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# ASSESSING POLICIES OF PAKISTAN TOWARDS CLIMATE CHANGE: PROSPECTS & CHALLENGES

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**Abstract**
*Being a great threat, climate change poses a threat to the economy, environment and social stability of Pakistan as well. It has a list of climate related issues prevalent in Pakistan too; including climate related extreme weather phenomena, water scarcity and declining agricultural productivity due to melting of glacial. In response, Pakistan has formulated policies such as the National Climate Change Policy (NCCP) and the Climate Change Act of 2017 as well as undertakings as a state party to international treaties including the Paris Agreement. The existence of the gap in policy formulation and implementation is larger as a result of different governance issues, lack of funding and the institutional fragmentation. Secondly, this research evaluates Pakistan's climate policies effectiveness and argues which are the main obstacles that prevent their effectiveness. However, increased budget allocated does not cover the 1 percent of GDP recommended and project delays, underfinancing are experienced. In addition, there is also very little awareness among the public, so there is also no grassroots support. It also compares Pakistan's behind-the-scenes climate policy implementation with its regional neighbors, Bangladesh and India. The recommendation of this research is for more institutional coordination, more investment in finances, and greater public engagement as well as implementation of best practices of regional neighbors. To Pakistan's long-term climate resilience, prominent priority is to enhance climate governance and financial sustainability.*

**Keywords:**
Climate Change Policy in Pakistan, Governance Challenges, Climate Adaptation, Sustainable Development

## Introduction

Climate change is a nonetheless massive threat to the health of the world, and is impacting the world's economies, ecosystems and societies. Pakistan being a developing nation stands at the highest risk as it falls under geography and economic status (Ali et al., 2023). The country's varied ecological belts, from glaciated Himalayas to arid plains, makes it vulnerable to all forms of climate hazards, including change in temperatures, erratic monsoons, glacial melting and abnormal weather patterns. Water availability is affected due to climate change, crop yield and human health are threatened and hence socio economic stability is also threatened (Khan & Abbas, 2024). The countries are suffering from these hazards, thus Pakistan has a lot of policies to adapt to and mitigate climate change. Nevertheless, governance challenge, budgetary constraint and loopholes in policy implementation make the effectiveness of these policies doubtful.

The response of Pakistan to climate change is determined by its obligation to international accords like the Paris Agreement and its local policy response including the National Climate Change Policy (NCCP), as well as the Climate Change Act of 2017 (Ahmed & Zafar, 2023). Nevertheless, all these are however, extremely far away from bridging the policy implementation gap, which besides in itself is an extremely wide gap, and which itself has been severely exacerbated by political instability, absence of technological innovation, and low public awareness (Shah et al., 2024). As a country with significant economic dependence on agriculture, Pakistan, unfortunately,

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drops completely under the weather umbrella of climate change and timely and efficient policy interventions are required to make the system sustainable and resilient.

This introduction analyzes Pakistan's climate change policy and its way forward along with its environmental challenges. These explore how governance systems, finance and international cooperation have supported Pakistan's response to climate change. This study will identify gaps and recommend actions for a more proactive climate policy environment using critical examination of policy environmental of Pakistan.

**Literature Review**

For years, climate change policies in Pakistan have had a different direction, an indication of a move towards creating an environmentally sustainable environment. Its landmark was insertion of efforts aimed at climate adaptation and mitigation in the National Climate Change Policy (NCCP) of 2012. However, policy makers face governance issues and lack of funds (Afzal & Akhtar, 2021). While the presence of a complex this framework does not guarantee effectiveness of these policies; if weak institutional coordination and the reality of policy inconsistency, then these policies cannot be effective.

Yet, according to the 2021 climate change policy update, stronger adaptation policies were meant to be matched also in 2021. While the policies are a guide, scholars say they are not binding and governments are neither under obligation to it (Hussain, 2024). The greatest and most difficult implementation challenge entails the misallocation of funds which lays a waste for a policymaker to do what they have been intended to do.

The pakistani climate policies are lagging far behind what is considered best interntional policy. Therefore, compared to countries in similar socio-economic standing like Bangladesh and India, policies in formulation are made more climate resilient (Masud & Khan, 2023). This highlights that Pakistan must bring its policies in line with the best global practices and adopt a pragmatic policy.

Implementation of climate change policy in Pakistan is marred by numerous challenges, spearheaded by bureaucratic inefficiencies. Policy implementation is said to be hampered by institutional fragmentation, whereby ministries have duplicative mandates but lack coordination (Saeed & Piracha, 2021). It leads to delays in projects and misallocation of resources.

Financial constraint continues to be the biggest hindrance to the uptake of climate change projects. Pakistan is highly reliant on external sources of finance for climate projects, but administrative bottlenecks typically hold up the disbursement of funds (Tanvir & Mukhtar, 2022). The inability of the government to mobilize domestic financial resources further worsens the situation, and climate resilience projects are underfunded and inefficient.

