Evaluate Tsunami project in the context of Pakistan climate change policy: A critical appraisal

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Abstract:

The Billion Tree Tsunami Project represents a significant initiative aimed at enhancing environmental sustainability and biodiversity in Pakistan through extensive tree plantation. This paper evaluates the project's comprehensive approach to ecosystem restoration across diverse landscapes, including forests, wastelands, and privately-owned lands. Central to its success is active community engagement and stakeholder collaboration to ensure effective implementation. The study conducts a PESTEL analysis to explore political, economic, social, technological, environmental, and legal factors influencing the project. Key findings highlight the project's socio-economic impacts, financial management, administrative structure, and overarching objectives. Challenges such as community resistance and funding constraints are addressed, alongside short-term recommendations for conflict resolution, awareness raising, and caretaker training. Long-term strategies emphasize sustained community involvement, secure funding mechanisms, education outreach, enhanced forest management, innovation in conservation practices, and holistic planning. By adopting these strategies, the Billion Tree Tsunami Project aims to continue its positive trajectory towards achieving environmental conservation and fostering a greener future.

Key words: Billion Tree Tsunami Project, environmental sustainability, community engagement, PESTEL analysis, forest conservation

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Introduction

The Billion Tree Tsunami Project aims to bring drastic changes in its approach toward making the environment human and animal-friendly. This project focuses on improving ecosystems in forests, waste lands, and privately-run farm lands in the area. The project task force and management work in collaboration with communities and relevant stakeholders to ensure their maximum participation. This policy paper attempts to discuss and analyze the overall project, focusing on various aspects including its importance, socio-economic outcomes, finances, administrative structure, overall objectives, and issues and challenges during implementation. The policy paper also includes a PESTEL analysis of the project and provides recommendations.

STATEMENT OF THE PROBLEM

The Billion Tree Tsunami Project (TBTTP) in Pakistan was launched in 2014 as part of the country's efforts to combat deforestation, mitigate the impacts of climate change, and promote sustainable development. It aims to plant one billion trees across the country by 2023. Initiated in 2014 with the Government of Khyber Pakhtunkhwa's "Green Growth Initiative," this project aligns with Pakistan's climate change policy, focusing on parts 4, 5, and 7 of the national climate change policy. Furthermore, it is linked with Pakistan's commitments to the Bonn Challenge and the Paris Agreement. This policy paper will analyze challenges faced by the project, such as the exact number of trees planted, their survival rate and quality, viability of reforested areas, transparency and accountability during implementation, community engagement, addressing root causes of deforestation, inadequate attention to climate change adaptation, and long-term funding for sustainability. It will also examine these issues in the broader context of Pakistan's Climate Change Policy and the improvements it brings to the overall policy framework.

RESEARCH METHODOLOGY

The methodology is based on qualitative and quantitative approaches. The paper comprises necessary statistics explained in paragraphs, followed by discussion and analysis in the body of this policy paper. The referencing and citation style follows APA guidelines, with footnotes on every page (references) and a bibliography provided at the end.

THE BILLION TREES TSUNAMI PROGRAMME - A GLANCE

The "Ten Billion Tree Tsunami" Programme (TBTT) was initiated by the Government of Khyber Pakhtunkhwa in 2014, coinciding with the formation of the Pakistan Tehreek-i-Insaf (PTI) ministry in the province. Subsequently, after coming into power nationally in 2018, the then Prime Minister and

Chairman of PTI extended the program to all provinces and regions. The program focuses on maintaining necessary steps for a smooth and effective working environment, including close liaison with relevant departments and stakeholders, cooperation, coordination, and ensuring timely availability of necessary items. According to various published reports, Pakistan has been listed as one of the most vulnerable states regarding deteriorating climatic conditions on the Global Climate Index.

At the federal level, the program is operated by the Federal Government of Pakistan and implemented by the Federal Ministry of Climate Change in coordination with provincial Forest and Wildlife departments. Inaugurated by the then Prime Minister on September 2, 2018, the program aims to reform existing forest and wildlife resources, promote eco-tourism, engage communities at a local level, create job opportunities, and enhance ecosystem improvement.

