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An Overview of Pakistan's Commitments to the Paris Agreement, 2016

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Abstract

This research examines Pakistan commitment to the Paris Agreement 2016. Given Pakistan's acute vulnerability to climate change and environmental degradation, the study investigates how national afforestation and sustainability campaigns contribute to climate mitigation and adaptation goals. Through a qualitative methodology based on secondary data analysis of government reports, academic studies, and institutional publications, the research explores the ecological, socio-economic, and policy impacts of these initiatives. The study reveals that Pakistan has a dedicated ministry for climate change having professionals and field experts dedicated to achieve the commitments made by Pakistan with the global community and mitigate the challenge of global climate change. Pakistan; through various initiatives, has significantly increased forest cover, improved biodiversity, and created thousands of green jobs, thereby enhancing carbon sequestration and local livelihoods.

Introduction

Climate change is widely recognized as a critical global challenge requiring urgent action. In 2015, nations adopted the Paris Agreement, a legally binding treaty under the UNFCCC that commits countries to limit global temperature rise to well below 2°C above pre-industrial levels and pursue efforts to control warming at 1.5°C (UNFCCC, 2015). The Intergovernmental penal on climate change (IPCC) latest assessments emphasize the severity of climate impacts increasing heatwaves, droughts and floods are already exposing millions, especially in Asia and Africa, to acute food and water insecurity (IPCC, 2022). Achieving the Paris goals will demand deep reductions in emissions and enhanced adaptation worldwide (UNFCCC, 2015). Within this global context, Pakistan emerges as one of the most climate vulnerable countries. National analyses and international reports repeatedly rank Pakistan near the top of climate risk lists. For example, the Climate Risk Index (CRI) for 2022 named Pakistan the most affected country by extreme weather, largely due to catastrophic 2022 floods (Abubakar, 2025). Government reports note that climate change increases the impacts of other risks in Pakistan, making the existing challenges worse like water scarcity, poverty and political instability (SCRP, 2024). The record 2022 monsoon floods alone affected over 33 million people, caused more than 1,700 deaths, and caused around $30 billion in damages and economic losses 5% of GDP (Abukar, 2025). Moreover, Pakistan's projected temperature rise in high-emissions situations is 5.3°C well above the global average of 3.7° (SCRP, 2024). These facts highlight Pakistan serious environmental weaknesses in the era of climate change. Pakistan also faces serious local environmental risks. The country is highly

exposed to floods riverine, flash and coastal and glacial lake outbursts, droughts, and heatwaves (Abubakar, 2025). Surface water availability has dropped sharply per-capita water supply fell from 5,260 m^3 in 1951 to about 1,000 m^3 by 2016, with forecasts projecting further decline to 860 m^3 by 2025 well below the water scarcity threshold (SCRP, 2024). Agriculture, which consumes 95% of water taken from rivers and lakes, is especially at risk from erratic rains and rising temperatures (SCRP, 2024). Meanwhile, Pakistan is a *forest-poor* country only about 5% of its land is forested (Abubakar, 2025). Rapid deforestation continues WWF Pakistan reports a loss of roughly 11,000 hectares per year due to fires, cutting down trees and land conversion (Abubakar, 2025). These combined factors extreme weather, water scarcity, deforestation etc. make Pakistan very vulnerable to climate change impacts, showing the need for strong environmental policies and ways to build resilience. Pakistan specific climate risks are manifold. In recent years, the country has suffered repeated devastating floods and heatwaves, often happening one after the other. The unprecedented 2022 floods, caused by record monsoon rains and sudden floods from glacier lakes, show how these events happen together. They flooded roughly one third of the nation (Abubakar, 2025). Prior to those floods, Pakistan also endured severe 2022 heatwaves (March– May), which intensified glacier melting and helped trigger the floods (Abubakar, 2025). More broadly, extreme events are becoming routine Sindh and Baluchistan provinces have experienced deadly heatwaves, and cyclone-prone coastal areas face storm surges and sea-level rise. The country's mountainous northern glaciers are melting rapidly, increasing flood and GLOF Glacial Lake Outburst Flood risks. At the same time, water scarcity is a coming crisis declining rainfall, shrinking glaciers, and inefficient irrigation have pushed Pakistan from a water-stressed to a water-scarce nation (SCRP, 2024). Meanwhile, more frequent droughts threaten food security. Government reports note that drought has become a long-term problem in dry areas like Sindh and Baluchistan, reducing crop yields and pastureland, which endangers rural livelihoods and could push vulnerable populations into poverty (SCRP, 2024). In addition, unsustainable land use and environmental degradation compound climate risks. Pakistan's arid climate means that forests crucial for soil conservation and water regulation are limited. With only 5% forest cover Pakistan's ecosystems are weak and easily damaged (Abubakar, 2025). Illegal tree cutting, land grabbing, and a lack of new tree planting have further reduced tree cover (Abubakar, 2025). The loss of forest barriers exacerbates floods and landslides. Urban areas face severe air and water pollution, poor sanitation, and inadequate waste management. Lahore, for example, lost about 70% of its tree cover over the past decade, greatly worsening air quality (Abubakar, 2025). Given these threats, Pakistan clearly needs ambitious environmental and climate policies. Scholars and policymakers emphasize that climate change acts as a security risk multiplier in Pakistan (SCRP, 2024). Robust mitigation measures e.g. reforestation, clean energy and adaptation strategies e.g. water management, flood defenses are therefore imperative to safeguard the economy and society. Without such policies, Pakistan's vulnerability to climate impacts will only deepen. The 2015 Paris Agreement requires all signatory countries to submit Nationally Determined Contributions (NDC) outlining their mitigation and adaptation plans, and to increase their efforts every five years (UNFCCC, 2015). Pakistan ratified the Paris Agreement in 2016, aligning itself with the global effort to combat climate change. Under the Paris framework, Pakistan has promised significant mitigation and adaptation actions despite being a low-emitter (≤1% of global GHGs (Qadri, 2025). Its updated NDC (2021) pronounces both unconditional and conditional goals. Mitigation commitments include a cumulative emissions reduction of up to 50% below business-as-usual by 2030 comprising 15% reductions from domestic resources and an additional 35% conditional on international support. To achieve this, Pakistan has set sectoral targets by 2030, 60% of energy production should come from renewable sources including hydropower, and 30% of new vehicles sold should be electric (UNFCCC, 2015). Moreover, Pakistan has declared a suspension on new

