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A Multiple Streams Explanation of Pakistan's Climate Change Policy

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Abstract

Despite having minimal contribution to the global carbon emissions, Pakistan is considered to be one of the most vulnerable countries to the catastrophes of climate change. The country experienced back-to-back super floods in 2010 and 2011. In 2010 alone, the floods inundated 20 percent of the country and displaced some 20 million people, making it the biggest human displacement caused by a single climate-induced event in the history(Ministry of Climate Change, 2012). In the wake of these disasters, the Government of Pakistan established the world's first full-fledged National Ministry of Climate Change and approved a National Policy on Climate Change in 2012.

In this context, this paper applies a Multiple Streams lens to understand the agenda-setting process that prompted the development and approval of this policy. The paper will first discuss Pakistan's vulnerability to climate change and the relevant literature on climate change agenda setting, and will then explore how various facts and events fit into the three streams of Multiple Streams Framework to account for the agenda-setting process that led to development and approval of the national climate change policy.

Key words: Climate Change, Pakistan, Floods, Multiple Streams Framework, Policy Analysis, Climate Policy

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1. Introduction

Swedish scientist Svante Arrhenius was the first one to hypothesize human-induced climate change. In early 1890s, he warned about the possibility of increase in carbon dioxide levels in the atmosphere and the associated greenhouse effect (Abatzoglou, DiMento, Doughman, & Nespor, 2007). However, despite this early warning, it was not until early 1990s that the global political systems started recognizing and responding to this issue and showed willingness to include it in international political agenda. In 1992, over 150 countries signed the United Nation's Framework Convention on Climate Change (UNFCC), and by 1995, the negotiations to fortify the global response to climate change had been launched. One of the most important steps in this regard was the adoption of Kyoto Protocol in 1997 which legally binds the developed countries to meet certain carbon dioxide emissions reduction

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targets. The first commitment tenure under this protocol was from 2008 to 2012. Currently the second tenure is in effect since January 2013 and will end in 2020. Till now, 196 countries have ratified the UNFCC, while 192 countries are parties to the Kyoto Protocol (Pralle, 2009; UNFCC, 2014).

Pakistan, officially the Islamic Republic of Pakistan, is one of the major South Asian countries. With an area of 796,095 sq. km., the country is a profound blend of diverse landscapes including deserts, plains, forests, coastal areas of Arabian Sea, hills, and mountain ranges including world's second highest mountain K-2. As of 2015, Pakistan's total estimated population was over 191.71 million (Ministry of Finance, 2015), making it the 6th most populous country in the world. The country's GDP is USD 246.88 billion, which makes it 26th largest economy in the world in terms of purchasing power parity (PPP), and 43rd largest economy in terms of nominal Gross Domestic Product(IMF, 2015).

Pakistan has been a party to the UNFCC since 1994. It ratified the Kyoto Protocol in 1997, but took another 8 years for submitting the Instrument of Accession to the Kyoto Protocol (Ministry of Environment, 2006). In 1994, when Pakistan signed the UNFCC, the total Greenhouse gas (GHG) emissions were only 181.7 million tons of CO^2 equivalent(The Planning Commission, 2010). However, according to the updated GHG Inventory, the current annual total emissions are around 369 Giga tons equivalent of CO^2. Even after this increase, the country's per capita GHG emission is only 2.06 Giga tons, which ranks 135th globally (Chaudhary, Mahmood, Rasul, & Afzaal, 2009). Nevertheless, despite being one of the smallest contributors to climate change, Pakistan has been termed as one of the most vulnerable countries to its catastrophes, ranking 10th in the world in terms of the long-term Climate Risk Index (Kreft, Eckstein, Junghans, Kerestan, & Hagen, 2015). The country's major climate change-related concerns include rapid recession of glaciers in the Himalayas that is increasing water flows in the Indus River System and siltation in downstream water reservoirs, increased variability of monsoon, reduced agricultural productivity due to heat-stress in arid and semi-arid regions, saline water intrusion in the Indus delta which is gravely affecting fisheries production and coastal ecology, and higher sea surface temperatures due to which cyclonic activity is increasing in the coastal belt(Ministry of Climate Change, 2012).

According to Global Climate Change Index 2015 Report Kreft et al., 2015), Pakistan experienced 141 climate change-related events from 1994–2013, resulting on average in 456.95 deaths each year and losses worth USD 3988.92 million per year. However, it was not until 2012 that the country adopted its first National Climate Change Policy (NCCP), with the 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" (Ministry of Climate Change, 2012).The policy does not only identify the vulnerabilities in agriculture, water, forestry, coastal areas, and biodiversity sectors, but also outlines appropriate pro-poor and gender-sensitive adaptation and mitigation measures to be adopted, and emphasizes the need for disaster preparedness, institutional strengthening, technology transfer, capacity building, and international cooperation. But what prompted the government to develop and adopt the national climate change policy at that point in time? This paper explores why and how climate change emerged at the governmental agenda in Pakistan, and attempts to explain the agenda-setting process with the help of relevant facts and events.