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OBJECTIVES/KEY FEATURES OF THE PROGRAM

As mentioned above, the TBTTP aims to achieve several objectives, including planting 10 billion trees across Pakistan by 2023 and revitalizing forest resources to enhance tourism. Other key features of the project include:

1. Improving forest cover across Pakistan to ensure a sustainable landscape.

2. Conserving biodiversity to support preservation of existing species in current flora and fauna.

3. Restructuring existing institutions, including the Zoological Survey of Pakistan.

4. Taking steps to safeguard endangered/protected parks that contribute to maintaining forest cover and ecosystem sustainability.

ADMINISTRATIVE STRUCTURE OF THE PROGRAM

The Secretary Environment leads the project in direct coordination with the Project Steering Committee and indirectly with the Project Management Unit (PMU). Supervision is provided over three Chief Conservator of Forests (CCF) departments: CCF Southern Forest Region-I, CCF Hazara Forest Region-II, and CCF Malakand Region-III. While all three CCFs work closely together, each has separate assigned responsibilities managed by their respective staff.

The CCF Southern Region-I is supported by the Project Director PMU, Director Integrated Specialist Unit (ISU), and Territorial Conservator Forest. Similarly, CCFs Hazara Forest Region-II and Malakand Forest Region-III are assisted by their respective staff, including CFSs, DFOs, and SDFOs. The

Project Director PMU is further assisted by staff members such as the Planning Officer Head Quarter, Monitoring and Evaluation Officer, SDFO, Accounts Officer, GIS Specialist, GIS Technician, Web Manager, Computer Operator, Office Assistant, Accounts Assistant, Forester, Forest Guards, and Photographer.

ROLES AND RESPONSIBILITIES

To ensure a smooth working environment, roles and responsibilities are assigned to various officers across relevant departments. At the federal level, the Ministry of Climate Change arranges funds through the Project Coordinator for the TBTT Project's smooth operation. At the provincial level, the Secretary of Forestry, Environment, and Wildlife Department supervises the project through project staff. The Project Steering Committee (PSC) provides policy and strategic directions to the project staff, approves annual work plans, reviews progress, and approves minor changes in the PC-1. The Project Management Unit (PMU) oversees planning, coordination, budgeting, reporting, and monitoring of the project, as well as facilitates logistic and administrative support to the Project Steering Committee. On-ground implementation of the project is managed by the Forest Department, while the Integrated Specialized Unit of the province provides management through expertise on specific issues via directorates such as Planning and Monitoring (FP&M), Community Development, Extension & Gender and Development (CDE&GAD), Non-timber Forest Products, Research & Development (R&D), Institutional & Human Resource Development & Management (I&HRD&M), and Pakistan Forest Institute (PFI).

COST OF THE PROJECT

The project's cost is Rs. 125 billion (700 million US Dollars), primarily financed through locally generated resources. An Ecosystem Restoration Fund (ERF) has been established to receive financing from various donors and supporting stakeholders. Within this fund, Rs. 109.12 billion is allocated for forestry, while Rs. 15.853 billion is reserved for biodiversity and wildlife. The federal government allocated Rs. 27.34 billion for the project cost in Khyber Pakhtunkhwa. However, budget cuts were implemented from 2019-2021 due to lower allocations by the Federal Government, attributed to economic crises caused by the COVID-19 pandemic affecting various projects, including this one.

GREEN GROWTH INITIATIVE-KHYBER PAKHTUNKHWA

The Government of Khyber Pakhtunkhwa has initiated the "Green Growth Initiative" program, and a task force has been established for this purpose. It has identified six focus areas: Forestry, Clean Energy, Climatic Resilience, Water and Sanitation, Waste Management, and Protected Areas. This initiative is the KP government's representation of its efforts to ensure a better quality of life for its citizens, provide equal job opportunities for youth, and uplift social conditions, thereby ensuring poverty eradication across various

regions. Forests play a vital role in creating green economies, contributing significantly to achieving sustainable development goals. They provide solutions to various challenges such as environmental sustainability, poverty alleviation, livelihood support, biodiversity conservation, climate change adaptation, land degradation combat, and disaster risk reduction and management.

