



# The National Climate Change Policy of Pakistan: An Evaluation of Its Impact on Institutional Change

Muhammad Mumtaz<sup>1</sup>

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## Abstract

Climate change is a reality. It is happening and posing adverse impacts globally as well as on Pakistan. To effectively respond to this ubiquitous threat, Pakistan formulated the National Climate Change Policy (NCCP) in 2012 and operationalized it in 2013. Yet it encourages further analyses and evaluations so as to identify any un-addressed or unidentified measures in the policy, to examine the established policy measures more in depth, and to ensure its effective implementation. This study presents a qualitative analysis of the NCCP. To undertake the analysis in a recognized and systematic fashion, the policy document is evaluated against a criterion set by Cheung et al. (Aust Health Rev 34:405–413, 2010). The main characteristics of this criterion include accessibility, policy background, policy goals, resources, monitoring and evaluation, public opportunities, and obligations. This study contributes to the literature to understand the critical aspects of a climate policy from a developing and one of the most affected countries due to climate change. The study is important to explore the strengths and shortcomings of the policy. Additionally, our study contributes by setting a framework of novel insights by utilizing a new criterion for analyzing a climate policy. The analysis provides valuable inputs to the subnational governments in Pakistan which are actually responsible for implementation of climate and other related policies. Our evaluation found that NCCP offers some strengths but the document has certain weaknesses too. The policy is a promising document which provides directions and guidelines to the subnational governments for establishing their policies and effective actions plans. It provides a proper mechanism of monitoring the implementation activities in the country. Moreover, it covers important sectors and emphasizes on integration of sectoral policies with climate change policy. The policy presents a reasonable mechanism to enhance the human and institutional capacity. However, it lacks realistic and comprehensive backing for established goals and objectives. For instance, it proposes some measures which are not practically actionable. One of such measures suggests to protecting the glaciers which is not possible keeping in view the existing military conflict between Pakistan and India in the region. This shows that the policy lacks to base on empirical research. The findings of the study will be very helpful for policy makers and climate experts while revising or revisiting the policy document. This analysis provides valuable lessons to provincial governments in Pakistan while framing their provincial climate change policies and action plans. The study opens new research areas and avenues for further evaluations and analysis for the NCCP and upcoming provincial climate change policies in Pakistan.

**Keywords** Policy · Climate change · Analysis · Pakistan

## 1 Introduction

Climate change is a reality. According to Intergovernmental Panel on Climate Change (IPCC) fifth assessment report humans are responsible for this unsustainable situation.

There are evidences that climate change is happening around the world. These evidences include rise in temperature, changing rain and snowfall patterns, rising sea-level, shrinking sea-ice, and melting glaciers (Singh and Singh 2012; Weitzman 2009).

Climate change poses serious threats to the world (Leiserowitz 2005). From future climate change perspective, both human and natural systems are at risk (Walker et al. 2014). There are evidences that climate change will continuously pose threats throughout this century despite

✉ Muhammad Mumtaz  
mumtaz86@hotmail.com

<sup>1</sup> Fundacao Getulio Vargas Escola de Administracao de Empresas de Sao Paulo, Sao Paulo, Brazil

taking certain successful steps by international community to curb greenhouse gas emissions (Wilson 2006). Many countries around the world, especially, the developing countries are more at risk due to climate change.

Climate change is posing negative impacts on South Asia (Kelkar and Bhadwal 2007; Sivakumar and Stefanski 2011). This region is the most disaster-prone region in the world (Sivakumar and Stefanski 2011). South Asia is affected annually by climate extremes: increase in average temperature, rise in sea level, and the recession of glaciers, decrease trend in annual mean rainfall and change in precipitation are the evidences of this change (Sterrett 2011). Such climatic impacts severely threaten the livelihood of poor people living in these areas (Morton 2007). Asian region, Pakistan is highly sensitive to the impacts of climate change (Wassmann et al. 2009). Pakistan is ranked in the list of top 10 most vulnerable countries (Khan and Samiullah 2015).

Climate change is happening and causing adverse impacts on Pakistan. Geographically, Pakistan is located in a region where the impact of climate change is being felt quite seriously (Malik et al. 2012). Pakistan is facing serious threats due to climate change in the form of many disasters like floods, droughts, and other natural calamities (Banoori 2012). These disasters leave social, environmental, and economic impacts. For example, on the heel of the 2010 floods, it is estimated that more than 20 million people were affected, about 1.88 million houses damaged, 1767 persons were killed or missing, and 2865 persons injured (Kurosaki et al. 2011).

