

Climate Change and COVID-19 in Pakistan: A Debate of Optimism and Pessimism

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Abstract: This study is based on the two global problems i.e. climate change and COVID-19. Keeping in view the nature of study, it falls under the qualitative approach. Data collected through primary and secondary sources is analyzed through content analysis. The relation between climate change and COVID-19 is oblivious as for as positive and negative implications of both global problems is concerned. A debate among optimistic and pessimistic point of view made it clear that Pakistan being a strained economy need to focus on both problems simultaneously in order to avoid future catastrophe. Economic conditions of the country have shown that there is more chance for Pakistan to trap under pessimistic point of view. Optimists had provided a bright picture to the country due to five major reasons. Role of public and policy makers is very crucial in this regard.

Key Words: climate change, COVID-19, Optimism, Pessimism, Pakistan

Introduction

Human race is confronting a planetary emergency- a threat to survival of our civilization due to two major global problems i.e. climate change and COVID-19 respectively. Climate change has been pivotal issue for the world for centuries. 2020 was a critical year for climate change and for our future because Corona virus pandemic has shaken the very foundation of the world. Global political, economic and social trends have been changed. There is no denying of the fact that strong countries always helped weak countries when world is hit by natural or man-made disastrous but in this era of pandemic strong countries are limited to their own selves in dealing

with COVID-19 (Soherwordi, 2020). Unfortunately, the pandemic has combined the triple jeopardy, the rapid loss of human lives, the economic recession and halt in combating climate change.

2020 remained a critical year in international climate action. COVID-19 tragically impacted the human lives, while climate change is impacting the ecological system where human beings are living (Sheikh, 2020). While managing the COVID-19, Pakistan's approach was focused on health and livelihood and climate change was put aside. Though it was impressive efforts by Pakistan but same efforts can be applied while tackling the climate change because according to the Germanwatch Pakistan is expected to be the fifth most affected country by climate change (Ahmed, 2020). There are two strong perspectives about climate change i.e. pessimistic and optimistic. The first perspective emphasizes on the irreversible damage caused by climate change. This perspective is realistic in nature. While on the other hand, the optimistic perspective gives an array of hope that emerging impacts of climate change are also revealing creative responses and collaborative efforts by international community (Angélica V. Ospina, 2017). The purpose of this research is to apply these two major perspectives to explain the link of climate change and COVID-19 and its implications for Pakistan.

Literature Review

Literature has explored a linkage between climate change and COVID-19. COVID-19 emergency has similarities with the climate change as both involve market failure, international cooperation, political leadership, questions of system resilience, externalities, public participation, and awareness along with the government involvement in the policy making. The only visible difference between the two catastrophes is that climate change is just in slow motion and much graver than COVID-19 (Hepburn et al., 2020).

Most of economic analysis of the COVID-19 pandemic focuses on its immediate impacts on the national health and on social, economic situation of a country. As it is clear from literature that climate immediately impacts the national health by posing socioeconomic and political challenges. In addition to this aspect only few researchers have come to place COVID-19 problem next to the climate change. As a significant reduction has been noticed in environmental pollution since the outbreak of COVID-19 and this has lead researcher to ask either this link is a correlation or more than correlation (Fuentes et al., 2020).

The link of climate change and COVID-19 has been analyzed in current researches. Some of these researches have questions the role of climate change as a probable of transition of COVID-19 virus from animal to humans, there is also no denying of the fact that rising temperature has always accelerated the favorable conditions for the air, water and vector borne diseases. Similarly, as some factors reduce the environmental risks are likely to help in mitigating the pandemic (Wyns, 2020).

It has become clear from literature that human being should nurture harmonious relations with the nature rather than building adversarial relations. COVID-19 has highlighted the need of these harmonious relations. Pakistan green program agenda is already working to build harmonious relationships with the nature to tackle the two global problems i.e. climate change and COVID-19 (Khan, 2021) .

Objectives of the study

- To analyze the climate change in Pakistan during and after the COVID-19 in the light of two major perspectives i.e. pessimistic and optimistic.
- To analyze the relation between COVID-19 and climate change.
- To enhance the understanding of the issue and to engage with the uncertainties surrounding the general understanding of the climate change and COVID-19.

Research Questions

- What is the link between the climate change and COVID-19?
- Which perspective i.e. pessimistic or optimistic can explain the climate change in Pakistan during and after the COVID-19?
- What is the situation of climate change in Pakistan during the COVID-19?

