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Abstract

Climate Change is said to have posed itself as an existential threat to life on the planet Earth. It has been reported that during the last 200 years, the impact of human activity has become so immense that now credible scientific research and sources are consternating the conscience of humanity at a rigorous rate to call for joint platforms for action irrespective of regions and geolocations. Pakistan is pigeonholed among the top ten countries that are surmised to be affected if appropriate measures are failed or delayed on behalf of the government. The aim of the paper is to review the emergency preparedness of the Government's existing public policy on climate change. Among other subaims, authors were inclined to hash out the policy covers provided to improving institutional capacity regarding any likely emergencies as well as possible lags that may run devastative in failing to resist any potential natural calamity.

Keywords: Climate Change, Pakistan, National Climate Change Policy, Disaster, Emergency Preparedness

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Title

Countering Climate Change and Emergency Preparedness: A Review of Pakistan National Climate Change Policy

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Abstract

Climate Change is said to have posed itself as an existential threat to life on the planet Earth. It has been reported that during the last 200 years, the impact of human activity has become so immense that now credible scientific research and sources are consternating the conscience of humanity at a rigorous rate to call for joint platforms for action irrespective of regions and geolocations. Pakistan is pigeonholed among the top ten countries that are surmised to be affected if appropriate measures are failed or delayed on behalf of the government. The aim of the paper is to review the emergency preparedness of the Government's existing public policy on climate change. Among other sub-aims, authors were inclined to hash out the policy covers provided to improving institutional capacity regarding any likely emergencies as well as possible lags that may run devastative in failing to resist any potential natural calamity.

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Keywords: <u>Climate Change</u>, <u>Pakistan</u>, <u>National Climate Change Policy</u>, <u>Disaster</u>, <u>Emergency</u> <u>Preparedness</u>

Introduction

Pakistan issued its National Climate Change Policy in 2012 the reign of the Pakistan People's Party that took its oath in 2008. The apparent cause of issuing a full-fledged policy on Climate was reported to be the incessant 'super floods' of 2010 and 2011 respectively. Not only the National Policy, but the government of Pakistan also set up the National Ministry of Climate Change and Environmental Coordination (GOP, 2012). The aforementioned policy is also consecrated to provide a 'foundational framework' to ensure Climate Change Action Plans, Programs, and Projects in the foreseeable future. The Policy also disclosed that the enactment process of the process involved all national-level main stakeholders at Federal Government level (Ibid). In addition to what is said in the lines above, the policy document iterated adopting appropriate measures related to emergency preparedness, capacity building, institutional strengthening, technology transfer, and introduction of climate change issues in higher education curricula. The document pledged to regular reviews and updation in the everevolving science of climate change (Ibid). The policy





document comprises eleven sectors in which the government reaffirms its commitment to play its proactive role to curb the climate change. For the sake of the current paper, the subsectors of Policy i.e., Disaster Preparedness, Agriculture, and Capacity Preparedness were selected and studied.

United Nations refers to climate change as longterm shifts in temperature and weather patterns due to natural changes as well as human activities. The main contributors to climate change are greenhouse gases that make up climatic change and are reported to have resulted from modern transportation means, deforestation, methane omissions, industrial and agricultural activities, etc. (United Nations, 2024). It is also a matter of gravity that there exists a mix of conventional and non-conventional know-how on climate change. UN notes that many people think that climate change refers to the rise in temperatures but this is only the beginning. As a matter of fact, it is known that the planet Earth is a system in which everything is connected holistically therefore the results may range from droughts, water shortages, fires, changes in sea levels, frequencies of flooding, variations in biodiversity, and irregular precipitation patterns. Pakistan is not though among the biggest contributors of emissions unlike the USA, Russia, Brazil, India, Indonesia, European Union, and China but it is stressed that now is the time that everybody feels that responsibility and stands firm to take concrete action to save human life, biodiversity, and the environment through working purposefully for the climate.

