
NEW CLIMATIC POLICY FOR PAKISTAN TO PROTECT FOR NATURE DISASTERS

Zainulabidenmalik¹, Aneeqa nawaz², Saba Bukhri³**1. Visiting Lecturer Arid Agricultural University, Rawal pindi, Pakistan****2. Research Scholar Ripah International University, Islambad ,****3. Lecturer At NumL University , Economics Department, Islambad ,****Abstract**

Because of the environmental change impacts occurring everywhere throughout the world, the Government of Pakistan in 2009 chose to start a national level environmental change strategy for Pakistan. This activity was a leader project of the Ministry of Environment with accomplice UN organizations. In spite of the fact that the environmental change arrangement was effectively created, recorded and embraced by the parliament in 2009 it seemed to have a few crevices obvious in it. Further examination of this strategy demonstrated that if restorative measures were proposed these holes could be minimized and a superior system to handle this worldwide hazard could be created. This paper is the initial phase in this activity. The accompanying pages give an itemized investigation of the present National approach on environmental change in Pakistan and recommends restorative measures that will help clean this strategy in an all the more reasonably achievable report.

Key words: global warming, climate change, greenhouse effect, variations.

Methodology

This exploration has been contrived in an arranged and methodological way. This strategy can be better clarified in the accompanying steps:

Step 1

Gap analysis of climate current climate change policy of Pakistan

Step 2

Literature review of climate change policies and base papers from other countries

Step 3

Developing a framework to better align the climate change policy for Pakistan with national objectives

Step 4

Suggested way forward



Introduction

It is clear that environmental change keeps on being a developing attentiveness toward nations all around and accordingly viable remedial measures are obliged to handle this issue.

This paper means to highlight crevices in the current environmental change approach for Pakistan and plans to suggest remedial measures in it that will bring about a more sober minded strategy which can be executed all the more viably.

The division of this paper has been done methodologically into 5 segments, the first segment covers a brief presentation of the idea driving undertaking this examination, the second segment portrays the base's choice papers and clarifies the choice criteria of the base papers break down, segment 3 spotlights on writing audit and gives a point of interest of the considerable number of studies and archives that are investigated all through this paper, segment 4 spotlights on the crevices left in the national environmental change strategy for Pakistan and distinguishes zones of change, area 5 talk about the approach's configuration investigation edge work and segment 6 finishes up the paper with a proposed path forward.

The details of the section described in the above paragraph are listed below:

- 1- Introduction
- 2- Literature Review
- 3- Selection and analysis of the base papers
- 4- Policy analysis
- 5- Key findings and improved climate change policy of Pakistan
- 6- Conclusion and way forward

Literature review

Literature review is always a critical phase when a researcher is undertaking a task therefore for my paper I ensured that only relevant and authentic researches are included that are backed up references. During this review process I came across a number of articles that were related to my research these included global reports carried out by different mission of the United Nations, national climate change policy for Pakistan and the literature review that they conducted and papers by individuals like Mr. Fazal Ali Khan (student of SZABIST) paper on human vulnerability index to climate change.

The base papers that I consulted were:

- Changing Climatic Patterns and Their Impacts with Special Focus on Pakistan by Mr. Jawed Ali Khan
- Climate Change and Variability in Mountain Regions of Pakistan Implications for water & agriculture by Mr. S. Sajidin Hussain
- Impact of climate change on glaciers, water resources & livelihood of Pakistan by Ms. Mariya Absar
- The God Species, by Mr. Mark Lynas

The above literature was consulted to develop a clear understanding of how the framework of the climate change policy should be developed. A more detailed analysis of the literature review is given in the next sections.

This review included reports from the development sector including reports from United Nations entities mandated to work on Climate Change in Pakistan, World Bank commission findings and reports from the Government of Pakistan and the Ministry of Environment in particular (now devolved to the provincial level after the 18th Amendment).

The base papers consulted as previously mentioned were:

- Changing Climatic Patterns and Their Impacts with Special Focus on Pakistan by Mr. Jawed Ali Khan
- Climate Change and Variability in Mountain Regions of Pakistan Implications for water & agriculture by Mr. S. Sajidin Hussain
- Impact of climate change on glaciers, water resources & livelihood of Pakistan by Ms. Mariya Absar

Selection and analysis of the base papers

As clarified in the prelude of this paper, the idea driving the appointing of this study is to break down the current national environmental change strategy for Pakistan and behavior a nitty gritty crevice examination on the greater part of its viewpoints in light of the late worldwide looks into dispatched identified with environmental change.

