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Development of the United Nations Climate Change Regime and its Socio-economic Impressions on Pakistan (1992-2016): An Appraisal

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Abstract

The United Nations Climate Change Regime, planned in 1992, and formally established in 1994 through the inauguration of the United Nations Framework Convention on Climate Change (UNFCCC), under its mandate to address climate change at the global level, provides a great deal of support to maintain global climate control through different institutions in the capacity building of developing states in health, poverty reduction, green energy, and the transfer of carbon dioxide reduction technology. This study intends to ascertain the development of the UN climate change regime and its role in Pakistan's socio-economic development for a sustainable climate from 1992 to 2016. The variables to determine the degree of UNFCCC's efforts in Pakistan include public health, poverty reduction, agricultural improvement, carbon dioxide emission control, international trade collaboration, and gender-oriented societal improvements. The study highlights the impact of efforts on these lines and the possible incentives to crop up substantially the fruits of the given considerable opportunity to develop the socio-economic slant positively. This exploratory study is based on primary and secondary data, annual reports of different UN organs, especially the UNFCCC, official data from the Ministry of Climate Change Pakistan, surveys, interviews from the field experts, and peer-reviewed published research

Key Words: Agriculture, Climate Change, Economy, Kyoto Protocol Pakistan, UNFCCC, United Nations

Introduction

Climate is a dynamic phenomenon in space and time that has consistently changed parallel to earth's history. A prolonged variation of statistical spreading of weather is usually attributed to climate change – the injurious aftereffect of global warming in recent decades. Since temperature increases at a greater rate, melting of glaciers, increased land erosion, rise in sea level, warming of seawater, increase in evaporation, and decrease in precipitation are the results of climate change that threatens our future.

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No country can successfully fight against climate change alone; all states need collective and global action with proper international law-making and state responsibility. Though the process of addressing the issue of climate change and its aftereffects started intensively with the creation of the United Nations Organizations in the 1940s, the process was catalyzed by the discovery of ozone layer depletion during the mid-1980s, fears of increasing concentrations of greenhouse gases, the resultant intensity of the global warming, and the feared climate changes that would disrupt human and natural systems; thereby resulting into the emergence of an intergovernmental movement – the climate change regime, as a "principal response to the problem of global warming" (Brunner, 2001). Since the mid-1990s, the regime has been fully functional through the United Nations Framework Convention on Climate Change (UNFCCC) and the involvement of member states; the regime plays its role in the capacity building of developing states in many ways.

Pakistan also signed the UNFCCC in 1992 and ratified that in 1994. Subsequently, several activities were started in Pakistan related to the climate issue. Later, the country became part of the Kyoto Protocol in 1997. This study is intended to scrutinize the gradual development of the UN climate regime during the recent decades, subsequent participation, and acceptance of the regime's protocols by Pakistan, the consequent steps inside the country to tackle climatic issues as well as the capacity-building ventures of the UNFCCC, and overall impact of the regime's activities on Pakistan.

Climate Change and the UN Climate Change Regime

Since the ninetieth century, climate change was solely attributed to natural causes, but after industrialization and urbanization, anthropogenic causes – direct and indirect human causes – overshadowed the natural causes as human activities trigger climatic changes (Crowley, 2000). The greenhouse effect, land and water use, aerosols, and urbanization fall under anthropogenic. The greenhouse effect is at the top of human activities that disturb the atmosphere as it adds carbon dioxide, sulfur, methane, and nitrous oxide in the atmosphere that not only altering the natural composition of our atmosphere but also changing the intensity of heat, natural water cycle, and temperature of the earth to a great extent. Anthropogenic factors can be controlled, but urbanization's disastrous increase in population crosses proper land and water usage limits.

