

National Water Policy of Pakistan: A Critical Analysis

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Abstract

To face the challenge of water security, Pakistan has established its first policy in the form of National Water Policy of Pakistan (NWPP) in 2018. Presumably, the much-anticipated policy is resulted in highly participatory and productive process with the relevant stakeholders. Yet, it encourages further evaluations and analyses to ensure feasibility of implementation and to identify gaps and due priorities in the policy. The aim of this study is to analyze the NWPP so as to identify any gap or loophole in the policy. For the analysis we use existing criteria of Chemung, Mirzaei & Leeder (2010). The important components of this criterion are: accessibility, policy background, goals, resources, monitoring and evaluation, public opportunities, and obligations. The evaluation found that the policy provides an integrated way to deal with the challenges of water security in Pakistan. However, it lacks a coherent framework and to come up with effective implementation mechanism to address the issue especially related to institutional governance structures. It proposes some targets that are having inconsistencies in the NWPP document in defining obligations of federal and provincial governments. The findings of the study reveal that the implementation of the policy remains a major challenge mainly due to weak institutional capability and institutional confusions between the federal and provincial governments. The way forward of this study identifies research needs and significant hurdles to policy implementation. This study helps the policy makers for revising the policy and establish better implementation plans.

Keywords: analysis, institutions, water crises, water policy, Pakistan

Introduction

Water crisis is one of the major issues for the rapid urbanization in the world. This challenge is becoming a threat for many countries especially the developing countries are more at risk (UN-Water, 2018). Most of the middle income and low-income countries in the world are water insecure and are facing immense challenges due to lack of the proper water policies and strategies (Gassert et al. 2013). The water quality and its management has become a complex issue (Mumtaz and Puppim de Oliveira, 2019). The countries lacking resources of water are mostly the

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poorest and most vulnerable due to climate change (Hope, 2014). Water scarcity threats are growing concerns in South Asia (Vinke et al. 2017). South Asia is the most effected region and is considered a water insure region in the world (Mirza, 2011).

This water scarcity situation is critical in Pakistan which will be disastrous and long-lasting negative impacts on Pakistani society (Qureshi et al., 2004). It is pointed out that Pakistan will face many serious challenges in near future due to the shortage of water in its rural and urban areas on a large scale (Mumtaz et al., 2019). Pakistan Council of Research in Water Resources noted that the country will run out of water till 2025. Pakistan is an agricultural country so its agriculture sector is highly dependent on water (Mumtaz et al., 2019). The country has one of the largest irrigation networks in the world. Irrigated agriculture is also required enough quantity of water.

Approximately 95 percent of surface water and almost all fresh groundwater in Pakistan are currently used in agriculture (Qureshi et al., 2004). Therefore, Pakistan needs a long-term plan for its water requirements and the federal government should take the lead in defining the long-term roadmap up to 2050 in a climate-challenged world. Multiple initiatives have been taking place in Pakistan considering the importance of water for irrigation purposes and scarcity of water security challenges. The government of Pakistan has formulated first ever water policy in the form of the NWPP in 2018. The policy provides comprehensive policy directions, gives a mechanism to stir all water resources in the country, and provides a way forward for addressing the issue of water security in Pakistan.

The NWPP provides important strategy steps to intensify the need of cooperation on deficiency of water resources and its threats at local and regional level. Pakistan is one of such developing countries who have formulated water, energy and agricultural policies containing comprehensive national priorities to cope up water crisis. However, the concerns remained over incompleteness of policy implementations (Mumtaz, 2018).

The NWPP is promising initiative for addressing the issue of water security in Pakistan. However, there is need to analyze and to evaluate this policy to identify policy gaps and weaknesses in the policy for effective implementation. Zofeen (2018) indicates that there is a need to deeply analyze the policy document of the NWPP. Some scholars (Ahmad, 2017; Dawood 2018) also emphasized to analyze the NWPP. The policy requires more detailed analysis based on valid criterion and set

patterns to reveal over-looked steps and policy gaps. As far as our literature review is concerned, we could not come across any sound analysis especially in academic circles. Therefore, this study contributes to uncover the shortcoming and strengths of the NWPP. This study is conducted to analyze the NWPP in a systematic fashion by utilizing the framework of Cheung, Mirzaei, & Leeder (2010).