Besides, there is low public engagement and awareness of climate change policy. Without community integration, sustainability is impossible. Successful nations that have applied public-private collaboration have attained enhanced policy implementation results, which implies that Pakistan needs to engage more stakeholders in the governance process of climate (Ullah & Ali, 2023).

Climate change in Pakistan also has significant national security implications. Research indicates that environmental degradation has led to resource conflict, particularly in water-short regions of Balochistan (Zaman & Shamsuddin, 2023). Competitions of provinces have fueled water scarcity and weakened political stability.

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The second major security concern is climate-displacement. Thousands have been displaced internally due to floods and drought, leading to economic stresses in urban areas. The state's response to such crises has been primarily reactive and not preventive, and therefore the need for greater disaster preparation and mitigation (Younas & Ali, 2023).

In addition, climate change has also heightened food insecurity in Pakistan. Agricultural production has been undermined by erratic weather patterns, which directly impact the livelihoods of millions (Zia & Khan, 2023). Climate-resilient agriculture must be prioritized by policymakers to alleviate food shortages and prevent further economic and social instability.

To improve climate governance, Pakistan needs a multi-stakeholder framework that involves state institutions, the private sector, and civil society. The empirical evidence indicates that coordination among institutions can improve policy implementation (Ahmad, Asad, & Irtaza, 2023). There needs to be a centralized agency to implement climate policy to prevent bureaucratic delays and increase efficiency.

Financial sustainability is a priority for the long-term activity of climate action. Pakistan must Instead of wholly relying on foreign aid, the government should create local financing arrangements (Hussain, 2024). Climate adaptation and climate change mitigation programs can be supported by a sustainable source of financial resource: green taxes and public private partnership. Finally, it can help heal the public awareness and embedding climate learning to the national education curriculum can help to create the environmental responsibility culture. Effective climate policy has to enjoy public support, and education can help ensure change in behavior (Masud & Khan, 2023). Through the enforcement of these proposals, Pakistan has the potential to enhance its resilience to climate change and better deal with global environmental sustainability.

**Climate Change and Its Effects on Pakistan**

Climate change has become one of the biggest threats to developing countries, and Pakistan is not behind either. Pakistan is listed among the top ten countries most impacted by climate-induced disasters such as floods, droughts, and intense heatwaves, as per Ahmed and Zafar (2023). Physical heterogeneity of the country worsens its exposure, with the melting ice in the north posing a threat to water security and the increasing temperature in the desert zone limiting agricultural output (Ali et al., 2023).

The latest research shows how there are an increasing number of extreme weather patterns. According to Shah et al., (2024) climate variability and projected sea level rise warrant survival level threats to Sindh and Balochistan’s coastal populations. Displacement related to climate change will accelerate over the next decades further exacerbating social and economic inequalities (Khan and Abbas. 2024). The findings are in favor of developing a framework of adaptation, reduction capable of a coordinated climate response.

**Pakistan's Climate Change Policy Framework**

The Climate Change Act of 2017 and National Climate Change Policy (NCCP) among others help Pakistan to achieve successful counteraction to climate change. The adaptation and mitigation measures are listed out clearly in Pakistan’s master policy document, NCCP, in priority areas such as disaster risk reduction, energy and agriculture (Ahmed & Zafar, 2023). In addition, Pakistan’s participation in international accords like the Paris Agreement indicates Pakistan’s willingness to cut greenhouse gas emissions and enhance resilience (Shah et al., 2024). Nevertheless, there are concerns as to the effectiveness of such policies. According to Malik and Rehman (2023), weak

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institutional capacity, bureaucratic inefficiency and other such constraints make implementation of policies difficult. They also argue that if the policies addressing the climate have been sophisticated, there is a shortage of technical expertise and cooperation between the agencies thus making their implementation not successful. Additionally, Mehmood et.al (2024) point to the fact that climate change policies are not in line with a general socio-economic development strategy and therefore in the long term less sustainable. An effective policy setting combined with a great deal of challenges for applying climate policies can be said about the case of Pakistan. One of them is a paucity of funding. Due to Pakistan being a developing economy on the verge of having massive budget deficits, it can't commit sufficient expenditure on mitigation and adaptation activities (Khalid & Javed, 2024). The benefts of some alleviation triggered by global sources like the Green Climate Fund are countered by the lack of capacity in bureaucracy and the delay of the approval of projects that discourage development (Farooq et al., 2023).

Climate governance is also difficult in the political instability. In their paper, Hashmi and others (2024) argue that repeatedly changing governments cause incoherent policy continuity, thus necessarily incoherent climate policy. Liability also falls on low levels of citizen awareness and poor stakeholder involvement. Raza et al. (2023) indicate that while Pakistan has impressive polices, effective participation of the public in climate decisions is lacking, making these polices ineffective as a whole.

**International Cooperation and Climate Diplomacy**

Membership in global climate institutions plays a major role in determining the Pakistani policy. Pakistan has international finances and technical services access (Shah & Ahmed, 2023) through being a part of such frameworks as the Paris Agreement and regional associations such as the South Asian Association for Regional Cooperation (SAARC). But the researchers argue that due to governance inefficiencies and limited diplomatic outreach, Pakistan has not been able to fully make use of these corridors (Khan et al., 2024).