Climate change is an issue of international peace, security, and survival of all humans. It is a contemporary issue that significantly impacts individual and state development, particularly in socio-economic dimensions. Though climate change has remained dynamic throughout the earth's history, the extreme in this phenomenon is attributed to human activities. These activities include increasing population, deforestation, industrialization, misuse of natural resources, transportation, and burning fossil fuels (Doran & Zimmerman, 2009). All these commotions cause the emission of carbon dioxide, a significant greenhouse gas. As per the natural setting, greenhouse gases are an essential part of the environment in proper quantity, but the natural cycle has been disturbed now. In return, this disturbance causes global warming. Which gives birth to change in weather patterns, glaciers melting, ozone depletion, and temperature rise. The current scenario described that climate change has its adverse effects. Such climatic changes are a serious threat to human existence and biodiversity (McMichael et al., 2006).

The first-ever voice on an international level about climate change rose after establishing the United Nations in 1945. At that time, in 1949 first step towards the environment was taken under the UN scientific conference, the first of its kind, on conservation, utilization, and management of natural resources to cover up economic development. In that conference, hundreds of experts (zoologists, economists, agriculturalists, and ecologists) from all around the globe gave suggestions about the role of natural resources in future development (Clark et al., 1998).

The growth of industrialization led to serious environmental concerns; in the 1960s, public debate on pollution rose, and a UN organ, the UN Economic and Social Council, strived for the solutions. The UN conference on the Human Environment "First Earth Summit" (1972) laid the foundation for the setting up principle to preserve and enhance the human environment in the long run. This conference provided recommendations for an international action plan that can describe the major pollutants and warned the states to be alert of climate changes in the future (Gómez-Baggethun & Naredo, 2015).

The environmental issues gained ample global attention in the mid-1980s; a sizable ozone layer depletion over Antarctica was confirmed by the three scientists from the British Antarctic Survey through their publication in *Nature* (Farman et al., 1985). In 1987, UN General Assembly gave importance to this environmental issue and linked it with sustainable development. Likewise, Intergovernmental Panel on Climate Change (IPCC) was established to examine ozone depletion and global warming (Joos et al., 2001).

In June 1992, the Rio Earth Summit in Brazil resolved to build global consensus on environmental protection and economic development; to protect the atmosphere and link science and sustainable development, ozone depletion, and atmospheric pollution (Costello et al., 2009). This conference proved to be the foundation stone for establishing the United Nations Framework Convention on Climate Change (UNFCCC) through an agreement. The UNFCCC body was framed with the primary objective as mentioned in the Charter of this Convention under article 2:

"The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, under the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner (*The United Nations Framework Convention on Climate Change (Full Text)*, n.d.)."

The UNFCCC compelled the member countries to cut down current greenhouse gas emissions to the pre-1990s level. A monitoring system was introduced for these states to avoid the concentration of greenhouse gases by regular annual reporting. It directed the new funds for the developing countries to cope with climate change issues, in a way their economic development is not disturbed by limiting emission (Brown, 2013). Article 4 of the mandate provided a provision that the developed countries will help eradicate poverty and technological support for development. (Schipper & Pelling, 2006).

This agreement was enforced in March 1994. The UNFCCC has its annual meetings from 1995, called Conference of Parties (CoP) – the principal decision-making structure (Justus & Fletcher, 2001). By now, 197 states have become their signatories, and there is a total of 21 CoPs from 1995 to 2015 with broad objectives and goals to address the climate

issues. All conventions were on the agenda of taking mutual international actions through different approaches. These conventions played a vital role in uniting the world for joint effort without considering their position in the global world (Vanhala & Hestbaek, 2016).

In the third CoP (1997), held in Kyoto, Japan, it was agreed upon by the participants that greenhouse gases emission is a sensitive matter which should be handled more aggressively through legal obligations and a targeted time frame for practical measures. For this purpose, a protocol was signed by the member states - The Kyoto Protocol – which binds all the member states to take necessary actions and precautions to overcome the loss (Protocol, 1997). The Kyoto Protocol has a bit different structure than the UNFCCC; the Kyoto Protocol was a clear command of this regime by which pertinent obligations were made to the governments, including developing and developed nations, to reduce greenhouse gas emissions (Brunner, 2001). In 2001, the Kyoto Protocol was finalized, and after further amendments, it came into force in 2008 till 2012. This period was the first one of its kind, which bound the states to mitigate the greenhouse gases, regulate the emission regularly, and provide support to other more vulnerable states by providing those funds or giving alternative support to cover up the loss (Bodansky, 2011).