Water Policies and Planning

Water is important for sustaining quality of life and ensuring sustainable development. The countries with sufficient fresh water resources have economic advantages and it may give boost to their economic development (Mumtaz et al., 2019). In 2010, the general assembly of United Nations agreed that safe and sufficient supply of water is included in human rights (UN-Water, 2018). It is noted that societies have struggled with the planning and management of water resources. It is pointed out that water management is generally expensive, capital-intensive; involve thousands to millions of users having diverse interests, and involvement and political will of many politicians and leaders.

Policy and planning decisions are complex phenomenon and it demands extensive discussions and multiple procedures (Mumtaz and Ali, 2019). It is also described that in order to reach on a specific policy goal, many analysis are done to produce alternatives and rational options (Puppim de Oliveira, 2019). Water resource systems analysis has long sought to provide more rigor, method, variety, and speed in developing water management plans and policies.

It is reported that water policy and management have faced with significant challenges arising simultaneous arising from the simultaneous need to address climatic variation, eco-system health, competing interests, institutional change, and the introduction of new regulatory approaches (Mumtaz, 2018). The traditional approach of last century was focusing on physical infrastructure in order to ensure water security for business and household consumers. However, it has become evidence that one discipline or experts from a small group are not sufficient to resolve the complex issues of planning, designing and financing all the measures required for sustainable water usage, waterway quality, and diversification of water supplies (Head, 2010). The traditional approach has challenged and supplanted in most countries by strategic frameworks that place long-term ecological sustainability at the center of policy governance (Allan et al., 2008).

Water policies generally refer to the guidelines that prescribe, constrain, or influence water management decisions (Brown et al., 2015). The origin of the evaluation of water policies can be traced back many years ago. The emerging frameworks of policy assessment require new technical methods with good evaluation practice. Public policies and their evaluations went through different phases (Gertler et al., 2016).

Initially, policy evaluation was considered a technique to help national parliaments to monitor the actions of a government. Post Second World War, the purpose of the evaluation of policies was shifted to focus on administrative, managerial, and economic issues. From 1990s onwards, political questions relating public support for policies became the focus of investigations while doing policy evaluations. Over the period various popular evaluation criteria have emerged. The identified important evaluation parameters given in related literature are: effectiveness and goal attainment, cost-effectiveness, efficiency, legitimacy, legal acceptability, fairness, and coordination with other policies (Kraft and Furlong, 2010).

Different evaluation techniques have emerged to evaluate and analyze public policies. The most used indicators for evaluating public and social policies are goal achievement, efficiency, and cost-effectiveness (Huitema et al., 2011). They further pointed out that other indicators such as fairness, coordination with other policies, and legitimacy are also used. However, these were used far less frequently as compared to previous ones. Some important frameworks have introduced to analyze and evaluate public policies. These frameworks include framework analysis, critical discourse analysis, thematic analysis, argumentative discourse analysis set by Maarten Hajer, and Cheung et al. (2010) framework.

Methodology

The type of methodology depends on central objectives or research questions. In this study, the research problem is to analyze the NWPP in an effective way through a reliable framework. For this purpose, Cheung et al. (2010) framework is employed which is a qualitative method in nature for analyzing the policy document. In the first step of this study a desk research is conducted in order to understand the core aspects and background of the NWPP. For this desk research 27 research papers including policy documents, academic and scientific papers, and newspapers articles were studied. In second phase of study, the framework of Cheung et al. (2010) is applied on the case of the NWPP.

The Cheung et al. (2010) framework is an important framework for a policy assessment. According to Cheung et al. (2010), the given

hierarchy criterion has a great importance in effective implementation of any policy in future. The document of NWPP completely meets the standards and requirements of this hierarchy set-up. Cheung et al. (2010) discovered this hierarchy framework for the health policy in their document and suggested that this framework can be used for analysis of any type of a policy document.

