A study of climate refugees in Asia within special reference to Pakistan & Mongolia

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Abstract

In this paper, we dissected the impact of environmentally relevant factors on climate refugees in Pakistan and Mongolia. The research methodology is analytical in nature, where mainly secondary data has been collected from secondary sources. Case studies are conducted from multiple data sources to understand the situation and challenges faced by climate refugees in different regions. The case studies use more than one form of data from different paradigms within the research paradigm. Still, we will explore the situation of climate refugees primarily through big data content. The analyses included the impact of climate factors, which demonstrates the effects of temperature, water issues, and demographic factors on climate refugees in Pakistan and Mongolia, leading them to migrate. The Pakistan and Mongolia regions face higher migration due to the negative effects of temperature, water issues, and demographic factors.

Key Words: Climate, Climate Change, Climate Refugees, Mongolia, Pakistan & Refugees.

Introduction

Human beings are the most beautiful and intelligent creatures on Earth. They are capable enough to reach Mars. The technological advancement achieved by humans has led to a magical world where we can perform any activity with less effort and more efficiency. We have created electricity, dams, engines, buildings, and many other things. As everything has its two sides, positive and negative, likewise, the marvelous level of achievements attained by humans has become the bone of contention for their fellow human beings. In fact, the world of human beings is changing fast due to multi-faceted factors. On the one hand, we have delicious food for some, whereas on the other hand, some are forced to sleep on an empty stomach.

The environment is also affected by the development of humans. As the pattern of rain has changed, floods can be easily witnessed in desert areas, and the pattern of summer & winter has also changed. All these conditions have adversely impacted our climate. The climatic conditions have changed all over the world. Has anyone wondered about the impact of these climatic changes on human beings and their humanity? Through this paper, the authors aim to study the climatic refugees who are forced to leave their place due to climatic factors. Is it not sad that human beings have lost their humanity towards each other when it comes to advancement? We only care for our growth, but what about those refugees who are suffering due to climate?

The well-defined definition of climate refugees is still not found. The task of defining climate refugees in simple words is quite complex in itself. Many experts are unclear whether there is any difference between environmental refugees and climate refugees. Or both are the same terms. For instance, Environmental refugees are defined as "those people who have been forced to leave their traditional habitat, temporarily or permanently, because of marked

environmental disruption (natural and triggered by people) that jeopardized their existence and/or seriously affected the quality of their life" (Essam-El-Hinnawi,1985). In many places, this definition is also used for climate refugees. But is it correct to consider the environmental refugees and climate refugees as the same? Well, no, it is not correct, as both are different terms and deal with different matters. The term environmental refugees mainly focuses on the environment, whereas the term climate refugees talks about climate. Although the word refugees is common among both, this does not mean that these two terms are the same.

The number of climate refugees is increasing with every passing year. What could be the possible reasons for such an increment? Have we wondered upon this from the depth of our hearts? On the one hand, we kept blaming industrialization for all these climate changes, but on the other, we blamed each other for our greed, which has led to this worse situation where, like animals, human are forced to leave their homeland in search of new living places. Is nature returning us the things that we have provided to other living beings on the planet Earth? Well, the answer to this question is quite tricky to find as we cannot hold anyone responsible for our own faults. Nobody has instructed or directed us to make so much advancement that the lives of our fellow human beings will become difficult. Instead, it is our own benefits that guide us to the present environment where clean air has become a dream to achieve.

The worst side effect of climate change is the increased number of climate refugees. These refugees are living in a pathetic situation due to the worse climate in their own region. In fact, as per the Internal Displacement Monitoring Centre (A Geneva-based research organization), almost 30.7 million people became climate refugees in the year 2020 due to a growing number of natural disasters. This data is three times more than the number of people affected by armed conflict and violence. ("Climate Refugees: The World's Silent Crisis" 2022).

People who are relaxing in their air-conditioner rooms and offices cannot imagine the pain & suffering of these climate refugees who do not have access to safe climatic conditions. For the sake of humanity, it is high time that human beings should try to understand the conditions of these climate refugees, especially in Asian countries where some citizens are facing a double burden, including poverty and climate change. These citizens, when moved to another place as climate refugees, are not welcomed in a humble manner. Instead, many times, they need to struggle for their existence. The theory of the Survival of the Fittest becomes a true example in their case.

