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Policy implementation barriers in climate change adaptation: The case of Pakistan

Shafaq Masud[1] | Ahmad Khan[2]

[1]Department of Geosciences, University of Fribourg, Fribourg, Switzerland

[2]Department of Geographical Sciences, University of Maryland, College Park, Maryland, USA

Correspondence
Shafaq Masud, Department of Geosciences, University of Fribourg, Switzerland.
Email: shafaqmasud@yahoo.com

Abstract

This article focuses on the policy implementation barriers that result in poor adaptation and enhanced risk of exposure to extreme vulnerabilities, based on experiences in Pakistan. A number of policy implementation barriers are identified including: (i) Whether policy development is seen as a closed or open consultation process, (ii) Whether policy is seen as a generic document or an instrument for specific actions, and (iii) Whether policy administration is seen as a central or devolved process. As a case study, Pakistan's national climate change policy was considered. Pakistan is the eighth most climate change impacted country in the world. The results conclude that a prevalent top-down frame of management, centred-around federalism, has created vacuums for misinterpretation, poor understanding amongst policy implementers and false expectations of policy goals. A critical aspect of this disconnect is the lack of inclusivity of critical stakeholder groups in the policy design and development stages thus creating various barriers resulting in mistrust between different governing entities and vice versa. The study also highlights the nature of this problem and recommends a closer examination of the prerequisites of engagement in climate decision-making for better understanding and implementation of adaptation practices in de-centralised governance.

KEYWORDS
adaptation, climate change, climate governance, Pakistan, policy analysis

1 | INTRODUCTION

The observable effects of climate change have already been recorded worldwide (United Nations, 2018; World Bank, 2016), however, the extent of human-induced climate change effects on specific countries will vary over time and depend on the ability of different societal and environmental systems to mitigate or adapt to change (IPCC, 2018). Economically, developing nations have a higher probability of being severely impacted by climate change than their industrialised counterparts (IPCC, 2014; Roberts, 2013). For example, severe flooding in Bangladesh due to the 2004 annual Asian summer monsoon killed over 600 people and displaced over 20 million (Parliamentary Office of Science and Technology, 2006). Glaciers melting in the Himalayas synchronously with the monsoon season are anticipated to increase flooding events in Nepal, Bangladesh, Pakistan and parts of India (Lee et al., 2021). The 2010 historic super flood in Pakistan affected an estimated 20 million people throughout Pakistan (Khan et al., 2010) and resulted in losses of an estimated (adjusted) US$10.0 billion (Ali, 2013) to the economy of the country. In the long term, this will lead to drying of the rivers in the Himalayan catchment thus increasing the vulnerabilities of large populations (You et al., 2017). As a result of anthropogenic climate change, an estimated number of about

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1 billion people would face water shortage and drought by 2050 (Manton & Stevenson, 2013). Despite this alarming situation, Singh et al. (2017) and Spires et al. (2014) found that scientific literature on adaptation to climate risks in economically under developed countries is still relatively scarce.

Combating the negative impacts induced by anthropogenic climate change requires better and improved policy decisions and governance practices (Biermann, 2014; Delanty & Mota, 2017; OECD, 2007). Effective climate change policies designed for adaptation present a way forward to institutionalise mechanisms that can help build resilience in different communities (Dupuis & Knoepfel, 2013). Locatelli et al. (2017) observed that research on climate change policies can contribute to understanding the barriers that are commonly encountered during policy implementation. A successful (meaning well implemented) policy framework is often challenged by a number of socio-political, economic and technical barriers. Clar et al. (2013a) and Aldunce et al. (2016) identify knowledge gaps, the lack of awareness, and an absence of political will as some of the barriers to policy implementation.

Economically under-developed nations often harness conventional means of policy-making. Elmore (1979–1980, p. 603) describes this process as a *Forward Mapping* approach where there exists an 'unquestioned assumption that policy makers control organisational, political and technological processes that affect implementation'. This can limit the effectiveness of a policy, by assuming that implementation is controlled from the top. It fails to question outside influences and also effects on end users that may lead to policy implementation failures. Furthermore, the effectiveness of a policy is often assessed through a typical end-of-project evaluation framework. A wide array of such monitoring and evaluation instruments exist that take into account quantifiable outputs to measure success (McConnell, 2010; Miller & Robbins, 2007).