Pakistan is among those countries which were badly affected in 2012 due to climate change (Germanwatch 2014). Livelihoods of millions of people, water, food and energy security, are in state of danger in Pakistan due to climate change (Aftab and Hickey 2010). Due to high vulnerability, it is imperative for Pakistan to confront the consequences of climate change within due course of time.

In Pakistan, climate change has attained serious attention by the government for realizing its sensitivities and vulnerabilities (Rasul et al. 2011). Like rest of the world, Pakistan responded climate change by taking various initiatives in the form of climate policy and action plans. Pakistan launched its first climate change policy in 2012. The formulation of the National Climate Change Policy (NCCP) was a positive development to deal with climate change in the country. The policy proposes more than 120 policy measures covering different areas.

The NCCP is a multi-sector policy which provides mitigation and adaptation measures. The policy stresses on development sectors such as agriculture, transport, human health, energy, forestry and disaster preparedness. The policy also emphasizes on raising awareness, technology transfer and capacity building and institutional strengthening. Additionally,

inter-ministerial coordination, regional and international cooperation are also envisioned in the policy.

The NCCP also highlights some other prominent policy measures. For instance, it emphasis on regional and international cooperation on climate change, to get benefits from international financial mechanism and establishment of various financial institutions. Pakistan is one of the developing countries, which have prepared such a comprehensive policy on climate change (Yusuf 2011). However, it is important to evaluate the policy for its effective implementation.

Establishment of the NCCP is a positive step towards tackling climate change in Pakistan it requires proper scrutiny and analysis. It is evident that the NCCP is not evaluated much being a nascent policy. In our literature review, we came across some notable analysis conducted by Khan (2012) and Mumtaz (2013).

According to Khan (2012), weaknesses of the NCCP are identified: "In its [the NCCP] present form it is difficult to implement as the NCCP has not meaningfully involved key stakeholders". Relevant literature, which was used for this analysis, indicates that the NCCP requires analysis and evaluation, especially in academic circles, for its validation and improvement. While acknowledging the importance of developing the NCCP (Khan 2012) stresses that the NCCP must be analyzed.

Some shortcomings in the NCCP in the review of Khan (2012) were identified, such as the absence of analyses on the NCCP, and self-demand of the NCCP for its analysis and evaluation dictate that the NCCP must be evaluated. Similarly, Mumtaz (2013) stressed that for proper evaluation, the NCCP requires more study not only to explore the weaknesses but to validate the studies that have taken place for the NCCP.

There are possibilities that the nascent policy may have overlooked some important aspects. By undertaking detailed and rigorous analyses of the NCCP, overlooked aspects would be uncovered in addition to any inappropriate proposals in the NCCP. The in-depth analysis and evaluation of a policy is helpful for successful implementation. It is likely that findings of the study would play a constructive role not only for the revision of the NCCP but it will also provide a solid background for provincial climate policies and upcoming climate change action plans in Pakistan.

The objective of the study is to analyze the NCCP document so as to highlight its strengths and shortcomings. For the analysis, we employ Cheung et al.'s (2010) framework which is a well-suited model to analyse any public policy.

## 2 Evaluation of Climate Policies

Climate policies are a concrete response to the impacts of climate change. Climate change is considered a comparatively young and new area of public policy making (Urwin

and Jordan 2008). Many countries around the world have established or are establishing climate policies to address the negative consequences of climate change. However, it is imperative to investigate the effectiveness and practicability of these policies by evaluating and analyzing such policies.

Vedung (1997) defines evaluation as the 'careful retrospective assessment of the merit, worth, and value of administration, output and outcome of government interventions, which is intended to play a role in future practical action situations'. The evaluation and analysis of climate change policies are taking place around the world. However, the evaluation of environmental/climate policy has developed at a slower place as compared to other policy areas such as education and welfare (Knaap and Kim 1998; Mickwitz and Birnbaum 2009).

The related literature informed us that academics and climate change practitioners are more interested to evaluate and analyze the performances of existing climate policies (Haug et al. 2010). These evaluations are in the form of non-scientific evaluations and scientific evaluations. The non-scientific evaluations include evaluations commissioned by NGOs and governments, etc., whereas scientific evaluations are in the form of books and peer-reviewed journal articles, etc. There are some other notions explaining the difference in evaluations.