Since 2012, after the Kyoto Protocol's time frame ended, things have been made relatively more flexible; acquiescent ways to eradicate the climate change effects and provide more benefits and support for developing countries on their future sustainable development. The CoPs, 2012 onward, facilitate the whole world and put them together to take joint action, including the developing and developed nations (Newell et al., 2013).

From the above discussion, it can be gingerly presumed that the tenure of the UN climate change regime or the UNFCCC, after 1992 till now, be dissevered into three distinct phases:

1. The Pre-Kyoto Phase (1992-1997) – an era of setting rules, regulations, and recommendations for the international bindings to save the environment and provide awareness to all the conference parties. During this period, 2 CoPs were held.
2. The Kyoto Phase (1997-2012) – certain meetings were called to finalize the Kyoto protocol during this period. So far, 193 countries are signatories of the Kyoto Protocol - initiated in 1997 and then implemented in 2008 to 2012. This period was to bind every country to minimize their carbon dioxide emission to the pre-1990s era. This Protocol has changed the world's international political systems to give every state equal rights and obligations to use and protect the environment as an environmental citizen. During this period, 15 in total CoPs were done; out of them, two were rescheduled because of no consensus on decisions.
3. The Post-Kyoto Phase (2012-continues) – consists of 4 CoPs meetings. During this ongoing phase, the proceedings of the UNFCCC are more focused on negotiation, elaboration, and operationalization of the Kyoto Protocol regarding carbon dioxide and other greenhouse gases emissions; steps taken including giving funds and technology transfer to developing states by the developed states who are the main polluters of the global environment.

So, the UN climate regime is gradually developing with evolving patterns to meet the only goal of global climate change and sustainable development where required. The constitutive process opted by the UNFCCC has shaped and reshaped the policies during the last couple of decades to expedite collective efforts on the issue.

Pakistan, being a severely vulnerable state to the worsening climatic changes, is also the signatory and participant of the UN climate regime; signed the UNFCCC in June 1992, adopted the Kyoto Protocol in 1997, and acceded to the Protocol in January 2005 (V. Ahmed et al., 2011). The next part deals with the UNFCCC guided efforts and Kyoto Protocol-oriented steps taken by the UN climate regime and the state itself to fight the worsening climate and climatic challenges and its reverberations to stabilize its socio-economic conditions.

The UN Climate Change Regime and Pakistan

Pakistan, one of the pioneer signatories of UNFCCC, has divergent geographical features of plains, deserts, rivers, forests, glaciers, a substantial coastal line, and a population of more than 200 million people. This location and resources make it one of climate change's most vulnerable states. As per global climate risk watch, Pakistan is among the top ten vulnerable to natural catastrophes by climate change disasters (Allison et al., 2009).

Since its inception in 1947, Pakistan has faced several droughts in different periods and annual floods throughout. Water issues due to global warming and subsequent glaciers melting and seasonal disturbance are frequently taking place. The weather of this state is getting swearing continuously (Helmer & Hilhorst, 2006). Likewise, the countries like Pakistan that solely depend on agricultural yield in arid regions are at the greatest food security threat.

As a developing state, Pakistan does not have a robust economy; annual turnover mainly depends upon natural resources and agriculture – directly and indirectly, linked with climatic conditions. Pakistan doesn't have the infrastructure and technology to deal with climatic disasters; climate change severely hit the socio-economic development of the people. Due to global warming and other climatic anomalies, Pakistan has been facing a severe crisis of decreased agricultural yield in recent years, resulting in a low growth rate of the country's economy. The phenomenon is making the country unable to deal with poverty (Mellor et al., 2008). Therefore, being an agrarian country, Pakistan's economy is susceptible; the country faces variability in a cycle of monsoon rains, therefore, extreme droughts and floods at one time. These abnormal factors put food, water, economy, and agriculture under severe threat.