In this paper, the climate refugees in Pakistan and Mongolia are discussed by the authors as in contemporary times, many people in these two nations are turning into climate refugees and realizing the significance of the topic from the humanitarian perspective; this topic has been selected herewith. If we gaze upon the literature available on this chosen topic, then, unfortunately, not much significant literature is available on the same. From these dimensions, the present research paper becomes crucial to understanding the situation of climate refugees in Pakistan and Mongolia. This surely widened the scope of the present paper for future researchers.

Methodology

The research methodology is analytical in nature, mainly collecting secondary data from secondary sources. Due to regional restrictions, it is difficult for us to go to the local area to conduct interviews and data collection, so we use the method of second-hand information collection to understand the data. Using case studies can help us understand the situation of climate refugees in different regions and help people compare the challenges faced by climate

refugees in different regions. In addition, we also collected primary data from the National Statistics Office of Mongolia to ensure the accuracy of the data.

Conduct case studies from multiple data sources to understand the situation and challenges faced by climate refugees in different regions. Case studies use more than one form of data from different paradigms within the research paradigm. Nevertheless, we will explore the situation of climate refugees mainly through the content of big data. We'll learn why climate refugees leave their home countries, what happens when they stay in their home countries, and what the impact of climate change-induced conflict is.

Analysis

The analysis section is divided into two parts. The first is an analysis of climate refugees in Pakistan, followed by the analysis of climate refugees in Mongolia:

- Climate Refugees in Pakistan

The situation of climate refugees in Pakistan can be understood from the following points.

a. High-Temperature Factor

There are lots of climate challenges that Pakistan climate refugees are facing. First of all, the high temperature is making Pakistanis have a hard life in the places where they are living. For example, Karachi, the most populous city in Pakistan and the seventh most populous city in the world has a higher frequency of fatal heat stroke compared to the past. ("Climate Change Induced Conflicts in Pakistan: From National to Individual Level" 2018) Climate change is affecting global warming, and as a result, people will face the challenge of high temperatures. Zaman (2009) claims that temperatures in Karachi are expected to reach new extremes in 2019 and will continue to rise annually throughout the century. ("Climate Change Induced Conflicts in Pakistan: From National to Individual Level" 2018) Climate change is increasing the temperature

in Pakistan, which threatens the people living in the land. Heat waves in Pakistan are a major cause of mortality. The frequency of heat waves has increased exponentially in the previous years and is expected to increase in the future. (Zaman et al., 2009) ("Climate Change Induced Conflicts in Pakistan: From National to Individual Level" 2018) Rising temperatures are one of the challenges that people face with climate change. People cannot tolerate extremely high-temperature environments. At the same time, the highest temperatures will also have an impact on agriculture. For example, when the temperature increases, the food grown will not have the normal growing environment and thus will not be able to produce enough food. Therefore, the high-temperature environment cannot provide food for people to live and thus affects the lives of Pakistanis. When people's lives are threatened, solutions will be thought of, and relocation is one of them. Population increase is directly related to resource depletion and environmental degradation and triggers migration. (Birdsall 1992) ("Climate Change Induced Conflicts in Pakistan: From National to Individual Level" 2018) When people are unable to change the huge negative impact of climate change, they are forced to migrate and move to an acceptable living environment. Climate change is causing natural disasters, desertification, and resource scarcity, forcing communities to migrate to another area in order to survive or make a living. ("Climate Change Induced Conflicts in Pakistan: From National to Individual Level" 2018) As Pakistanis face the challenges of climate change, population displacement continues to occur. The migration of environmental refugees to urban areas has been observed around the world. ("Climate Change Induced Conflicts in Pakistan: From National to Individual Level" 2018) Although environmental refugees cannot be broadly described as "refugees", they are forced to relocate and move due to natural environmental conditions.