coal power plants and banned imported coal generation. Nature-based mitigation is also emphasized for instance, the Ten Billion Tree Tsunami program is projected to absorb some 148.8 $MtCO_2$ over its first 10 years, significantly increasingly the country's carbon sink. Overall, priority measures renewables, electric vehicles, afforestation, protected areas collectively aim to save tens of millions of tons of CO_2. On the adaptation side, Pakistan's commitments stress resilience and ecosystem-based approaches. The government has formulated a National Adaptation Plan (NAP) and reviewed its National Climate Change Policy to integrate climate concerns across sectors. Key adaptation initiatives include Recharge Pakistan, a planned project to reduce flood risk and enhance groundwater recharge at six sites in the Indus Basin by 2030, thereby building resilience for an estimated 10 million people. Pakistan also aims to expand protected areas from 12% to 15% of territory by 2023 creating green jobs and protecting biodiversity. In summary, Pakistan's Paris commitments encompass aggressive clean-energy and forestry goals alongside targeted measures to cope with water and weather extremes (UNFCCC, 2015).

Literature Review

Segger (2016), in this paper, opined that the Paris Agreement is an international treaty that is a fundamental tool for promoting sustainable development and climate action in the region. This agreement aims at decreasing carbon emissions, preserving human rights, and supporting intergenerational justice. More importantly, the agreement states the importance of using domestic legal arrangements and institutional capacities to ensure uniform implementation of nationally determined contributions (NDCs), by and large, in emerging economies such as Pakistan. Also, Segger states that such efforts must be made to ensure fair and effective implementation of climate policy, economic governance, and international trade systems. The Paris Agreement provides a legal and policy basis for understanding how national programs such as Pakistan's Clean and Green Policy and the Ten Billion Tree Program for sustainable development are implemented. Salik (2017), in his work, analyses that Pakistan and a new global climate regime Salik analyses the vulnerabilities Pakistan faces from global climate change and assesses how the resulting consequences of the COP21 Paris Agreement are impacting the country's policy framework. For example, Pakistan is one of the nation's most vulnerable to climate-related risks, including extreme neither event, environmental degradation, rising temperatures, and, of course, water insecurity, which poses a threat to its farming and livestock sectors. Furthermore, although Pakistan's contribution to global greenhouse gas emissions is relatively low, the country faces significant risks from climate change that could lead to serious socio- economic consequences. Salik emphasizes that Pakistan should not only priorities environmental issues but also view climate change as a developmental challenge that poses grave threats to its food security, energy security, and public health. He stresses the necessity for Pakistan to synchronize its national development strategies, including Vision 2025 and the Sustainable Development Goals (SDGs), with its international climate obligations under the Paris Agreement. Salik advocates for a deeper integration of climate resilience into economic planning, especially in sectors like energy and agriculture that are highly dependent on climate variability. Jamal (2017) articulates that the Pakistan Climate Change Act of 2017 must be understood within the structure of international climate legislation and Pakistan's commitments under the Paris Agreement. His research shows that the act marks notable progress in institutionalizing climate initiatives. The study reaches important conclusions related to its effectiveness. Firstly, it implements a federal-style governance model for climate management, which inadequately addresses the provincial structure of the organization. This inadequacy is particularly apparent in light of the 18th Amendment, which delegated environmental responsibilities to the provinces. Although it founds federal entities such as the Pakistan Climate Change Council and the Pakistan Climate Change Authority, the act fails