Climate change contributes to increased intensity and enhanced frequency of destructive weather phenomena like floods; the dangerous impacts of continuously warming planet on yield of crops may cause higher hazardous to the whole globe, especially severe threat is for the world's poor as most of them depends on agriculture. Climate change poses disastrous impacts on the people of Pakistan; vulnerability of water, agriculture, biodiversity, health, economic growth, forests, poverty, and the socio-economic sector put Pakistan under severe threats. Therefore, Pakistan can't afford to disregard the ultimatum climate change poses to its social stability and economy.

Key Initiatives of Pakistan against Climate Change

Pakistan is susceptible to catastrophic hazards due to climate change; Pakistan was ranked 16 out of 170 nations by the Global Climate Vulnerability Index, indicating that Pakistan is highly vulnerable to global warming (F. A. Khan & Salman, 2012).

As far as efforts to fight climatic change in Pakistan are concerned, the country has been part of the global efforts since the 1980s. Pakistan has also signed the Vienna Convention (1980), which was about the Protection of Ozone layer, and a signatory of Montreal protocol (1987) on the factors that contribute to the depletion of the Ozone layer, which came into force in 1992. Being a signatory of the UNFCC and the Kyoto Protocol, and ethical obligations of the international commitments, the country's Ministry of Climate Change undertook various steps to meet its vows.

As the early step, following climate-related investigations were conducted to grasp the situation of climatic effects on the country:

- Climate Change in Asia: Regional Study on Global Environmental Issues (1992-1994)
- Asia Least-cost GHG Abatement Strategy (ALGAS) (1994-1998)
- Country Case Study on Climate Change Impacts and Adaptation Assessment (1996-1998)
- UN Environment Program (UNEP) country study (2000)
- First National Communications on Climate Change (2003)
- Task Force report on Climate Change (2010) (M. A. Khan et al., 2016; Iqbal et al., 2009).

These investigations enabled the Ministry to create substantial awareness on the issue of climate as well as to prepare a more durable environmental improvement agenda in the shape of the country's Clean Development Mechanism (CDM) Operational strategy and a National Action Program (NAP), on the one hand, to define targeted action plan in the light of national goals, and on the other hand, combat the desertification in the country (Ahmad et al., 2005). A Cabinet Committee on Climate Change was constituted in 1995 to stipulate a strategy synchronization forum for dealing with climate change which managed to incorporate the climate-oriented policy ambitions to the Vision 2030 and the Medium-Term Development Framework (MTDF) (2005-2010) (V. Ahmed et al., 2011).

Major Impacts on the Socio-economic Development

This section highlights the significant impacts of the efforts mentioned above on the Pakistani government, under the guidance of the UN climate regime, on the five variables defined in the opening paragraphs.

Carbon Dioxide Emission Control

The emission of greenhouse gases has a global impact that is threatening the future of this globe. These gases are emitted mainly by specific regions but are dispersed around the globe. It means that the areas not contributing these gases to the atmosphere are also at stake in climate disaster; international collaboration is making many efforts, especially at the forum of UNFCCC. Recently, much more efforts are being made to reduce carbon; the Paris agreement in December 2015 sums up with negotiations on a deal to limit greenhouse gas emissions signed by 188 countries of the world.

Pakistan is included in the list of countries emitting very low carbon dioxide, though, like many other developing states, it is less equipped to overcome and deal with the dangerous impacts of climate change. Despite minimal contribution to the greenhouse emissions by Pakistan, it is highly vulnerable to extreme weather and heat shocks that

increase the severity of monsoon and the occurrence of cyclones. The National Conservation Strategy (1992) was a part of Pakistan's environmental legislation process and provided a root for sustainable developments institute for policymaking. Because of this legislation, Pakistan got environmental-related financial grants for all its provinces.

Since the start of environmental movements worldwide, Pakistan has been a signatory of all the conventions and agreements, multilateral and bilateral. In Pakistan, significant initiatives were taken to tackle climate change, reduce more carbon dioxide emissions, and establish climate change authority, resulting from UNFCCC membership. Pakistan Environmental Protection Agency (PEPA) was conscripted in 1993. The environmental problems faced by Pakistan include urbanization, population growth, deforestation, floods, surface drainage, and weak governmental policies. Pakistan also began formulating its ecological law, enacted in 1997 as Pakistan Environmental Protection Act. Actions taken under this law include establishing different agencies, councils, and tribunals (Urooj, 2015). In 2002, a National Environmental Action Program (NEAP) was approved, and a significant milestone in the history of Pakistan was National Environmental Policy (2005-2015).