The accompanying areas will contain a nitty gritty investigation of the current environmental change strategy in arrangement system, this examination will help with distinguishing holes in the leaving approach and through a very much recorded and effective component the structure will recommend remedial measures.

Date Sources

The information hotspots for a large portion of the conclusions cited are gotten from the environmental change approach created by the Ministry of Environment and autonomous assessment reports created by United Nations. This strategy on environmental change gives information on imperative social and practical variables at the national and common level, it additionally clarifies the regulatory game plans that the Government of Pakistan is wanted to start and has effectively begun execution of some of these activities.

In spite of the fact that this information is not excessively quantitative but rather it gives a guide at the strategy and usage level and clarifies the measures that the Government is taking to guarantee suitable remedial measures for this developing concern.

The point of this data is to give the peruser a superior comprehension of the results being arranged at the strategy level and give an overhauled perspective of the current issue to the perusers.

Policy Analysis

With a specific end goal to break down the current strategy for environmental change for Pakistan, it is imperative to first comprehend the procedure and philosophy that will be embraced to build up the arrangement investigation system.

Analysis Methodology

The methodology adopted is a six (6) step process, each step is explained below:

1-Verify, define and detail the problem: In this step a detailed gap analysis of the previous climate change policy will be given.

2-Establish evaluation criteria: In step 2 a evaluation criteria will be established, this means benchmarking standards for a national level policy and then evaluating the current policy according to those standards.

3- Identify alternate policies: In this step, corrective measures or a new improved policy will be suggested and the framework will be defined for it.

4- Evaluate alternate policies: Step 4 of this methodology will include evaluation of alternate policies that might be tailored to adapt the needs of the new improved climate change policy for Pakistan.

5-Display and distinguish among alternate policies: In this step a clear differentiation and comparison among alternate policies will be given.

6-Monitor the implemented policy: In the last step a detailed monitoring plan of the implemented policy will be given, this will help document and define a monitoring and evaluation process for the concerned Government department and will ensure smooth implementation of the policy.

A pictorial representation of the methodology of this process is given in the below figure 2.