b. Water Issues

Water issues caused conflict in Pakistan, trying to take action to face the climate change challenge. The water issue in Pakistan influenced Pakistani people's lives. Therefore, tons of people who originally live in the Pakistan area keep moving away from where they originally lived. The terrible part is that they are not able to live in their homeland peacefully due to water issues. A growing number of people are migrating because of the problems caused by climate change. Pakistan is a clear example of climate-induced migration, with Neha Nisar claiming that by 2022, some 2 million Pakistanis will become climate migrants due to climate hazards by 2050. The problem of water scarcity is one of the factors affecting human livelihoods due to climate conditions. Drought and water scarcity are other reasons for climate-induced migration, especially in Balochistan and Sindh. ("Climate-Induced Migration in Pakistan" 2022) In addition, water issues have influenced other factors that negatively affect the local population in Pakistan. It has increased food insecurity to starving and dying levels. ("Climate-Induced Migration in Pakistan" 2022) This leads to seasonal migration to other cities for livelihood. ("Climate-Induced Migration in Pakistan" 2022) More and more people are migrating due to poor local living conditions, leading to a decline in local population. By 2018, 33,000 inhabitants of Noshki village were displaced by severe drought and lack of water. However, this is not what the locals want to do, and most have to migrate as a last resort. ("Climate-Induced Migration in Pakistan" 2022) However, this is not what the local people who live in Pakistan want to do, and most of them have to migrate as a last resort. Pakistan is one of 23 nations that have experienced drought emergencies in the previous two years, according to the United Nations Convention to Combat Desertification (UNCCD), as of 2022. Unsustainable land management practices that have led to desertification and land degradation are to blame for the condition's deterioration.

("Climate-Induced Migration in Pakistan" 2022) Non-sustainable conservation methods of land and water resources have not resulted in efficient improvement and enhancement of water scarcity. However, water issues are often sometimes overlooked and marginalized. Therefore, we should pay more attention to the problem of water scarcity and the subsequent problems that it creates.

c. Water Conflict

In addition, water scarcity stress is prone to conflict. This opens up a range of possibilities for international disputes (i.e., Baglihar Dam) and inter-provincial conflicts with neighboring countries, similar to the Sindh Punjab dispute (1940). ("Climate Change Induced Conflicts in Pakistan: From National to Individual Level" 2018) The conflict has created additional negative impacts. Pakistan is facing water scarcity due to climate change. The water issue has a huge impact on people's lives because people need water every day in their daily lives: drinking water, domestic water, domestic wastewater, etc. Without water, it means that people's lives are not stable, and people have to search for water every day to live smoothly. There is no doubt that this has a negative impact on the lives of Pakistanis. Climate change may also pose a threat to internal and external security as resources are lost and diminished. ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) Increased competition for scarce water, food, and energy resources may breed internal and external conflict. ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) Water issues are most acute in Pakistan. Conflicts over water issues can cause people to panic. In the absence of a successful solution to the water problem, there is also the danger of conflict. Internally, the problem of water distribution among Pakistan's provinces appears to have been resolved through the 1991 Indus Water Agreement

(GoP 1991). ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) Climate change has created water competition issues within Pakistan, as well as implications for negotiations between Pakistan and other countries on water issues. The lack of trust between provinces, especially between Punjab and Sindh, is at the heart of Pakistan's water problems. ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) Sindh (in this case, the lower river bank) questions the abstraction of water from the upstream canal and believes that Punjab is depriving or will deprive it of its share of water resources. ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) Pakistan believes that India is depriving itself of water resources. It is difficult for both sides to form a consensus and win-win negotiation. If both sides do not trust each other, it will be difficult to reach a consensus. Complex water issues have led to a complex upstream and downstream water relationship between Pakistan and outside countries. Pakistan views any new projects or schemes in the water sector with great skepticism ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016). It believes that its skepticism is justified due to historical events (PILDT 2003). ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) The Punjab government is also faced with the issue of the Indus River System Authority drawing water for Punjab from the Tarbela Dam. ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) This problem will become more complex in the coming years as the water shortage increases and is expected to reach 30% by 2030. ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) The need to build more dams to meet the growing demand is another point of contention among the provinces. ("The

Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) For example, while Punjab supports the construction of the Kalabagh Dam, both Khyber Pakhtunkhwa and Sindh oppose it because of the environmental impacts they would endure from the project. ("The Challenge of Climate Change and Policy Response in Pakistan - Environmental Earth Sciences" 2016) The shortage of water resources and the problems caused by the construction of dams need more discussion to solve, for example, whether the environmental impact of dam construction can be improved by increasing technological construction. Since the lives of people living near dam construction are affected differently by the construction of dams, it is more important for upstream and downstream countries to work together and negotiate for the benefit of both sides of the process to achieve a win-win outcome.