To mitigate greenhouse gases emission through increasing fuel efficiency in the road transport sector of Pakistan, the Ministry of Environment started a project, "Fuel Efficiency in Road Transport Sector (FERTS)" under National Energy Conservation Center (ENERCON), funded under the Global Environment Facility (GEF) Program on climate change. The project was aimed at mass level awareness campaigns, training of workshop mechanics, the establishment of tune-up centers and provision of tune-up equipment, and future planning on increasing fuel efficiency in the transport sector. Under the program, dozens of tune-up centers were established, and hundreds of workshop mechanics were trained within a couple of years (Hyder et al., 2006). Likewise, another project, "Commercialization of Wind Power Potential in Pakistan," was launched to stabilize greenhouse gas emissions. The primary target was to enhance investments in this renewable energy potential, especially in the country's coastal areas. Another project to encourage the use of renewable energy, "Promotion of Renewable Energy, Energy Efficiency and GHG Abatement (PREAGA)," funded by the Asian Development Bank, was launched (Malik & Sukhera, 2012).

Moreover, Pakistan has developed a strategy against climate change, "Pakistan vision, 2025." It is currently focusing on implementing projects and funds for health and adaptation, and serious steps are taken to enhance its institutional capacity to work effectively against the disaster (Organization, 2016). Most importantly, the Pakistan National Conservation Strategy played an important role in combining all the environmental issues of Pakistan within one place and played a significant role in starting the major ecological movement in Pakistan by identifying and eradicating all sustainable development problems. Pakistan took many steps under National Conservation Strategy from 1992 to 2005, and now Pakistan's policymaking and the law-making process are well mature with admirable records about conservation and sustainability; Pakistanis are more aware of these issues, but the weak area is on the implementation side (Ministry of Climate Change, 2016).

Agricultural Improvements and the Food Security

The field of agriculture is one of the most devastated and affected sectors due to extreme

and stressed weather; the sharp climatic changes have created many problems, including alteration in monsoon circles, rainfalls of increased magnitude and extreme frequency, increased sea level with much more warm water, and increased surface temperature. In the current scenario, minor temperature changes can disturb the production leading to a shift in harvesting season, reducing the final yield (Van Kooten et al., 1995). The calamitous impacts of global warming and droughts have severe implications for food and agriculture security. Hence, it has severe consequences on social and economic development. Food shortage is the leading cause of deaths and malnutrition in the developing world. The shortage of agricultural yield was offset by modification in agriculture yield between 1980 and 1990, but after that, we see the gradual shortage in annual yield of the Asian continent (Evans, 1996).

Pakistan is a developing country, and its major economics depend on agriculture. Climate change puts great stress on Pakistan's ecology, atmosphere, and biodiversity, putting its primary economic development resources at stake. Pakistan has an agrarian economy, and 68% of its population earns its living by the crops, fruits, cotton cropping, and livestock. Throughout its history, Pakistan has faced many draughts, floods, and earthquakes. Moreover, in Thar, due to draughts, people are dying. Agriculture directly relies on the water sector. The water sector is highly vulnerable to changes in climate, which, on the one hand, stressed the freshwater resources and enhanced the frequency of severe floods, both of which are a great threat for the agriculture sector. Climate change in Pakistan has manifold effects; increased temperature, accelerated glacial melt, and uneven rainfall in arid and monsoon areas (M. Ahmed & Schmitz, 2011). The predominantly agrarian economy of the country, which is mainly dependent on the waters available through the Indus water system, is under heavy pressure due to direct and indirect climatic stresses; heightened land degradation, augmented evapotranspiration, uneven glacier-melt, scientific experimentation leading to increased denitrification thereby swelled emission of greenhouse gases, and destruction of soil nutrients.