Review of Literature

World Bank explains that Pakistan faces some of the highest disaster risk levels in the world. Pakistan ranked 18 out of 191 countries in 2019 according to Inform Risk Index. It is further added that disaster risk in Pakistan is driven by social vulnerability whose ranking is 37 out of 191 countries due to high rates of poverty (World Bank, 2021a). It is observed that the majority of the people i.e., 220 million in Pakistan live along the river Indus which happens to be an area highly vulnerable to seasonal flooding (World Bank, 2021b).

According to the Asian Development Bank (ADB), Pakistan is a highly vulnerable country with risks of poverty and malnutrition. It further adds that many communities and minority groups are

marginalized by socioeconomic status, location, and political circumstances. Pakistan holds a rank of 125th out of 169 countries on the Human Development Index. The bank recommends that Pakistan's exposure to natural hazards need to be understood in terms of its vulnerability (ADB, 2021). Appointing human health as one of the biggest climate-bound risks for Pakistan, ADB lists the following: nutrition, heat-related mortality, and disease as challenges of climate change. Side by side, ADB also refers to poverty and inequality, gender, and migration to be among the important considerations (Ibid). In this respect, UNISDR (2014) also estimates the average annual loss to be \$ 1.3 billion (UNISDR, 2014) whereas German-Watch \$3.8 estimates the same to be billion (GermanWatch, 2017).

The state of Pakistan is already entangled with issues and challenges of Human rights, sustainable development as well as economic and political instability. There is an immense need to adopt an integrated approach to include all stakeholders to progress in a desirable direction so that the fragility is addressed appropriately. The scope of the paper does not bring all main challenges related to climate change under discussion rather the paper only attempts to critically evaluate the Human factor in National Climate Policy regarding its effectiveness, especially from the point of view to what extent the civil society and local communities are involved in the process?

The said policy document is divided into eight main sub-sectors including Climate change adaptation, climate change mitigation, capacity building and institutional strengthening, awareness raising, international and regional cooperation, transfer, finance, technology and policy implementation mechanism. The scope of the was to examine the sub-sectors of 4.7, 4.8, 6, and 7. The sub-sectors are disaster preparedness, socioeconomic measures, capacity building, and awareness raising (GOP, 2012).

Materials and Methods Documents' Review

The paper is based on various reports regarding the Climate change conditions in Pakistan. The prime document of analysis was the National Climate Change Policy of 2012 and its updated version of 2021.

In-Depth Interviews

Key officials from relevant ministries were contacted out of whom only 9% opted to spare time whereas 49% straightly refused to give an interview except one all potential informants from academia also chose not to be a part of the research process.

Results and Discussion

The survey of literature almost unveils startling information about the situation of climate change in Pakistan. This leads to the inference that this domain is something not to be ignored and put on adjourn as millions of peoples' lives are at risk if appropriate measures are not adopted timely. The principal documents of research were carefully designed but when it comes to the implementation, there is a gap that exists, the main reasons assigned were a shortage of funds, lack of appropriate training, and lack of ownership regarding joint action by the government and the civil society. Both policy documents are silent as to why the portion of local populations, NGOs, CBOs, and communities are not duly reflected in the same. Similarly, the awareness part has a great deal to do with community awareness and mobilization towards climate change. Yet is acknowledged throughout the desired change is not possible unless the communities are tapped with a proactive approach to advocate a behavioral and attitudinal change among the local communities.

There is a felt need to adopt an appropriate behavioral change model to bring the people of Pakistan into the process of positive change towards climate change. If the government appoints "Climate Advocates" through a participative mechanism then the message could easily be spread to even remote areas of the country. The NCCP 2012 included a desirable change via including climate change as a subject into the existing syllabus in the education system that would have been most useful.

The diffusion of Innovation (DOI) approach could have started a behavioral change favoring climate change in Pakistan (Rogers, 2003). The said work mentions the Adopter Categories of Innovation. The potential suitability of such approaches would have been entirely befitting to target the climate change challenges in the country.

