborhoods and in minority neighborhoods (Bullard, 1990; Mohai, Pellow, & Roberts, 2009). Poor and minority communities face increased exposure to environmental risks resulting in adverse health effects and reduced quality of life, while lacking political clout to oppose them (Cutter et al., 2003). Such disparity is called environmental racism or environmental inequality.

Paradoxically, when natural resources get exhausted due to capitalist practices, the implications affect not only marginalized groups but the whole of society. Resource exhaustion, loss of biodiversity, and climate change have implications for everyone irrespective of the level of wealth and power (Steffen et al., 2015). Yet, those who are wealthy have more adaptive capacities more means and choices to safeguard themselves from environmental problems (Adger et al., 2006). Gated communities leave risky places, wealthy countries acquire their resources elsewhere, and the privileged groups can buy protection not accessible to marginalized people (Beck, 1992). Inequality in environmental vulnerability stems from the way class relations operate in environmental consequences (Pellow, 2016).

Environmental Alienation and Disconnection

The theory of alienation by Marx outlines the separation of workers from their work, products, species (human nature), and each other during capitalist production (Ollman, 1976). Environmental alienation, where individuals feel disconnected from the natural environment, is a further expansion of that multi-dimensional alienation (Ritzer, 2011). This disconnection occurs since nature is viewed by workers as something to extract from rather than something to preserve (Foster, 1999).

Under capitalism, workers have a relationship with nature purely in relation to means of production of raw materials for industrial processing, sources of energy, materials for consumption. Workers do not have any direct meaningful relationships with nature; they see it as an external reality to exploit rather than as an integral part of their existence (Ollman, 1976). Such a division demotivates people from being concerned about the environment and fosters extraction-oriented behavior (Foster, 1999). As soon as people's survival becomes dependent on resource extraction, their orientation to nature becomes oriented to the satisfaction of their material needs.

Environmental alienation takes place in many ways (Kovel, 2002). First of all, urbanization, particularly in the capitalist environment, deprives populations of direct involvement in natural processes and creates ecological disconnections (Williams, 1980). Natural resources are commodified, thus hiding their cultural and ecological significance (Leiss, 1972). Consumer culture is focused on accumulation of material goods, thus fostering extraction-oriented relationships with nature (Spaargaren & Mol, 1992).

Additionally, marginalized communities suffer from disengagement from environmental decision making (Pellow, 2016). Burdened communities are often excluded from the process of decision making, informed about environmental risks or resources needed to resist harmful siting decisions (Bullard, 1990). The exclusion from decision making concerning environmental well-being is yet another aspect of Marx's concept of alienation (Foster, 1999). Communities suffering from pollution, waste facilities or consequences of climate changes often learn about those threats only after the decisions have been made and have little chance to be actively involved (Bullard & Wright, 2012).

This procedural alienation, which denies communities their rights to participate in decisions affecting their environment, is challenged by environmental justice movement (Mohai, Pellow, & Roberts, 2009). The principle of the movement includes the right to participation in decisions affecting the communities, to access information about the environment and standing in environmental proceedings (Bullard, 1990). Those principles are consistent with Marx's understanding that overcoming alienation requires the power of the community to control its own environmental conditions (Pellow, 2016).

Critical Assessment of Current Environmental Responses

From a Marxist point of view, present policies regarding climate change and environmental justice have several shortcomings (Foster, Clark, & York, 2010). Market-driven methods such as carbon prices, emissions trade, and offsets may prove to be inadequate to deal with environmental issues (Boyce, 2018). Though accepting some possible efficiency of cutting down carbon emissions by using the mechanism of pricing, Marxist scholars detect inherent inadequacies of market approaches (Smith, 2011).

First, market approaches ignore the essential environmental tendency inherent in capitalism the structural requirement of unending accumulation resulting in extraction and pollution (Foster, 1999). The carbon prices mechanism allows continuing to emit carbon if one can pay for it, thus transforming environmental damage into commodity (Boyce, 2018). This method provides opportunities for further environmental degradation as per economic thinking, if carbon prices are low enough, then damages will be allowed (Nordhaus, 2019).

Second, market approaches often permit polluters to externalize costs to communities that lack the ability to oppose these (UNDP, 2022). Emissions trading allows polluters to move their pollution to unregulated zones, often hitting marginalized communities (Boyce, 2018). Carbon offsetting often involves locating emissions reduction projects in developing countries and marginalized communities, which can lead to negative environmental and social impacts at the local level (Bumpus & Liverman, 2008). This is because capitalism works to allocate environmental harms to the least politically powerful communities (Pellow, 2016).