After expert discussions, Forestry was given due importance, and on February 9th, 2014, the following targets were set:

- Increase the existing forested area by 2% through the conversion of an additional 30,000 hectares.

- Improve the density of degraded forests by 7% through measures like grazing and fire control.

- Launch the "Billion Tree Afforestation" campaign, engaging locals to transform Khyber Pakhtunkhwa into Green Khyber Pakhtunkhwa.

- Establish rules for REDD+ to assign carbon value to forests and utilize REDD+ as a conservation tool.

- Conserve Khyber Pakhtunkhwa's forests as valuable natural assets.

OUTCOMES OF THE PROJECT

The Billion Tree Tsunami Programme has yielded significant outcomes since its inception in 2014. Through coordinated efforts at provincial and national levels, the project has made substantial contributions to environmental conservation and sustainable development in Pakistan.

- **Reforestation Success:** The project has made remarkable progress in planting 10 billion trees across the country by 2023, significantly increasing forest cover and promoting a more sustainable landscape.

- **Biodiversity Conservation:** Efforts to preserve and protect species in flora and fauna have enhanced biodiversity, safeguarding numerous endangered and threatened species.

- **Institutional Reforms:** Restructuring institutions, including the Zoological Survey of Pakistan, has improved efficiency and effectiveness in conservation efforts.

- **Protected Parks Management:** Initiatives to manage endangered and protected parks have sustained forest cover and supported ecosystem health.

- **Community Involvement:** Involving communities has fostered ownership and responsibility, enhancing engagement in environmental conservation.

- **Eco-tourism Promotion:** Emphasis on eco-tourism has created sustainable tourism opportunities, generating economic benefits and raising environmental awareness.

- **Job Opportunities:** Project activities have created jobs in the forestry sector, supporting livelihoods in local communities.

- **Ecosystem Improvement:** Reforestation efforts have improved ecosystems, mitigating climate change impacts and enhancing resilience.

- **Climate Change Adaptation:** Emphasis on climate change adaptation has helped communities cope with changing climatic conditions.

- **Sustainable Development:** Addressing poverty, supporting livelihoods, and combating land degradation have contributed significantly to sustainable development.

- **Green Economy Promotion:** Focus on forests and environmental conservation has promoted green economies, fostering a sustainable future.

- **Global Recognition:** The Billion Tree Tsunami Programme has earned global recognition for Pakistan's commitment to combating climate change and conserving the environment.

Overall, the project's outcomes underscore its positive impact on Pakistan's environment, communities, and sustainable development, making it a notable example of successful large-scale reforestation and conservation initiatives internationally.

ALIGNING THE TBTTP WITH NATIONAL CLIMATE CHANGE POLICY
In the context of the climate change threats faced by Pakistan and the objectives of the National Climate Change Policy (NCCP), let's evaluate the Billion Tree Tsunami Project to see how it aligns with these priorities:

Climate Change Mitigation:
The Billion Tree Tsunami Project aims to counter deforestation and promote reforestation. By planting a billion trees, it contributes to increasing forest cover and sequestering carbon dioxide, thereby supporting the national objective of promoting cleaner, lower emission, and less carbon-intensive development (NCCP Objective 8).

Climate-Resilient Infrastructure:
Reforestation efforts under the project can contribute to building climate-resilient infrastructure by reducing the risks associated with extreme weather events such as floods and droughts (NCCP Objective 4).

Water, Food, and Energy Security:
The project's focus on tree plantation and conservation of natural resources aligns with the need to track the impact of climate change on water, food, and energy security in Pakistan. By enhancing water inflows, supporting sustainable agriculture, and contributing to carbon sequestration, the project supports the objectives of safeguarding water, food, and energy resources (NCCP Objective 5).

Climate-Resilient Agriculture:
The Billion Tree Tsunami Project's efforts to develop climate-resilient agriculture and food systems align with NCCP Objective 7, which aims to promote climate-resilient agriculture in all agroecological zones of the country.