Policy effectiveness goes beyond a two-dimensional cost–benefit assessment framework. In analysing the effectiveness of climate change policies, scholars lay emphasis on the socio-political context in which policy decisions are made and implemented. McConnell (2010), for instance, discusses the process (of problem identification), programs (selection of policy options) and politics (influences on the outcome) as central to analysing policy effectiveness. Similarly, Bovens et al. (2002) argue that policies need to be analysed in terms of their programmatic aspect (targets and goals) as well as the political arena (policy-makers and context) in which policies are formulated. Similarly, Norse and Tschirley (2000) conclude that socio-economic processes have a more profound influence in adopting policies. It, therefore, requires that processes that harness greater interdisciplinary and broad-level consultation in identifying and defining issues for policy implementation need to be considered.

Policy implementation involves an array of processes, actors, and stakeholders, interactions between different policy systems, and coordination between different tiers of governance. Consequently, a much broader spectrum is needed to review policy effectiveness that moves beyond the typical post-policy-implementation evaluation frameworks. It should rather focus on understanding the complexities and intricacies at the policy planning, design and management phases that might result in barriers leading to failed climate change adaptations. Hence, the metamorphosis of policies within a given context is critical to understanding their effectiveness for adaptation. Policy success, therefore, can be subjective based on the perceptions and values of different stakeholders involved. This comprehensive approach to policy analysis will enable the identification of barriers that go beyond the common setbacks in policy implementation that the majority of literature highlights (Bhave et al., 2016; Lorenzoni et al., 2007). In line with Biesbroek et al. (2013), conceptual arguments on the subject, this research study looks into 'why' and 'how' barriers emerge which current research studies often lack in focus.

Moser and Ekstrom (2010) present three critical stages to examine policies for climate change adaptation. They argue that barriers to effective policy implementation can emerge in the planning, implementation, and management stages. Derived from the Socio-Ecological System theory, Moser and Ekstrom (2010) also highlight that the actors, the context where they interact (governance) and the object (natural system) are integral and cross-cutting to their policy analysis model. This study follows the logic of Moser and Ekstrom's (2010) policy analysis principles to substantiate the different dimensions of adaptation barriers.

2 | CONTEXT AND BACKGROUND: CASE OF PAKISTAN

Like most economically developing nations, Pakistan faces a tremendous task of combating climate change. Although its contribution to global GHG emissions is less than 1%, it is the fifth most climate change impacted country in the world (Kreft et al., 2016). About 40% of its population is exposed to disasters as a result of extreme weather conditions (Khan & Rehman, 2014). Despite the country's recent progressive drive to mitigate its climate impacts, little progress is evident on-the-ground.

According to a report of the national government, nine major climate change threats to Pakistan have been identified (Government of Pakistan, 2012). These include frequent and intense floods and droughts; glaciers recession in the Hindu Kush-Karakoram-Himalayan (HKH) mountain ranges, increased siltation of dams; reduced agriculture productivity, migration of plant species; sea water intrusion in the Indus delta region; conflict in water use by different riparian communities; mangrove destruction; and health risks.

Pakistan's vulnerability to floods and droughts is projected to increase with more intense rains in northern regions, flooding of the floodplain along Indus River system, and drought in the South (Aslam et al., 2017; Chaudhry, 2017). The majority of the population, of more than 200 million, lives along the Indus River (The World Bank Group, 2011). The super flood of 2010 and 2022 (Iqbal et al., 2022) have been the worst in the country with a significant number of deaths, millions homeless, massive structural damages, destruction to agriculture (Hong et al., 2011) and loss of over $10.0 billion to the economy (Ali, 2013). It is estimated that Pakistan would need more than 10 billion USD annually to implement adaptation measures (S. Kakakhel, personal communication, 5 October

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2017). Another source suggests that the current adaptation cost for Pakistan is estimated to be 7–14 billion dollars per annum (Chaudhry, 2017, p. 61).

While substantial efforts are being made to develop a framework for climate change adaptation, the effectiveness of these efforts has so far failed to materialise. Since the development of the climate change policy in 2012, there is little evidence of effective implementation on the ground. Pakistan's strategic location in South Asia and the severity of climate change impacts call for a closer examination of the barriers to adaptation. Information on barriers is more often related to economically developed countries - an examination of adaptation issues in economically under developed nations is critical to support such countries that are severely impacted by climate change (Spires et al., 2014).

3 | METHOD OF ANALYSIS

This study follows the logic of Moser and Ekstrom (2010) policy analysis principles. In so doing, it examines the problems that emerge from the initial planning and pre-implementation stages that, when not recognised at an early stage, can negatively influence implementation plans. For this purpose, more focus is given to the policy development process, its planning and design. The framework in this study, therefore, has been simplified to identify key barriers that dominate the problems in the context of policy implementation.

