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Article:	Investigating the Nexus between Law, Environmental Hazards to Life in Pakistan and Environmental Sociology
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ABSTRACT

Environmental problems constitute one of the major concerns in contemporary times such as environmental pollution, climate change, depletion of natural resources and biodiversity loss etc. all of the environmental changes have emerged us with one of the biggest challenges that human beings are confronted with globally. These environmental changes are certainly due to human intervention, in other words we can say that the human induced factors for instance the industrialization, development of modern transport and communication use of modern appliances etc. have led to these environmental deteriorations. There is constant interaction between human beings and the environment; just like the human interaction changes the environment, in the same way the environmental factors play a significant role in shaping social phenomenon. Hence we can say that environmental problems constitute an area of study within sociology. The study is an attempt to explore the nexus between law, environment and Sociology. It further explains how the environment affects the society and the role of a legal system in coping up the adverse environmental impact on life and society.

KEYWORDS: Environment, Environmental Sociology, Human Health, Law

Introduction:

Sociology as a discipline emerged in the 90th century as response to the social changes resulting from the enlightenment of French and industrial revolution. It emerged more as a response to the negative consequences of this development rather than the positive consequences. It did not took notice of environmental degradation due to sociological developments and industrialization until very late the linkage between society and environment was given importance which it rightly deserved in sociology, hence “Environmental Sociology” emerged as a new discipline.

Research Objectives

The prime purpose of the study as it is clear from the title statement to find out the relationship between the Laws under the prevailing legal system of Pakistan and to use it as a tool of controlling the environmental issues in Pakistan. Life under Article 9 and 14 is faced with serious environmental hazards in Pakistan, further the study is aiming to find out the possible nexus between the sociology and environment. Apart from the primary purpose, the study is intended to;

- To dive into the interplay of positive as well as negative impact on environment on the society.
- To highlight the complex relation among the Law, Environment and human behaviour.
- To investigate the possible gaps and come out with some regulatory measures.

Methodology

Since the study falls in social sciences, the methodology applicable was adopted. The study warrants for the qualitative design of study. From the socio-legal angle under the qualitative design in order to achieve the above mentioned purpose we adopted a mix method with empirical material in form of both primary (leading cases and court proceedings) as well as secondary data (existing printed material law books) carefully analysed and discussed under themes headings and subheadings to reach a reliable conclusion.

Literature Review

For the purpose to provide and more comprehensive description of the phenomenon a detailed search was conducted in terms of literature review. We also investigated the existing literature regarding sociology and environmental protection. However, due to the dearth of previous research and insufficient available literature on the phenomenon in Pakistan in the context of environmental sociology our major focus remained on the e-literature only. For this reason, a comprehensive perusal of data was conducted on the phenomenon in terms of the available world-wide data. Some of the most relevant works are as under;

Riley E in his book by the Title “Struggling with Human Exceptionalism” has beautifully explained the concept of environment and human behaviour. He further provides a better understanding about the constructive approach to the environmental issues, however a more inclusive research is recommended on the concept.(Stoner 2014)

Damian Finbar White in his paper “A political Sociology of socionatures: Revisionist man oeuvres in Environmental Sociology” focuses on some of the generic weak points which may be found Schnaibergs readmill analysis and grow or die discussion which recently emerged in social ecology. However, the nexus between law and environment is left open hence leave further room for discussion.(White 2006)

Penelope Canan in his research article “Bringing Nature Back In; the Challenge of Environmental Sociology” has again limited his scope to the concept of sociology only. He has focused on the past of the phenomenon and looked in detail into the three dimensions of the issue. Hence if on one hand it is based on the American system on the other hand the concept is discussed in general only.(Canan 1996)

Magnus Bonstrom explains the phenomenon in “A reflexive look at reflexivity in Environmental Sociology” in a broader way. Here there is a critical discussion on the concept with special reference to the spatial and temporal boundary of reflexivity leaving out the legal angle on the subject. (Boström, Lidskog et al. 2017). Hence the above mentioned literature clearly warrants a further room for an academic research.