Various scholars emphasized to distinguish between formal evaluation which is driven by government and the informal evaluation which is society driven. Hildén et al. (2014) define formal evaluation as 'state-led' and informal evaluation as 'evaluation activities by non-state actors'. Weiss (1993) differentiates as 'inside evaluation' which is conducted by people 'inside' government, and 'outside evaluation' by actors not linked with government. These formal and informal evaluations have their own strengths and weaknesses.

As far as formal evaluation is concerned, it is argued that the evaluators are in a better position to assess the policy keeping in view they are quite familiar with policy process and circumstances in which the policy emerged (Toulemonde 2000; Weiss 1993). These evaluators pay much attention to the key motivator factors for policy evaluation (Weiss 1993). However, there are some weaknesses as well for formal evaluation.

It is pointed out that evaluation by government actors may not be so critical as compared to the evaluation conducted by non-state actors (Weiss 1993). It is further argued that formal actors apparently seek the evidences that suit to their established hypotheses or views on a policy by way of a 'confirmation bias' (Nickerson 1998). Chelimsy (2006) notes that if the evaluation brings some unfavorable results, the governmental actors can suppress them so that to keep them away from public debate. Likewise, informal evaluation also has strengths and weaknesses.

Informal evaluation performed by non-state actors is considered more critical to analyze policies (Weiss 1993). Informal evaluation may employ effective and robust criteria (Mickwitz 2013) to focus on policy side effects (see Vedung 2013). The informal evaluation is conducted to expose the weak aspects of policies to put pressure on policy makers to respond. Informal evaluation also has weaknesses. For instance, the evaluators may not have deep knowledge of the whole policy process and they may overlook some important aspects or political discourses through which policy emerged (Weiss 1993). Moreover, the informal evaluation may not be recognized much unless it becomes a mean to produce public pressure.

In general, policy evaluation has gone through various stages before its emergence in the nineteenth century (Crabbe' and Leroy 2008). Initially, it was supposed to assist national parliaments in monitoring the lawfulness of government actions. After the Second World War, its emphasis was transferred to assess more administrative, managerial, and economic inquiries. Lastly, from 1990s onwards, political questions related to public support for policies were becoming the focus of investigations. During this period many popular evaluation criteria emerged. In the evaluation literature, these evaluation parameters are indicated in the form of effectiveness and goal attainment, cost effectiveness, efficiency, legal acceptability, legitimacy, fairness, and coordination with other policies (Crabbe' and Leroy 2008; Kraft and Furlong 2010).

Various evaluation techniques have been used to evaluate and analyze climate policies. The most common indicators used to evaluate the climate policies are identified as effectiveness and/or goal achievement, efficiency, and cost effectiveness (Huitema et al. 2011). They further argue that some other criteria are also used like fairness, coordination with other policies, and legitimacy. However, these were used far less frequently as compared to previous ones. Moreover, some other frameworks are being utilized to analyze the climate policies. For instance, critical discourse analysis, argumentative discourse analysis set by Maarten Hajer et al.

Climate policy evaluations and analysis are conducted around the world. These evaluations are being produced either by non-scientific evaluations or scientific evaluations. Everyone is free to conduct such evaluations. The practitioners of climate change and academia are the leading evaluators of climate policies. One of the studies in literature indicates that universities and independent research institutes, followed by consultancy firms are the most active evaluators for climate policies (Huitema et al. 2011). According to Lehtonen (2005) and Martinuzzi (2004), evaluation practices have the potential to act as a new form of environmental governance. It is noted that there is still a very long way to go before the climate policy evaluation is fully realized. The process is quite flexible and the practices of climate policy

evaluation will continue to develop and it will bring new models and dynamics for the evaluation.

### 3 Methodology

The type of methodology adopted by any research depends upon the central research objective and questions. Our research problem is to evaluate the NCCP. We adopted qualitative research design which includes three steps. In the first step, a content analysis of the NCCP was done. For this purpose, the NCCP document was accessed, read and understood in detail. In the second step, we choose Cheung et al. (2010) framework for comprehensive evaluation of the NCCP. The NCCP document is evaluated against a certain criteria established by Cheung et al. (2010) given in Table 1. In the third step, the study findings are validated through semi-structured interviews with policy and climate experts in Pakistan. In these interviews with policy experts, we dig out the motivations for establishing the NCCP.

The proposed study is significant as policy analysis is important to provide a solid backing for effective implementation. The evaluation of the NCCP is in and of itself vital. This is because policy analysis is an important task (Majone 1977). This vitality of policy analysis becomes essentiality important when a policy under question is un-analyzed or scantily analyzed. This notion equally applies to the NCCP. The NCCP, as far as our literature review is concerned, is

not a much analyzed policy, especially in academic circles. That is why this policy document is selected for evaluation.