Significance

COVID-19 and the climate change are burning issues in contemporary era. It is dire need of the time to provide critical understanding of both global problems and their connection with each other. International world has come across with the global pandemic very suddenly so it is very essential to have maximum research in this area which can help public in general and policy makers in particular to save the world from tale of two global problems. This pandemic is impacting many sustainable development goals SDG in one another way which will lead world toward a long lasting social, economic, and political disaster.Hence, there is no denying of the fact that it is the dire need of the time to conduct extensive research work on the issue for planning and organizing tools and techniques along with strategies to cope with the further catastrophes.

Methodology

This study will be based on exploratory research and qualitative approach. Qualitative research is inductive in nature, and the researcher generally explores the meanings and insights in a given situation.

Data collection

Primary and Secondary sources will be used for data collection. Secondary data will be collected through publications, books, historical documents. Primary data will be collected through semi structured, open ended, and in depth interviews of following personalities:

Shazaib Saeed: District and Session Judge, chairperson Punjab Environmental Tribunal, Lahore.

Nisar Ahmed Sani: Director Operations Provincial Disaster Management Authority (PDMA), Government of the Punjab. Project Coordinator World Bank Assisted - Disaster and Climate Resilience Improvement Project (DCRIP) and Asian Development Bank Assisted- Flood Emergency Reconstruction and Resilience Project (FERRP)

Malik Waseem Awam: District Disaster Management Coordinator, PDMA Punjab

Data Analysis

Hsieh;s and Shannon (2005) model of qualitative content analysis is applied to analyze this research. In this model text is read thoroughly again and again in order to gain main ideas and concepts of the text which are coded into different categories for analysis. In this method bigger and larger data is converted into summarized form (Hsieh & Shannon, 2005:1279).

Link between Climate Change and Covid-19

Possibility of a connection between Covid-19 and climate change has garnered significant interest for researchers and they are trying to connect dots between the two. There is no compelling evidence that climate change is accelerating the spread of Covid-19 but in the past it has been seen that numerous diseases spread when human being has disturbed the natural world. After the spread of the pandemic, nature has sent an important message to change world outlook and practices regarding another global issue i.e. climate change. Covid-19 is screaming to the world that our health and our planet's health are correlated. Some human activities which helped in accelerating the climate change are also helping in evolution of various diseases that did not exist before.

Many diseases like HIV, AIDS and Ebola have spread from wild life to humans. In the case of COVID-19 it is suspected that virus was transmitted to humans at wet market in the city of Wuhan, where wild life was being sold. Covid-19 has hit the earth severely and it has given us an opportunity to probe into the factors which are root causes of climate change and resulted in spread of pandemics. The HERA (Human and environment risk assessment) tried to find climatic consequences of Covid-19. It was found in the study that rapid spread of Covid-19 could be partly contributed to urbanization, deforestation, animal trading and global travel. Urbanization leads to overcrowding, air and noise pollution, deforestation and industrialization. With urbanization there comes a greater need of food and energy. Forests are destroyed to create more land for growing population. Less trees means less oxygen which decreases the rain and increases level of

carbon dioxide. These circumstances lead towards global warming and rising temperature makes animals to change their habitats. When these animals come into contact with humans, more infectious diseases like Covid-19 breakout. To meet the ever increasing needs of food, humans have created large scale farms. A socialist biologist Rob Wallace writes in his book these livestock farms are a source of infections from animals to people. Ebola and other viruses such as MERS were triggered by animals who were disturbed from their natural habitats (Barouki, et al., 2021).

Various social, economic and cultural factors are determinants of people's exposure to climate induced disasters and pandemics such as Covid-19. Many people livelihoods are dependent on agricultural or natural resources. Due to climate change when crop failure happens, it leads to unemployment. Safety measures like staying home and lockdowns also increase rate of unemployment (Asante & Mills, 2020). Covid-19 and climate change have common social and psychological impacts. Regarding climate change it is noted that climate related disasters like hurricanes and droughts can increase aggression and farmer suicides. Similarly covid-19 has increased stress, anxiety and post-traumatic stress disorder symptoms among people. Another shared impact of Covid19 and climate change is child labor. When agriculture is affected by severe climate disasters, poor families force their children to find another source of livelihood. Similarly during covid19, school closures also forced children to find temporary work in order to support their families (Bhadwal et al., 2019).