to define the roles of provincial governments, potentially leading to conflicts and execution discrepancies. Secondly, the legislation lacks important accountability mechanisms and enforceable provisions. In contrast to international best practices, such as the UK's Climate Change Act, Pakistan's climate legislation is lacking in binding targets, independent oversight, and actual public engagement mechanisms. The lack of these elements diminishes the law's anticipated efficiency. Jamal believes that for the law to have any real impact, it needs changes to improve teamwork between federal and provincial authorities, set clear and enforceable targets, and involve the public in a more open and participatory way. This would facilitate the arrangement of climate policy both within Pakistan and on a global scale. Mumtaz (2018), in his research work, explained Pakistan's National Climate Change Policy (NCCP) and its effectiveness in addressing climate adaptation and justification. Significant weaknesses of the NCCP include institutional capacity and coordination, resource allocation, monitoring and evaluation mechanisms, stakeholder engagement, and policy gaps. The NCCP has all the necessary structures, which the study noted were necessary, but does not have adequate protocols, accountability mechanisms, and independent external oversight. There is a need for resource mobilization, as stated in the NCCP, but the actual implementation and administration are problematic. Monitoring and evaluation mechanisms have been cited in the report, as well as extensive procedures for genuine public consultations. The paper points out that gaps exist as the policy designates duties to different organizations but is unclear how they will be enforced. Khan (2016) examined the ever-changing environmental challenges Pakistan faces and the policies adopted to mitigate these impacts. They emphasize the vulnerability of Pakistan based on an ecological, economic, and social case. While analyzing the country's susceptibility, they detailed the sheltering nature of floods and droughts, melting of glaciers, and increasing global temperatures, which is further expounded by an agriculture-based economy, weak water resources, and rapidly increasing population. In the face of these alarming risks, Pakistan has an extremely limited capacity to cater to these drastic calamities. This imbalance underscores the need for comprehensive policymaking. Pakistan's National Climate Change Policy (2012) and the Framework for Implementation (2013-2030) were critically researched and analyzed for their effectiveness. Khan and Khan concluded that while the documents portray the country's headway towards governing climate change policies, the execution strategies are sidelined because of a lack of budget, inadequate public understanding of the issues, and poor collaboration between government sectors. The authors propose focusing on adaptive infrastructure. Syed et al. (2022) demonstrated that the Clean Green Pakistan (CGP) initiative was launched by the Pakistan Tehreek-e-Insaf (PTI) government as a key policy response to combat climate change and environmental degradation. The authors claim that despite Pakistan's nominal contribution to global carbon emissions, the country faces major challenges from climate change, intensified by poor urban planning, water scarcity, and pollution. The CGP initiative is founded on five essential pillars, plantation, solid waste management, hygiene, and access to clean drinking water, all designed to promote sustainable development through community involvement and institution reform. This study employs qualitative research method and explanatory analysis to evaluate the initiative effectiveness, highlighting both its successes and obstacle. Despite receiving national and international acclaim for its ambitious objective and grassroots mobilization, the authors caution that its long term viability is jeopardized by inadequate institutional capacity, insufficient collaboration between federal and provincial authorities, and lack of monitoring system. The study advocates for a more cohesive and comprehensive strategy that involves local government, civil society, and the private sector to ensure effective execution, Ultimately, the paper concludes that while the CGP initiative represent a significant advancement in Pakistan environmental policy, its sustainability relies on political commitment, public engagement, and ongoing policy assessment. This research provid valuable