The criteria set by Cheung et al. (2010) is important for policy evaluation. According to Cheung et al. (2010), the established criterion is important for evaluating a policy proposal to improve the policy document and for its effective implementation. Therefore, it completely fulfills the demands of our study.

In their study, Cheung et al. (2010) used the established framework for health policy. However, they suggested that this framework can be used to evaluate any policy document irrespective of its area. Ellahi and Zaka (2015) used this framework to analyze Higher Education Policy Framework for Open and Distance Education in Pakistan. Ellahi and Zaka (2015) indicated in their study that they consulted two experts to validate the criteria for evaluation and both the experts agreed that the given criterion is well established to evaluate any policy. Therefore, it has provided a solid backing to use the intended framework for our study. Additionally, we contacted the author(s) through email about the use of their framework for evaluation of the NCCP. They strongly encouraged and suggested that the given framework is well poised for evaluation of the NCCP. Therefore, Cheung et al. (2010) is an appropriate and well-suited framework for our study.

The proposed framework established by Cheung et al. (2010) includes accessibility, policy background, policy goals, resources, monitoring and evaluation, public

**Table 1** Criteria for analyzing the policy document

Accessibility	The policy document is accessible (hard copy and online)
Policy background	The source of policy is explicit <ol style="list-style-type: none"> <li>1. Authority (persons, books, articles, or other sources of information)</li> <li>2. Quantitative or qualitative analysis</li> <li>3. Deduction (premises that have been established from authority).</li> </ol> The policy encompasses some set of feasible alternatives
Goals	The goals/objectives are explicitly stated: The goals are concrete enough to be evaluated later The goals are clear in intent and in the mechanism with which to achieve the desired goals, yet does not attempt to prescribe what the change must be The outcomes of the goals are clearly stated
Resources	Financial resources are addressed (e.g., estimated financial resources and their cost) Human resources are addressed Organizational capacity is addressed
Monitoring and evaluation	The policy indicated monitoring and evaluation mechanism The policy nominated a committee or independent body to perform the evaluation The outcome measures are identified for each objective/goals The data collected for evaluation collected before, during, and after the introduction of the new Policy Follow-up takes place after a sufficient period to allow the effects of policy change to become an evident criteria for evaluation are adequate or clear
Public and political opportunities	The population supports the actions Multiple stakeholders are involved Primary concern of stakeholders and acknowledged to obtain long-term support
Obligations	The obligations of various implementations are specified—who has to do what

opportunities and obligations. The framework is explained in Table 1.

## 4 Analysis of the Study

In this section, we analyse the NCCP through the proposed framework given in Table 1.

### 4.1 Accessibility

The first stage of the evaluation is accessibility of the policy document. In case of the NCCP, this condition is fulfilled as the policy document is available on the website of the ministry of climate change. The hard copy of the policy document can be obtained from the relevant department of the ministry. Moreover, the hard copy of the policy can also be obtained from the other organizations working in area of climate change. These organizations include Sustainable Development Policy Institute, Global Change Impact Studies Centre, Leadership for Environment and Development Pakistan, International Union for Conservation of Nature, etc. Moreover, the policy document is also available on internet. Therefore, researchers, stakeholders or anybody who is interested to obtain the NCCP document can acquire easily.

### 4.2 Policy Background

The background information of the NCCP is available. The document contains background information stating and explaining why this document is being prepared. It also provides some data in the various sections but without any specific source. An attempt is made to set a background but it is not considered to be a comprehensive background. There is room available to improve its valuable background. Being a nascent policy, it may lack to provide detailed background of the policy. However, some important sources are well explored and certain valuable documents were consulted before establishing the NCCP. For instance, the Task Force Report on Climate Change (TFCC) 2010 is one of the building blocks for the creation of the NCCP. The TFCC is a comprehensive document prepared by the planning commission of Pakistan. The TFCC is a document mainly prepared by the federal government. However, relevant stakeholders were consulted from all provinces while preparing the document. Therefore, the claim of the NCCP for fair representation from provinces and other stakeholders seems fine and which is an appreciable step.

The NCCP proposes certain measures without any statistical evidences for such recommendations. It lacks to provide considerable statistical evidences that need to be explored. It provides very general recommendations at some points which are not practically actionable. For instance, at some

measures, it is suggested to opt for high-level technology but keeping in view the economic condition of Pakistan to acquire such technology is not possible. The policy background does not adequately provide the sources of the given background information. Moreover, based on given information, it can be inferred that systematic literatures is not well reviewed.