- Climate Refugees in Mongolia

The analysis of climate refugees in Mongolia is presented below:

a. Climate Change Affection

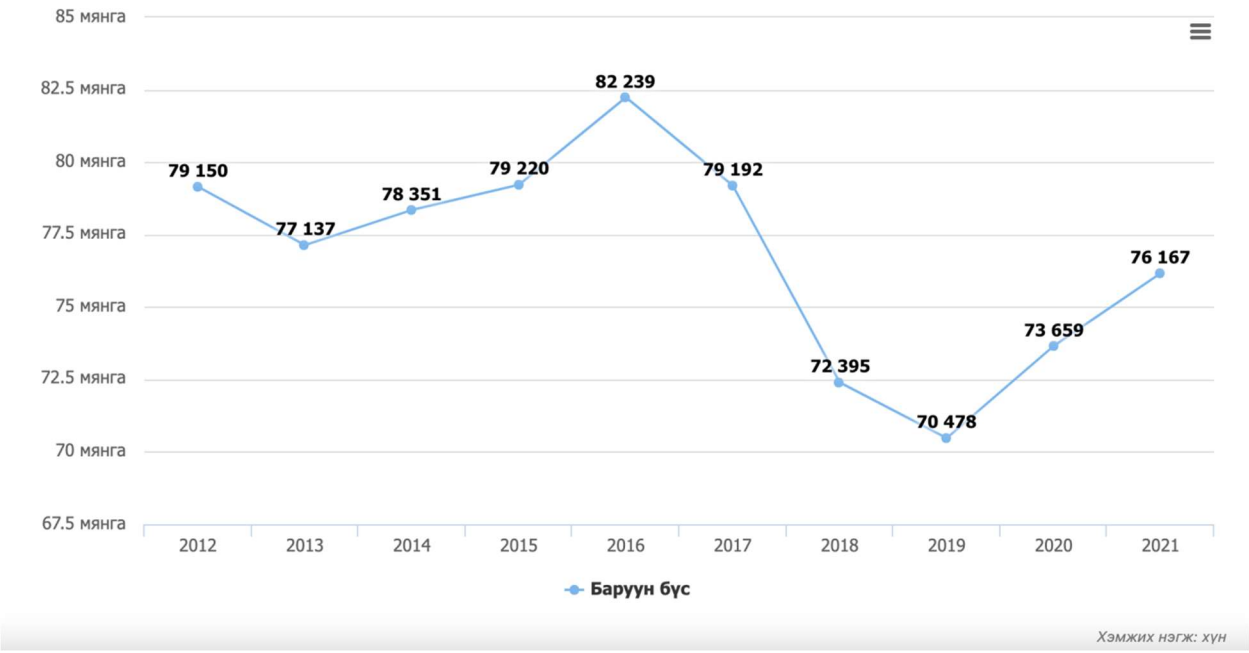
The special nomadic style of life faces different climatic challenges than other regions. Mongolia, with its nomadic tradition, has been negatively affected by the warming climate in terms of agriculture, livestock breeding, and human life. The migration pattern has been going on in Mongolia for two decades due to a variety of factors, but climate change is intensifying dramatically. ("Mongolia, Climate Change, and Ih Nuudel (Big Migration)" 2022) 2.24°C, making it "one of the strongest warming signals on the planet." ("Mongolia, Climate Change, and Ih Nuudel (Big Migration)" 2022). Another report shows that Mongolia is warming at three times the rate of any other place on Earth. ("Mongolia, Climate Change, and Ih Nuudel (Big Migration)" 2022) This is catastrophic for a country known for its deep ties to the land. ("Mongolia, Climate Change, and Ih Nuudel (Big Migration)" 2022)

The rapid growth of the population is also affected by climate change. From 1991 to 2020, the population of Ulaanbaatar will almost triple. The new inhabitants brought their traditions and yurts (traditional felt yurts) with them, resulting in a large group of yurts forming around the city. ("Climate Change and Pastoral Nomads: Feedback Loops in Ulaanbaatar, Mongolia" 2022) Batmunkh states that today, more than half of the city's residents live in the Yurt District. ("Climate Change and Pastoral Nomads: Feedback Loops in Ulaanbaatar, Mongolia" 2022) 85% of Yurt-District residents have no other centrally powered heating facilities, so they rely on burning raw coal and wood for cooking and heating, which greatly contributes to Ulaanbaatar's already high levels of air pollution ("Climate Change and Pastoral Nomads: Feedback Loops in Ulaanbaatar, Mongolia" 2022) As population increases, it brings energy pollution, which accelerates the negative effects of climate change. The heating season in Mongolia typically lasts about seven months, during which air pollution levels in Ulaanbaatar soar to almost six times the threshold recommended by the World Health Organization's global air quality guidelines for protecting human health ("Climate Change and Pastoral Nomads: Feedback Loops in Ulaanbaatar, Mongolia" 2022) This seems to be a cycle. As climate change has an impact on people's lives, people's lives accelerate the negative impacts of climate change. It's like a Möbius loop that people are caught in. Without a good solution, people will get worse and worse from the effects of climate change.

b. Population Influences

In Mongolia, there are many people who live in rural areas, because their careers and living environment were negatively affected by climate change, they moved to the urban area to get new jobs. Climate change is making it impossible for plants to flourish in agriculture. Summers are facing increasing drought conditions due to high temperatures and water shortages.