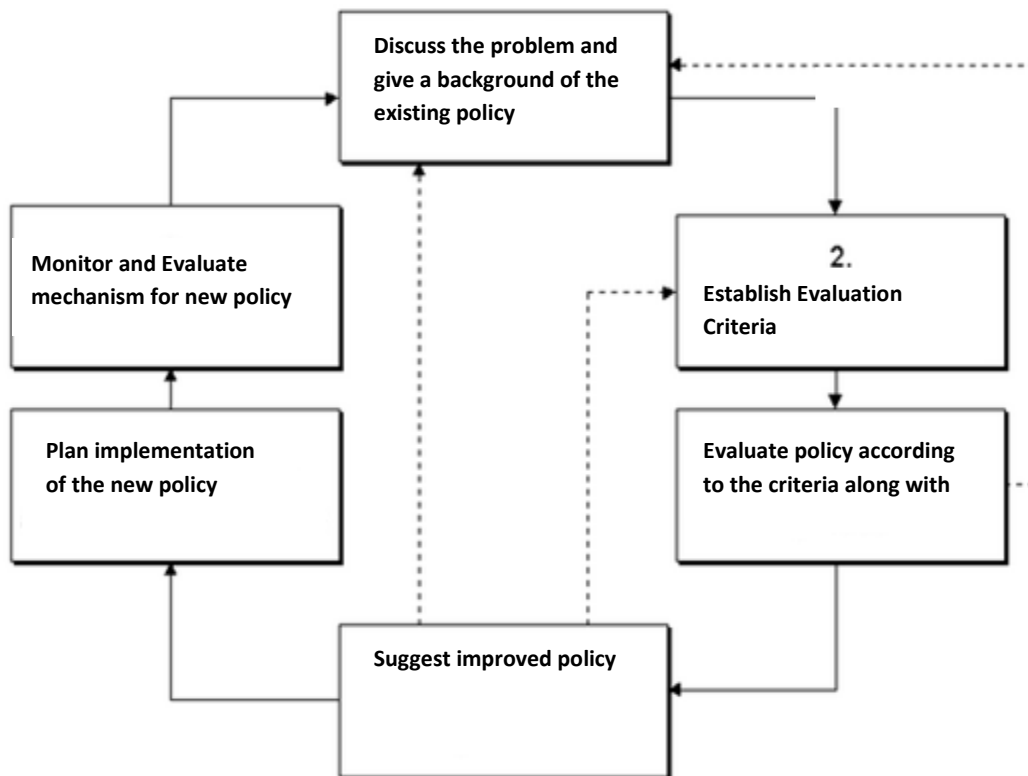


Figure 2: Methodology

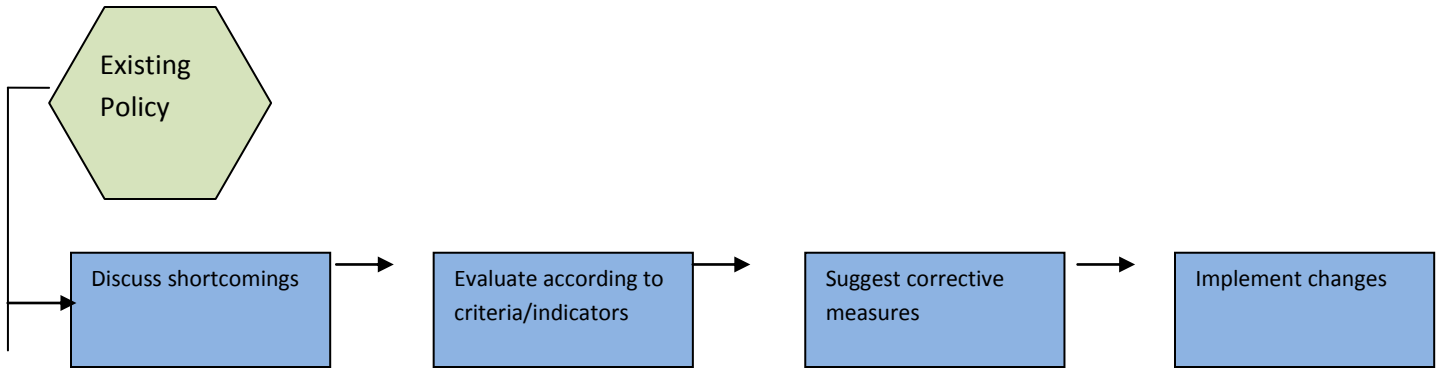


Figure 3: Block diagram

Step 1: Verify, define and detail the problem

Objective of the Climate Change Policy

The approach target is to set a system to address every future test concerning financial development, great occasions and minimize dangers like water, sustenance and vitality security. It likewise concentrate on Pakistan's obligation being a dynamic individual from the worldwide group and building solid ties in the middle of Federal and commonplace coordination system on environmental change, productive usage of accessible assets, institutional limit building of significant partner and arranging of long haul supportability of assets.

Threats and vulnerability to Pakistan

- 1. Floods and droughts:** An increase in frequency of the extreme weather combined with rains and monsoon thunderstorms causes floods and at the same time causes droughts in different parts of the world.
- 2. Glaciers and global warming:** Recessions from the Hindu Kush-Karakoram-Himalayan glaciers are shooting out carbon deposits from their boundary and are acting as pollution sources, this is a major threat or water flowing in and out from the Indus River.
- 3. Dams:** More dams are being built naturally and water is gathering due to major floods.
- 4. Temperature increase:** Due to the increase in temperature particularly in agricultural land is resulting in reduced agriculture productivity.
- 5. Forest devastation:** Plant species are migrating from forests rapidly due to the decrease in forest scarcity due to global warming.
- 6. Indus delta and water flow:** There is a considerable amount of decrease in saline water in the Indus delta and it is adversely affecting coastal agriculture and mangroves bleedings.
- 7. Costal area threat:** There is a ever growing threat to costal areas due to predicted sea level rise and a increase in cyclones and activities related to the rising of the sea surface.

8. Water sharing: There is a ever growing stress of increased tension between sharing water resources between upper and lower riparian regions.

9. Health risks: There is a increase in health risks due to climate change and global warming.

Pakistan's climate change adaptation

An important and startling fact to be explained here in this section is that Pakistan's contribution is lowest to the global green house emissions when compared to most countries but it is effected greatly and is vulnerable to climate change effects n technical, financial and natural resources. (Oxfam 2009).

In order for Pakistan to prepare and tackle these climate change problems it is important to prepare a ground plan and a policy to tackle and mitigate these climatic problems, this climate change policy provides that background preparation and mitigation plan.

Water resource conservation; need and policy measures

It is a technical fact that water resources are linked with climatic conditions therefore any change in climatic conditions or global warming will automatically produce a effect on water resources, this is the case with the water resources of Pakistan.