### 4.3 Goals

In the NCCP documents, the goal and objectives are explicitly mentioned. The objectives mentioned in the policy are as follows:

1. To pursue the sustained economic growth by appropriately addressing the challenges of climate change.
2. To integrate climate change policy with other related national policies.
3. To focus on pro-poor gender-sensitive adaptation while also promoting mitigation to the extent possible in a cost-effective manner.
4. To ensure water security, food security and energy security of the country in the face of challenges posed by climate change.
5. To minimize the risks arising from expected increase in frequency and intensity of extreme events: floods, droughts, tropical storms, etc.
6. To strengthen inter-ministerial and inter-provincial decision-making and coordination mechanism on climate change.
7. To facilitate effective use of the opportunities, particularly financial, available both nationally and internationally.
8. To foster the development of appropriate economic incentives to encourage public and private sector investment in both adaptation and mitigation measures.
9. To enhance the awareness, skill and institutional capacity of relevant stakeholders.
10. To promote conservation of natural resources and long-term sustainability.

The policy has established the main goal “To ensure that climate change is mainstreamed in the economically and socially vulnerable sectors of the economy and to steer Pakistan towards climate resilient development”. The above ten mentioned objectives are set to achieve the main stated goal. However, some objectives are not explicitly addressed in the policy. The justification appears weak for some objectives while proposing policy measures. For instance, in objective 6, it proposes to strengthen the inter-ministerial decision-making and coordination mechanisms but it does not appear relevant keeping in view that climate change is a provincial subject and provinces are actually responsible

for implementation of climate-related policies. In objective 8, it points out that economic incentives would be offered to public and private sector investment to promote adaptation strategies. This is a very important objective to enhance adaptation strategies considering the climatic condition in the country. However, this is not addressed properly in policy measures. Although policy goal and objectives are mentioned clearly but to evaluate them specifically using quantitative evaluation seems difficult. There is no evidence for any alternative objective to the stated objectives. Moreover, some of objectives are just mentioned as example above but without solid backing in the form of proposed policy measures. Therefore, it is needed to revise the weak objectives while revisiting the policy.

#### 4.4 Resources

The policy accepts that Pakistan is lacking financial resources, human resources and institutional capacity at the moment. However, the policy describes some measures to address these challenges. As far as financial resources are concerned, the policy dictates how these resources would be generated. It is stated that being the signatory to the United Nations Framework Convention on Climate Change, various other institutions financial assistance can be taken. However, it is a fact that Pakistan could not gain too much from Clean Development Mechanism as compared to other Asian countries. Therefore, it is too early to say that Pakistan will gain much from these institutions. There is no given financial cost to community nor did any estimate financial resources for the implementation of the policy is mentioned. All the measures regarding financial resources are very general and statistically no data is provided in the policy.

In terms of human resources, the policy provides certain options. For instance, it is described that the human capacity would be enhanced by sending young scientists and students to renowned international institutions so as to develop climate change expertise. Likewise, revision and development of new curriculum on climate change will be introduced in educational institutions in Pakistan.

Regarding organizational capacity, the policy document indicated the need to establish more institutions. For instance, establishment of National Climate Change Commission, introduction of climate change cells at federal and provincial levels for improving the coordination among the relevant departments. The policy proposes certain measures to manage these resources. However, time will tell how it will be managed and implemented.

#### 4.5 Monitoring and Evaluation

The policy describes the importance of monitoring and evaluation. It explains that how the policy implementation

mechanism will be framed at federal and provincial levels. It also mentions that the NCCP will be revised after every 5 years based on empirical data provisions and recommendations given by established committees at federal and provincial level. However, after the 18th constitutional amendment, the future of the NCCP is unclear because the respective provinces are establishing their own climate change policies and action plans.

The policy explores the significance of monitoring. However, it does not provide outcome measures for given objectives and goal. The policy highlights that the NCCP will be revised at five-year intervals but it does not explicitly mention about data collection before or during the policy implementation. However, implicitly it can be said that the established committees may have a task to collect data so that they may revise the policy accordingly. Moreover, the policy does not mention any specific criteria about evaluation and monitoring.