2. Literature on Climate Change Agenda Setting

The agenda-setting scholars have conducted extensive studies to determine why some policy issues arise on public or governmental agendas while others remain neglected. The literature shows that the public policy problems keep rising and falling on governmental agendas. Sometimes, even the non-issues are defined as issues and they emerge as an important policy problem on the decision agenda. On the other hand, some important issues are sometimes regarded as non-issues, or rather conditions in which we choose to live(Cobb & Elder, 1983; Downs, 1972; Hilgartner & Bosk, 1988; Kingdon, 1997; Stone, 1988). Similarly, the scholars have also noted that the problems that do not have any feasible or readily available solution are most likely to be neglected, even if they attract governmental and public attention. Even if such issues make it to the agenda, they are likely to fade away due to their complicated and long-term solution; the public either loses faith in government's ability to resolve the issue or assumes that the problem has been solved (Downs, 1972; Kingdon, 1997).

Pralle (2009)outlines four basic assumptions which form the basis of the agenda-setting perspective. First, the democratic political systems comprise of three broad agendas; public agenda- that consists of the set of issues which are most significant for public, the governmental agenda- that refers to the issues that are "up for discussion in governmental institutions such as legislatures and executive agencies", and decision agenda- that is a narrower set of issues regarding which the government is willing to make a decision (Hilgartner & Bosk, 1988; Kingdon, 1997). Second, each agenda has a maximum carrying capacity for the number of issues. This means that each agenda can handle a limited number of issues simultaneously and so only 'most important' issues will make it to the agenda (Hilgartner & Bosk, 1988). Third, the issues do not completely go on or off agendas; rather they rise and

fall on a continuum according to their relative importance. Fourth, the highly salient issues are more likely to make it to the decision agenda as compared to the less silent ones, and hence are more likely to be solved. However, even for highly salient issues, a policy change is not guaranteed (Cobb & Elder, 1983; Kingdon, 1997).

Several agenda-setting models have been developed to understand the dynamics of agenda-setting in the policy process. Some of the most famous models include John Kingdon's Multiple Streams Model (Kingdon, 1997; Zahariadis, 1995), that explores how issues come to be issues and how they move onto decision agendas, Roche fort and Cobb's problem definition framework (Rochefort & Cobb, 1994), that explains how strategic framing of problems make them appear more salient, and Baumgartner and Jones' punctuated equilibrium model(Baumgartner & Jones, 1993), that explains how different factors drive the patterns of policy stability and change.

While each of these frameworks and models have their own strengths and weaknesses, this paper utilizes John Kingdon's (1995) Multiple Streams Model to explain the climate change agenda-setting process in Pakistan.

3. Multiple Streams Approach and Climate Change Agenda-Setting in Pakistan

The Multiple Streams Approach (MSA), is a framework that provides a theoretical lens to explain how particular factors increase the likelihood of a problem gaining salience, receiving a lot of attention, and achieving high agenda status (Blankenau, 2001; Smith & Larimer, 2013; Zahariadis, 2014). The framework is inspired from organizational theory and can be applied to the entire policy-formulation process, including agenda setting, decision-making, and implementation (Zahariadis, 1995). The MSA seems to agree with the idea of Cohen, March, and Olsen's (1972) garbage can model of organizational choice that says that "Collective choice is not merely the derivative of individual efforts aggregated in some fashion but rather the combined result of structural forces and cognitive and affective processes that are highly context dependent" (Zahariadis, 2014). This is why the unit of analysis in the MSA is essentially the entire system or a separate decision. The MSA framework assumes that the governments are organized anarchies and three streams flow through the policy system (Zahariadis, 2014): problem stream, policy stream (also termed as solution stream), and politics stream. A policy window opens when the three streams merge, i.e. "when a feasible solution is attached to what the public and policymakers perceive as an important public problem, and when political conditions are amenable to change" (Brunner, 2008). This is the best time for the policy entrepreneurs to

seize the opportunity and push for government action in favor of their proposed feasible solution (Brunner, 2008; Kingdon, 1997).

3.1. Problem Stream

The problems stream represents the policy issue itself. The policymakers recognize problems via three mechanisms: indicators- including reports and data, focusing events- such as natural disasters, and policy feedback- such as from public deliberation and media (Kingdon, 1997; Smith & Larimer, 2013; Zahariadis, 2014).