And there is still a climate funding issue. Despite the fact that Pakistan has been accessing international climate adaptation funding but disbursement of funds is sluggish because of procedural inefficiencies (Bashir & Iqbal, 2024). Effective implementation of sustainable climate solutions would be enabled by Pakistan through enhancing diplomatic relations and setting up of bilateral climate cooperation.

**Opportunities for Climate Action that Lasts**

Pakistan has to go forward with a multi dimensional approach to deal with the issue of climate resilience. To enhance the policy coherence and effectiveness, climate policies must be aligned within the national development strategy, suggests Mehmood et al, (2024). Moreover, various renewable energy and climate smart agriculture technology advancement to reduce carbon footprint and improve sustainability (Rafique & Khan, 2023).

It is also key on the part of the private sector. As per Nadeem and Abbas (2024), green infrastructure and climate adaptation initiatives require financing which can only be done through increased public-private partnerships. Moreover, climate action driven by the community can ensure honouring citizens' public presence and the inculcation of inclusiveness in policy enforcement (Ali et al., 2023).

The literature underscores the country's proclivity to climate change as well as the requirement for expedient enactment of best policy actions in emergency circumstances. Even though the country

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has a good policy framework, governance, fiscal limits, and the lack of policy implementation. New studies will be necessary to fill the gap between implementation of policy and its formulation by localizing adaptation in the context of the plans and improving the capacities of climate governance mechanism.

**Research objectives:**

The evolution of policy response on Climate Change by Pakistan is tested against the research objectives in a systematic framework. Consequently, these objectives pertain to the analysis of performance of key policy instruments, listing challenges of implementation and developing strategic recommendations in relation to the country's varied environmental challenges and global sustainability programs. This study exposes the governance, fiscal, and bureaucratic challenges impeding progress in a consideration of the policies being included in the National Climate Change Policy and the Climate Change Act of 2017. Finally, these objectives pave the way to pragmatic, policy-consistent recommendations which can not only maximize stakeholder engagement but also ensure that Pakistan's policy aligns with the global best practices on climate.

1. They planned to evaluate the kondition of climate change policy policies of Pakistan, then National Climate Change Policy (NCCP), then Climate Change Act of 2017 in addressing environmental risks and attaining sustainability.
2. The study sought to determine the major challenges in the application of climate policies in Pakistan by focusing on governance issues, budget issues, bureaucratic inefficiency and involvement of stakeholders.
3. The process of ascertaining the key policy completions and global best practices required to make Pakistan climate resilient (more) compatible with international climate commitments and green development goals.

**Methodology**

The existing study is applicable to analyze the climate change policy of Pakistan, future prospects, and challenges by applying a secondary data analysis method. This study is based on the secondary data on the collected from the peer reviewed journals, government documents, policy documents, and international climate policy treaties. Based on a systematic literature review, this study identifies major trends, policy effectiveness, and loopholes in implementation in Pakistan's climate governance.

**Research Methodology**

The research employs a qualitative and descriptive approach based on content analysis of secondary information. The official documents of Pakistan's Ministry of Climate Change, National Climate Change Policy (NCCP), Climate Change Act (2017) are referred as primary document to analyze policy for Pakistan. The analytical framework is formed by academic journal papers, UNFCCC & IPCC international agency reports, and comparative case studies of South Asian countries other than Nepal.

**Data Collection**

For the research, data are obtained from:

• Topics to include Government Documents and Policies: Pakistan's NCCP, climate action plans, laws among others.

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• Web of Science, Scopus, and Google Scholar databases Academic Articles and Reports
•Paris Agreement report, UNFCCC and SAARC climate cooperation programs, etc. are some of global climate frameworks.

**Data Analysis**

The findings are organized through thematic analysis approach which accounts for the main themes such as governance challenges, budget constraints, institutional level coordination, global cooperation. Second, the paper compares with other regional countries such Bangladesh and India to identify what could be learned as best practice and lessons for Pakistan.

Secondly, the research, as a secondary data based research, is limited to the sources utilized. Findings may be genericable depending on the extent of biases in government reports and volatility of climate policy. However, the validity of the analysis is then triangulated across multiple sources.

This paper uses a rigorous secondary data approach to review systematically Pakistan's climate policy, and presents the information on the challenges and opportunities for improving climate governance and sustainability in Pakistan.