Geographically we can see that most of the fresh water resources in Pakistan are connected to melting of glaciers and ice, these water resources are being greatly affected due to climate change and global warming.

The climate change trends and frequency shows that with the passage of time Pakistan's glaciers and snow mountains are melting at a alarming rate and they are causing immediate floods with no expectations of reserving this fresh water as water resources for the future. (Climate Change Policy 2011).

In response to the afore mentioned threats to water resources, the government of Pakistan suggests the below policy measures in the climate change policy:

Water storage

In order to ensure sufficient water resources, the climate change policy highlights that:

- Access to water should be addressed and sufficient additional water resources should be identified for distribution.
- A complete remodeling of existing water resources is suggested so that the existing irrigation infrastructure is rehabilitated.
- Identification of new water resources are required so that new water reserves can be built.
- Development of necessary technologies and techniques is essential so that water is reserved in hilly and difficult terrains.
- Measures should be taken to preserve existing water resources.

In order to conserve water, the policy suggests the following strategies:

- It is suggested to ensure water conservations and reduce irrigation system problems.
- Rain water is suggested to be harvested by taking account of different mechanisms.

Introducing integrated management of water resources

- Ensuring ground water extraction by preventing excessive pumping.
- Ensuring recycling measures and ensure proper demarcation of water resources when making water allocations geographically.
- Identifying possibilities of joint water treaties with neighboring countries.
- Developing short term and long term risk management plans to ensure water conservation and integration of water resources.

Legislative framework measures suggested

- The policy suggests that new laws should be enacted and drafted which enforce protection of environment and water resources.
- Laws should be developed which protect existing glaciers and develop multi-country agreements to protect the protection of glaciers and water reserves that geographically lie between two countries.

Build capacity and raise awareness

- It is suggested to enhance capacity of existing water resources by introducing efficient technologies for water utilization.
- Introduction of new technologies to enhance capacity of water resource management mechanism by Geographical Information Systems (GIS)
- Strengthening coordination mechanism among national and international communities. (WB 2006)
- It is suggested to launch public awareness campaigns to highlight the importance of water management and raise awareness in terms of climate change and global warming.

Agriculture and Live stock

It is a obvious fact that agriculture is a essential commodity and its most valuable when it comes to generating growth from the farming industry and in Pakistan agriculture contributes 21% to the GDP. (Climate Change Policy 2011).

It is also evident that agriculture is most vulnerable to climatic problems and global warming.

The climate change policy for Pakistan throws light on protecting live stock and agriculture by recommending the following measures:

Policy Measures

- In terms of research and technology the policy suggests the following measures:
- More effort and investment is suggested in R&D particularly to develop digital simulation models for assessing impact and changes of climate and their effects on agricultural land.
- Further variety of crops should be explored that are particularly sustainable to climate change problems and effects.
- Databases that maintain data of entire crop cycles should be developed and maintained regularly.
- It is suggested to in general increase the farming capacity of farmers and the farming community.
- In terms of technological enhancements this policy suggests the use of improved farming by the help of technology and solar energy conservation mechanisms.
- Bio-technology is a new introduction and it can be used to generate energy and enhance life of crops.
- Remote sensing by the help of Geographical Information Systems is suggested as it is a new upcoming innovation.

In terms of general management, the policy suggests the following recommendations:

- It is suggested to establish climate change units in agriculture based research organizations. (Planning Commission 2010).
- It is also suggested to improve the quality of feed for farming products and to enable financial opportunities for farmers.
- In parallel to the above recommendations it is suggested to develop a risk management system to cater for any possible flaws in the system and to ensure economic stability of the farming industry.

In terms the base paper selected the climate change policy mentions the above recommendations for water resource management and agriculture and live stock management. Apart from this there are other details related to human health etc that are also mentioned but are not relevant to the aims of

the base paper and this research however they can be attached as annexure or additional supporting documents to this research.

The authors were accurate to define effects of climate change and global warming and gave accurate examples of the 2010 floods, these have examples have been authenticated and verified in the climate change policy.

The authors failed to explain the Koyoto protocol and highlight its significance in terms of Pakistan's active participation in it and Pakistan's minimum contribution to Carbon gases but maximum exposure of getting effected by global warming.

The base paper selected serves as a good base that defines need for National level policy legislation and implementation as it highlights the negative effects that Pakistan is going through in terms of climate change problems.

The advantage of the policy is that it accurately highlights the related salient features of some of the global climatic problems which continue to serve as a growing concern for the international community.