The conceptual design of the research is in line with policy studies carried out in Latin America (Central, South America, Carribean) by Locatelli et al. (2017). The current study also corroborates with Gordon et al.'s (1977) typology of policy analysis research which signifies the need to evaluate policy to examine how policies are made to assist in advising policy makers. According to Gordon et al., 'analysis for policy' includes research that is producing information and data to feed back into policy-making, relating for example to causal relationships in the policy problem and different policy options.

This study derives its analysis from a case study approach and focuses on an interpretive research approach (Bryman, 2016, Curtis & Curtis, 2011) where semi-structured interviews were used for data collection. Specifically, 20 interviews of 60–80 min were conducted from the higher tier of management (key informants) involved in Pakistan's National Climate Change Policy (NCCP) development and its implementation process. The participants can be broadly categorised into five different stakeholder groups including representatives from the Federal and Provincial Governments; Research institutes; NGOs; and independent experts.

To collect primary data, the interview process was guided through a questionnaire designed with open-ended questions to motivate discussions with the participants. Discussions focused on policy implementation strategies, the consultation process, the knowledge and scientific competencies of experts leading the process, and the opinions and views of different groups on the various barriers to policy implementation. The following questions were part of the in-depth discussions:

TABLE 1 Number of interviews per-category.

Specific category		Broad category	
Sector	Interviews	PPIs	FGR
Civil society	5	X	
Research institute	3	X	
Federal govt. sector	7		X
Provincial govt. sector	5	X	

- What barriers were faced in policy implementation (funding issues, trust in the central government to deliver, issues of technical resources and capacities, coordination and integration of sectoral policies, etc.)?
- Was there a consultation with key stakeholders and what barriers existed that impacted policy planning and implementation process (involvement of stakeholders, level of satisfaction in the process)?
- Does the structure and management of the policy document contribute to or present barriers in its implementation process in the context of governance?

For a broader understanding, a document review of published government documents relevant to the policy was also carried out as the secondary data source. This included the policy document, policy implementation framework, documented implementation barriers, and technical reports available with the Federal Ministry of Climate Change of Pakistan. For ease of discussion the stakeholder groups were categorised further into two broad groups: (i) policy developers who were the Federal Government Representatives labeled as **FGR** (40% of the total participants interviewed) and (ii) potential policy implementers (sub-national government and non-government entities and national non-government agencies) labeled as **PPI** (60% of the total participants) in this study. Data analysis was carried out through thematic analysis and content review using the NVivo software.

The two groups were interviewed virtually due to travel limitation to Pakistan from Switzerland within a short postdoctoral research timeframe. It was also easier to reach out to dignitaries who have been a critical part of leading the policy development process. The respective offices were able to accommodate interviews on flexible times and availability of the key informants. All interviews were conducted via either Skype and or telephone calls. Table 1 provides the distribution of interviewers per different categories.

4 | RESULTS

The results in this section illustrate contrasting views of two stakeholder groups: FGR and PPI. The outcomes of the study, described in this section, highlight the diverse understandings of key stakeholders on the NCCP, which has created barriers to implementing adaptive practices. A summary of key barriers have been provided in Table 2.

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TABLE 2 Problems in implementing the climate change policy.

Coordination barriers	Currently there is no provincial-level climate change (CC) council to link with the Federal CC council for coordination of a common mandate. Focal authority to carry climate change policy mandate at provincial-level is unclear. Setting-up a climate change authority at the federal level would be ineffective, as it will only duplicate the work of disaster risk management authorities.
Lack of common understanding on how to govern climate change related actions	Development of provincial-level climate change policies is duplication of time and resources. No alignment of national disaster protection plan and flood risk management plan of disaster management authorities exist to improve sectoral cohesions.
Issues of differing federal and local priorities and knowledge gaps	Federal and Provincial priorities are not currently leading to problems of coordination Weak technical capacity to address climate change problems at provincial level has created issues of prioritisation of the issue. Climate change is a new area and therefore difficult to push this agenda at local levels especially when it's federally driven. Climate change is thought to be an extension of environmental issues.

TABLE 3 Disparity in perceived motivations of the federal government.

Federal government representatives	Other stakeholders (PPI)
• Policy emanated from the report by the Federal Ministry of Planning and Development Commission • Need-based on the severity of impacts in the country	• International pressures from the UN and other advocacy groups • Ministry needs to be seen as they are doing something • Funding was available for the policy • Tap into financial instruments that are available internationally

4.1 | Policy development as a closed or open consultation process

All the participants involved in the discussions stressed the importance of addressing climate change impacts in Pakistan and its need to be prioritised in development planning. There was a general sense of urgency amongst the higher tier of management on tackling climate change issues.

The study revealed divergent views on two critical aspects of the policy development process. First, was the disparity in views on the motivations of the FGR to develop the policy, creating an environment of mistrust. Second was the varying degree of perception of the importance of the consultation process undertaken for policy formulation.