Urban areas have higher population densities and so suffer higher level of air pollution. During Covid-19, it has been observed that people who are exposed to air pollution are affected adversely by Covid-19 than people living in rural areas having fresh air. Air pollution is mainly responsible for pneumonia and other respiratory infections. Covid-19 mostly took lives of those people who were already suffering from different respiratory diseases resulting from air pollution. As influenza virus shows some changes with seasons, it is yet unknown if Covid19 has any seasonal influence. Researchers are also considering if high temperature kills viruses or not. Some studies verified that climate change may not affect or correlate with the change in widespread Covid-19. Now it is clear that warm weather could not put an end to spread of Covid-19 (Altamimi & Ahmad, 2020).

Despite all the gloom, Covid-19 has generated some positive consequences. This is very unfortunate that now after so many deaths world is able to appreciate the importance of clean environment. Covid-19 has improved the quality of air which we breathe. Nitrogen dioxide (NO₂) is emitted from burning of gasoline, coal power plants, diesel etc. and is responsible for causing lung cancer. Due to lockdown of transportation and industrial power plants, NO₂ emission rates have fallen significantly. Emission of Carbon dioxide (CO₂) from fossil fuels decreased globally by 7% in 2020, World's major emitters have reported a fall in the emission of CO₂ including 11% percent in European union, 17% in China, 12% in USA and 9% in India (World Economic Forum 2020). Distance learning, virtual conferences have reduced the demand of transport which resulted in reduced greenhouse emissions. Decline in food production and inflation in food prices has reduced food waste in many countries which will surely reduce ecological footprint (kumar et al., 20202).

Both Covid-19 and climate change are deadly for humans. Important measures have been taken at national and international level to contain virus. Unfortunately world did not pay attention to climate change. As there are no daily death news due to climate change, so governments of the world and humans did not think that it was crucial. (Kolinjivadi, 2020)

Climate Change in Pakistan during Covid-19

Pakistan is one of those countries which are severely affected by climate change. According to the UN reports, Pakistan is the sixth most vulnerable country to climate change. Disasters caused by climate change include drought, rainfalls, heat waves, floods, hurricanes, extreme weather, melting of glaciers etc. These climatic changes put wild life and human survival into a sever threat. Pakistan was fighting against climate change impacts already and then abruptly across the issue of global health crisis which is now named as COVID -19. (Damani, 2020)

First case of COVID-19 appeared in December 2019. Covid-19 has turned the whole world into a gloomy picture. It is said that it spread from Wuhan, a city in China. This virus spread like a wild fire all over the globe. Seeing the worst scenario World Health Organization guided the nations to go for lockdown option. This was the largest home quarantine across the globe in the human history. Many activities have been halted. COVID-19 has resulted in millions of deaths and increased rates of unemployment. Several economic problems have come to the surface of earth. Pakistan, which is a developing country, has faced a lot of difficulties in handling covid-19 due to the lack of sources. National lockdown started on 24th march 2020 in Pakistan (Dahiya & Butt, 2020). Amid all these sad news, there is good news that at least COVID-19 smart lockdowns have made human being able to think to change their routine, practices and perspectives regarding clean and clear environment. To some extent it has been found that covid-19 has a positive effect on pollution and environment in Pakistan. With the advancement of latest technologies it has become easy for researchers to find and analyze pollution levels in different regions across the country. Air pollution is mostly related to transportation, energy production and industrial activities. Due to the lockdown less human activities have been seen in various areas of the Pakistan. This has caused a great positive effect on Pakistan's environment (Basray et al., 2021).

Dangerous gases like methane, carbon dioxide CO₂ and nitrous oxides cause severe affects to humans and put us in constant danger of different health problems. PM_{2.5}, an air pollutant, is produced due to the burning of natural gas coal, heavy power plants, and industrial production. Air pollutants, for example, Nitrates and Sulphrates are mostly produced in urban and industrial cities of Pakistan. Rural areas are also not safe. People burn coal and wood in rural areas, they burn agricultural residues after harvest, resulting in smoke which contains hazardous pollutants. It is found that PM_{2.5}, which is an air pollutant, has been produced in fewer amounts after breakout of covid-19 .This is all made possible due to careful lockdown measures. So it has become clear that lockdown measures by Government have a positive effect on air Quality in urban and industrial parts of a country (khan et al., 2020).