Short comings and/or potential areas of research

After conducting extensive research on the topic I identified various areas related to climate change which were not added in the policy or the base paper, for example:

- Effects on the solar system due to climate change and potential consequences.
- How clouds and the atmosphere act as a natural thermostat.

The above two topics are still in initial phase of research that's why I can quote them in this study.

Step 2: Establish the policy evaluation criteria

In this step the evaluation criteria for the detailed evaluation of the national climate change policy will be explained.

In order to set a evaluation criteria for the existing climate change policy for Pakistan, it is essential to put in place certain indicators against which we can measure the performance of the policies, these indicators are given below:

Define Indicators: The indicators are categorized into two categories, the general indicators and the technical indicators. The general indicators give a generic overview and explain pre-requisites that national level policies should include. The second category is of technical indicators, these indicators give more specific and technical input to the substance and material of the climate change policy for Pakistan. These indicators will help in understanding the technical aspects of the policy.

General Indicators

Indicator G1: Clearly defined policy objectives

Indicator G2: Risk assessment conducted

Indicator G3: Forecast for future expansion

Indicator G4: Provision to add new research and upcoming external factors

Indicator G5: Political factors taken into consideration

Indicator G6: Disaster preparedness mechanisms and processes defined

Technical Indicators

Indicator T1: Water conservation and management defined

Indicator T2: Agriculture and livestock service delivery clearly defined

Indicator T3: Health issues related to humans and livestock's clearly described

Indicator T4: Forest management explained in detailed processes and best practices

Indicator T5: Biodiversity management defined

Indicator T6: Eco systems defined with natural cycles

Indicator T7: Carbon factors explained with technical case studies

After setting the technical and general indicators now I will evaluate the existing climate change policy against each indicator.

The evaluation against indicators is given below:

General Indicators

Indicator G1: Clearly defined policy objectives

Indicator evaluation in existing policy: The policy objective is clearly defined in the national climate change policy as it reflects on the need behind the inception of the policy.

Indicator G2: Risk assessment conducted

Indicator evaluation in existing policy: Unfortunately the national climate change policy does not clearly equipped with a section on risk management and neither does it reflect clearly on any mitigation strategies therefore this area is lacking in the national policy.

Indicator G3: Forecast for future expansion

Indicator evaluation in existing policy: After a thorough and detailed reading of the climate change policy it indicates that there is no future forecasting tools used to predict future expansions in the policy.

Indicator G4: Provision to add new research and upcoming external factors

Indicator evaluation in existing policy: Provision for future expansion is not given in the national climate change policy for Pakistan therefore it is a difficult task to include new research in the policy unless a updated version of the policy is commissioned.

Indicator G5: Political factors taken into consideration

Indicator evaluation in existing policy: Apart from cross border diplomacy no clear political factors including national politics is defined in the policy, this makes it difficult to predict the future of the policy in terms of implementation and evaluation.

Indicator G6: Disaster preparedness mechanisms and processes defined

Indicator evaluation in existing policy: Fortunately the authors of the national climate change policy have given explanations and methods to prepare and react to disasters that may or may not occur in Pakistan, although these disasters are only related to climatic disasters.

Technical Indicators

Indicator T1: Water conservation and management defined

Indicator evaluation in existing policy: Water conservation methods are defined in the climate change policy therefore it makes it easier for policy makers and policy implementers to conduct research and evaluate water conservation methods.

Indicator T2: Agriculture and livestock service delivery clearly defined

Indicator evaluation in existing policy: Fortunately while developing the policy the policy makers and authors have catered the agricultural and livestock service delivery processes and programmes.

Indicator T3: Health issues related to humans and livestock's clearly described

Indicator evaluation in existing policy: Health issues related to humans and livestock have been touched upon in the climate change policy but there are not deliberated upon in detail. There is a need to add more comprehension to these aspects of the policy.

Indicator T4: Forest management explained in detailed processes and best practices

Indicator evaluation in existing policy: Forestry and forest management is a area which is explained in detail and it is one of the advantages of the climate change policy. Any official or researcher interested in exploring the area of forestry can value greatly from this section of the policy.

Indicator T5: Biodiversity management defined

Indicator evaluation in existing policy: An upcoming aspect particularly in Pakistan is the use of biodiversity or in other words biodiversity management. A section on biodiversity management is explained in great detail in the national climate change policy and it is considered one of its plus aspects.