National Climate Change Policy

The aforementioned government policy document mentioned the following as sub-sectors including Disaster Preparedness, Socio-economic Measures, Capacity Building, and Awareness Raising but a clear strategy to implement the desired goals and objectives was missing in spite of focused efforts to locate such archives. An updated version of the National Climate Change Policy issued in October 2021 is a mere replica with minor changes in the parent document issued in 2012 with eight subsectors (GOP, 2022). Under the section "Climate change adaptation" both policies of 2012 and 2021 committed public awareness campaigns to address the importance of conservation and sustainable use of water resources. It is a matter of luck that no such information was available to study the possible impact of this policy intervention (GOP 2012), (GOP, 2022).

Subsection 4.3 of the policy is "human health" in both policies with policy measures from a-e in 2012 and a-j in 2021 respectively without any hint of objectives, inputs, and possible outputs as a result of the implementation of the policy. An important part of the document analysis is that the policy is completely silent in mentioning the relevant stakeholders and their intended contribution. Only one point in human health talks of exploring publicprivate partnerships regarding financial access for WASH.

As regards Disaster Preparedness (point # 4.7), none of the sub-sections from a-y discusses how to involve community and local populations in building self-reliance to cope with the emergencies that may threaten the security of the people at the grassroots. No such department or institution is allocated the responsibility to address this important sub-area of climate change. There is a need to interlink Disaster Preparedness with Local communities and populations so that the impact of disaster is reduced to a considerable extent.

It is a matter of fact that the institutional capacity of all public departments has long been questioned by the citizenry as well as the media and other independent and international sources. Red Cross, an international humanitarian organization noted with respect to the 2022 floods in Pakistan that 33 million people in 90 districts were severely affected whereas the number of displaced people was 8 million (Red Cross, 2023).

As a result of the floods, "a third of Pakistan was under water" (Ibid). Red Cross notes that "in 2022. monsoon rains saw record high ... Floods became saturated with water, rivers overflowed and the natural drainage system was unable to cope with it" (Ibid). The website further cites the statement of the Chief Executive of Islamic Relief Worldwide that "Pakistan's carbon emission is though low but the effects of climate change in Pakistan comprise a high frequency of extreme weather events..... he further added that when communities are duly prepared, extreme weather events do not become disasters. The same official advised for the provision of funds, expertise, and energy to be spent on helping local communities predict, prepare, and mitigate the impact of natural disasters (Ibid).

The state of climate change is directly related to the Agriculture sector which is one of the largest employers of Pakistan as well as the source of food security. The section 4.2 and 5.6 of NCCP 2012 and 2021 deals with the agriculture and livestock. According to the policy document, the government revealed its commitment to developing the agriculture and livestock sector in order to mitigate the impact of climate change, especially with regard to food security. On the contrary, the State Bank of Pakistan establishes that only 63.1% of the country's total households are said to be "food secure" in spite of ranking 8th in wheat production, 10th in rice, 5th in sugarcane, and 4^{th} in milk production (SBP, 2019). A recent media release had a somewhat more alarming fact to knock the attention of the Pakistani nation. Tribune uncovered the findings of a study that says climate change will affect the agriculture sector of Pakistan as it is calculated that productivity will decrease by 8-10% till 2024. Among the main staple crops wheat and rice are said to bear the dire impact of climate change (Ramay, 2022). The same source marks food insecurity to be 58% for the nation with remarks that food production will be decreasing (Ibid). Shakeel Ahmad Ramay, the author of the article stressed certain dimensions to improve the situation. Firstly, to draw a vulnerability map across various ecological zones of the country. Secondly, the adoption of climate-smart agriculture, thirdly, strengthening of Research and Development (R&D) with a focus on solution seeking, Fourthly, developing a climate change dashboard on behalf of academia, especially agriculture universities, fifthly, learning from China via the China-Pakistan Economic Corridor (CPEC) (Ibid).