Indicators measure and/or monitor the natural and social activities, events and processes, through routine or special studies. For example, Charles Keeling's decades-long monitoring of atmospheric carbon dioxide (CO^2) levels, and resulting production of 'Keeling curve' showing alarming increase in carbon dioxide emissions over the last half century and the role of human activities in it, is considered to be a groundbreaking study that sparked scientific and political interest in global warming (Kolbert, 2006; Pralle, 2009).

Focusing event is another mechanism that brings problems to public's and policymakers' attention (Kingdon, 1997; Smith & Larimer, 2013; Zahariadis, 2014). Focusing events can be defined as "relatively rare sudden events that can be reasonably defined as harmful or revealing the possibility of potentially greater future harms, and are concentrated in a particular geographical area or community of interest" (Birkland, 1998). For example, flooding in New Orleans and other communities due to Hurricane Katrina proved to be a focal event that brought attention to several issues including inadequate government response protocols, inept flood-control protection, and on a broader level, rise in oceans temperatures due to climate change (Pralle, 2009).

Additionally, policymakers might also learn about issues via policy feedback. Oftentimes policymakers receive negative feedback on current policy programs, generated by targets groups, media, evaluation and assessment studies, bureaucrats, or sometimes the policymakers themselves. The negative feedback tells the un-intended consequences of the policies and also the plans/implementation methods that are not producing desired outcomes (Pralle, 2009).

In Pakistan, several indicators studies highlighting the country's vulnerability to climate change and emphasizing the need of a full-fledged national policy had been conducted (see for example, studies conducted by the Global Change Impact Studies Centre(Ali, Hasson, & Khan, 2009; Islam, Rehman, Sheikh, & Khan, 2009; Sheikh, Manzoor, Adnan, Ashraf, & Khan, 2009), and the

Pakistan Meteorological Department (Ahmad, Zhaobo, Weitao, & Ambreen, 2010; Farooqi, Khan, & Mir, 2005; Gadiwala & Sadiq, 2008; Hussain, Mudasser, Sheikh, & Manzoor, 2005; Zahid & Rasul, 2009). The 2009 technical report on 'Climate Change Indicators in Pakistan', published by the Pakistan Meteorological Department was one of the most comprehensive studies in this regard as it "carried out an analysis on past hundred year's data to detect the changes in different climatic parameters happened in last century and trends of recent climate events" (Chaudhary et al., 2009). The study results provided a clear and substantial evidence of climate change in Pakistan and recommended adequate policy decisions on climate change adaptation and mitigation.

To add to this, the country experienced back-to-back super floods in 2010 and 2011, which were mainly attributed to climate change (Gray, 2010). In 2010, the floods started in July due to torrential monsoon rains in Punjab, Sindh, Khyber Pakhtunkhwa and Baluchistan, and caused catastrophic destruction in the Indus River basin. The floods submerged around one fifth of the country and directly affected over 20 million people by destructing houses, fields, livelihoods and infrastructure. The death toll was recorded at 2,000 while another2,966 people were injured (Ministry of Climate Change, 2012; Reliefweb, 2010). Due to the massive impact of 2010 floods, it was termed as the "biggest human displacement caused by any climate induced single event in the history of human memory" (Ministry of Climate Change, 2012). Just next year in 2011, Sindh province experienced highest ever four-week monsoon rainfall, which caused catastrophic floods. The floods affected around 9.72 million people, while 456 were killed (Climate Change Division, 2013). In both events, the country suffered huge losses of lives as well as infrastructure, thus prompting debates on climate change vulnerability and what possible actions should the government take to prevent such destruction in future. Considering the high impact that these events have had in establishing the importance of climate change mitigation and adaption in Pakistan, it can be said that the floods, especially the 2010 floods, acted as a focusing event that revealed the country's vulnerability to climate change-induced natural disasters, exposed the ineptness of disaster preparedness and relief infrastructure, and highlighted the dire need for a comprehensive national climate change policy and action plan.

3.2. Policy Stream

Once the problem is identified, the search for a solution begins. According to Kingdon (1997), several potential solutions are floating in the policy stream, waiting to be attached to the current salient problems. Whenever a salient problem is identified, the relevant solutions that are most 'feasible' emerge at

the top. Three variables are of utmost importance in determining overall feasibility of a particular idea: technical feasibility, affordability, and value acceptability (Blankenau, 2001; Pralle, 2009). Nevertheless, the most important point emphasized by Kingdon and others about solutions is "the need to have one" (Pralle, 2009).Several studies have illustrated that the problems that have no feasible or readily available solution are less likely to emerge at the decision agenda, and even if they do, the public is less likely to worry about such issues (Abbasi, 2006; Downs, 1972; Kingdon, 1997).Especially in case of climate change, Pralle (2009)asserts that both the public and the policymakers must be convinced that we should and can do something about the issue. Therefore, this is one of the most important characteristics that help climate change to emerge and stay on agendas.