#### 4.6 Political and Public Opportunity

The policy mentions the importance and involvement of all relevant stakeholders. It claims that related stakeholders were consulted. It is stated that all the provincial governments, federal government, various ministry and departments, non-governmental organizations and civil societies played an important role for establishing the policy. It has acknowledged various federal departments, provincial departments, and other independence bodies for their contributions and inputs. However, it does not mention to what extent these agencies were involved in the formation of policy and what were their stances. Second, it does not explain who are the real stakeholders and how they were engaged? It is also not clear what the primary concerns of these stakeholders were and whether they were addressed or not?

#### 4.7 Obligations

It is indicated that various federal and provincial bodies including other relevant departments are responsible for the task to implementation. A complete hierarchy for implementation committees at Federal and Provincial level is indicted in the policy. In the policy document, it is stated that the federal government shall develop an "Action Plan" for implementation. The federal government already established implementation framework for the NCCP in 2013. The framework was developed for 2014–2030 to effectively implement the NCCP. It proposed priority (within 2 years) measures, short-term (within 5 years) measures, medium-term (within 10 years) measures, and long-term (within 20 years) measures. The actual implementation mechanism of the NCCP is very slow and we could see any substantial achievements for implementation of proposed

measures of the framework document. For instance, the priority actions should have been taken within 2 years of time. However, these actions are not taken at all or just partially taken. The driver behind the weak implementation can be the devolution of the subject to the province. Therefore, the provinces are establishing their own policies and implementation frameworks at a provincial level. The time will define how subnational governments have set their frameworks for actions to handle climate change in their respective domains.

All the provincial governments, Azad Jammu and Kashmir, Gilgit-Balistan, Federally Administered Tribal Areas and local governments will have their own plans and strategies for effective implementation of climate change policies and action plans. The subnational entities are getting guidelines from established implementation framework for the NCCP at the federal level. At the federal level, it was indicated that the implementation committee will oversee the implementation of climate change actions in Pakistan. However, it does not mention that who has to do what and what would be their authority with responsibility. Table 2 highlights the complete summary of this study.

## 5 Two Comparative Expert Views on Motivation and Efficacy of the NCCP

To validate the findings that are produced in this study, semi-structured interviews were conducted with two policy and climate experts in Pakistan to ascertain the motivations and efficacy of the NCCP, as a supplement to the policy analysis conducted by the author. These two experts were chosen based on their involvement in global climate change policy as well as their intimate familiarity with the Pakistani context. Neither respondent was directly engaged in the formulation of the policy itself to avoid any conflict of interest. The following two experts were consulted based on these criteria:

Shafqat Kakakhel is a senior retired Pakistani diplomat. He served as the UN Assistant Secretary General and Deputy Executive Director of the United Nations Environment Programme (UNEP). He was elected president of the

UNEP Governing Council in 1995. Kakakhel was elected member of the Executive Board of the UNFCCC 'Clean Development Mechanisms' for 2009–10. Again for the years 2011–12, he was representing the Non-Annex parties of Asia Pacific. He is a member of the Board of Governors for the Sustainable Development Policy Institute in Islamabad since 2009 and has served as its Chairperson since 2013. Moreover, he was one of the senior members of the TFCC established by the Government of Pakistan in 2008.

Ali Tauqeer Sheikh is the chief executive officer of Leadership for Environment and Development in Pakistan. He is deeply involved in sustainable development, particularly in poverty-environment nexus, climate vulnerabilities and equitable development. Mr. Ali remained the Asia Director for Climate and Development Knowledge Network. He has attached to a number of international organizations such as the Asian Development Bank, European Commission, Packard Foundation, Rockefeller Foundation, and The Asia Foundation. Ali has vast experience in training and facilitating multi-sectoral and multi-disciplinary expert groups on policy planning, leadership development, and consensus building.

The creation of the NCCP is fully encouraged by both the experts. They viewed that the NCCP should have been established earlier keeping in view the Pakistan's vulnerability to climate change. For instance, Kakakhel indicated that '... Pakistan was way behind India and Bangladesh in creating a policy framework concerning climate change which had developed their national climate change policies in 2008.' The reason for this delay may well be considered in the context of the security environment in the country following the advent of war in neighboring Afghanistan.

Regarding the process of the NCCP, the experts had divergent opinions which are evaluated in terms of their embedded assumptions. Ali described that the stakeholders' identification was opportunistic rather than being systematic in terms of the scope of various interest groups which needed to be consulted. Provincial engagement was not undertaken with the level of care that was demanded of a country with still fragile national political integration. However, both expert respondents were optimistic that the

**Table 2** Complete summary of the study

Criteria	Fulfilled	Better but needs improvement	Not fulfilled
1. Accessibility	✓		
2. Policy background		✓	
3. Goals	✓		
4. Resources		✓	
5. Monitoring and evaluation		✓	
6. Political and public opportunities		✓	
7. Obligations		✓	

establishment of the NCCP was a positive initiative in so far that it raised awareness of climate change policy; many of its weaknesses can be overcome by revisiting and revising the policy from time to time.