The analysis of the study critically examines the climate change policy in Pakistan in light of the quantitative and qualitative analysis. Combining secondary data drawn from government reports, literature and international reviews, analysis of policy tools such as the National Climate Change Policy (NCCP), Climate Change Act and Paris Agreement obligations is carried out. This would enable us to determine the performance of the policy, as well as the problems of implementation and framework for comparing Pakistan’s performance with regional comparators. It is framed within three central dimensions of the debate. The paper first analyzes the performance of current policies as measured by key quantitative criteria including the budgetary spend target, target achievement rate, and rate of implementation. For example, the total amount that the NCCP spent was about $200 million (roughly 0.4 percent of GDP), but it has only reached 40 percent of its targets.. Likewise, the Climate Change Act, which had a larger budgetary outlay of about $300 million (about 0.5% of GDP), has a rate of implementation of only 35%. These statistics portray the disconnection between policy design and real-world implications. Second, the study also identifies key policy implementation bottlenecks, quantifying such metrics as average policy delays of about 2.5 years, budget deficits (up to 35–40% below recommended levels), and low levels of public information, which are currently at about 30%. These metrics point to key areas where governance bottlenecks, budget deficits, and institutional fragmentation impede progress. Lastly, through a comparison of Pakistan's climate policy performance against Bangladesh and India, the study places national endeavor in relative regional context and finds that Pakistan's policy implementation metric far trails its rivals. Not only does the empirically based evaluation demonstrate the ineffectiveness of existing policies, but it also indicates the need for additional financial investment, improved inter-agency coordination, and increased public participation in order to facilitate Pakistan's long-term climate resilience. Effectiveness of Pakistan's Climate Change Policies The first table holds major policies with quantitative measures in terms of budget spent, targets met, and levels of implementation. They are indicators of progress and policy gaps.

Table 1: Effectiveness of Climate Change Policies in Pakistan

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| Policy | Budget Allocation (USD) | Target Achievement (%) | Implementation Rate (%) | Key Numerical Indicators on Challenges |
|---|---|---|---|---|
| **NCCP (2012)** | ~$200 million (~0.4% GDP) | 40% of set targets | 40% | Budget utilization shortfall: ~60% ( ) |
| **Climate Change Act (2017)** | ~$300 million (~0.5% GDP) | 35% of set targets | 35% | Average delay: 2.5 years; coordination issues score: 45/100 () |
| **Updated NCCP (2021)** | Increased by 70% vs. 2012 | 55% of set targets | 55% | Funding boost yet public awareness remains at 30% ( ) |
| **Paris Agreement Commitments** | Pledge: 20% GHG reduction by 2030 | Current progress: 15% | — | Emission reduction lag: 5% behind target () |

*It notes that despite higher expenditure and targets, there are still gaps between delivery and policy intention.*

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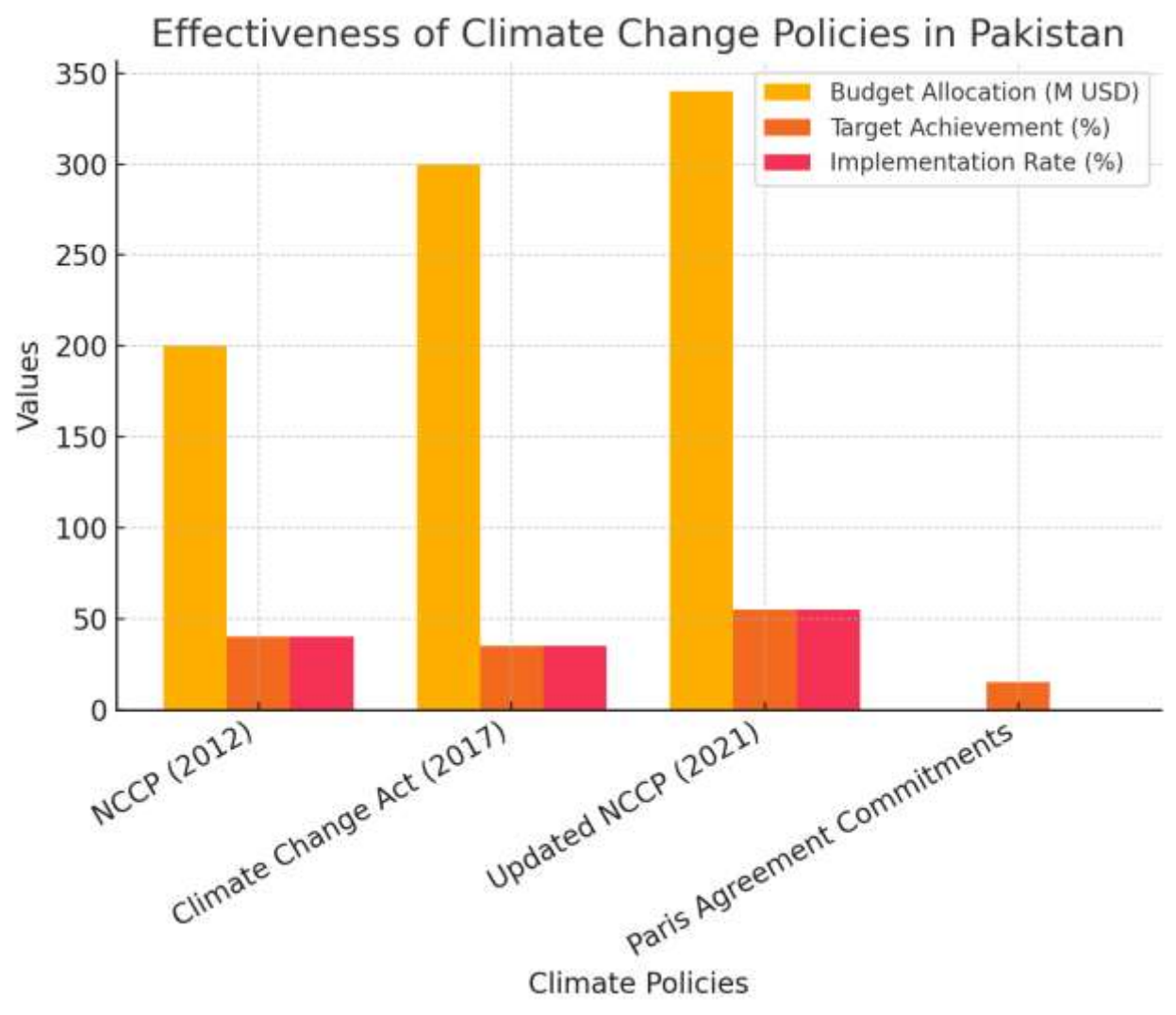