The economy of Pakistan depends heavily on agriculture, and major exports of Pakistan depend either directly or indirectly on annual agriculture yield. The disastrous implications of climatic change are very alarming for the future economics of the country. Pakistan is located geographically in the semi-arid to hyper-arid region, which means the slight variation in temperature and carbon dioxide level by climatic changes can greatly affect agriculture (Ramay & Saleem, 2012). Moreover, food security is quite severely endangered as the primary food crops of the country (rice and wheat) are under heavy strain due to frequent floods, timely low supplies of water, and climatic extremities that could result in a sharp decrease in the crop yield (Iqbal & Arif, 2010). In Pakistan, the rising temperature has left serious challenges for sustainable food production. During the last couple of decades, the rise in day and night temperature has resulted in enfeebled crops' health and reduced net grain yield in altering crop seasons (Rasul et al., 2011). Climate-sensitive crops of Pakistan like wheat, rice, cereals, grains, vegetables are vital and are at stake because of climate change. The availability of water which is directly or indirectly connected with the hydrological cycle of Pakistan, "will be a key aspect for determining the future impacts of climate change on yields in Pakistan" (M. Ahmed & Schmitz, 2011).

Most experts (ecologists and environmentalists) believe that Pakistan should focus more on the adaptation strategies to climate change and modification options to sustain the Agro-economics industry rather than mitigation efforts (Howden et al., 2007). The

negligence to this aspect can lead the fragile economy of Pakistan to "suffer negative impacts on several crops that are important to large food-insecure human populations" (Lobell et al., 2008). It is feared that the weather patterns in Pakistan are increasingly erratic due to climate change; climate change enhances the incidence of cyclones and salinity intrusion in Pakistan regions that significantly affect the harvesting of main crops that can put the future of millions of Pakistanis that solely depend on agriculture. Therefore the adaptation strategies can be carried out great weight hindering the hazardous effect of climate on world food and crop production (Rasul et al., 2012).

Public Health

Health is an important sector on which climatic changes put on their impacts. All the basic requirements for good health like clean air, fresh and pure water, a proper living place, and sufficient healthy food are vulnerable to climatic disasters. Climate change alters the geographic range and increases the length of transmission season of major pathogens-borne diseases. Climate change also aids parallel the outbreak of many infectious diseases like Ebola, Malaria, bird flu, Tuberculosis, etc. Another impact of climate change is that it alters the nature of the host and causative agents of diseases that disrupt the balance of healthy life. It is estimated that climatic disasters can take the life of up to 250000 people per year after 2030, either by malnutrition or infectious diseases (Organization, 2014). The summer heatwaves take hundreds of lives in various parts of the globe. Evolving climatic factors contribute to a wide range of health issues in all world regions, but some groups of people are highly vulnerable to health impacts, including people of low background, low income, children and older peoples, pregnant women, and medical disorders. They cannot deal with the challenges and are not equipped with adaptation infrastructure. Developing countries need international assistance for preparing and responding to upcoming disasters.

Areas like Pakistan that are weak in the necessary infrastructure for health will be unable to cope with the health disaster without foreign assistance. Extremely high air temperature is the major contributing factor to respiratory, mental, and cardiovascular diseases, particularly among poor and older people. Due to higher temperature and humidity for a more extended period, mosquitoes reproduction increases that cause many health issues in Pakistan; malaria and dengue are the two major diseases that hit densely populated urban areas of the country. Some other diseases are also the product of climatic changes, heat strokes, pneumonia, cholera, heart attacks, etc. During recent years, 'winter smog' has appeared as another result of the deteriorating climatic conditions of the country's major urban areas during December and January each year. This smoky fog is quite dangerous and generates respiratory issues in some areas, especially the Punjab province. Therefore, climate change worsens the health issues inside the country, which are becoming more worst with malnutrition caused due to water and food insecurity (Noor & Fatima, 2011).

The projects of UNFCCC are aiming at providing detailed information to health ministries and decision-makers on health with the country-specific evidence and fact sheets of the disaster faced by the respective country. The projects of UNFCCC and WHO have strengthened the connection between environmentalists and health personnel that promoted innovative ideas on country climate and improving health overall. Geographical distribution of different continents differently supports the prevalence of infectious diseases due to climate change. Many causative agents of contagious diseases prefer

increased temperature and humidity. After the peak industrialization era, history sees the enormous health concerns elevation in parallel to climate change. After 1990, s number of dengue cases and deaths enhanced to almost double of previous years. (Khanani et al., 2011).