While the participants endorsed the notion that progressive efforts are needed to combat climate change, there were, however, mixed opinions on how the Federal Government rationalised the need for a policy.

The FGR perceived the development of the NCCP as a rational outcome resulting from the preliminary assessments undertaken by the Planning Commission Division of the Federal Government. The PPI, however, was of the view that accessing the international financial instruments such as Green Climate Fund, Global Environment Facility and others was a motivating factor to develop the NCCP under political interests. According to PPI, limited motivations and low interest existed within the Federal Government to see through the process of ensuring an effective implementation of the policy. In this connection several reasons were provided for the perceived mis-trust in this federally driven climate change policy initiative (more details in Table 3):

- lack of trust amongst the 'experts', selected by the federal government to lead the policy development process;
- An unsuccessful history of past policies, which could not meet their objectives and the envisioned expectations;
- Lack of clarity on the policy's integration into a decentralised governance system.

The prevailing mis-trust was further exacerbated due to an unsatisfactory consultation process for policy development perceived by the PPI. Although the FGR deemed the consultation process highly satisfactory, the process was considered insufficient by PPI. Specifically, the consultations were criticised for zero representation from women, from the lower tiers of management (grassroots) and the absence of district-level organisations working directly with the climate change vulnerable communities.

It was also a critical barrier to note that no consultation was made with the primary parties affected by the climate change impacts, that is, the local communities or the end users. The analysis indicates that the majority of the representatives of the civil society were not considered to be an important part of the policy development process. The lack of representation of this group was strongly influenced by the policy makers' (FGR) perceived role of such agencies. Consequently, three main reasons were identified for the limited participation of civil society and associated representatives: (i) The NCCP was considered to be a scientific policy requiring inputs from technical

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experts as opposed to non-technical individuals, (ii) NGO's and local community representatives were perceived to be important actors at the policy implementation stage as opposed to the policy development stage, and (iii) the policy development process was considered to be centralised due to the role the Federal government plays in representing Pakistan in international negotiations. Thus, climate change was thought to be a Federal subject and a relatively closed policy development process was followed through selective participation of non-federal agencies.

4.2 | Policy document as a generic tool or an instrument for specific actions

While the NCCP document considers all critical areas of the public sector and incorporates adaptation as well as mitigation actions, which are prerequisites for a good policy document, it, however, falls short on other elements deemed imperative for a comprehensive climate change policy as discussed in detail in this section. This study revealed two contrasting views on the feasibility of the NCCP document.

The PPI criticised the policy as being too vague and generic. It was perceived as unclear and confusing in prioritising actions and identifying relevant authorities/organisations to implement those policy actions. In addition, the policy was perceived to lack an inter-coordination mechanism with other sectors (e.g. water, agriculture or irrigation) thus failing to prescribe any references to other existing regulatory frameworks. Since institutions at the provincial levels are independent in their sectoral development and planning, this further created ambiguity in the operationalisation and mainstreaming of NCCP actions at the lower tiers (sub-national provincial and local level) of management. The implementation of the policy was also challenged by the absence of information on financial resources required for implementing actions and funding sources. Some perceived drawbacks of the policy document, derived from the interviews, were as follows:

- There is no prioritisation of vulnerable sectors
- The policy has 24 objectives and 215 actions – it's an impossible mission
- Absence of target-oriented programmes to address climate change issues
- No accountabilities for shared responsibility amongst different sectors and governing entities
- Policy-based on political decisions rather than on any real assessment
- It lacks linkages with SDGs and other regulatory frameworks
- It fails to identify complementary actions under other pre-existing sectoral policies such as the national forest, agriculture, water, and other policies.

A critical drawback of the policy document was its lack of clarity on defining target-oriented projects that can clearly separate climate change interventions from development initiatives. According to the concerns of the PPI, the generic policy document provided insufficient information on how to streamline activities geared to address climate change issues. Consequently, this lack of clarity would enable certain policy implementers to change the narrative of existing projects and align them with the policy without substantiating outcomes that will help tackle climate change impacts. PPI highlighted that the policy's lack of target-setting to define climate change focused projects will result in little to no change in activities and behaviours at lower tiers of governance – hence quantifying adaptation actions brought about by this policy will not be easy.

In contrast to the drawback perceived by PPI, the policy planners (FGR group) viewed the broad scope of this policy as a positive characteristic of the document aimed to avoid favouritism and discrimination amongst provincial/sub-national governments. According to a FGR, it was essential to incorporate all possible impacts presented by provincial governments, in order to generate a sense of inclusivity and harmony. It was also argued that a generic guideline presented in the policy document would enable provincial agencies the flexibility for their climate change planning agenda. The contrasting views, however, have created bottlenecks in defining sub-national goals that should complement the national climate change policy.