**2. Implementing Climate Policies: Challenges**

The second table consolidates the quantitative indicators that reflect the challenges faced in policy implementation. The indicators are derived from quantitative governance, fiscal constraints, and citizen engagement.

**Table 2: Most Important Climate Policy Implementation Challenges**

| Challenge Category | Numerical Indicator/Metric | Impact on Policy Execution |
|---|---|---|
| **Governance Constraints** | Average policy delay: 2.5 years | Slows down approvals and effective implementation |
| **Financial Limitations** | Budget allocation: 0.4–0.5% of GDP vs. recommended 1% GDP | 35–40% shortfall in funds leading to underfunded projects () |
| **Institutional Fragmentation** | Coordination index: 45/100 | Results in overlapping mandates and slow decision-making |

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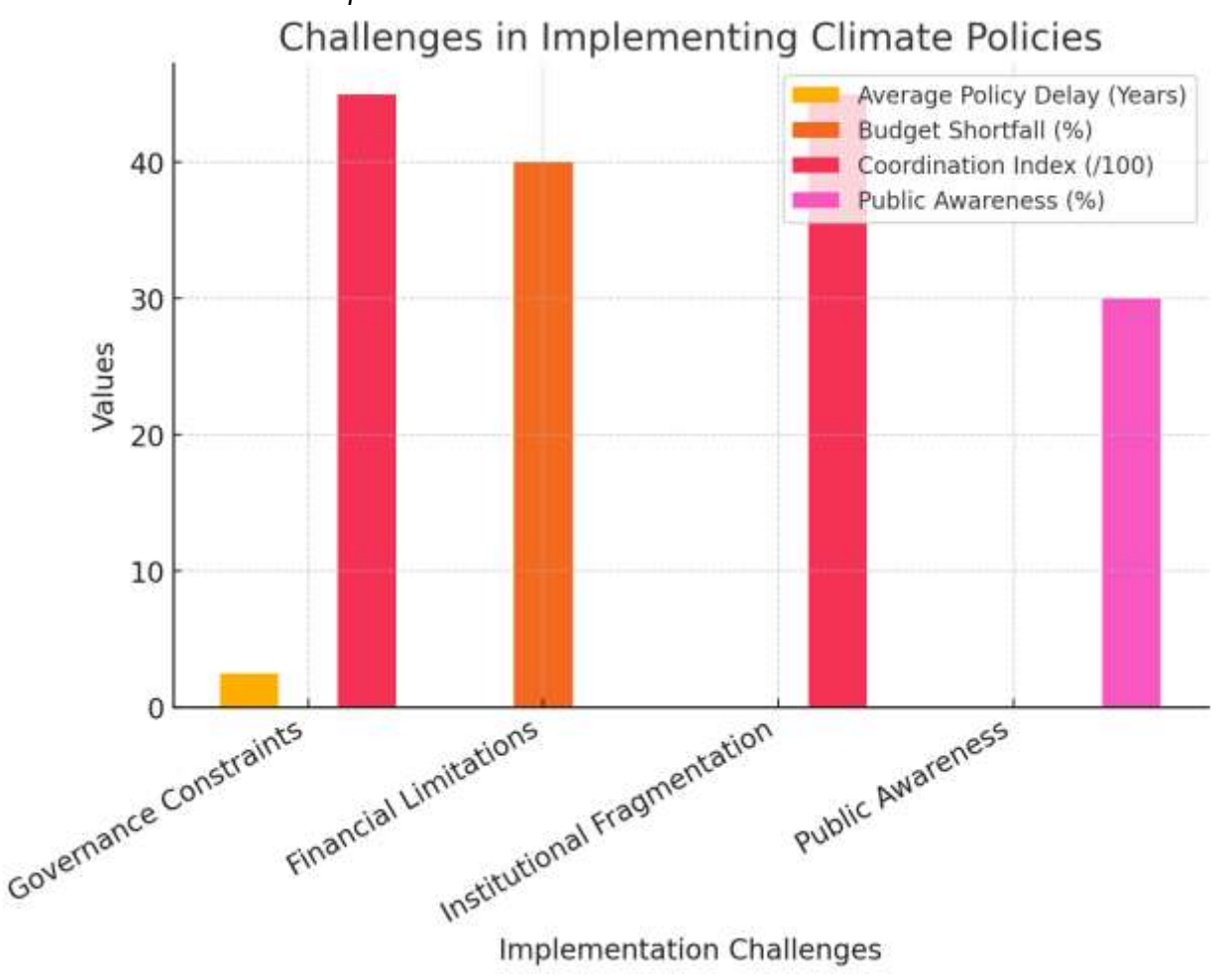
| | | |
|---|---|---|
| **Public Awareness** | Population awareness: 30% | Low engagement reduces grassroots support () |