Third, technological solutionism, or the idea that innovations will solve the problem of environmental challenges, overlooks the social factors of the environmental crisis (Moore, 2015). The production of electric cars relies on mineral extraction with negative environmental impact (Bardi, 2014). Deployment of renewable energy sources requires changes in land use that affect the environment (Trainer, 2010). Carbon capture and storage technology, if applied, would be very energy intensive and could prolong fossil fuels extraction (McGlade & Ekins, 2015).

Marxists advocate for more fundamental transformation not merely reforming capitalism but replacing it with economic systems that prioritize human well-being and ecological sustainability over profit maximization (Foster, 2000). This vision involves democratic control over production, equitable resource distribution, and social organization recognizing ecological limits as fundamental constraints on economic activity (O'Connor, 1998). While achieving such transformation appears politically challenging, Marxists argue that capitalism's ecological contradictions will increasingly generate pressures for fundamental change (Foster, Clark, & York, 2010).

Comparative Synthesis: Durkheim vs. Marx on Environmental Injustice

Emile Durkheim and Karl Marx, despite different sociological paradigms, offer useful tools for analyzing climate change and environmental justice. The comparison between them reveals complementary aspects and important theoretical discrepancies that add to environmental sociology (Giddens, 2009). This part of the essay deals with similarities and differences between functionalist and conflict approaches towards environmental problems.

Theoretical Complementarity

Social Institutions and Environmental Implications

Both theorists agree that social institutions can be powerful predictors of environmental behavior. According to Durkheim, institutions are critical in maintaining social order, creating values, and regulating them (Cotterrell, 1977). Environmental institutions such as governmental agencies, regulation frameworks, international treaties can set up environmental norms and coordinate environmental actions by the society (Dryzek, 2013). At the same time, although Marx is critical towards the role of institutions in exercising class rule, he still acknowledges the importance of institutions in organizing production and using resources (Boudon & Bourricaud, 2003). For Marx, capitalist institutions, including corporations, stock markets, and property systems, determine environmental consequences because of organizing economic life (Harvey, 2014).

Collective Action Necessity

Both theories accept the fact that solutions to environmental issues require collaboration among people as opposed to just individual behavior changes (Szekely et al., 2021). From the Durkheimian point of view, solutions to the environment would have to promote collective conscience and a collective sense of values concerning the environment (Cotterrell, 1977). The individual eco-purchasing, recycling, and energy conservation behaviors are important but cannot replace the collective actions needed (Maniates, 2001). The same point is made by Marx who believes in collective actions, in particular the collective action of the proletariat towards social transformation (Giddens, 2009).

Social Integration and Marginalization

Both theories consider social integration and disintegration. Durkheim considers anomie, which is a situation whereby there is a disruption of social ties and norms resulting into social disconnection with pathological consequences (Marks, 1974). On the other hand, Marx considers alienation, which is a situation of separation of individuals from their work, products, and nature resulting from the capitalist system (Ollman, 1976). Alienation and anomie are forms of social disconnections which impair the ability of the collective society to

respond to various environmental problems (Twyman-Ghoshal, 2021). Recognizing these forms of disconnection is essential for developing strategies that rebuild social integration and collective environmental engagement (Pellow, 2016).

Theoretical Divergences

Root Causes of Environmental Crisis

According to Durkheim, the reasons for environmental issues arise because of the decline of social norms, lack of regulation, and absence of collective consciousness (Ritzer, 2011). Anomie, which is defined by lack of norms and unlimited freedom of individuals, allows conducting unsustainable activities (Marks, 1974). For Durkheim, overcoming the environmental crisis involves improving social norms, establishing common values related to the environment, and recreating social cohesion (Cotterrell, 1977). For Marx, it is the logic of profit associated with capitalism that lies at the roots of environmental damage (Foster, 1999). The necessity of infinite accumulation and exploitation of nature causes the environmental crisis as an inherent feature of the capitalist system (Moore, 2015).