4.3 | Policy governance as a central versus devolved process

Pakistan's Climate Change Act (2017) streamlines the national set-up for NCCP implementation. While the Act supports a federal-level governance framework, it does not identify sub-national or provincial-level management framework to rollout the policy.

The absence of an unclear provincial set-up is a likely consequence of the decentralisation process that took place in 2010. This devolution of power came into force through the amendment of the 1973 constitution of Pakistan, popularly known as the 18th amendment. Following this amendment, 47 legislative subjects (including Natural Resource Management) were devolved from Federal government to provincial governments (UNDP, 2016). For climate change management this has led to disconnect between the two tiers of governance, as argued by one NGO representative:

"As a result of de-centralisation climate change became a federal subject but its implementation is at the local government level. The Federal Ministry reaction was that it is not their mandate, while the provinces claimed that they do not have the capacity or knowledge to address this [CC issues] indicating to a major disconnect."

Table 4 provides a summary of issues that were highlighted during the discussions with the PPI interviewees with regard to policy implementation in a decentralised government set-up.

There is a general recognition by PPI stakeholder groups that the climate change policy implementation set-up does not conform to the existing de-centralised governance framework. There are also diverging opinions on how climate change issues should be addressed.

While the FGR are of the view that the NCCP should enable provincial governments to streamline their implementation plans and develop context-specific strategies, the provincial governments, on

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TABLE 4 Views on the consultation process by non-federal representatives (PPI).

- It was a closed federal intervention. Representatives from other sectors were invited through invitations only.
- It was not opened to the general public
- Absence of grassroots civil society organisations such as Fisher Folk Forum and Rural Support Programmes
- Mostly federal-level NGOs were invited
- Deliberations at a wider scale were needed
- The process was dominated by certain sectors of the line departments
- Community-based organisations and village-based organisations were missing
- Quality of inputs was poor as there was inadequate understanding of climate change issues
- Bureaucratic process inviting high officials and accommodating them in high profile hotels was a key focus

the other hand, have taken the decision to develop their own provincial-level climate change policies – a decision that reflects their perception on a more decentralised process of governance.

This action, however, does not conform to the federal-level governance set-up, where a national fund for climate change is planned to be established, because the Provincial Climate Change Policies will enable the provincial governments to secure funds independent of the federal-level *Climate Change Funding Authority* thus ruling-out a federally governed system of managing the policy initiatives.

Additional criticism presented by the PPI, on the federal-level set-up, was the duplicating efforts that will be carried out by the newly formulated federal level *Climate Change Authority*, which was perceived to be currently implemented by the National Disaster Management Authority (NDMA). There is ambiguity in terms of how the framework as set-forth in the Climate Change Act will complement the efforts of other agencies and how disaster protection and risk management plans will be merged with the new framework.

Further barriers to integrate the policy at the sub-national level were perceived in the context of identifying a competent provincial authority that would direct the climate change agenda at the provincial and local levels. This has been further challenged by the prevailing animosity and mistrust between key provincial level agencies such as the Provincial Environmental Protection Authorities and Provincial Disaster Management Authorities (PDMAs).

The different provincial development priorities and weak understanding of climate change issues also challenge the governance of this policy. In certain cases, focal points for climate change at sub-national level are housed in the provincial *Environment Department* while in others they are clubbed with provincial *Development and Planning Department*. According to a UNDP report, one of the major barriers for climate change action in Pakistan is the lack of institutionalisation of climate change at federal and provincial levels. The lines of authority have been blurred between the *Federal Ministry of Climate Change* and its provincial counterparts thus preventing the establishment of clear working arrangements between the two tiers (UNDP, 2016, p. 13).

The lack of linkages between the NCCP implementation framework and the devolved governance set-up has created a number of barriers, as stated above, which has challenged the development of an effective response to climate change adaptation.

5 | DISCUSSION

The results of this study present insights into the need to identify issues arising from the different stages of the policy development processes. It primarily highlights the need to go beyond the post-policy evaluation frameworks to assess the success and failure of a policy. As demonstrated from this study, barriers in policy implementation may be rooted in the initial planning phase of the policy development process that can transcend to lower tiers of management at the implementation stage. The following will focus on further elaboration and interpretation of the results and identify key requisites for effective policy implementation for climate change adaptation.

5.1 | Inclusivity and trust-building in policy-making: A key attribute for policy success

Strong leadership is often considered to be a vital prerequisite for consistent climate change actions (Gillard et al., 2017). In addition to leadership, trust in leadership is deemed imperative for the up-take of the policy at the grassroots.