Poverty Reduction

Climate change directly affects the infrastructure, technology, agriculture, security, and socio-economic development across the whole globe, adversely affecting the world's economic conditions and enhancing the graph of poverty on a world scale. The disastrous social impacts of climate change are enormous; it destroys the natural sources on the one hand and enhances the prices – both are devastating for the poor only and worsen their lives. The death rates in the developing countries are very high due to climatic disasters; lower levels of human development, higher poverty levels and miserable conditions in major populations of developing countries, and more vulnerability to the adversities limit the poor's ability to manage with disastrous impacts of climate change like droughts, earthquakes, and famines (Adger, W. N., Huq, S., Brown, K., Conway, D., & Hulme, 2003).

In 2001, the Government of Pakistan, through its Ministry of Finance, formulated Poverty Reduction Strategy Paper (PRSP) "to promote economic growth and achieving macroeconomic stability, increasing investment in human capital, more investment in the social safety net and improvement in quality of governance," and "reduce the vulnerability of the poor to shocks." In the scheme, it was elaborated that the federal government has strategies to reduce poverty in the country with the help of donor funding from the United Nations Development Program (UNDP), the United Nations Fund for Population Activities (UNFPA), and the United Nations International Children Emergency Fund (UNICEF) (Finance., 2003). The PRSP study concluded that the major poverty issue in Pakistan is mainly in the rural areas. Therefore, in the 2003 PRSP, the government brought a plan "Rural Development Strategy." There are certain other reasons which are core to the poverty reduction phenomenon in the country; lack of institutional capacity to handle an effective poverty eradication plan, costly business patterns, and above all, the political will of the governing circles lacks seriousness its essence (Khan, A. H., Azhar, A. S., & Rana, 2003). Unfortunately, no substantial success can be achieved in this sector.

International Trade Collaboration

International trade and climate change are linked intrinsically. First, the disastrous impacts of climate on socio-economic development, agriculture, marine life, season alteration significantly alter the gross production of the nation on the globe; in addition to this, high heat waves threaten the necessary infrastructure for conducting the trade at national and international level. Thus, climate change potentially affects the trade pattern and net production. Secondly, trade affects the global climate directly and indirectly. The main component of trade, transport, directly contributes to greenhouse emissions, and the resultant enhancement in the production, utilization, and consumption of trade-induced products also causes carbon dioxide emissions to rise. Therefore, the role of climate change is directly linked with economic development because, in today's world of globalization, international trade (R. O. Mendelsohn & Dinar, 2009).

The developing world has a greater share of agriculture in the global economy. These countries are of low latitude where the impacts of climate on the fractions are severe; mainly tropical and sub-tropical is experiencing a significant reduction in the yield of crops due to an increase in global temperature. The land of low latitude is already hot for most profitable agricultures, and a further increase in their temperature harms the yield of crops and reduces productivity (R. Mendelsohn et al., 2006).

Pakistan is a country mainly dependent upon natural resources like agriculture. In Pakistan, even international trade is supported by agriculture. Most of Pakistan's land is arid and semi-arid, and dependence on the water makes Pakistan more vulnerable to climate change. During recent years, the disturbance in glacier melting and the resultant reduction in river flow has resulted in facing the country a severe power shortfall and load shedding. This aspect is directly linked to agricultural production (abundance of tube wells to irrigate agricultural lands due to the scarcity of the river waters) and, more importantly, industrial sustainability (Saeed et al., 2010). Major country exports are agro-based like wheat, leather, and textile; so, the heavy impressions of weather variations have been observed in recent years in Pakistan's overall international trade. The UNFCCC efforts to aid Pakistan in tackling climatic challenges is still a long way to make the Pakistani export market a global standard in many angles.