Indicator T6: Eco systems defined with natural cycles

Indicator evaluation in existing policy: It is clear to all researchers that no climate change policy can be explained unless a cycle for the eco-system is defined in it. Fortunately the climate change policy for Pakistan caters for this aspect and gives a clear and detailed understanding of the eco systems and in particular the eco-systems of Pakistan along with their changing dynamics.

Indicator T7: Carbon factors explained with technical case studies

Indicator evaluation in existing policy: Carbon factors are a growing concern for all countries that are facing climatic changes and are confronting climate change with mitigation factors, fortunately the climate change policy of Pakistan talks intelligently regarding the carbon factors and all related aspects in Pakistan. Although case studies are lacking and if added can improve the understanding of this upcoming concept.

| General Indicators | |
|---|-----|
| Indicator G1: Clearly defined policy objectives | Yes |
| Indicator G2: Risk assessment conducted | No |
| Indicator G3: Forecast for future expansion | No |
| Indicator G4: Provision to add new research and upcoming external factors | No |
| Indicator G5: Political factors taken into consideration | No |
| Indicator G6: Disaster preparedness mechanisms and processes defined | No |
| Technical Indicators | |
| Indicator T1: Water conservation and management defined | Yes |
| Indicator T2: Agriculture and livestock service delivery clearly defined | Yes |
| Indicator T3: Health issues related to humans and livestock's clearly described | Yes |
| Indicator T4: Forest management explained in detailed processes and best practices | Yes |
| Indicator T5: Biodiversity management defined | Yes |
| Indicator T6: Eco systems defined with natural cycles | Yes |
| Indicator T7: Carbon factors explained with technical case studies | Yes |

This completes the evaluation against indicators for the climate change policy.

To summarise and give a snapshot of what I have achieved by the above assessment I have tabulated the table given below:

Table 1: Technical and General Indicators

The statistics from Table 1 display the areas where the climate change policy is lacking and require corrective measures and/or improvements along with areas that are professionally covered under the existing climate change policy for Pakistan.

Step 3: Suggest improved climate change policy

Step 3 of the policy evaluation and improved policy implementation process will suggest a improved climate change policy for Pakistan keeping the assessments, and shortcomings explained in the previous section in mind.

As explained in table 1, the climate change national policy for Pakistan is lacking in the following areas:

In order to cater for the above identified issues, I will now develop a complete structure of a improved

- Risk assessment
- Forecast for future expansion
- Provision to add new research and upcoming external factors
- Political factors taken into consideration
- Disaster preparedness mechanisms and processes defined

climate change policy and this structure will serve as the basis for a new and improved version of the national climate change policy for Pakistan.

Section 1: Climate Change and Pakistan

Sub Section 1.1 Policy Goal and Objective

Sub Section 1.2 Pakistan's vulnerability to Climate Change Threats

Section 2: Climate Change Adaptation Measures

Sub Section 2.1 Water Resources

Sub Section 2.2 Agriculture and Livestock

Sub Section 2.3 Human Health

Sub Section 2.4 Forestry

Sub Section 2.5 Biodiversity

Sub Section 2.6 Coastal and Marine Ecosystems

Sub Section 2.7 Wetlands

Section 3: Planning and Mitigation Measures

Sub Section 3.1 Energy

Sub Section 3.2 Energy Efficiency & Energy Conservation

Sub Section 3.3 Transport

Sub Section 3.4 Town Planning

Sub Section 3.5 Industries

Sub Section 3.6 Agriculture and Livestock

Sub Section 3.7 Carbon Sequestration and Forestry

Section 4: Education, Awareness and Capacity Building

Sub Section 4.1 Materials to be presented at Workshops

Sub Section 4.2 Content to be presented at Seminars

Sub Section 4.3 Climate Change Curriculum Introduced at Bachelors level

Sub Section 4.4 Climate Change Curriculum Introduced at Masters level

Section 5: Institutional Strengthening and International Cooperation

Sub Section 5.1 Signing of MoUs at International Level

Sub Section 5.2 Resource Mobilization for the Ministry of Climate Change and Environment

Sub Section 5.3 Policy reforms at provincial level from Home Departments

Section 6: Technology Updation

Sub Section 6.1 Areas of research identified

Sub Section 6.2 Methodology of research defined

Section 7: Forecasting Financial Needs and Estimates

Sub Section 7.1 Estimated budget required to implement the policy

Sub Section 7.2 Estimated budget forecast to implement future needs of the policy