1. Environmental Changes and Human Life

There is a deep interconnection between human and environment, clean, healthy and un-polluted environment is the pre-requisite for a healthy nation. Environmental degradation is one of the responsible factors for bringing about a behavioral change in human conduct. The world is faced with un-precedential challenges resulted from environmental degradation due to population growth, deforestation, and expansion of factories and adopting un-natural and anti-environmental lifestyle.(Buttel 1987)

2. Emergence of Environmental Sociology as a field of Inquiry

The scientific study of society is generally known as Sociology and this subject matter has been divided in Social Dynamics and Social Statics. The later deals with how order is maintained in the society while the former deals with the pattern in which the society changes. The study of the elements of the structure and functions that this structure fulfills forms the very subject matter of Sociology and deals with other topics such as the social groups, social institutions and social problems.(Buttel 2003) It is also considered as new discipline as compared to other areas of the social sciences, and when it comes to Environmental Sociology it is in fact a more recent development in this field of jurisprudence. Indeed it very interesting to note that while Sociology and Environmental degradation had the origin in the same industrial devolution, sociologist could not perceive environmental degradation and its social dimensions.(Buttel and Taylor 1992)

The emergence of Sociology has been traced from the age of modernity and it subject matter included the institutions of modernity, the reasons from modernity and the consequence of modernity. However, while environmental degradation also constitutes one of the consequences of modernity, sociologists could not foresee the sociological consequences of

this environmental degradation; hence Environmental Sociology could not emerge in core discipline.(Catton Jr and Dunlap 1978)

3. The Disciplinary Response of Sociology to Environmental Problems

There is a basic assumption that Environment and Sociology are inter-connected, inter-related and in some cases inter-dependent and the interaction between these two has a direct impact on Human, animated and in-animated world. The secondary assumption is that the Environmental issues are not limited to the Industry, Technology, Biology or Ecology and these are not just the physical problems and does include the social problems.(Dunlap and Catton 1979) Environmental problems are problems of the society as well as they are problem for the society. They are problems for the society because environmental degradation challenges the basic adequacies of the society the social structure and these are problem of the society as these problems are created by the human beings themselves and therefore to understand the interrelationship between the two we have to understand these two questions; How sociology as discipline responded towards environmental issues and number second why sociology was late in responding to theses environmental problems.(Pellow and Nyseth Brehm 2013)

How sociology as discipline responded towards environmental issues; it is admitted fact that society and global environment have impacted each other un-precendentedly. It is evident from the fact that increased attention towards that what is happening to the nature the new enactments, policies and debates about the natural resources are the examples. In the early 1960s when this phenomenon has captured the attention of the world in terms of both the popular and political media; the sociologist without having prior body of knowledge to comprehend this challenge.(Hannigan 2014) While there is sporadic works on nature which equated in royal sociology or in social movements or to certain extent to urban sociology. There has been never an attempt to consolidate these efforts and develop a field of environmental sociology. To understand the development of environmental sociology may be we need to go to the origin of the discipline on Dunlap and Catton Rights, 1994.(Dunlap and Rosa 2000) Influenced by Durkheim's principles, that social facts are sui-generis and there for should be distinctly studied from physical and psychological facts, sociology was quite reluctant to study the physical environment and focused only on the social and cultural environment.

Why sociology was late in responding to theses environmental problems; environment has a different meaning in sociology, while other disciplines it means the all the physical surrounding, the land the biosphere, the soil the water and the air etc. in sociology it meant the social and the cultural influences upon the behaviour in contradiction to heredity.(Redclift and Woodgate 2010) Sociology mandated that social phenomenon must be studied and explained only through other social phenomenon and social fact should be studied with the fact of other social facts and this was the reason that sociology was reluctant to accept any other explanation of sociological factors.