Gender Development

The phenomenon of climate change is encountered differently both by females and males. The impact of climatic changes on gender development depends on respective social values and norms of a geographical unit; females have different responsibilities than males, perform different tasks, encounter different risks, and have different responses to climatic changes. They have divergent levels of access to technology, services, and information due to cultural and social inequalities, which leave men at an advantage on the one hand and women on the other hand (Lambrou & Nelson, 2010). Gender Development in a developing country is an important social issue, and the current climatic changes worsen gender issues with time. Especially for those countries which have agriculture as the primary source of economy. In Pakistan, especially in rural areas, women play a crucial role in the agriculture sector. Studies show that in adverse livelihood conditions, women are more susceptible to environmental change; they have to walk to distant places in search of water due to water scarcity, they have to keenly take care of family members impacted by climate change-related diseases (Skinner, 2011). Likewise, change in climate impacts the health of males and females differently. However, on common grounds at the global level UN is giving particular emphasis on women empowerment. The UNFCCC has managed this issue as an essential agenda adequately addressed in the Paris Agreement by passing resolutions. So, the UNFCCC's climatic changes policies have gender development considerations.

During the last couple of decades, Pakistan's efforts can be seen in the ratification and signature of the major protocols, conventions, and conferences. The only issue left is the robust implementation of the rules and policies made in this country. Currently, Pakistan ranks 135th in global greenhouse gas emissions but 16th in susceptibility to climate change (M. A. Khan et al., 2016). As Pakistan is frequently exposed to climatic hazards like floods, droughts, and cyclones, the climatic concerns go deep for economic impacts making the population more and more vulnerable to poverty and other societal issues (Mustafa, 2011).

With the rapidly increasing population and uncertainty of natural disasters, food security is at stake with substantial pressure on commodity prices (Noor & Fatima, 2011).

Conclusion

Climate change is a highly crucial issue of this era that needs to be addressed for human survival. This climate change is a change in climatic variations observed over a more extended period in an area. The universe is facing such issues its birth; however, the extremes in these events came up because of industrialization. This climate change is because of human-induced activities on earth that cause any pollution. The impact of climate change starts from human life health until the end of the economy, social, political, and even survival. The climatic effects are extended in the long run to the poverty, change in day-to-day weather, and devastation of infrastructure and water shortage to the agricultural lands specifically. This agricultural sector is heavily dependent upon the climate situation, and it is the primary source of survival of many states. To address these issues, United Nations came up with the idea to protect the environment for human life on earth and took necessary steps. Resultantly, the international community has two significant treaties to tackle the intensifying climatic challenges since decades due to increased anthropogenic causes towards environmental degradation; the UNFCCC (1992), and the second one is of Kyoto Protocol (1997). The formation of UNFCCC was the milestone in giving birth properly to the UN climate change regime. For more than two decades, this movement has gathered significant success in generating global awareness and manipulating member parties to participate and bind them through Kyoto Protocol to observe proper rules and obligations required to confront the climatic hazards.

Though blessed with plentiful natural resources, Pakistan is in a state of high vulnerability, and it requires forced adaption and mitigation to defend itself against future challenges due to climate change. Pakistan is an agriculture-dependent country, and agriculture is dependent upon climate, as this climate change not only brings devastation to the economy but can drive a state from developing to failed state status. Since Pakistan has ratified major UN conferences, summits, and agreements to fight against this global cause and taken many steps as required, Pakistan is not as stable as it should be because of the droughts, floods, and economic instability. The UNFCCC, on its level, had taken and is still taking initiatives for accommodating the vulnerable countries. However, unfortunately, Pakistan is far behind in fulfilling the commitments to get the Green funds and other incentives managed by the UN climate regime. Pakistan is far behind the concept of sustainable development, which leads to future consequences on a large scale without any concrete actions. Therefore, Pakistan needs to work on many fronts to meet the commitments and strive for the goal of sustainable development; Pakistan needs to develop a proper campaign for forestry saving and trees plantation at the national level – as in Khyber Pakhtunkhwa, to improve its budget allocations on human developments and to make climate change a part of the regular curriculum of the school and colleges. Through such efforts, Pakistan can quickly adapt the UN climate change regime's targets and techniques to tackle climatic issues on a quick response level.

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