Batmunkh states that nomadic life is often confronted with a high-quality requirement, especially during the local weather phenomenon known as dzud, where summer droughts make it hard to harvest sufficient forage, which reduces the quality and quantity of available fodder. ("Climate Change and Pastoral Nomads: Feedback Loops in Ulaanbaatar, Mongolia" 2022) The terrible weather conditions not only make the residents face many challenges in their daily lives but also face the challenges of their nomadic work on animals and in the agriculture field. After cold winters, livestock face a significant risk of death due to a lack of forage. ("Climate Change and Pastoral Nomads: Feedback Loops in Ulaanbaatar, Mongolia" 2022) It is difficult to feed the livestock making it difficult for livestock to live during the winter. The data from the National Statistics Office of Mongolia shows that the population of Mongolia changed by the migration from rural areas to urban areas. Mongolia faces both agricultural and livestock challenges in summer and winter.



МАЛЧДЫН ТОО, улс, бүс, аймаг, нийслэл, сум, дүүрэг, баг, хороогоор, жилээр

(The number of herds in Western region from 2012-2021, Line graph)

Source: National Statistics Office of Mongolia

c. Immigration

Many people living in Mongolia are trying to change the negative effects of climate change by migrating. People are trying to migrate to change their lives. These are the homes of some 600,000 former herders who, like Altansukh, have migrated to Mongolia's capital over the past 30 years (Kingsley 2017). However, migration is rapidly increasing the urban population, and the population density is also increasing. Patrick Kingsley states that the scale of the migration is extraordinary: about 20 percent of the country's population has moved to Ulaanbaatar, doubling the city's population and significantly increasing its physical footprint (Kingsley 2017). For the most part, the rural population is moving to the cities to cope with the effects of climate change on people's lives, especially in agriculture and animal husbandry, which is why most of the people who are moving are living in rural areas. Ihnuudel, which means "great migration" in Mongolian, was coined by locals who moved a record number of rural people to the capital, Ulaanbaatar. ("Mongolia, Climate Change, and Ih Nuudel (Big Migration)" 2022)

Although people move from rural to urban areas, often their lives are not greatly improved after the move. When people who previously lived in rural areas move to urban areas, they often face additional challenges to their lives, including but not limited to not being accustomed to urban culture and facing a lack of financial support and job search opportunities.

Raulerson claims that migration can be a form of adaptation to climate change ("Mongolia, Climate Change, and Ih Nuudel (Big Migration)" 2022). While this is absolutely plausible, the case of Mongolia also shows that factors ranging from poverty and economic underdevelopment to climate change drive rural to urban centers, the latter exacerbating survival. ("Mongolia, Climate Change, and Ih Nuudel (Big Migration)" 2022) This has not improved the lives of rural-urban migrants to any great extent, but this is all due to climate change. Once pushed to urban centers, migrants may find some improvement in economic opportunities and access to public services, but the lack of residency rights faced by rural Mongolians negatively affects all aspects of their lives and highlights the inherent vulnerability faced by migrants to the point when they are forced to move in search of better opportunities. ("Mongolia, Climate Change, and Ih Nuudel (Big Migration)" 2022) They often flee rural areas in the hope of obtaining a better living environment without realizing that they are actually facing different levels of challenges.

d. Water issues

The water problem is also one of the reasons why Mongolia is facing climate change, which leads to the continuous migration of climate refugees. Declining water resources have affected nomadic livelihoods, but for the third year in a row, streams have slowed to a trickle, and hills that were once vibrant and healthy are now barren and dead. ("In Mongolia, Climate Crisis Threatens Herding Traditions" 2022) Climate change is having an overall negative impact on nomadic life. The problem of water resources affects the normal growth of grass in the pastures. As a result, nomadic livestock, such as cattle, sheep, and horses, do not have enough food supplies. This was a great blow to the nomads who lived on the land. Grasslands without grass and livestock without enough food are like a direct loss of work for nomads. The water problem had a series of effects on the lives of nomads. Octonbaatar claims that "We don't have

green summers anymore, and there is less water here than last year." ("In Mongolia, Climate Crisis Threatens Herding Traditions" 2022) The loss of water resources has made their lives fraught with hardship.