3.1.Sub Response

In the discipline of sociology there are two important restrictions against the explanation of social facts; that is the Taboo against the geographical determinism and Taboo

against the biological determinism. Here the geographical determinism is the perspective which says that a social phenomenon can be explained through geographical factors. The British historian Sir Henry Thomas in his book “The History of Civilization of England 1857” pointed out that a Human society is a product of natural forces, and is thus susceptible to a natural explanation he further added that the impact of geographical surroundings are the most direct and strong up on primitive people but it reduces as the culture advances and the society develops.(Stets and Biga 2003) Same was pointed out by an American Geographer Sir Ellsworth Huntington in his book on Civilization and Climate that the “the correlation between climate, energy, health, intelligence, will-power and mental processes and rise and fall of some civilizations following the shift of a climatic zones”.(York and Dunlap 2019) However these geographic explanations of social change and social progress were not accepted by the mainstreamed sociology. Such as Pitirim Sorokin did not accepted this school of thought as he referred to it fallacious theories, non-factual correlation and over-estimation of the role of geographical environment, while in sociology the human behavior was highlighted the only outcome of social or cultural environment not that of physical environment. Like the rejection of geographical determinism, sociology also tried to reject biological explanation of social phenomenon or the biological determinism.

It is considered that the environmental concept made its way into sociology through Darwin’s theory of evolution and natural selection and similarly, Robert Spencer through the extension the natural selection realm principles and said that society cannot always be progressed with social reforms and education only, later on society will gradually evolve itself. It was common believe that natural selection would lead society to progress.(Vaillancourt 2010) These biological deterministic theories were rejected by the mainstream sociology. Evolutional theories gave way to social planning and social reforms and sociology believe that social progress and social change could be brought over through technological innovations and scientific knowledge. As a consequence there are several important sociological works which are neglected for (PS Landis (1949)-Man in Environment, RK Mukherjee-(1930)-Regional Balance of Man, RK Mukherjee- (1932)- Ecological outlook in Sociology, Sumner-(1913)-Earth Hunger).(Foster 1999)

Along with the geographical and biological determinism, the third which also created obstruction in understanding environmental factors in sociology is that of the world view of the sociologist themselves. The sociologist accepted the principle of endless growth and progress to development of scientific and technological knowledge and therefore, the sociological world view considered society as exempt from environmental constrains and environmental problems. Along with this sociological development, the sociologists mostly became very active advocating the endless economic growth, but on the other hand the remained very silent in terms of environmental constraints and concerns.(Foster 1999) They became the hucksters of progress and development and they believed in endless development and endless progress could be achieved with development in science, technology and technological knowledge and the fact that environmental factors will put a limit to social change were never been considered by the sociologists.

Environmental problems constitute one of the major concerns in contemporary times such as environmental pollution, climate change, depletion of natural resources and biodiversity loss etc. all of the environmental changes have emerged us with one of the biggest challenges that human beings are confronted with globally. These environmental changes are certainly due to human intervention, in other words we can say that the human induced factors for instance the industrialization, development of modern transport and communication use of modern appliances etc. have led to these environmental deteriorations. There is constant interaction between human beings and the environment; just like the human interaction changes the environment, in the same way the environmental factors play a significant role in shaping social phenomenon. (Foster 2002) Hence we can say that environmental problems constitute an area of study within sociology. One of the social factors that shaped the sociological thought was the industrial revolution, and the industrial revolution also led to a series of developments which were responsible for environmental changes or degradation.

Sociology as a discipline emerged in the 19th century as a response to the social changes resulting from the enlightenment of France and industrial revolution. It emerged more as a response to the negative consequences of this development rather than the positive consequences. It did not take notice of environmental degradation due to sociological developments and industrialization until very late the linkage between society and environment was given importance which it rightly deserved in sociology, hence “Environmental Sociology” emerged as a new discipline. (Gross and Heinrichs 2010)

4. Why sociology was late in emphasizing the environmental issues

One of the possible answers to this question is that the conventional sociology was highly pre-occupied by the socio-cultural determinism or we can say that socio-cultural aspect was the prime focused area of sociology and the biophysical environment was ignored. Secondly, the term ‘environment’ had a different meaning in conventional sociology, where it covered only the social and cultural aspects that influence the behaviour of an individual as opposed to heredity. (Heinrichs and Gross 2010) Thus the environment that is generally understood or the biophysical environment did not receive the emphasis which it deserved in sociology.