This study revealed that the opportunities to build-trust and a common understanding between different stakeholder groups failed to develop as a consequence of an unsatisfactory consultation process for policy development. A long history of mis-trust between politicians (federal government agencies) and civil entities in the past, has also led to the lack of collaborative policy action in Pakistan (Ali, 2006). This, however, is in contrast to the global debates on climate governance where inclusion of social norms and values for positive adaptation outcomes in climate change is well recognised (IPCC, 2014; UNFCCC, 2015). Based on a study in nine countries, Climate Investment Fund (CIF, 2020) found "five stages in a participation continuum in a policy formulation and implementation process including information sharing, policy dialogue, formal consultation, programmatic collaboration, and institutional partnership". The mis-trust between the two stakeholder groups, i.e., FRG and PPIs, and the ineffective participation of other stakeholders in the policy implementation process in Pakistan undermines the partnership building, key to success in a policy implementation.

Policy makers need to have an in-depth understanding of the factors that influence support from the communities for a policy to successfully trickle down to local levels (Singh et al., 2017). Primarily, because it is the grassroots where the impacts of climate change are 'felt' (Spires et al., 2014). Adaptation, therefore, has to be operable at the community level and should incorporate priorities and needs of the grassroots. This requires integration of civil society and other local groups in the policy development processes to enable local

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governments to implement policies and play a critical role in determining policy outcomes (Puppim de Oliveira, 2009). In contrast, on the ground, practices are limited in engaging broader stakeholder groups. As observed in the case of Pakistan, the selective consultative process was embodied by the top-driven government-centred approach to identify problem areas for incorporation in the policy. According to Barnett (2010), this is because in most cases adaptation to climate change is still thought to be a technical and scientific subject where social knowledge is often ignored.

The process involved for problem understanding and identification for Pakistan's NCCP resonates with Elmore (1979–1980) criticism on 'Forward Mapping' approach. Elmore recognised this approach as a redundant model of management. Consequently, the lack of clarity of other stakeholders on the intentions of the federal government for developing a policy resulted in mis-trust. A top-down controlled process of who should attend the consultations and the predominant focus on engaging government entities for policy inputs indicated that the success of climate change policy is seen through developing clear lines of authority and assuming control of policy developers over its implementation process. Kuhn (1970) criticises this top-down management paradigm, which deters flexibility especially when dealing with uncertainties. Current models of governance call for a more adaptive model of management that is open to diverse knowledge and flexible management actions. Inclusiveness and multiple scale engagement are critical in policy decision-making if positive changes at the grassroots are expected (Cochrane et al., 2017; Parry et al., 2013).

It should be noted that this problem of exclusion of grassroots stakeholders in climate change adaptation processes is not unique to Pakistan thus indicating a wider implication of this issue (Clar et al., 2013b; Pramova et al., 2015). In Uganda, for example, district-level actors are seldom involved in national policy formulation processes (Ampaire et al., 2017). The participating actors are often not facilitated or encouraged to consult with lower government levels and their associated communities as was observed in policy decision-making in Tanzania (Ampaire et al., 2016). This has also resulted in excluding gender issues in climate change policies and communication gaps between different tiers of governance (Bakiika et al., 2017; Bomuhangi et al., 2016).

The challenge for developing countries such as Pakistan is the dearth of expertise in the area of climate change, which is further exacerbated due to controlled participation by the central government. Successful adaptation practices require greater flexibility and learning opportunities through interactions with informal authorities. Furthermore, close proximity to the actual situation brings about useful knowledge, skills and expertise that may fail to be recognised in a top-down federally controlled paradigm for policy making.

5.2 | Evaluating the policy document: An underrated attribute for policy success

There is burgeoning literature on the climate change policy instruments (National Research Council, 2011). Such instruments for example the *Cap and Trade Emissions* or taxing emissions in the United States are often used to ensure implementation of different policy actions and assist the government to shape social behaviours (Cook, 2010; Macintosh et al., 2015). Lowi (1964) refers to them as regulative policy designs. Climate change policies are often analysed through examining such policy designs.

In contrast, however, very limited experiential knowledge is available in the literature that discusses the organisation of the climate change policy document and its influence on implementation. What should a policy document entail? How is the document understood, interpreted and reviewed by others? This study highlights the significance of the need to develop a common understanding of the policy document in addressing barriers to its implementation.