Vulnerability to Climate Change Threats:
The project's objective of promoting tree plantation and conservation of natural resources directly addresses some of the climate change threats mentioned in the context, such as increasing forest cover and mitigating the effects of heat and water-stressed conditions in arid and semi-arid regions.

Enhanced Awareness and Institutional Capacity:
The project's efforts to enhance awareness about the importance of tree plantation and conservation contribute to NCCP Objective 13, which seeks to increase awareness, skills, and institutional capacity of relevant stakeholders in climate change mitigation and adaptation.

Inter-Provincial Coordination:
The project, as a provincial initiative, can potentially align with the national policy by fostering inter-ministerial and inter-provincial decision-making and coordination mechanisms on climate change (NCCP Objective 10).

Financial Opportunities:
The project's alignment with the national climate change policy can help facilitate the effective use of financial opportunities, both nationally and internationally, to support its implementation (NCCP Objective 11).

Overall, the Billion Tree Tsunami Project aligns well with several objectives of Pakistan's National Climate Change Policy, particularly in terms of climate change mitigation, resilience-building, promoting sustainable agriculture, enhancing awareness, and capacity-building. By addressing deforestation and promoting tree plantation, the project directly contributes to mitigating climate change impacts and enhancing the country's resilience to climate-related threats.

The Billion **Tree Tsunami Project (TBTTP)** is a remarkable endeavor aimed at restoring our forests through a critical component known as "enclosures."

These enclosures involve temporarily closing off specific areas of forests to facilitate tree regeneration. However, this approach has encountered challenges as neighboring communities feel their access to resources, such as firewood and grazing land, is restricted, viewing it as a resource grab. Over time, this has led to conflicts, including fires, vandalism, and legal disputes.

To address these issues, the project recognized the importance of involving local communities in forest management. This led to the concept of "nigahbans" or caretakers, who play a crucial role in safeguarding the enclosures. These forest guards are thoughtfully chosen from nearby communities. Their responsibility is to protect the enclosures from human activities and prevent potential fire hazards. Although this approach has shown promising results, frequent changes in nigahbans have caused tensions within communities, affecting the overall protection of the enclosures.

In response, the current project has decided to be more cautious in the selection process for nigahbans. It now considers not only their abilities but also their social standing within the community. Additionally, forest staff collaborates closely with communities to ensure a balanced and impartial selection process.

PESTEL ANALYSIS

To gain a comprehensive understanding of the external factors influencing the project, a PESTEL analysis proves beneficial:

Political Factors:
A thorough evaluation of the government's unwavering support and commitment to the project, considering political stability, policy framework, and allocated funding.

Economic Factors:
A meticulous assessment of the availability of financial resources, the economic benefits yielded by the project, and its potential impact on job creation, tourism revenue, and forestry sector development.

Social Factors:
An in-depth analysis of the level of public awareness and engagement regarding climate change initiatives in Pakistan, along with the willingness of local communities to actively participate in the Billion Tree Tsunami project and the social advantages it can bring.

Technological Factors:
A critical evaluation of relevant technologies at hand, including the use of advanced remote sensing, GIS (Geographic Information System), and monitoring technologies to bolster tree plantation and conservation efforts.

Additionally, the assessment of existing infrastructure, including transportation, irrigation, and nurseries required for successful project execution.

Environmental Factors:

A thorough analysis of the specific environmental challenges faced by Pakistan due to climate change, and how the Billion Tree Tsunami project aims to combat these challenges by mitigating deforestation, promoting reforestation, and enhancing biodiversity. An assessment of the potential environmental benefits such as carbon sequestration, watershed protection, soil erosion prevention, and wildlife habitat preservation is also vital.

Legal Factors:

A careful examination of existing environmental laws and regulations in Pakistan governing reforestation and conservation efforts, along with any legal constraints or requirements that may influence the implementation of the project.

ISSUES AND CHALLENGES

Community Resistance:

Some nearby communities may resist the enclosures as they feel restricted from accessing resources like firewood and grazing land, leading to conflicts and tensions.