Both expert respondents strongly negated the view that the policy was created to get funds from donors. For example, Kakakhel explained that ‘it is unfair to attribute the formulation of the NCCP solely to a quest for donor funds’. To him, the NCCP represents an important milestone in the development of Pakistan’s climate regime on the basis of the report of the TFCC in October 2008. He further argued that ‘the credit for the preparation of the NCCP should go to the civil society activists who persistently called for an overarching policy framework on climate change...’. Likewise, Ali maintained that there is no evidence that the policy was framed with the motivations to secure funds from donor agencies. Both experts have same opinion that it is not justified to say that the policy was established to get funds.

The implementation of public policies, especially, environmental policies remained a challenge for Pakistan. It is important to know the progress for implementation of the NCCP. The federal government established implementation framework for the NCCP in 2013 and set priority, short-term-, medium-term-, and long-term actions. If you see the priority actions which should have been taken, we cannot see any substantial achievements. Most of these actions are not taken at any level. Ali described that these are ambitious targets without any appropriate budget. He further maintained that the federal government may work for framework but it does not need to set implementation targets for provinces keeping in view addressing climate change is the responsibility of the provinces.

Kakakhel responded that ‘...the NCCP and the framework for its implementation will remain unfulfillable wish lists unless they are elaborated in carefully prepared projects or programs and are implemented through federal and provincial governments and non-state stakeholders’. However, he is optimistic about implementation of the NCCP describing that ‘We hope that the institutional mechanisms enshrined in the landmark National Climate Change Bill approved by the Parliament in March 2017, namely the Climate Change Council, the Climate Change Authority and the Climate Change Fund, would ensure the full and effective implementation of the NCCP as well as Pakistan’s Intended Nationally Determined Contribution (INDC), thereby enabling Pakistan to contribute to the implementation of the Paris Agreement’.

The expert opinions tell us that the creation of the NCCP was the need of the hour for Pakistan taking an account its high vulnerability. However, certain weak aspects of the policy were discussed which need to be addressed to attain desirable results of the policy.

## 6 Discussion

The summary of the analysis in Table 2 shows that majority of established criteria is met by the NCCP. Accessibility to the policy is its major strength. However, the rest of the criteria included the policy background, goals and objectives, resources, monitoring and evaluation, political and public opportunities, and obligations are needed to revise for its improvement.

The policy document is easily accessible for everyone in soft and hard copy form but the inclusion of policy background is needed for its improvement. Comprehensive policy background is one of the key strengths for a policy as it provides complete backing for a policy document. In case of the NCCP, it may lack scientific backing. There is no provision of any evidence in the NCCP to consult any empirical research. Therefore, it is dire need for any policy document to have statistical background and comprehensive goals and objectives for establishing achievable policy measures.

Some of the policy’s objectives are not realistically established. Although, the objectives are highlighted in the policy but the policy lacks to provide the backing for these objectives in the form of policy measures. The realistic and doable goals and objectives along with resources are major strengths for an effective and optimal policy.

Resources including financial and human resources are very important for an effective implementation of a policy. In case of the NCCP, it is highlighted that these resources are important for the policy and it proposes certain measures to address them. Pakistan’s dangling economy and allocation of weak budget to manage climate change is a point of concern for countering climate change in the country.

Subsequently, monitoring and evaluation is emphasized in the policy and the hierarchy is established in the policy. This is the strength of the NCCP. The monitoring and evaluation is of extreme importance for addressing the weaknesses of a policy especially in its implementation phase. The proposed evaluation for NCCP is mainly based on internal evaluation. However, emphasis on external evaluation is not described in the policy which could be the real test about success and failure of the policy.

The policy document acknowledges the importance and involvement of stakeholders. There are various federal and provincial departments along with some non-governmental organizations which are indicated in the policy. However, there is no clarity as to who is the real stakeholder. Second, the document lacks to provide the concerns of any stakeholder and appropriate measures for such concerns. Therefore, these weaknesses of the policy should be addressed on an urgent basis for its effective and

long-lasting implementation. To address the weaknesses of policy, it is important because the subnational governments are getting valuable inputs from the NCCP, while devising provincial climate change policies and action plans.