To establish what entails a good climate change policy document is difficult in the light of limited literary evidence. Certain characteristics of a good policy document, however, have been identified by the corporate and donor sectors. According to these sources (Bak et al., 2017; Clar et al., 2013a; Hallegatte et al., 2015; OECD, 2007; UNDP, 2010), a climate change policy should address all areas of public policies. It should explicitly address climate change issues and separate it from development issues. The policy should also include market-based actions and incorporate mitigation as well as adaptation actions. In addition, the policy document should streamline short-term, immediate as well as long-term benefits and targets while identifying co-benefits to inter-linked sectors to improve cross-sectoral integration.

When the NCCP is examined against these set criteria, the analysis indicates a number of weaknesses as discussed in the result section of this study. Briefly discussed, here, are the consequences of these identified weaknesses in the policy document that contribute to barriers to policy implementation.

One of the challenges of climate change is its cross-cutting nature. This characteristic of climate change phenomena requires policies and actions to be integrated across sectors. Climate policy agenda needs to be incorporated in the existing sectoral policies (Ryan, 2016). Only then a workable policy implementation design can be developed. The ability of a policy to integrate with the existing and past sectoral policies is considered to be an essential trait in policy adaptation (Vij et al., 2017). Vij et al. (2017) emphasises that Pakistan is one of the least researched countries in South Asia in terms of its adaptation approaches. This is very likely due to the way policies are developed through a technocratic and centralised policy-making process where sectoral cohesiveness and cumulative impacts are often ignored (Karim, 2016). Governments are engaged in a culture of working in silos where platforms to integrate cross-sectoral interventions fail to exist. This 'reflexivity' characteristic (ability of sectoral policies to link) is found to be low in South Asian countries which, in addition to Pakistan include Bangladesh, India and Nepal, thus indicating a general trend in how policies pertaining to climate change are developed with little regard to integrate with other sectoral policies (Vij et al., 2018).

Through the examination of the policy document, it was recognised that the identified weaknesses are universal especially in developing nations centred on government-led policy initiatives. For

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instance, the absence of funding sources, identification of responsible authorities, and the lack of prioritisation of actions were found to be drawbacks of policy design in other developing countries. For instance, climate change policies in Vietnam, Uganda and Zambia indicate that policy development in these countries have found to be nebulous - the overall goals are defined but there is lack of clarity in who should do what, what are the priority areas amongst the list of proposed actions or 'what budget lines are likely to be available to finance these initiatives (Christoplos et al., 2016, p. 33). In Uganda, for instance, the lack of budget lines against policy actions has led to haphazard implementation at local levels (Bomuhangi et al., 2016). Similarly in Nepal, engagement of local authorities in the national climate change agenda is hindered by the lack of practical guidelines on accountability (Christoplos et al., 2016; Dhungana et al., 2013). According to Bakiika et al. (2017), without a clear budget framework that would instill mandatory requirements for sectoral institutions to comply, mainstreaming of climate change action is not possible.

This study revealed that a critical aspect to determining the success of the policy is to evaluate the policy document against a set of commonly agreed criteria, format and standard. This, when carried out at an early stage of policy development, would result in identifying potential bottlenecks and benchmark problem areas that may arise later during the policy implementation phase. It also shows that target setting, information on accountabilities, differentiating climate change initiatives from development and clearly identifying cross-sectoral linkages are important components of a policy document.

5.3 | Phantoms of a unitary government: A barrier to policy success in a decentralised governance

While decentralisation can be seen as a step towards empowering meso-level institutions to address issues pertinent to their local context, the inability of federally administered climate change policy framework to merge with existing decentralised models, however, has created ineffective policy implementation. This dogma has been extensively evaluated in other countries particularly in Australia, where despite a multi-level governance, complex policies on climate change adaptation are hindered by a sectoral, top-down approach triggered by a lack of framework to manage cross-sectoral and multi-level interactions (Fidelman et al., 2013).

The proposed set-up for NCCP governance indicates that decisions and control over finances will remain centralised at the federal government level while the implementation action will take place at sub-national and local levels. These phantoms of a unitary government in a decentralised governance set-up fail to hand-over control and power on policy decisions to lower-tiers. Consequently, this presents a risk of compliance. In the case of Pakistan, for instance, the Prime Minister chairs the federal council overseeing the NCCP implementation progress. Assigning control to a higher tier of authority such as the presidency is often sought as a solution to void asymmetrical power issues. However, as Ryan (2016) elaborates that such an arrangement is functional only under strong leadership and risks of failing exist when the new administration (political party) has a contesting agenda. Hence long-term sustainability of such an implementation framework remains to be uncertain.

Knowledge and technical capacities have been identified as a major policy implementation issue at grassroots levels in Pakistan (Government of Pakistan, 2016). With the absence of a well-defined local governance system, bridging knowledge gaps becomes even more problematic. Policies that emerge from a central decision-making (federal unit) are less robust and adaptable than policies that create connections between multiple levels of authorities (National Research Council, 2011).