4.1. Changing the Dominant Paradigm

In order to pave way for emerging environmental sociology a paradigm shift in the conventional sociology was very necessary.

4.2. Decline and Subsequent Resurgence of Environmental Sociology

A huge decline in the environmental sociology was witnessed in the 1980s due to the fact that the concept of neo-liberalism was very popular and was at peak. The real focus was on industrialization, privatization, market-regulation and growing competition among nations, which resulted in unlimited exploitation of the natural resources and further pushed the environment related concerns to the back seat. The world saw a clear lack of interest by the sociologists in the environmental issues. However, in the late 1980s some unfortunate incidents such as the Bhopal Gas Tragedy and the Chernobyl Disaster in the USSR left a tremendous

impact on the revival of attention of the sociologists towards the environmental issues. (Longo, Clark et al. 2016) Furthermore, environmental issues such as, deforestation, water contamination, acid rain, air pollution, soil contamination, global warming, climate change and the loss of bio-diversity etc. were identified as major areas of global concern backed by the widespread public support for earth day in 1990 highlighted environmental issues in public discourses. It was during 90s that it was realized that there has been a shift of in terms of nature and intensity of environmental problems. Environmental problems have emerged as global problems which can cause a serious threat to life.

It always believed that human society lives in the humanly created society, structure and the cultures while the natural environment or the natural phenomenon either geography or biology are the natural science, that was the ignorance of sociology. The classical sociological traditions were mainly focused on the social structure, social system, the social facts and how the individual behaviour is determined by the social structure and social system but it never considered the ecological aspect of the society and human intervention in the natural environment and how the natural environment may create the problems of the nature which has even direct or indirect linkage with the human society. It was until two of the sociological experts unveiled this ignorance and criticized the sociological strength about the society and about the problems. (Mol 2006) They believe that environmental sociology appeared as criticism of mainstream sociology's ignorance of ecosystem and natural environment and understanding the human society.

The Dunlap and Catton advocated for the New Ecological Paradigm and argued that it should replace Human Exceptionalism Paradigm and described this Human Exceptionalism Paradigm as the mainstream sociology or the world view.

5. Human Exceptionalism Paradigm

- According to Human Exceptionalism Paradigm human beings are unique and different from other creatures because of their organism, society and culture; hence here the focus is on the uniqueness of the human being.
- Secondly, the culture is infinite and it can change, vary from generation to generation and time to time because human being brings and create changes in the culture.
- Thirdly, the human differences are socially induced and these changes occur because of society and culture not from the nature but by the people themselves and;
- Fourthly, this humanly created culture is progressive, dynamical, it grows and it has no limits and if any problem occurs at any stage it is solvable without considering the ecology or the natural environment. (Scott and Johnson 2017)
- This outlook of the mainstreams sociology was severely criticized and gave the alternative approach that is the New Ecological Paradigm assumes that;
- The human being is one creature of the many as there are many creatures in the natural environment; this interdependence of the creatures makes the life perceivable, so human beings are dependent on other creatures.

- The cause and effect relation between human action and the nature, that how the human actions mold or manipulate the nature. There may be certain natural phenomenon, but it might have a manipulator which in all most all cases is the human being, the sociology shall focus on the human beings intervention with the nature and the natural environment and the ecology.(Blühdorn and Welsh 2007)
- This is also a reality that the world in finite and the natural resources are also limited/finite and the exploitation or the misuse of the resources may constrain the human economic, social or cultural growth. It expressly negates the concept of infinity in terms of natural resources on which the human being is dependent.