The federal government of Pakistan established a Task Force on Climate Change in October 2008. This shows that even before the 2010 floods, the government had started to take the issue of climate change seriously. The task force was established "with the view to take stock of country's situation in relation to climate change; to contribute to the formulation of a climate change policy that would assist the government in achieving sustained economic growth by appropriately addressing climate change threats so as to ensure water security, food security and energy security of the country; and to recommend policy measures for promoting large scale Adaptation and Mitigation efforts, raising awareness of various stakeholders; and enhancing the capacities of relevant national institutions" (The Planning Commission, 2010).The task force, comprised of academics and civil society members, presented its report to the government in February 2010. The report did not only warn that climate change is a reality that is expected to bring catastrophic damage to the country in the form of heavy rains, flash floods, diseases and rising temperatures, but also called for a comprehensive action plan to combat this threat. The task force report's findings and recommendation to take appropriate measures for climate change adaptation and mitigation show that the feasibility of a national climate change policy was already established before the 2010 floods.

However, what was not there before the 2010 floods was the financial means to fight climate change. According to Kingdon (1997), "Budgetary considerations prevent policy makers and those close to them from seriously considering some alternatives, initiatives, and proposals." In the past, Pakistan had tried to draw attention to the threat it faces due to climate change by hosting an event at the2009 Copenhagen summit. However, the turnout was not encouraging, and Pakistan's request for support remained unheard as the world was paying more attention to other countries like Bangladesh and small island states that were facing similar threats (R. S. Khan, 2010). The task

force report presented in February 2010 also acknowledged the importance of sufficient financial means, and recommended that "Financing being a key determinant for the success of climate change communication in Pakistan, ensure to make adequate budget available nationally under which a specific number of communication projects may be designed, implemented, monitored and re-initiated" (The Planning Commission, 2010). This means that before 2010 floods, Pakistan was unable to gather and allocate sufficient funds to tackle climate change issue, and considering the incumbent as well previous governments' priorities, it is arguable that without the 2010 floods, the policymakers would have gone so far as making budgetary allocations for climate change. However, after the floods, the situation was completely changed. The devastating effects of floods brought Pakistan at a position where the extent of its vulnerability to climate change, and the dire need for international assistance regarding adaptation and mitigation became evident to the world. Therefore, at a UN climate conference in Mexico, held from November 29th to December 10th, 2010, Pakistan again presented its case, and this time, gained pledges for financial support to fight climate change (F. I. Khan & Munawar, 2011). Therefore, it can be said that after the 2010 floods, the affordability of a climate change action plan was also achieved.

3.3. Political Stream

Even if the conditions in the problem and policy stream are favorable for a change, a change in political stream is necessary to initiate a policy change (Brunner, 2008). Therefore, attention to the shifting political conditions is also crucial to consider in an agenda-setting model. Kingdon (1997) identified three major political factors that affect agendas; the national mood, interest group activity, and legislative and/or administrative turnover. Politicians often pay prime importance to the national mood in order to maintain a good public image. Therefore, a supportive national mood makes it more likely that a certain issue will catch government's attention (Kingdon, 1997). For example, the government would not present any proposals for its large-scale intervention in economy if it senses that the overall national mood is 'anti-government' (Brunner, 2008). Furthermore, the interest group activities also influence the policymakers' understanding of public preferences (Kingdon, 1997). Therefore, the relative strengths of interest groups' opposition and support for a particular issue can also help shape the agendas. Similarly, electoral turnover is another factor which drastically influences the agendas. For example, new legislative and administrative officials might bring with them their own pet issues which then rise to the decision agenda (Brunner, 2008).

A Gallup poll conducted in 2007-2008 found that only 34 percent population of Pakistan was aware of climate change and only 24 percent Pakistanis

considered it a serious personal threat (Pugliese & Julie Ray, 2009). However, this perception began to change as the climate change started affecting the daily lives of the people. Over the next few years, Pakistanis witnessed the devastating impacts of climate change in the form of floods that were rated by the UN as "the greatest humanitarian crisis in recent history with more people affected than the South-East Asian tsunami and the recent earthquakes in Kashmir and Haiti combined" (Tweedie, 2010). During 2010 floods, about one-fifth of the country was submerged and millions of people were displaced from their houses (CNN, 2010). Naturally, this caused a shift in the public perception and transformed the national mood in favor of more climate-change resilient actions and policies.