Discussion

Human beings are suffering due to climate change. If we try to look at the reasons behind these sufferings, then, due to the negative effects of rising temperatures on the local population, the inhabitants are unable to live normally in their original habitat. As a result, these people are migrating and thus becoming climate refugees. After becoming such refugees, the life of such people is not easy. They actually struggle every single minute for their safety and security. The most unfortunate fact in all these is that these negative impacts on their lives were not intended or caused by them. In fact, they are facing the sins done by others towards climate.

When the real-life situations of refugees are analyzed, it is noticed that they do not receive enough help and support as climate refugees. In both Pakistan and Mongolia, there are concerns about the impact of temperature on the lives of local people, resulting in a large number of climate refugees in both Pakistan and Mongolia migrating and leaving due to the impact of temperature on their lives. Can we imagine the life of these people before and after becoming refugees? When other human beings around the world are living in safe places and worrying about their job and fanciful things, these refugees are worrying about their daily bread, health, and their family's survival. The divide among human beings can be dangerous for humanity as it could lead to anarchy and other similar situations where humans will become the enemy of other humans in terms of their existence.

If we compared the impact of the water crisis in Pakistan and Mongolia, then the outcomes indicated that the negative impacts of water issues in both Pakistan and Mongolia are

similar and different on some parameters. For example, both Pakistan and Mongolia are suffering from some water scarcity problems. The water problem in Mongolia has a direct impact on the livelihood of nomads. In Pakistan, water scarcity in water areas also affects the lives of local people. In addition, water quality and water boundary issues, especially water trust between Punjab and Sindh, are also faced in Pakistan compared to Mongolia. Through the survey of this paper, the demographic factor is a more mentioned factor about the environment in Mongolia than in Pakistan. People who used to live in rural areas in Mongolia have migrated to urban areas in large numbers due to climate change. This migration has actually impacted their life; these people found it difficult to adjust to urban life.

Conclusion

In this paper, we dissected the impact of environmentally relevant factors on climate refugees in Pakistan and Mongolia. The impact of climate factors demonstrates the effects of temperature, water issues, and demographic factors on climate refugees in Pakistan and Mongolia, leading them to migrate. The Pakistan and Mongolia regions face higher migration due to the negative effects of temperature, water issues, and demographic factors. In Pakistan and Mongolia, there are two main characteristics of the study: 1) Mongolian nomads are affected by the environment, while Pakistan nomadic Kochis/Kuchis are gradually disappearing and decreasing. 2) Pakistan's water issues are affected by the border.

People should give more support to environmental refugees because environmental refugees are not protected by international law. Environmental refugees face greater political risks, and sometimes, they are sent back to their devastated homes or forced into refugee camps. Due to this situation, precautionary measures must be taken to protect climate refugees in

Pakistan and Mongolia, including the proper allocation of livelihood resources and financial support for environmental refugees and those in climate-affected situations.

Environmental refugees explain the situation of people in developing countries who are affected by climate but do not explain why world organizations and developed countries do not provide support and help for these situations. By comparing the impact of environmental factors on climate refugees in Pakistan and Mongolia, structural factors incorporate temperature, water issues, and demographic factors in developing countries into the impact on the lives of local people.

In this study, we outline the impact of environment-related factors on climate refugees in Pakistan and Mongolia. Environmental impact is an action that makes it difficult to produce dramatic changes in a short period of time or to see improvements in a short period of time. Although people should take all measures to protect the environment from now on, we cannot control the fact that environmental refugees are increasing/expanding. This is because the negative environmental impacts on environmental refugees may be the result of social factors that occurred more than a decade ago. When evaluating prevention and recovery measures, policymakers and public health officials should consider pre-existing environmental disparities, as well as their living conditions. Government departments should ensure as much as possible that these environmental refugees can have a good living environment. Every human deserves a better chance to have a clean environment and safe climate, and by realizing this, human beings should try to spread awareness about climate change. In addition, further research should investigate the lasting effects of other social factors, such as environmental factors, on these groups.

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