Section 8: Policy Implementation Mechanism

Sub Section 8.1 Policy implementation process flow

Sub Section 8.2 Policy implementation resource mobilization

Sub Section 8.2 Policy implementation work plans

Sub Section 8.2 Policy implementation reporting mechanisms

Section 9: Monitoring and Evaluation

Sub Section 9.1 Setting indicators for evaluating the policy

Sub Section 9.2 Setting milestones in the work plans

Sub Section 9.3 Planning bi-annual reviews of the policy

Section 10: Disaster Management Measures

Sub Section 10.1 Prepare a detailed disaster management plan

Sub Section 10.2 Resource identification during disasters

Sub Section 10.3 Funding options during disasters

Section 11: Risk Management Strategies

Sub Section 11.1 Develop a risk management plan

Sub Section 11.2 Develop a risk register

Sub Section 11.3 Identify resources and develop risk mitigation strategies along with funds

Section 12: Documenting lessons learnt and way forward

Sub Section 12.1 Template for documenting lessons learned during implementation

Sub Section 12.2 Schedule for policy implementation review meetings

Step 4: Implementation of the new and improved climate change policy

This section of the process explains how to implement the improved and updated climate change policy for Pakistan.

The process that is required to get this policy approved is explained in the below given steps:

Step 1: Draft the legislation according to the structure given in step 3

Step 2: Draft will be approved by Minister and Secretary of the Ministry of Climate Change after detailed consultation with all stakeholders

Step 3: After the draft is approved by the Ministry of Climate Change it will be sent to the Ministry of Law so that it can be given the shape of a proper constitutional legislation

Step 4: The Ministry of Law will then send the draft legislation OR the improved Climate Change Policy to the cabinet.

Step 5: Members of the cabinet will review, debate and then approve the policy If they do not suggest any changes to it.

Step 6: The legislation will then be sent back to the Ministry of Law where it will be developed into a law and it will becoming part of the constitution

Step 5: Monitoring and Evaluation of the updated Climate Change policy

The last step in this process is the development of a Monitoring and Evaluation process that will help evaluate the policy.

I have developed and described the monitoring and evaluation process for the evaluation of this policy in the framework/process given below:

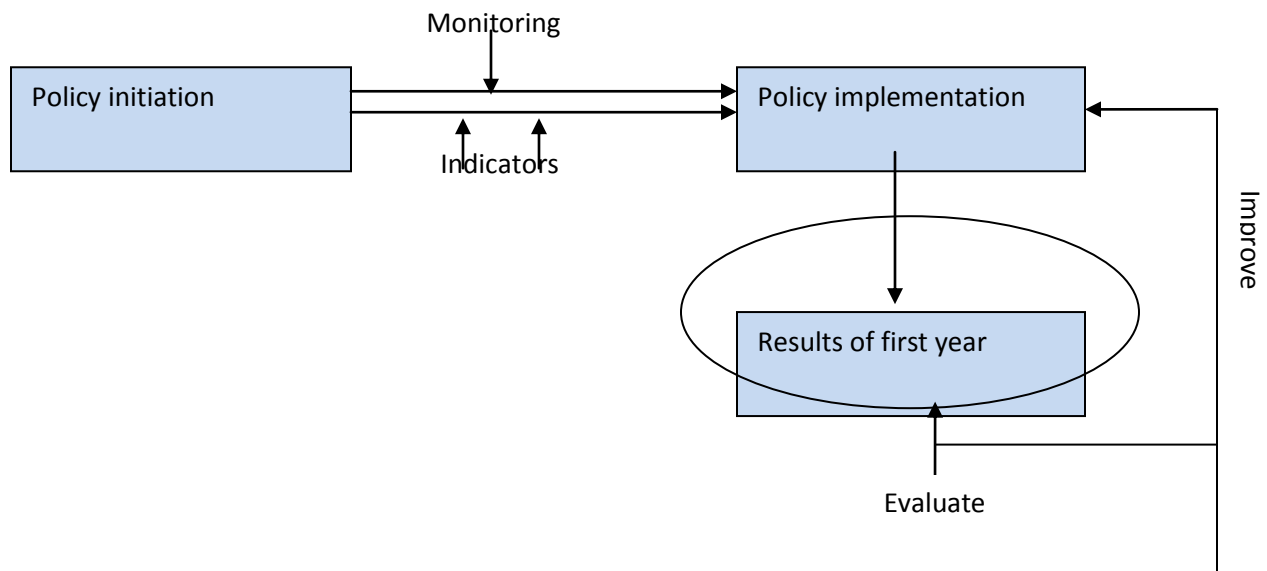


Figure 5: Monitoring and Evaluation process

The monitoring and evaluation process explained above shows a cyclic process that will be followed to monitor any the progress of policy implementation and conduct evaluations after defined periods of time.