Further to this, with regard to obligations, the NCCP identifies the hierarchy for the implementation at federal, provincial and local levels. However, there is no indication who will do what tasks and when it would be done. Keeping in view the significance of implementation plans of any policy, there is a dire need to present the rational and specific implementation mechanism. In case of the NCCP, such coherent and specified mechanisms at the moment may be lacking and which should be dealt with.

The findings are validated by the expert opinions. The experts are in the views that the NCCP is a positive move to tackle climate change in Pakistan. However, they suggested that there is need to establish proper institutional arrangements, ensure involvement of related stakeholder, and to establish action plans at the right level.

## 7 Conclusion and Final Remarks

Pakistan is amongst the highly vulnerable countries to climate change; it is among the few developing countries who have formulated their climate change policies. The establishment of the NCCP was a laudable step to effectively countering climate change in Pakistan. After 18th constitutional amendment in Pakistan, the implementation of climate change policy and other related policies are the responsibility of subnational governments. However, the NCCP which is prepared at federal level plays an instrumental role to provide a strong backing for establishing climate change policies and action plans in the provinces.

The NCCP was created at the national level while engaging the respective provinces and considering the requirements of all the provinces. Therefore, the respective provinces can acquire valuable policy measures from the NCCP while devising their provincial climate change policies. The NCCP offers a systemic monitoring and coordination mechanism for provinces as the national government is responsible for dealing all the international treaties and legal obligations at international forums. Therefore, coordination is very important to present the case of Pakistan at the international level.

It is important to note that Pakistan has a weak capacity to deal with climate change. The policy proposes some concrete and handful measures for promotion of institutional and human capacity. The policy is poised to enhance climate research and scientific evidences so that the innovative strategies can be incorporated for effective results. Moreover, it strongly emphasizes citizen engagement and involvement

of relevant stakeholder while dealing climate change in the country. Apart from multiple strengths of the policy, it also has some shortcomings. Some policy measures are very generic in nature and they are not prepared with detailed research and scientific backing. For instance, the policy proposes to protect glaciers which seem quite complicated keeping in view the complexity of military conflict between Pakistan and India in the region.

Moreover, it proposes some measures which are not practically implementable. It is not possible to utilize such measures keeping in mind the dangling economy of Pakistan. The policy claims that all relevant stakeholders were consulted. However, there is no indication that Pakistan's military was also part of such consultation although, there is a strong linkage between national security and climate change. The NCCP is a promising initiative but it requires improvements. The policy must be revised to address its shortcomings and to incorporate new strategies as per requirements to address the current situation of climate change in the country.

The federal Ministry of Environment was renamed as ministry of climate change in 2012. The important tasks of the ministry are to establish climate change policies, action plans to counter climate change, and to deal climate change matters at international forum. It also coordinates between inter- and intra-provincial governments in the context of climate change and global warming. The ministry promotes research and technical cooperation, and liaises with international donors/agencies.

Pakistan officially launched the NCCP in 2013. The ministry then created an action plan to implement the measures and actions proposed in the NCCP. In 2013, the ministry was degraded to a division. However, the government realized that it requires a full ministry so as to move forward for effective implementation of the NCCP and the ministry was reinstated in 2015. Therefore, the implementation of the NCCP was a major motivation factor to reinstate the ministry.

In 2017, the climate change act was passed which "will fast-track measures needed to implement actions on the ground" in the country which is behind the effective implementation of climate actions. New institutional arrangements are set: Pakistan Climate Change Council, Pakistan Climate Change Authority, and Pakistan Climate Change Fund.

The council is a decision-making body chaired by either the prime minister or a person nominated by him. The government appoints federal and provincial ministers, chief ministers and chief secretaries as members of the council. The Climate Change Authority is an autonomous government department composed of scientists, academics, industrialists, agriculturalists and serving and retired government servants, etc. The task of the authority is to formulate adaptation and mitigation policies and projects designed to meet Pakistan's obligations under international climate accords

like the Paris Agreement. The implementation of the NCCP is the driving force for all these new institutional arrangements in the country.

## Compliance with ethical standards

**Conflict of interest** It is declared that there are no conflicts of interest with respect to this research, its authorships, and/or publication of the article.

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**Muhammad Mumtaz** is a PhD research scholar in Public Administration & Government at Fundação Getulio Vargas, Sao Paulo, Brazil. His PhD study investigates climate adaptation governance at subnational level in Pakistan. His area of research is climate governance at national, subnational, and local level.