Moreover, the analysis criterion in this policy document is used in many other studies and researches in area of education, health, and environment. For example, Ellahi & Zaka (2015) used this criterion for evaluation of Higher Education Policy Framework for Open and Distance Education in Pakistan. Ellahi & Zaka (2015) stated that the use of this evaluation framework is recommended by two policy experts and both the experts agreed this is a best framework for evaluating any policy document. Mumtaz (2018) has also used this framework in to analyze the National Climate Change Policy of Pakistan. Therefore, the framework provides solid backing for this policy evaluation and also helps to find out the policy gaps and overlooked steps.

The proposed criterion of policy analysis is the most suitable and best evaluation technique for analysis the NWPP. A detailed criterion for the analysis is given below in Table 1.

Table 1: Criterion for Analyzing the NWPP

Accessibility	The policy document is easily accessible online or in hard copy.
Policy Background	The origin and source of the policy is clearly expressed. <ol style="list-style-type: none"> 1. Administration (journals, Articles, newspapers, scholars, books and other sources of information) 2. Qualitative and quantitative approach of research 3. Deduction (sites that have been provided by administration) The policy encircles some principles of practical choices or alternatives
Goals	The goals/objectives are explicitly stated: <ol style="list-style-type: none"> 1. The objectives or goals are solid enough to be analyzed later on. 2. The objectives are explicit and understandable in targets and operation, so that the desired goals could be achieved. The achieved results and the after effects of the goals are explicitly described

Resource	The financial resources are specifically mentioned. For example, expected financial resources and estimated amount. Human resources and organizational potential is clearly defined.
Monitoring and Evaluation	The proposed document of policy mentioned monitoring and evaluation process. The policy prescribed a group of scholars as a committee to evaluate and analyze. The far-effects and consequences are defined for each goal or objective in the policy. A sufficient time period is required so that the practical implication of selected criteria can be seen easily.
Political and Public Opportunities	The population supports the action Multiple stakeholders are involved Primary concern of stakeholders are acknowledged to obtain support
Obligations	The obligations of various implementations are specified who has to do what

Assessments of Policy Document and Discussion

The detailed analysis of NWPP document is given in Table 2 on the basis of proposed criteria given above.

Table 2: Summary of the Analysis of the NWPP

Criteria	Fulfilled or strong	Room for Improvement	Not fulfilled or weak
Accessibility	Y		
Policy Background	Y		
Goals/Objectives		Y	
Resources		Y	
Monitoring and Evaluation		Y	
Public Opportunities		Y	
Obligations		Y	

The assessment summary of the policy document identified that set criterion is fulfilled or partially fulfilled by the NWPP. Policy accessibility and Policy background fully met the conditions set in the framework but policy objectives, monitoring and evaluation, political and public opportunities, and obligations are identified weak aspects of the policy and require improvements. The document of the NWPP is easily

available in soft and hard form. The researchers, stakeholder or anyone interested in the policy documents can obtain it from internet or website of Ministry of Water Resources or any website of any related governmental department.

The in-policy background is given and explained in detailed that how the policy was framed and what were the driving factors for the creation of the NWPP. A detailed and informative background is must for the strength and value of a policy (Mumtaz, 2018). A comprehensive background helps to understand the policy documents and provide rationales for devising the specific measures. In case of the NWPP, background of the policy is well elaborated but it lacks scientific and technical backing. However, the criteria for assessing the policy background by the framework and as per respondents' views, the NWPP background is available. A policy background is important for measurable and achievable policy goals and objectives.

The aims and the policy objectives are given. There are 33 policy objectives covering multiple area of water related sector. It is noted that some of the policy objectives are not realistically approachable. For instance, the policy proposes certain targets set for energy, agriculture and development of water reservoirs that are beyond the scope of this policy. More, the NWPP fails to distinguish the long- and short-term objectives.

Based on our analysis, the formulation of the NWPP is described as credible and worthy step to effectively face water crisis in Pakistan. The policies related to water and climate change are in the scope of provinces. However, the NWPP is prepared at federal level but the provincial governments will have to ensure implementations of the policy. One of our respondents argued that the implementation of the NWPP is big challenge considering the confusion between provincial and federal governments.