insights into to practical implementation of climate policies in developing nation such is Pakistan. Manzoor and Samad (2013) investigated Pakistan's deliberate initiative to promote green growth, emphasizing the adoption of green technology. They underscore the necessity of leveraging green capital technologies to transform economic growth into a more sustainable environmental framework. The authors identify significant challenges hindering Pakistan advancement, such as inadequate enforcement of intellectual property rights (IPR), insufficient funding for research and development (R AND D), and poorly designed environment tax systems. They argue that improving IPRs and increasing R&D investment are essential to encourage innovation for green technologies. This paper also discusses the usefulness of environmental taxes as a policy tool to achieve desired sustainability targets while taking into account the economic constraints of the country. The study concludes that Pakistan requires fundamental changes in the scope of internationally operating institutions, research and development systems, and environmental policies in order to optimally achieve the desired green growth objectives in a sustainable manner. Acerbi and Ambrosi (Dawn, 2019) explain the immense significance of environmental sustainability in place of a Green Pakistan Program that would allow Pakistan to achieve not only environmental but also developmental goals, bearing in mind the Clean Green Pakistan Campaign set up by the PTI administration as the starting point. The article contends that human factors contribute to environmental damage, which not only destroys nature but also harms people's well-being and negatively impacts the economic growth of countries. The author indicates that solving the issues of the environment would have some benefits for the poor, who are those most vulnerable to the risks of climate. Furthermore, the Clean Green Pakistan campaign is labelled as a local community volunteer campaign whose primary aim is to change people's behavior, improve public understanding, and diffuse environmentally friendly information. Meaningful methods are the provision of pollution information, the involvement of the public in decision-making, and the conducting of environmental education, with the latter being given preference for urban poor and schoolkids. Moreover, it is stressed in the writing that it is vital to empower the Environmental Protection Agencies (EPA) of Pakistan through the practices of better environmental monitoring, organizational reforms, legal reforms, and the getting of technical knowledge, and it is further suggested that the establishment of EPAs in the provinces is necessary, but to be effective in environmental governance, there should be a clear identification of the responsibilities of the federal, provincial, and local authorities. Local governments have the most significant part in running services like waste management, transportation, and water sanitation, which are essential for the livelihood of the community. In addition, an important aspect of the article refers to the need for the institutions within the air shed and watershed zones to cooperate to tackle such complex phenomena as air pollution and contamination of water effectively. The article emphasizes that green investing and the adoption of environmental financial approaches, such as imposing carbon taxes and eliminating harmful subsidies, are necessary for sustainable development.ly, the article argues that the most suitable way forward is the one that strikes a balance between the regulation and the economic incentives so that the two goals of the economy are in line with the environmental goals within the framework of the development of Pakistan. The World Bank's (2019) report, Opportunities for a Clean and Green Pakistan, is a very comprehensible guide to environmental problems of high urgency in Pakistan. It also provides the strategic recommendations that are in line with the initiative of Clean Green Pakistan. The document offers insights into Pakistan's major environmental problems, in particular those related to the air and water at most risk, low performance of the waste cycle, pollution of the earth's cover, and vulnerability to weather changes, usually resulting in a loss of at least 9% of Pakistan's GDP. It also explains the fact that environmental degradation has a very uneven effect in that it burdens the poor with excess, thus substantiating the interlinking of environmental issues with the problem

of equity in society. The paper, moreover, is the one that overtly throws the PTI's Pattie Green Clean Pakistan Movement initiative in light of its five core foundation areas, e.g., the planting of trees, the management of solid waste, the management of liquid waste, hygiene, and access to safe drinking water. It, on the other hand, requires the conjoined participatory governance of the institutions, the inter-ministerial cooperation, the urban and spatial planning that actually promote and utilize the growth of the country, and the individual partnership work. The research, in the end, makes it clear that Clean and Green Pakistan and the like provide us with such great chances to have a transformation of society that is not seen anywhere else. Albeit the feasibility of the long-term effects lies strongly behind the support provided by the proper government agencies, the stronger participation of the people, and the continuous financial input. The researchers Iftikhar and Mukhtar (2020) conducted a study called “Role of Pakistani Print Media in Promoting Clean and Green Pakistan Campaign, which mainly focuses on the contributions made by the impactful Urdu and English newspapers in Pakistani society in particular as the primary information source in the Clean and Green Pakistan campaign to the public to be informed. In their endeavor, the researchers conducted a content analysis to examine four leading newspapers Daily Jang, Nawa-i-Waqt, Dawn, and The News during the period from February 2019 to April 2019. The authors, using the theoretical framework of Anthony Downs’ Issue Attention Cycle, evaluated both news articles and ads related to the campaign. The primary objectives of the research were to examine whether the Pakistani newspapers provided adequate coverage of the Clean and Green Pakistan campaign and if the Urdu newspapers offered more coverage than their English-language counterparts. The media's coverage was insufficient, and they failed to inform the public of the issue, so they partially rejected the first hypothesis. However, the second part of the whole had the hopeful outcome that Urdu newspapers were the main promoters of the campaign versus English-language newspapers since they were capable of reaching a wider audience due to their bigger circulation. The study bears the point that local media plays an important role not only in informing the public about the issue but also in getting the message across, and also, it necessitates the inclusion of media in the projects of sustainable development in the future.