The first block shows the policy initiation phase, in this phase minimum monitoring is done as the focus is more on research and development of the legislation.

The second block explains policy implementation mechanisms, this shows a framework laid down for the implementation of the policy. Monitoring process starts during the implementation phase. This monitoring basically means setting and putting in place indicators against which the policy implementation will be monitored.

The third block explains the evaluation time period of the policy, this is basically the periodic evaluation that will be carried out by external auditors and they will evaluate the implementation mechanism along with the progress of policy implementation.

The monitoring and evaluation process will provide the law implementers and policy makers with a framework and a clear guideline to monitor the implementation of the national climate change policy, it will also give several bench marks against which the policy can implementation can be kept tracked of.

Conclusion and Recommendations

In conclusion it is normal that the base paper joined with this ought to be utilized as a device to comprehend the impacts of environmental change in Pakistan and its powerlessness to them furthermore aides comprehend what the Government is doing and is wanting to do at the arrangement level to unravel these worries

Suggested Corrective Measures

In light of the above discussion, following actions are recommended:

1-Dedicate the Ministry of Climate Change to ensure that the climate change policy is improved and updated according to the recommendations given above.

2- The climate change policy should be reviewed bi-annually and research should be conducted to instil new best practices.

3-The ministry should consult of technocrats (national and international) who are subject matter experts that have experience in the areas of policy development and they should be brought on board to evaluate the climate change policy and suggest corrective and improved measures.

4- Successful international frameworks and models related to climate change from different countries should be introduced in Pakistan.

5-Internatinonal NGOs of the likes of the United Nations, Department of International Development and World Bank etc. should be encouraged to help the Pakistani government in providing their expertise and funding to help implement the climate change policy.

References

Armitage , Kevin C. 2005 . “ State of Denial: The United States and the Politics of Global Warming .” Globalizations 2 , 3 .

Planning Commission. (2010). Report on “Task Force on Climate Change”. Government of Pakistan.

Climate Change Policy. (2011). Policy on “Climate Change”. Government of Pakistan

Oxfam (2009). “Climate Change in Pakistan: Stakeholder Mapping and Power Analysis”, Oxfam International, Islamabad

WB (2006): “Pakistan Water Economy Running Dry”, the World Bank.

Ball , Jeffrey. 2007 . “In Climate Controversy, Industry Cedes Ground .” Wall Street Journal . January 23.

Khan, 2008. “Changing Climatic Patterns And Their Impacts with Special Focus On Pakistan.” Paper No. 285

Bibliography

An W and Hu JY. 2006. Effects of endocrine disrupting chemicals on China's rivers and coastal waters. *Front Ecol Environ* 4: 378–86

Andrews , Edmund L. , and Felicity Barringer. 2007. “ Bush Seeks Vast, Mandatory Increase in Alternative Fuels and Greater Vehicle Efficiency.” *New York Times*. January 24.

Armitage , Kevin C. 2005 . “ State of Denial: The United States and the Politics of Global Warming .” *Globalizations* 2 , 3 .

Barringer , Felicity. 2008 . “ US Given Poor Marks on the Environment .” *New York Times*. January 23.

Barrionuevo , Alexei. 2007 . “ Springtime for Ethanol .” *New York Times*. January 23.

Bauman , Zygmunt. 2006 . *Liquid Fear* . Cambridge : Polity.

Borghesi , Simone , and Alessandro Vercelli . 2008 . *Global Sustainability: Social and Environmental Conditions* . New York : Palgrave Macmillan.

Brown , David . 2007 . “ As Temperatures Rise, Health Could Decline .” *Washington Post* . December 17.

Carson , Rachel. 1962 . *Silent Spring* . Boston : Houghton Miffl in.

Climate Change Policy. (2011). Policy on “Climate Change”. Government of Pakistan

Conca , Ken. 2006 . *Governing Water: Contentious Transnational Political and Global Institution Building* . Cambridge, MA : MIT Press .

Conca , Ken. 2007 . “ Water .” In Jan Aart Scholte and Roland Robertson , eds., *Encyclopedia of Globalization* . New York : MTM Publishing.

Dauvergne , Peter. 2008 . *Shadows of Consumption: Consequences for the Global Environment* . Cambridge, MA : MIT Press .