The current framework for climate change governance in Pakistan includes an additional tier (Federal-level set-up) of management that disregards the decentralised governance framework. It demonstrates that policy processes have the tendency to exhibit path dependencies (Howlett, 2009). This means that once a certain course of action is taken it tends to be repeated for future policy processes regardless of its past failures (Macintosh et al., 2015). The current NCCP development process follows the historic conventional patterns of policy development, which were implemented prior to decentralisation in Pakistan. Consequently, the phantoms of a unitary government continue to exist in a now devolved governance framework resulting in mis-matched expectations and disruption in clear lines of communication across the different scales of governance.

A broader literature review demonstrates that the friction between federal entities with local counterparts in a decentralised arrangement is a common phenomenon and has presented a universal barrier for successful climate change adaptation. In African countries such as Uganda, discrepancy in policies due to decentralisation has resulted in lack of integration within local government structures (Friis-Hansen et al., 2013). Experiences from other developing countries (Uganda, Zambia, Vietnam, and Nepal) where decentralised governance exist, demonstrate that the division of power, control of finances and administrative responsibility between central and meso-level governments has resulted in disconnect between national policy implementation and local practices (Christoplos et al., 2016). A study in the Great Barrier Reef, Australia, argues that "multidimensional nature of climate change requires responses at multiple geographical and jurisdictional scales, in addition to different levels of social and administrative organizations and policy and resource sectors" (Termeer et al., 2010). The study concludes that there is a strong need to conduct research that explores the tensions between the federal and provincial governments, addresses interactions between public sector and non-state actors "particularly how government strategies support or constrain adaptation of communities and industries which may prove beneficial in improving understanding of multilevel governance" (Fidelman et al., 2013, p. 810).

For policies to be successfully implemented, it can be concluded that the recognition and understanding of a devolved system of governance is critical to streamline federally administered policies. Furthermore, deliberations are needed to develop a common understanding on the existing framework of governance for policy implementation and to analyse the best course of action for rolling

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out policies. Lessons from economically developed nations such as Australia (Howes et al., 2015) can also help to understand the gap between the meso-micro level for climate change policy adaptation and solutions to overcome such barriers. In addition, Wellstead et al. (2016) discuss ways to overcome issues of scaling down through 'push' dynamics – a framework that enables national-level initiatives to be implemented at regional and local levels. There is a need to examine such studies where policies are effectively implemented in decentralised governance structure to overcome implementation barriers in climate change adaptation.

6 | CONCLUSIONS AND WAY FORWARD

This study highlights barriers in policy development and its implementation that limit effective climate change adaptation and mitigation action in Pakistan. More particularly, it highlights the following critical barriers to policy implementation:

1. The prevalent top-down management paradigm adopted for policy design has provided potential ground for misinterpretations and poor understanding of NCCP implementation. This finding is in line with research studies conducted in developed countries such as Australia, as discussed above. There is a need to understand the different interactions across a multiple layers of governance and between different sectors.
2. Absence of critical groups in the policy development process has led to different interpretation of the policy document and its implementation framework. This has further exacerbated the prevailing problems of mistrust between various governing entities. This research concludes that decision-making entities should invest in community engagement to positively impact climate change policy outcomes.
3. A disjointed framework of governance that suffers path dependency further exacerbates the absence of effective policy implementation at the grassroots. The current framework disregards the decentralisation process as promulgated by the 18th amendment of the constitution. As a result, there are no clear lines of coordination and integration amongst key agencies at national, sub-national and local levels. The study concludes that there is a need to move away from the historical institutionalist approach that fails to implement new, more effective ways of interaction and is reluctant to learn from past experiences and commit to change.
4. This study also highlights the importance of a practical and workable policy document that incorporates critical elements such as budgeting, cost-effective incentive-based approach that can facilitate effective target setting, clarity in funding sources, distinction between development – versus climate change adaptation – goals and provides clear lines of action and cross-sectoral integration.

In conclusion, the problems of inclusivity in policy development processes, poor inter and intra ministerial coordination and unclear policy implementation processes are not unique to Pakistan. As discussed in this study, these issues have been faced by other developing countries. This highlights the universal nature of this problem thus emphasising the need to examine these issues closely through further research, in order for economically challenged nations to better equip themselves so that adaptation to a rapidly changing climate through successful policy development and implementation processes is possible.

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[Correction added on 12 April 2023, after first online publication: CSAL funding statement has been added.]

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

ORCID

Shafaq Masud https://orcid.org/0000-0002-9080-4373

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