The human and financial resources are key aspects for the policy implementation. The NWPP recognizes the importance of both the resources and it also mentions that Pakistan lacks these resources. It is noted that scarcity of financial resources always remained a major issue for implementation of public policies in Pakistan. The policy suggests increasing in the public sector investment for the water sector by the Federal Government from 3.7% in 20017-18 to at least 10% in 2018-19 and 20% by 2030. This is a notable aspect of the policy considering the previous examples in Pakistan. However, it appears that these are the wishful number but practically it will not be possible for the government

to allocate the budget as proposed in the policy. Time will define the implementation progress and success of devised measures in the NWPP.

Monitoring and evaluation is important to evaluate the policy implementation. The NWPP considers the importance of monitoring and evaluation. The policy proposes to establish an institution as the NWC with representation from provinces so as to regularly monitor the while situation in the country. Likewise, the policy also suggests to establish an evaluation committee of 18 members from assessing the progress made about to address water crises. However, it does not indicate when and how their institutions will be created and what would be their scope. Therefore, it is imperative to explain the actual theme and scope of such institutions and to come up with some solid justifications.

Another important aspect of a policy is to involve all the related stakeholders at the time of formulation of a policy. The NWPP focuses on the public concern and engagement of relevant shareholders while dealing water strategies and mechanisms in the country. The policy claims that all the relevant stakeholders were consulted in the process of policy formulation. However, it does not describe that what were the concerns of those stakeholders and how their concerns were met? These stakeholders include relevant ministries such as climate change, defense, agriculture sector, industries, and civil society. These are the main stakeholders as these all are highly dependent on water sector. Therefore, they should not only be consulted but they must be part of policy planning so that their concerns must be considered and addressed properly for effective utilization of the NWPP.

Conclusion

Pakistan is facing a serious challenge of water security. The water availability per person has declined from 5,260m³ in 1951 to around 1,000m³ in 2016, and is highly likely to further drop down to about 860m³ by 2025, listing Pakistan from a 'water stressed' to a 'water scarce' country. In order to face this challenge multiple governance initiatives have taken place. One of such notable measures is establishment of the NWPP. The creation of the policy is considered a promising step and it which can be used as a guiding principle to address the issue of water security in Pakistan. There are 33 objectives covering almost all aspects of water, including water resources development and management (both surface and groundwater), development of regulatory

framework, urban water management, hydropower development, flood and drought management, rainwater harvesting, capacity building and institutional arrangements. The policy is poised to enhance water related research and to bring the innovative strategies for effective implementation. The policy claims that the citizen engagement and involvement of relevant stakeholder were there for framing the policy. 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 water security. The NWPP emphasis on monitoring and evaluation mechanisms and proposes to established monitoring institutions in the form national water council and Prime Minister steering committee at the Ministry of Water Resources. However, there is no representation of civil society in the NWC and the SC. Apart from multiple strengths of the policy; it also has some shortcomings and loopholes in the policy. The NWPP proposes some objectives that are practically not possible to implement. It also fails to bifurcate the long term and short-term objectives. It is found that policy lacks the scientific backing. The NWPP is good move but it requires improvements. The implementation of the NWPP in true letter and spirit is a great challenge. The provincial governments are responsible for implementation of the NWPP. However, they are lacking financial and human resources. Therefore, it is needed to enhance the capacity of local institutions and to fix internal strife and inter-provincial conflicts over water and ensure internal dispute resolution for effective implementation of the NWPP. The following are the recommendations for an effective water policy:

- (1) There is a need to come up with clear approach of policy framing process by involving all the actors and their concerned should be addressed.
- (2) The policy should be based on scientific approach so as to propose realistic and implementable objectives
- (3) This policy document must be revised before establishing the implementation framework for the policy
- (4) There is a need to establish a separate policy research center with the aim to formulate consensus science- and evidence-based policy actions through consultative and participatory approaches.

- (5) There is a need to establish a policy research center for establishing an evaluation mechanism so that the implementation progress of the NWPP can be monitored. The center should conduct research on implementation of the NWPP in collaboration with educational institutions across Pakistan.

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