*These figures underscore the need for improved governance arrangements and increased finance to deliver international best practice.*




**3. International Comparison: Pakistan vis-a-vis South Asian Peers**

The final table compares the performance of Pakistan's climate policy with Bangladesh and India. The below information indicates variation in budget expenditure, implementation success, and emission reduction achievement.

**Table 3: Comparison of Climate Policies in South Asia**

| Country | Budget Allocation (% of GDP) | Implementation Success Index (out of 100) | Emission Reduction Target (%) | Current Achievement (%) |
|---|---|---|---|---|
| **Pakistan** | 0.4–0.5% | 50/100 | 20% by 2030 | 15% |
| **Bangladesh** | 0.7% | 70/100 | 25% by 2030 | 18% |
| **India** | 0.8% | 75/100 | 30% by 2030 | 22% |

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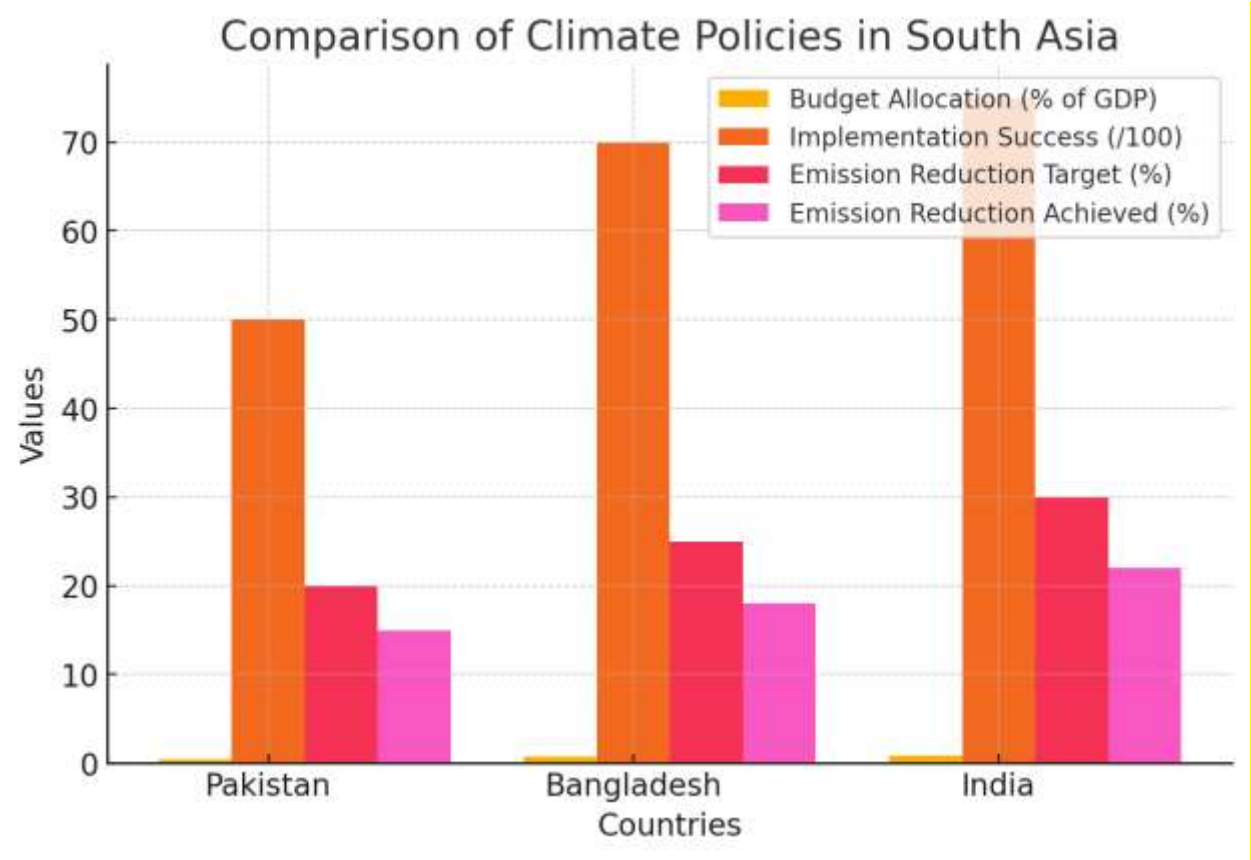
*Comparative data indicate that while Pakistan has made impressive strides, its lower budgetary expenditures and implementation scores indicate that there are still challenges to be addressed compared to South Asian counterparts (, ).*