We can understand that the Dunlop and Cattal gave an alternative approach/paradigm in the sociology due to which the Environmental Sociology as area of discipline emerged in the social sciences.(Buttel and Gijswijt 2001)

5.1.Organizational Recognition of the Environmental Sociology

Environmental Sociology got organizational recognition because of three organizational developments;

- In 1964 several members of the rural sociological society showed their interest in understanding the nature and the society and various natural issues and they formed the organization called “The Sociological Aspects of Forestry Research Committee”.(Cohen 2000)
- The Second organizational development was in 1972 “The Society for the Study of Social Problems”. They decided to add environmental problems in their organizational ambit.(Dunlap and Van Liere 2008)
- In 1973 it was the Council of American Sociological Association’s Authorization towards the forming of a Research Committee on the Environmental Sociology.(Field, Luloff et al. 2002)

These three organizational movements gave shape to the internationalization process of the Environmental Sociology. Very soon it was recognized by the International Sociological Association and a new research committee was introduced in the name of Environment and Society in the International Sociological Association, initiated from America and extended to all parts of the world. According to Dr. Riley Dunlap, Environmental sociology is the broad study of Society-Environment interaction and historically that study was focused on modern industrialized societies. (Givens 2017)

6. Conclusion

Findings

In order to meet the situation and spreading awareness United Nations have come with environmental protection laws from Stockholm to Johannesburg Conference. Pakistan has also enacted laws for environmental protection, out of which some are adopted time to time. Recently, as per the Report of Environmental Protection Agency Peshawar (EPA) there are 8 steel mills and 7 chip board factories in the Hayat Abad industrial estate where the owners of

the steel mills have planted filtration in order minimize pollution.(Gardezi 2003) While the chipboard owners have altogether ignored the prevailing national and international laws of environmental protection though working under the No Objection Certificate (NOC) by the EPA Peshawar, leaving a big question mark on the working of relevant EPA and resulting environmental degradation in the city.(Gull, Nawaz et al. 2013)

The factories are responsible for the emission of 10000 thousands of chemical particles/PPM while the international standard level in 300 PPM. It was suggested in a request to the provincial government to take preliminary actions for closure or impose serious penalties against the factories. Forestry plays a vital role in pollution control and for mental as well physical health of human beings as it insures the availability of Oxygen and absorbs Corbin Dioxide. Environmental protection was not on the priority list of the past governments for many decades which gave open hand to the timber mafia.(Kasper 2016) Pakistan is going through the worst period of deforestation due to timber mafia and for lack of awareness among the public in general. In this regard a hope was handled by Prime Minister Imran Khan for initiating the billion trees tsunami which was subject to severe criticism by the opposition parties and other environmental friendly policies in the country.

There is another issue which has now became almost part of our society and it is the fraud, deception and selling adulated and low quality items to the people. There are plethoras of environmental protection laws in Pakistan; yet there is a serious need of its implementation. There is chemical emission without filtration and the waste material makes ways to the water channels resulting in serious health hazards. In terms of food people are selling poison to the people, contaminated food, substandard meat, un-healthy chickens and pesticides in shape of vegetables have place the human health at high risk. It does not ends here rather it goes further; rather people were sold donkey meats, dogs, frogs and other form substandard food which results in numbers of mental and physical issues in the people.(Knight 2016) In this regard noticeable steps were taken by the Chief Justice Saqib Nisar for insuring health justice in Pakistan. He took steps against adulteration mafia and food mafia by issuing suo moto notices, imposed fine yet still it is not that effective. We still have time to overcome these issues from further deterioration; it is the time for our government and establishment to sit together and go for the possible options in terms of long term and permanent solution. Otherwise it will give rise to a permanently crippled and damaged society which will have nothing in the future but destructions.