Power Dynamics and Inequality

Functionalism is concerned with social integration and institution functioning and pays relatively little attention to power issues and the environmental impacts associated with them (Giddens, 2009). Although acknowledging the existence of groups who have more influence on the environment than others, Durkheim gives preference to collective functioning rather than power analysis (Ritzer, 2011). On the other hand, power relations are crucial in the analysis by Marx (Boudon & Bourricaud, 2003). Relations within capitalism lead to environmental inequalities since the elites manage to pass costs on to the weaker members of society (Bullard, 1990). In order to achieve environmental justice, it is necessary to question the power relationships (Pellow, 2016).

Prescribed Solutions

According to Durkheim's analysis, the development of environmental institutions, creation of common environmental values, and promotion of social solidarity can be ways to ensure sustainability (Cotterrell, 1977). These solutions stay in the framework of the current social order and attempt to enhance its integration and regulation (Ritzer, 2011). At the same time, according to Marx's analysis, piecemeal reforms are insufficient in changing the fundamental ecologic features of capitalism (Foster, Clark, & York, 2010). Marx calls for systemic change by replacing capitalist economic systems with those oriented at human wellbeing and ecology instead of profit (Foster, 1999).

Implications for Environmental Sociology

The complementarity of Durkheimian and Marxian approaches means that the complete theory of environmental sociology should include both the solidarity-based and conflictual approaches (Pellow, 2016). Promotion of social solidarity, common environmental values, and consciousness is still essential for achieving sustainable transformation (Szekely et al., 2021). At the same time, it is important to work on overcoming inequalities, undermining corporate power, and dealing with capitalist dynamics to achieve environmental justice (Foster, 1999).

The combination of functionalism and conflict theories would thus imply a multi-faceted strategy for addressing environmental crises (Pellow, 2016). It involves the reinforcement of environmental institutions and regulation; the establishment of common values that stress the importance of environmental sustainability; the fostering of the collective ability to take environmental action; the overcoming of corporate power and capitalism which lead to environmental destruction; democratic governance of environmental decision-making; and fair allocation of environmental benefits and drawbacks.

Discussion

Theoretical Contributions to Understanding Environmental Injustice

This review shows that classical sociological theories provide important tools for analyzing the current environmental crisis. Though neither Durkheim nor Marx have analyzed climate change explicitly, their theories provide unique insights into the sociological dimensions of environmental issues which would not be possible using solely natural science or economic approaches (Giddens, 2009; Foster, 2000). The review shows that the environmental crisis is caused by various sociological factors, including weakened social solidarity and normative confusion (Durkheimian approach) as well as exploitation and inequality (Marxist approach).

The Durkheimian analysis of the problem shows that environmental issues occur because of the lack of social integration, consensus and normative regulation (Cotterrell, 1977). When people do not develop commitments to environmental issues, when the norms promoting sustainable behavior disappear, and people feel anomie towards environmental problems, unsustainable behavior occurs (Twyman-Ghoshal, 2021). Thus, based on the Durkheimian theory, the resolution of environmental problems implies development of social solidarity in relation to environmental values and institutions regulating sustainable behavior (Szekely et al., 2021).

In the Marxist perspective, environmental issues arise from the logic of capitalist relations of exploitation, accumulation, and alienation (Foster, 1999). The necessity to grow indefinitely creates the need for resource depletion, pollution, and climate change by imposing costs on the environment on others who are marginalized

(Moore, 2015). According to the Marxist analysis, solutions to environmental problems can be sought only by questioning the structure of power in capitalism and transforming economic relations (Foster et.al., 2010).

Environmental Justice and Social Transformation

There is a need for environmental justice to have two dimensions such as distributive and procedural (Schlosberg, 2007). Distributive justice necessitates an equal distribution of benefits and burdens in the environment where the latter must not adversely affect the disadvantaged communities (Bullard, 1990). Procedural justice entails participation in environmental decision-making, access to information and means to resolve grievances related to such decisions (Mohai et.al, 2009).

As well as to achieve environmental justice, the power asymmetries which perpetuate environmental inequality must be addressed (Pellow, 2016). Those communities who lack political power, economic resources and means to participate in decision-making are more adversely affected by the environment (Cutter et al., 2003). As such, environmental justice calls for empowerment of communities, amplification of their voices and challenging of the power structures that sustain inequality (Bullard & Wright, 2012). This analysis leads to several strategies that can be employed in environmental justice.