NO₂ is another dangerous pollutant. It is a key contributor to PM_{2.5} formation. It is responsible for asthma cases and premature deaths. Being a highly populated area, Punjab is rich

in NO₂. Urbanization, industrialization, heavy traffic becomes the cause of NO₂. Areas polluted with NO₂ and PM_{2.5} increase the chances of infection and mortality from Covid-19. However, Nitrogen Dioxide NO₂ reduction level has been seen 35% in Karachi, 56% in Islamabad and Rawalpindi, 49% in Lahore, 20% in Multan and 45% in Peshawar. This happened due to the closure of transportation because people were restrained to go to parks, businesses, shopping centers and at other crowded places, and vehicular mobility was also decreased (Sharma et al., 2020).

A significant reduction in ozone concentration has been seen during lockdown due to fewer use of public transportation and reduced commercial industrial activities (Sayed et al., 2021). Temperature is also considered as a key factor for concentrations of air pollutants across Pakistan. It has been found that in Karachi for every unit increase in humidity, there has been a daily increase in Corona. In Gilgit, Baltistan for every unit increase in temperature, a prominent increase in death cases has been found due to corona but in some areas there has been a decrease in death cases even in high temperature areas. So some researches are saying that covid-19 is not directly dependent on heat and temperature.

Fred Pearce, in his Article "After the corona virus, Two Sharply Divergent Paths on Climate" discusses the future after post corona virus (Pearce 2020). Both pessimistic and optimistic views have come to the surface after seeing positive and negative effects of COVID-19. Some people and thinkers say that once the covid-19 is over it would be definitely easy for environmentalists to make necessary measures to handle the climatic changes because much improvement has been observed in environment due to lockdown strategy. Bill Gates also supported this view and has said that now it is easy for the world to think and act seriously for climate change which is hanging over the world like a constant threat.

On the other hand some thinkers say that measures and strategies used during covid-19 are not enough to fight against climate change and people will go back to same routine and such activities which will contribute in producing more dangerous gases. Pakistani economy got a severe setback in economy due to Covid-19. There are chances that priority in post corona world would be given to economy than climate change in Pakistan. However Imran Khan reassured in UN climate action summit 2019 that Pakistan is trying its best to reduce emission of greenhouse gases. (Pakistan economic survey, 2021)

In short it has been observed that air quality and environment, particularly, levels of an air pollutant PM_{2.5} have improved across Pakistan as a result of smart lockdowns major changes observed in concentration of air pollutants, for instance, PM_{2.5} levels at Quetta, 47%; Lahore, 61%; Peshawar 58%; Karachi, 48%; and Islamabad, 27% (Khan, 2021). We cannot rely only on measures taken during covid-19 in order to fight with climate change but covid-19 has raised a hope in us and made us realize that we can do a lot if every individual feels its responsibility and policy makers and our government sit together and think for long term achievable sustainable goals. We can only hope for the best in post corona world.

Optimistic and pessimistic debate on climate change during COVID-19

The radical outbreak of the COVID-19 made predictions about the climate change harder than any time. This pandemic has created a lot of uncertainties regarding the future environment of the planet earth. It has raised many urgent questions about the politics, economy, society, and of the environment or climate of the world. World scholars, researcher has been divided into two major extremes that is optimism and pessimism.

View Point – Optimistic One

Proponents of this school of thoughts presented a very bright and hopeful picture of the world after COVID-19. They considered that as due to the lockdown and closure of the transport the environment has already witnessed a positive recovery in it, so it will be easy for policy makers to tackle environmental problems after the COVID-19. Bill Gate also shared the same opinion as he thinks that after the pandemic world will be ready to share the responsibilities of the climate change. Glen Peters “Research Director, Center for International Climate and Environment Research – Oslo” also said that the close connection between the climate change and pandemic cannot be ignored. He further elaborated that due the shutdown of the world caused by COVID-19 environmentalists has witnessed surprising reduction in CO₂ emission. This level of reduction in CO₂ emission was not observed even during the extreme economic crisis of the world in 2008(Peters, 2020). Sudden transformations in life style due to the pandemic have reduced the level of pollution, CO₂ emission, and have forced the world to work in collaborations. These positive landmarks, according to optimistic researchers, will pay a way for the policy makers to understand the need of such actions and proactive policies in order to cope with future hazards (Khan, 2019). In this regards experts has also elaborated the role of society in the managements of world crisis. It has highlighted the role of government and public towards the sustainable political, economic, national, and international goals. Faith Birol an international energy agency in Paris stated that this pandemic has given the opportunity to the world to shift towards the green and renewable energy resources in order to save world from the future crisis of the climate change (Saeed, S. 2020). In an interview with Malik Waseem Awan it is further revealed that visible impacts of the pandemic on human beings are very direct. Human beings are impacted by the pandemic as well as with the climate change. But due to this pandemic the global emission has been reduced to the level which was not achieved even by 25 year world climate negotiation. NASA monitoring system further revealed that an ironic reduction of nitrous oxide pollutants emitted from fossil fuels has been recorded (Awan, M.W. 2020).Zurich’s Climate Change Scorecard highlighted some positive news about the climate change after and during the pandemic. This scorecard has favored the optimistic point of view due to five reasons:

1. Despite the understandable fear among the ecologist that economic slump due to the pandemic will forward the issue of climate change to the political edge, there are some

encouraging signs because the pandemic has accelerated the growing awareness about climate change in the public.

2. The second encouraging sign is focus on the renewable energy sources which is directly linked with the reduction of emission. Use of renewable energy resources was raised up to seven percent in 2020 and eight percent in 2021 year respectively.
3. The promotion of electric vehicles by International Energy Agency will become global norm almost by 2030 which will significantly contribute toward the recovery from the damages of climate change.
4. The financial incentives to the companies and households working on the reduction of emission of carbon will help in investing the green energy and reducing the climate change impacts.
5. Year 2021 has witnessed the governments commitments to the green energy are highly encouraging element for the optimist school of thoughts (“5 reasons to be optimistic”, 2021).

Viewpoint – Pessimistic One

Researchers are divided regarding the situation of climate change during and after the pandemic. Pessimistic point of view is also gaining momentum in this regard. Many analysts are warning the world regarding the short lived reduction in emission. Pessimist are of the opinion that there is great chances that climate change will take political leap backward rather than forward after the COVID-19. Public fear and economic crisis due to the pandemic push the governments to take desperate measures to enhance economic prosperity. Due to these crisis people will not be concerned about the future generation or about climate change (Pearce, 2020).It is further revealed in an interview that COVID-19 has hamper policy makers to ambitious measures regarding climate change financing. COVID-19 has not provided any opportunity to tackle climate change but it has made a bad situation worse (Awan, M.W. 2020).

The strained economy of Pakistan has faced a critical setback due to the COVID-19. Assessment reports have shown that the economic loss due to the pandemic is gigantic, it is about 2.5 trillion. Keeping in view the economic problems and impacts of climate change on Pakistan it is clear that there are more chances for Pakistan to fall under the pessimistic point of view. Pakistan has already taken into account the reduction of emission in order to secure country along with world from the hazardous impacts of climate change (Khan, 2019). There are greater chances that after the pandemic Pakistan will focus on dwindling economy more than climate change. Nisar Ahmad Sani, Director Operations at PDMA, in his interview with the researcher said that although world has witnessed some positive changes in the climate change due to the lockdown during the pandemic, but we cannot deny that these fruits are not very long lasting (Sani, N.A. 2020).This global health emergency is increasing the inequalities among nation states. The economic inequalities created by the pandemic will accelerate the global instabilities (Lehne,

2021). COVID-19 along with climate change added more fuel to fire, 2020 year is considered as one of the warmest year among three. WMO report has shown that all the indicators of climate change are continuing. It is further said that negative impacts of the climate change will put a lot of challenges in coming years despite all the mitigation. According to the WMO report world do not have more time to waste because the climate is constantly changing and is impacting the human being and the planet ("Climate change indicators," 2020).

Conclusion

To round of the discussion it has become clear that both climate change and the pandemic have put Pakistan along with other international world in a situation of extreme emergency. In our negligence, Covid-19 has given human beings a wakeup call. Measures which have been taken for Covid-19 are enough to prove that to some extent governments and individuals themselves can play a vital role in fighting against climate change. After ages people have seen clear and blue skies and enjoyed fresh air. But at the same time researchers are divided on the optimistic and pessimistic point of view of climate change and COVID-19. In short, there is some urgency required to fight climate change. Today governments are making policies keeping in mind Covid-19. Similar attention should be given to climate in order to reduce climate disasters.

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