- **Discussion/Recommendations**

1. **Reduced Air Pollution during lockdown and how to Sustain Improved Air Quality levels in Pakistan:** Air quality information in Pakistan is very weak, officially the Provincial EPAs have a very limited number of air quality monitors deployed which cannot give us even a reasonable number to air quality information about our cities. There are number of private initiatives such as Pakistan Air Quality Initiative has planted meters in various parts of the country and we are getting real time date from these private sources. Similarly, there is satellite data available about NO₂ emissions and there we have a satellite base analysis as well. Most recently the Center for Research and Energy Clean Air in India did a study on the effects on the lockdown on air quality and is very notable in Karachi and Lahore which were the sample cities in

the study that the NO₂ emission dropped drastically, most likely the transportation and the industrial emission in Lahore and in Karachi.(Knight 2016)

2. **Link between Reduced Travel and Improved Air Quality:** The research from early 90s to till date it shows that it is the transport, energy and industry sectors are responsible for polluting and further points the finger towards the fuel quality rather than reduced travel. To improve air quality we need to up-grading the capacity of oil refineries to provide Euro 4, 5, and 6 standard fuels which is the standard everywhere. We need incredible investment to up-grade these industries something about 5 or 6 billion dollars which we don't have. Investing in electric vehicles: we must work on the Electric Vehicles Policy which was debated and introduced and approved by cabinet in December 2019 is still facing hurdles in terms of its finality; but nonetheless its vision is clear that in order to improve our air quality we need to switch-off automobile vehicles and move towards electric vehicles. Similarly, must invest in public transportation system to improve our air quality. (Rasool 2013).Our priority is to prolong improved air quality in Pakistan; the truth with air quality in Pakistan is that there is now research which suggests that there are certain districts in Punjab where the average life expectancy is lost because of bad air is up to five years...! It's a dramatic lost in life expectancy, and the reason is Pakistan is one of the most polluted country in the world.(Barcena, Ibarra et al. 2000) So if we quantify the effects of income, livelihood and lives taken by air pollution, we should be making similar or greater sacrifices to improve our economy and economic processes such as the way we transfer goods and the way we produce electricity so that we save lives in the same way. The sustainability is not an option, but we have to save lives.(Blühdorn and Welsh 2007)
3. **How can we give relief to our People and at the same time protect Wildlife and Forests:** These issues are need to be addressed in courts because these are not issues principally of environment; these are the issues of bad governance, transparency and ultimately of democracy where you scuttle the voice of the people.(Buttel and Gijswijt 2001) Therefore, the courts seem to be providing that kind of hope because of all the institutions concerned such as the legislature the executive, but above all the courts provide a semblance of hope to the public at large.