Nevertheless, environmental justice issues have connections with social justice issues (Pellow, 2016). The distribution of environmental impacts affects the same communities that are suffering from economic inequality, racial discrimination, and political exclusion (Bullard, 1990). In order to solve environmental justice issues, it is crucial to tackle all forms of inequalities because there is an interconnectedness between environmental justice, economic justice, and social justice (Schlosberg, 2007).

Climate Policy Implications

Climate policy implications from the theory discussed in this literature review are quite numerous. Climate policy needs to take into account the social dimensions of emissions and adaptations (Dryzek, 2013). Behavioral and normative changes as well as collective action can be just as important as technological innovation in determining the trajectories of emissions (Szekely et al., 2021). Thus, climate policy should include not only technological but also social measures such as social marketing, community involvement, and promotion of collective actions (Kollmuss & Agyeman, 2002).

Further, climate policy needs to be concerned with distributive effects of its implementation (Adger et al., 2006). Climate policy that harms vulnerable groups may emerge due to carbon pricing effects on energy prices or due to land use related problems during development of renewable energy sources (Boyce, 2018). In order to prevent that, climate policy needs to take into consideration the problem of equity, provide compensation, and include development benefits (Thomas et al., 2019).

In addition, climate policy needs to tackle systemic causes of emissions apart from behavioral change (Foster, Clark, & York, 2010). Corporate influence, the structure of the financial system, and economic organization drive emissions trends (Moore, 2015). Climate policy needs to include policies to hold corporations accountable, to regulate the financial system so as to discourage emissions, and to reform the economy for sustainable production (Harvey, 2014). Such policies are politically difficult to implement, yet necessary to effect emissions reductions (Hamilton, 2010).

Moreover, international governance on climate change requires tackling the disproportionate contributions and impacts of climate change (Parks & Roberts, 2006). Emissions of greenhouse gases have been mainly by rich countries, while impacts of climate change disproportionately affect poor countries and marginalized populations (IPCC, 2022). International climate change treaties need to adopt principles of common but different responsibility so that poor populations can adapt to climate change.

Integrated Approaches to Environmental Justice

Consequently, the analysis above highlights that the effectiveness of environmental justice entails the integration of solidarity with structural transformation. It is imperative for collective environmental consciousness, enhancement of social norms supportive of sustainability, and development of common values about environmental stewardship (Szekely et al., 2021). Equally, it entails challenging capitalist power relations, economic transformation, and addressing systemic inequality (Foster, 1999). Either of the strategies alone is inadequate for environmental justice.

Integrated strategies of environmental justice may involve; community organizing to foster solidarity and challenge power relations; policy advocacy that strengthens environmental institutions and demands accountability from corporate entities; education programs to promote environmental values and critical awareness of environmental inequality; and movement building that integrates environmental issues with social justice struggles (Pellow, 2016). Integrated approaches view environmental justice as a cultural and structural project.

The environmental justice movement itself is an integrated approach where it fosters community solidarity, challenges environmental injustices, engages in policy advocacy, and links environmental issues with social justice struggles (Bullard & Wright, 2012). The environmental justice movements indicate that both solidarity and structural transformation are complementary aspects. Durkheimian and Marxian theories when combined show various aspects of environmental justice work

Limitations of the Study

This review has several limitations worth acknowledging. The approach focuses mainly on theory rather than empirical examples, thus emphasizing the necessity to further test Durkheimian and Marxist approaches in particular environmental settings. Besides, apart from Durkheim and Marx, one might benefit from considering some additional approaches to analyzing the problem, such as Weber's theory of bureaucracy, social movements, as well as feminist environmentalism (Pellow, 2016). Lastly, the broad societal focus prevents examining individual actions (Kollmuss & Agyeman, 2002) and global power imbalances and economy (Parks & Roberts, 2006).

Conclusion

In this review, climate change and environmental justice were assessed using Durkheimian functionalism and Marxian conflict theories. In summary, environmental injustice arises from the normative collapse, such as social solidarity and anomie, as well as structural material realities due to capitalist exploitation.

From the combination of these two perspectives, we understand that there is need for both a creation of an environmental consciousness and solidarity and a restructuring of the economy in order to realize environmental justice. Thus, there is need for policies that integrate both normative and structural elements to protect the disadvantaged groups.

Future research needs to utilize this dual approach to conduct empirical case studies, include micro behavior, and examine global political realities. Environmental problems will need to be addressed through both creating social solidarity and challenging structural exploitation.

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