Moreover, the massive 2010 and 2011 floods also brought Pakistan's climate change vulnerability in the attention of international media, stakeholders and interest groups. The UN secretary general Ban Ki-moon visited the country and urged the world to respond to the escalating humanitarian crisis (BBC News, 2010). Several countries, including the UK, USA, China, and Canada, as well as humanitarian organizations, including United Nations, International Federation of Red Cross, World Food Programme, and CARE International provided large-scale rescue and relief assistance (Nauffts, 2010). However, while the rescue and relief efforts continued, the international climate change experts warned about the possibility of recurrence of such floods in future and called for a more comprehensive action plan to manage the threat (Falcon-Lang, 2010).

It is also important to mention here that while Pakistan was experiencing the devastating floods in 2010, the incumbent President Asif Ali Zardari, who had an approval rating of just 20 percent at the time (Witte, 2010), had been visiting Europe. His absence was greatly criticized by the opposition and gave rise to a tide of outrage in public. His critics compared Zardari's behavior during the floods to President George W. Bush's behavior during Hurricane Katrina (Witte, 2010). Although his supporters tried to calm the situation, his trip came to symbolize his government's response to the catastrophic floods that, according to the victims and critics, had been slow, incompetent, and disorganized (Ward, 2010). Therefore, considering the changing national mood, public outrage, and government's deteriorating image, it would not be illogical to infer that the government, already hoping to get re-elected in 2013 general elections, had no option but to come up with a major policy shift regarding climate change.

3.4. Window of Opportunity

According to Kingdon (1997), a window of opportunity opens when the problem, policy and politics stream join together. This might happen due to some events or activities in political stream or when problem becomes pressing enough for everyone to take it seriously. He further explained that sometimes the window is governed by predictable processes, for example, the elections and/or budgetary processes. But they can also be governed by unpredictable or less predictable processes, such as the emergence of pressing problems through research studies and/or focusing events.

In case of Pakistan, even though the conditions in the problem stream were already favorable due to the findings of indicator studies and small scale impacts of climate change, the 2010 floods acted as a focusing event that prompted the policy and political stream to finally merge, thus opening a window of opportunity for the issue of climate change to achieve a place in governmental agenda. The formation of task force on climate change and its subsequent recommendations showed that the policy stream was already warming up to the idea of a climate change policy. However, budgetary constraints proved to be a big obstacle, which was removed after several countries and international organizations stepped forward to assist flood-hit Pakistan in combating climate change. Similarly, the lack of attention from the government and interest groups, as well as the results of 2007-2008 Gallup poll indicating that only 34 percent population of Pakistan was aware of climate change and only 24 percent Pakistanis considered it a serious threat, show that the political arena was indifferent to this issue before the 2010 floods. However, not only did interest group activity increase after the floods but the national mood also became favorable for climate-change resilient actions and policies. This shift in the national mood as well as the increased national and international interest group pressure also forced the government, that was being highly criticized for its incompetent and slow response toward flood victims, to take this issue seriously.

Therefore, it can be said that the 2010 floods served as a focusing event that pushed the missing elements of policy and political stream into proper place, thus merging the three streams and opening a window of opportunity for the climate change issue to make it to the governmental agenda. Subsequently, the ministry of environment prepared the draft of the first ever national climate change policy, which was formally approved in 2012.

4. Conclusion

The application of Multiple Streams lens on climate change agenda-setting in

Pakistan provides an insightful and convincing account of the policy process. The 2010 floods served as the textbook definition of a focusing event that prompted the policy and political streams to merge, thus opening the window of opportunity. Nevertheless, it should be noted that this analysis is limited by two major restrictions of MSA (Blankenau, 2001; Zahariadis, 2014): First, the MSA assumes that the policymaking results from unpredictable and random events and hence its application sometimes requires ex post facto analysis. Secondly, the framework is designed for "description over prediction" and includes many variables that are difficult to measure. Furthermore, Sabatier (1999) contends that MSA has not presented enough clear, falsifiable hypothesis, while Zahariadis (2014) questions the ability of the streams to be really independent and the extent to which we can quantitatively examine the hypothesis generated by the MSA. However, regardless of these limitations and the need to probe its applicability under different conditions and domains, the importance and effectiveness of the MS lens in providing analytical tools to investigate how and under what conditions a problem might rise to the governmental agenda, cannot be over stated. In a nutshell, it can be concluded that the application of this approach in analyzing policymaking processes seems to be desirable, as long as the researchers are aware of, and account for its limitations.

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