The monster of Climate change is also affecting rainfall intensity as well as the annual rainfall which means less than 250mm of rainfall per annum that needs improvement in farming and irrigation infrastructure for water conservation (Syed et al., 2022). GermanWatch while referring to The Long-Term Climate Risk (CRI) informs that Pakistan is in the fifth rank among those countries that have been reporting to get affected due to climate change from 1999 to 2108 (Eckstein et al., 2019). An important point is to understand that Pakistan is the 5th most populous country with an estimated population of 229.22 million in 2022 (GOP, 2023e). The survey notes that Pakistan's continuously increasing population means more demands for food, schools, health facilities, jobs, and infrastructure and it puts pressure on the government to provide these services at an equal pace (Ibid: 201). The situation if not controlled effectively would disturb the internal security of the state out of which climate change's effect on agriculture would be more devastating because it will directly impact the food supplies in the country causing more social vulnerability as well as calling for conflicts resulting in law and order situation for the government.

Federal Budget 2023-24

The Federal Budget 2023-24 on page 22 talks about the government's financial commitment to spend on environmental protection and it reveals a total of Rs. 1226 million. The areas of public spending are identified as Pollution abatement, Research and Development, and Waste Water Management (GOP, 2023a).

Budget Speech of Finance Minister

In addition, Part I of the Finance Minister's speech on Federal Budget 2023-24 did talk about climate change on pages 8 and 18 respectively. The said speech does not mention any public spending with respect to any policy commitments as enshrined in the policy (GOP, 2023b). The said speech firstly threw light on the interrelationship between the harvesting period and the need for agricultural machinery (Ibid:8). Secondly, the speech highlighted the effects of climate change and natural calamities and the strategies under the framework (4RFs) for reconstruction and rehabilitation and the future implementation of 5Es (Ibid: 18).

The minister's speech lacks any hint regarding progress on the climate change policy implementation and the main variables of current research are disaster preparedness, socio-economic measures, capacity building, and awareness raising.

Pakistan Economic Survey 2022-23

Pakistan Economic Survey 2022-23 talks about the following: the National Clean Air Policy launched in March 2023 to improve air quality by reducing pollutants, the National Tree Plantation Campaign, Green Initiatives under which a memorandum of understanding (MOU) was signed with the Saudi government in the field of environment, Ten Billion Tree Tsunami that talks about utilization report of fund allocated for plantation, National Inventory for Short-Lived Climate Pollutants, COP-27 Participation on behalf of Pakistan under the chairmanship of the then Prime Minister, Loss, and Damage Fund, UK initiated Climate Ministerial Meeting under which Pakistan joined Forests and Climate Leaders' Partnership and Living Indus Initiative of Ministry of Climate Change in collaboration with UN (GOP, 2023c). The survey contains a full-fledged chapter on "Climate Change" (GOP, <u>2023d</u>). Upon an in-depth study, it was observed that the said portion of the survey merely contains information regarding the performance of the government in allied fields of climate change. No specific mention of the "civil society" exists in the chapter. The only mention of civil society is with regards to the newly developed National Clear Air Policy (NCAP) confirming the policy implication requires the involvement of civil society and advocacy groups (Ibid:270).

The term "community" has been used at eight places within the chapter. In the first place, the term global community is used (obviously nothing to do with local communities) (Ibid:267), and secondly, revealing that community engagement with respect to Green job creation is in line with Protected Area Initiative (PAI) (Ibid: 273). Thirdly, the text box talking the Living Indus Initiative regarding "community Ponds", fourthly, the same box talks about community-based ecotourism, and fifthly, about community access to clean energy (Ibid:273). Sixthly, there is a vague mention of communitybased disaster risk management initiatives in Pakistan (Ibid: 275). Seventhly, the Government of Pakistan claims the credit for implementing several community-based approaches to handle climate change at the grassroots. A meager information regarding afforestation is added (Ibid: 276). The same section does talk about joint collaboration with UNDP financial assistance for the construction of climate-resilient infrastructure and projects (Ibid).