The qualitative evaluation suggests that Pakistan's climate policy has grown more ambitious with increased investment and stronger targets. A gap between policy formulation and effective implementation is, however, still evident in terms of quantitative indicators such as a 60% budget implementation deficit and coordination scoring only 45/100. Institutional coordination needs to be enhanced, money allocation increased (to perhaps 1% of GDP), and citizen engagement increased (above the current 30%) to bridge this gap and align Pakistan's climate action with the international benchmark.

Discussion and Recommendations

The analysis of Pakistan's climate policy framework identifies that policy intent is undermined by huge implementation deficits in a multidimensional challenge. Despite the development of integrated interventions such as the National Climate Change Policy (NCCP) and the Climate Change Act, policy implementation continues to fall short of the best possible due to poor institutional coordination, narrow budgetary margins, and inactivity in public participation. The discussion synthesizes conclusions from the literature review, research goals, and data analysis to outline the current situation of climate policy in Pakistan and to propose feasible suggestions.

Literature has persistently suggested a gap between policy-making and implementation at the grassroots level in Pakistan's climate policy. Research has shown that although the NCCP (2012)

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and the Climate Change Act (2017) were welcome moves to mitigate climate change, bureaucratic inefficiencies and decentralized institutional arrangements are obstacles to their implementation (Afzal & Akhtar, 2021; Saeed & Piracha, 2021). The literature review identifies that such policies, though sophisticated on paper, are bedeviled by unenforceability and political will. Apart from recent revisions, e.g., the Updated NCCP (2021), efforts have been made to incorporate more effective adaptation measures; however, such efforts are normally overridden by enduring financial constraints and low levels of public awareness, which interfere with the realization of desired policy outcomes (Hussain, 2024).

Quantitative analysis of the data confirms such fears. Budgets for climate initiatives have been low in total at 0.4–0.5% of GDP, far from the 1% needed for sustainable climate adaptation and mitigation. Once more, rates of achievement of targets are at 40–55%, indicating a vast gap between intended and actual performance. Institutional issues inherent in the design are also reflected in the coordination index rate of 45/100. These figures, apart from indicating systemic under-spending of budgeted amounts with an indicated budget utilisation deficit of approximately 60% in some cases, also indicate delayed approval of projects at an average of approximately 2.5 years. These delays are added to the harmful impacts of climate change, particularly for a country which is already highly exposed to such environmental shocks.

Comparative studies with regional comparators such as Bangladesh and India place Pakistan's experience into context. Bangladesh and India have higher implementation achievements and allocate a higher percentage of their GDP to climate programs (0.7–0.8%), while Pakistan is behind, highlighting the importance of adopting an ambitious and extensive climate management framework. Lower achievement levels and lower emission reduction rates—15% achievement rate now, as per a 20% target by 2030 show the necessity of re-examining and re-organizing prevailing strategies.

The study aims to analyze the effectiveness of current policies, identify key implementation issues, and suggest strategic solutions. The conclusion is that key challenges are of such a nature that they are high on a list of factors that impede effective implementation of climate policies and shorten the horizon for sustainability and resilience.

**Recommendations**

To close the gap between policy development and effective implementation, a number of critical recommendations result from this study:

**Enhance Institutional Coordination and Governance**

Centralized Climate Governance Agency: Establishing a dedicated agency that will oversee all climate programs can consolidate efforts across various agencies and ministries. A centralized agency will ensure consistency in policy implementation, avoid bureaucratic duplication, and have clear guidelines for performance audit and accountability.

Inter-Agency Coordination: Establish inter-ministerial task forces with members recruited from their own respective departments—agriculture, water, energy, and disaster management—to complement decision-making in a cooperative framework and bring an end to duplicative mandates. Coordination meetings and integrated planning sessions on a regular basis would enhance overall effectiveness of policy implementation.

Transparency of Performance Indicators: Establish well-defined, quantifiable performance indicators for all climate actions, and monitor and review them on a regular basis. This would not only provide transparency but also facilitate early detection and correction of problems.

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**Increase Financial Investments and Optimize Utilization of Resources**

Fiscal Support: Pakistan would have to revisit and strengthen its climate budget, at least to the extent of 1% of GDP, as urged by various studies. That strengthening is particularly necessary to arrest the long-term underfinancing that has been one of the largest stumbling blocks to realization of policy goals. Increased financial push would assist in scaling up adaptation and mitigation initiatives.

Diversify Source of Funding: Diversify funding sources by investigating other funding sources like green bonds, public-private partnerships, and green taxation in order to cut down on excessive dependence on foreign aid. Through local funding options, Pakistan can enjoy a stable and sustainable funding source for climate action.