Limited Financial Resources:

Insufficient funding and budget cuts can hinder the project's ability to carry out large-scale reforestation efforts effectively.

Sustainable Funding:

Securing long-term and consistent funding sources is essential for the project's continuity and success over time.

Community Engagement:

Engaging and involving local communities in decision-making processes and project planning can be challenging, requiring effective communication and collaboration.

Caretaker Selection:

Ensuring a fair and transparent selection process for nigahbans (caretakers) to avoid conflicts and maintain community trust.

Environmental Protection:

Protecting the enclosures from illegal activities like tree cutting and smuggling can be challenging and may require increased vigilance.

Legal Compliance:
Adhering to environmental laws and regulations while implementing the project can pose administrative challenges and may require coordination with relevant authorities.

Monitoring *and Evaluation:*
Establishing a robust monitoring system to assess the project's impact and address any shortcomings in real-time.

Climate Change Impact:
Adapting to the changing climate and its potential impact on reforestation efforts can present challenges in achieving the project's goals.

Technological Integration:
Incorporating advanced technologies, such as remote sensing and GIS, into the project's implementation may require training and capacity-building for project staff.

Overcoming these challenges will require a concerted effort from all stakeholders involved, fostering community participation, ensuring sustainable funding, and adopting innovative approaches to ensure the success of the Billion Tree Tsunami Project in restoring and conserving Pakistan's forests.

CONCLUSION
In conclusion, the Billion Tree Tsunami Project has been doing a fantastic job in restoring and protecting our forests. They use enclosures to help trees grow back. However, some nearby communities are not happy because they can't use the forests like before, causing conflicts and difficulties.

To address these issues, the project has hired special caretakers from the local communities, called "nigahbans," to protect the enclosures. This initiative has been beneficial, although frequent changes in caretakers have sometimes led to problems within the communities.

To further improve, the project needs to involve the communities more, listen to their needs, and ensure sufficient funding to maintain smooth operations. Fair selection of caretakers and proactive monitoring are also crucial to identifying and resolving issues early.

Looking at the broader perspective, the project must consider government support, financial stability, community impacts, technological advancements, environmental concerns, and applicable regulations.

By implementing these recommendations and addressing challenges, the Billion Tree Tsunami Project can continue making a positive impact on our forests and environment. With collective effort from all stakeholders, we can work towards creating a greener and healthier future for our planet.

RECOMMENDATIONS

SHORT-TERM RECOMMENDATIONS

- Engage with the Community: Organize regular meetings with nearby communities to listen to their concerns and gather their ideas about the project.

- Resolve Conflicts: Establish mechanisms to resolve disputes arising from the enclosures, fostering better collaboration among stakeholders.

- Raise Awareness: Educate communities on the significance of the Billion Tree Tsunami Project and its benefits for both them and the environment.

- Train Caretakers: Provide specialized training for nigahbans and forest staff to enhance their effectiveness in managing challenges.

- Secure Additional Funding: Seek increased financial support from the government or other sources to ensure sustained project operations.

- Implement Monitoring Systems: Establish robust monitoring procedures to track project progress and swiftly address any emerging issues.

LONG-TERM RECOMMENDATIONS:

- Foster Community Involvement: Integrate communities into project planning and decision-making processes to enhance their sense of ownership.

- Ensure Sustainable Funding: Develop a long-term funding strategy to maintain project continuity and effectiveness over the years.

- Promote Education and Knowledge Sharing: Educate students and community members about forest conservation and environmental stewardship.

- Strengthen Forest Management: Support capacity-building efforts for the Forest Department and allied organizations to improve forest protection measures.

- Innovate and Experiment: Collaborate with partners to explore innovative approaches for enhancing tree restoration and project efficiency.

- Plan Holistically: Adopt a comprehensive approach that balances ecological restoration with community well-being and environmental sustainability.

By adhering to these practical and inclusive recommendations, the Billion Tree Tsunami Project can overcome immediate challenges and achieve

greater success in revitalizing our forests. Together, through collaboration with communities, government agencies, and all stakeholders, we can contribute to a healthier and greener future for our planet.

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