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References

- Barcena, I., et al. (2000). "21. The evolution of the relationship between ecologism and nationalism." The International Handbook of Environmental Sociology: 300.
- Blühdorn, I. and I. Welsh (2007). "Eco-politics beyond the paradigm of sustainability: A conceptual framework and research agenda." Environmental politics **16**(2): 185-205.
- Boström, M., et al. (2017). "A reflexive look at reflexivity in environmental sociology." Environmental Sociology **3**(1): 6-16.
- Buttel, F. H. (1987). "New directions in environmental sociology." Annual Review of Sociology: 465-488.
- Buttel, F. H. (2003). "Environmental sociology and the explanation of environmental reform." Organization & Environment **16**(3): 306-344.
- Buttel, F. H. and A. Gijswijt (2001). "Emerging trends in environmental sociology." The Blackwell companion to sociology: 43-57.
- Buttel, F. H. and P. J. Taylor (1992). "Environmental sociology and global environmental change: a critical assessment." Society & Natural Resources **5**(3): 211-230.
- Canan, P. (1996). "Bringing nature back in: the challenge of environmental sociology." Sociological Inquiry **66**(1): 29-37.
- Catton Jr, W. R. and R. E. Dunlap (1978). "Environmental sociology: A new paradigm." The american sociologist: 41-49.
- Cohen, M. J. (2000). Environmental sociology, social theory, and risk: An introductory discussion. Risk in the modern age, Springer: 3-31.
- Dunlap, R. E. and W. R. Catton (1979). "Environmental sociology." Annual Review of Sociology: 243-273.
- Dunlap, R. E. and E. Rosa (2000). "Environmental sociology."
- Dunlap, R. E. and K. D. Van Liere (2008). "The" new environmental paradigm"." The journal of environmental education **40**(1): 19-28.
- Field, D. R., et al. (2002). "Revisiting the origins of and distinctions between natural resource sociology and environmental sociology." Society & Natural Resources **15**(3): 213-227.
- Foster, J. B. (1999). "The canonization of environmental sociology." Organization & Environment **12**(4): 461-467.
- Foster, J. B. (1999). "Marx's theory of metabolic rift: Classical foundations for environmental sociology." American journal of sociology **105**(2): 366-405.
- Foster, J. B. (2002). "Environmental sociology and the environmental revolution: A 25th anniversary assessment." Organization & Environment **15**(1): 55-58.
- Gardezi, H. (2003). "Contemporary sociology in Pakistan." Social Science in Pakistan: 103-114.
- Givens, J. E. (2017). Environmental sociology: The ecology of late modernity, JSTOR.
- Gross, M. and H. Heinrichs (2010). Environmental sociology: European perspectives and interdisciplinary challenges, Springer Science & Business Media.
- Gull, N., et al. (2013). "Industrial air pollution and its effects on human's respiratory system (a sociological study of Bhoun Shugar Mill District Jhang, Pakistan)." Academic Journal of Interdisciplinary Studies **2**(3): 535.
- Hannigan, J. (2014). Environmental sociology, Routledge.
- Heinrichs, H. and M. Gross (2010). Introduction: New trends and interdisciplinary challenges in environmental sociology. Environmental Sociology, Springer: 1-16.
- Kasper, D. (2016). "Re-conceptualizing (environmental) sociology." Environmental Sociology **2**(4): 322-332.

- Knight, K. W. (2016). "Public awareness and perception of climate change: a quantitative cross-national study." Environmental Sociology **2**(1): 101-113.
- Longo, S. B., et al. (2016). "Sustainability and environmental sociology: Putting the economy in its place and moving toward an integrative socio-ecology." Sustainability **8**(5): 437.
- Mol, A. P. (2006). "From environmental sociologies to environmental sociology? A comparison of US and European environmental sociology." Organization & Environment **19**(1): 5-27.
- Pellow, D. N. and H. Nyseth Brehm (2013). "An environmental sociology for the twenty-first century." Annual Review of Sociology **39**: 229-250.
- Rasool, F. (2013). "The environmental behavior research in Pakistan: Why it is needed? And what questions it should address?" Mediterranean Journal of Social Sciences **4**(6): 285.
- Redclift, M. R. and G. Woodgate (2010). The international handbook of environmental sociology, Edward Elgar Publishing.
- Scott, L. N. and E. W. Johnson (2017). "From fringe to core? The integration of environmental sociology." Environmental Sociology **3**(1): 17-29.
- Stets, J. E. and C. F. Biga (2003). "Bringing identity theory into environmental sociology." Sociological theory **21**(4): 398-423.
- Stoner, A. M. (2014). "Sociobiophysicality and the necessity of critical theory: Moving beyond prevailing conceptions of environmental sociology in the USA." Critical Sociology **40**(4): 621-642.
- Vaillancourt, J.-G. (2010). From environment sociology to global ecosociology: The Dunlap–Buttel debates. The International Handbook of Environmental Sociology, Second Edition, Edward Elgar Publishing.
- White, D. F. (2006). "A political sociology of socionatures: Revisionist manoeuvres in environmental sociology." Environmental politics **15**(1): 59-77.
- York, R. and R. E. Dunlap (2019). "Environmental sociology." The Wiley Blackwell Companion to Sociology: 283-300.