An interesting point noticed during the thorough examination of documents was the frequent use of the word "initiative". This lop made the researchers note that since the adoption of the National Climate Change Policy in 2012 no concrete mention of the progress on the policy implementation was found. All supporting documents only uncover the initiatives that are meant to be new or recently conceived. This observation leads to the inference that since the adoption of the policy no solid and worthmentioning progress is available. Similarly, it was also noted that supporting literature largely lacks citation of Climate change policy. This also helps in saying that all new initiatives are not harmonized with the pre-existing climate change policy.

Climate Change and Human Security in Pakistan

Having two Climate change policies back to back in 2012 and 2021, there is a need to understand that climate change cannot be understood in sheer isolation. It is a complex issue that has to be studied and evaluated from the perspective of human security. In international relations, the concept of security occupies a central place. After the Cold War, the concept of security has somewhat gone deeper as it started studying the non-traditional threats to survival out of which "human security" turned out to be an important cross-cutting theme drawing attention regarding the survival of the human race within the traditional perspective of state security as well as the non-traditional human security. There are two directions of looking at security: a top-down approach that is National or State security and secondly; bottom-up or human security. It is now often contended that security is no longer understood in the statehood dimension rather regions, communities, families, and individuals are also part of it. The "ontology of human security" pleads that governments increasingly recognize that the security of the state depends on both traditional and non-traditional

directions. The idea of human security emerged out of the works of Thomas Hobbes, John Locke, David Hume, and Jean-Jacques Rousseau (Pitsuwan, 2007). It was the year 2003 when the UN Commission on Human Security stressed that the world requires "a new framework that focuses directly on people" and "protecting people from all sort of threats and further empowering them to take control of their own lives" (Commission on Human Security, 2003).

The term "Security" is a contested concept which is why one must not be static with one dimension of the concept rather security has been defined differently by different intellectuals as well as organizations. One common definition of "human security" is mentioned in UNDP's Human Development Report of 1994. It includes freedom from fear, freedom from want, and freedom to live in dignity (UNDP, 1994). Not only this human freedom has been defined by various notables like US President Franklin D. Roosevelt's Four Freedoms in January 1941 including freedom of speech, religion, want and fear (Sparrow, 2016), Abraham Maslow's Hierarchy of Human Needs (Maslow, 1943), Martha Nussbaum's Ten Central Capabilities (Nussbaum, 2011) and Amartya Sen's Human Capacity approach including functionings and capability, valuation and evaluation (Wells, n.d.).

Conclusion

Climate change is directly related to the situation of human security. It is now globally understood the human impact in the name of development has skyrocketed to an extent that now the gross effect is threatening the future of up-coming generations. It is also a known fact that Pakistan is included in the list of the countries that are reported to be among the more endangered nations that are likely to fall victim to climate change. The article reviewed that debates on the role of the environment in supporting the health and prosperous life on the planet Earth is highly relevant. The human conscience in this direction is rightly knocked by International Organizations like the UN. The Conceptual work and feasibility plans are also available to spread the need for immediate information as well as call for practical steps to work for the survival of the human race by contributing to a sustainable and healthy climate. The state of Pakistan rightly showed its attention by drafting policies for the environment as well as operationalizing a full-fledged Ministry to make sure that Pakistan appropriately addresses the challenges of climate change. The Policy document is comprehensive and yet needs commitment in terms of implementation and raising the public awareness level at community, societal, and state levels. This seems to be still awaited. The policy level needs to understand that the role of individuals and community in this respect becomes stronger and more pivotal because the impact of climate change won't be regional rather it is feared that the impact shall impact the geography and people of Pakistan. The public-private partnership shall contribute an important and significant role to address the challenges of climate change in due course of time.



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