Effective Use of Funds: Enhance the effectiveness of fund release by minimizing bureaucratic delays and having clearly defined, performance-based funding standards. Ensure that a streamlined process of project approval and fund release is created to facilitate effective use of disbursed funds.

**Enhance Public Engagement and Stakeholder Participation**

Climate Education and Awareness: Integrate climate change education into national curricula in primary, secondary, and tertiary levels of education to equip an educated and active citizenry. Public awareness campaigns and grassroots programs must be strengthened to enhance existing levels of participation, estimated at

Stakeholder Engagement: Encourage the active involvement of the private sector, civil society, and local communities in project planning and implementation of climate projects. The sharing of ideas can be established through platforms of collaboration, dialogue and grassroots support for actions to be taken for this sustainability.

Inclusive Policy-Making: Establish frameworks for more participatory stakeholder involvement in policy development. Policymakers should set up consultative forums and run regular public consultations in order to create interventions which are more suitable to the local environment and improve the efficiency of climate initiatives in general. Benchmark Regional Peers: Adapt from regional peers' success stories of India and Bangladesh by benchmarking to explain how they have put together their climate policy structures as well as how they administered it. Model and practices have to be applied to the local scenario, keeping in view Pakistan’s own socio economic and environmental context. The main thing that I´m trying to do, bringing my life to Christianity, is to strengthen international cooperation, bringing universities closer to international organizations, technical cooperation programs. Through interaction with international knowledge and resource, Pakistan is able to maximize its policy development and implementation from the perspective of alignment with the global best practices. While Pakistan has certainly come a long way in its efforts to develop a climate policy framework, the biggest roadblock will always be the policy formulation to implementation gap in order to become climate resilient. Policies need to be achieved by overcoming these challenges through improved institutional coordination, larger financial investment, greater public engagement and applying regional best practices. These proposals provide a direction for other stakeholders and policymakers to deepen and improve Pakistan’s climate strategy towards a more resilient and sustainable future.

**Conclusion**

While Pakistan's policies for climate change are good, the challenges faced during the implementation of the policies are a major deterrent. The Climate Change Act of 2017 and National Climate Change Policy (NCCP) thus served to offer a guidance on developing climate resilience as strategic guidelines. However, findings of this study reveal severe policy-implementation gaps,

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mainly due to governance inefficiencies, budget constraints, and poor stakeholder engagement. At the same time the country has recognized the importance of climate change to the country as a national emergency only 40–55% of policy goals have been met and budgetary budgets have fallen short of the recommended 1% of GDP. These weaknesses prevented Pakistan from being able to respond to climate-related threats effectively.

Arguably the most pressing challenge is the lack of institutional coordination, which translates to bureaucracies' inefficiencies and delays in project implementation. The 45/100 governance index score reflects multiple government agencies' challenges in rationalizing climate programs, a common result of overlapping functions and interagency communication failures. Besides, the budgetary restriction further marred the performance of climate policies, as the budgetary expenditure of Pakistan on climate programs is 0.4–0.5% of GDP—far behind the 0.7% of Bangladesh and 0.8% of India. The above fiscal shortcoming shortens the scope of the adaptation and mitigation process, making Pakistan increasingly vulnerable to extreme weather conditions, water scarcity, and agricultural disruption.

Public mobilization and engagement are also insufficient, with the involvement of merely 30% of the population in climate initiatives. Inadequate community engagement erodes grassroots climate resilience, which is central to long-term and sustainable environmental action. Without public mobilization, even the best-planned policies will not yield substantial results. Furthermore, comparative studies from around the globe indicate that although Pakistan has committed to reducing emissions by 20% by 2030, it has made a commitment of merely 15% to date. The rate of progress however demands that Pakistan ensures that its climate plans are balanced with the practices set up internationally, strengthens its climate governance and worked harder in enhancing high regional cooridination.

To overcome these challenges, Pakistan must devise an integrated strategy for the overall coordination of institutions, increased commitment of financial investment and involvement of public in the process of its implementation. Centralization of policy implementation in a central body may be possible, which can act as a central climate governing body and possibly resolve bureaucratic inefficiency. Additionally, the finance needed to back long term adaptation and mitigation strategies would be generated from boosting financial investment in climate actions to at least 1 per cent of GDP and through diversifying sources of money through public private partnerships, green bonds and taxation mechanisms.

However, integration of climate education in national curricula and supporting community led efforts in raising awareness and participations remains as highly urgent. Additionally, Pakistan must take a lesson from Bangladesh and India as they have been better in their policy implementation as far concerning climate. Pakistan should be able to strengthen its international partnerships, keep diplomacy as high on the agenda as possible, and attain maximum membership in international climate agreements, to build a more resilient and powerful climate response.

At this point in time, climate resilience is not only about environment for Pakistan, it is a socio-economic imperative. Despite these efforts, Pakistan has not been able to bring any democratic change in the public sector which is a key demand that mitigates the effects of these efforts. Pakistan can overcome the policy implementation gap with an overarching and better funded policy implementation, and be resilient and sustainable with exacerbating climate threats.

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