Discussion and Analysis

Paris Agreement

Climate change is a global emergency that goes beyond national borders. It is an issue that requires the international cooperation and coordinated solution at all level (UN, 2015). The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016. Its main goal is to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels. However, in recent years, world leaders have stressed the need to limit global warming to 1.5°C by the end of this century. That’s because the UN Intergovernmental Panel on Climate Change indicates that crossing the 1.5°C threshold risks unleashing far more severe climate change impacts, including more frequent and severe droughts, heatwaves and rainfall. To limit global warming to 1.5°C, greenhouse gas emissions must peak before 2025 at the latest and decline 43% by 2030.The Paris Agreement is a landmark in the multilateral climate change process because, for the first time, a binding agreement brings all nations together to combat climate change and adapt to its effects. Implementation of the Paris Agreement requires economic and social transformation, based on the best available science. The Paris Agreement works on a five years cycle of increasingly ambitious climate action or, ratcheting up carried out by countries (UNFCCC, 2015).

An Overview of Pakistan's Commitments

Emergence of (NDC) Nationally Determined Contributions

The emergence of Nationally Determined Contributions (NDC) marks a significant evolution in international climate governance. NDC were developed as a core mechanism under the Paris agreement (2015) to address the shortcomings of earlier climate regimes, particularly the Kyoto Protocol (1997), which imposed binding emission reduction targets only in the developed countries. This top-down approach was criticized for its limited participation and effectiveness, as it failed to include developing nations many of which rapidly increase their emission (Bodansky, 2016). The Paris agreement introduced a bottom-up system, allowing each country to set its own climate targets base on national circumstances, known as NDC (UNFCCC, 2015). This approach aimed to enhance global participation, equity, and ambition by recognizing the principle of common but differentiated responsibilities and respective capability (UNFCCC, 2015). NDCs represent a shift toward a more inclusive, flexible, and dynamic climate framework, where all parties both developing and developed are required to submit, and update, and strengthen their climate action planes every five years to collectively meet global temperature goals (Clemencon, 2016). Pakistan submitted its first NDCs in 2016, committing to reduced up to 20% of its projected emissions by 2030, conditional on international financial and technical support (Government of Pakistan, 2016). In 2021, Pakistan updated its NDCs, pledging to reduced 50% of emission by 2030, 15% unconditionally and 35% conditionally, aligning with its national climate initiatives such as Clean and Green Pakistan and Ten Billion Tree Tsunami Program (Government of Pakistan, 2021).

Adaptation and resilience areas in the National Determined Contribution (NDC)

Agriculture, Biodiversity and ecosystem Disaster risk management Forestry, Health, Waste Water, Ten Billion Tree Tsunami Program (TBTTP) in the Context of the Paris Agreement

Under the Paris Agreement, Pakistan, as a signatory (2016), committed to reduce its greenhouse gas emissions and adapt to climate impacts. The TBTTP is explicitly framed as a nature-based solution to help meet these goals (NDC, 2021). The Paris framework encourages reforestation and land use change actions as part of national climate strategies, and Pakistan's NDCs emphasize natural capital restoration including tree planting (NDC, 2021). In its 2021 updated NDC, the government highlighted the role of ecosystem restoration Ten Billion Tree Tsunami Program, Protected Areas Initiative, etc. in meeting mitigation and adaptation objectives (NDC, 2021). TBTTP is thus a flagship Paris aligned program it is designed to increase carbon sinks through massive afforestation, improve watershed stability and food security, and create green jobs. The United Nations Environment Program notes that TBTTP sets out to plant ten billion trees by 2023 and is a key national contribution to the UN Decade on Ecosystem Restoration (2021–30) (UNEP, 2021). By building on KP success with afforestation, TBTTP signals Pakistan's willingness to leverage forest restoration in its climate strategy. In sum, the program is a practical manifestation of Pakistan's Paris commitments to low-carbon growth it explicitly aims to help limit warming impacts while also providing co- benefits flood control, livelihoods that align with the Agreement's broad objectives

Alignment with Pakistan Nationally Determined Contribution (NDC)

Pakistan Nationally Determined Contributions (NDCs) under the Paris Agreement explicitly incorporate TBTTP as an unconditional mitigation measure. In the updated 2021 NDC, the government projects that the Ten Billion Tree Tsunami will sequester 148.76 $MtCO_2$ over the next decade, financed entirely from national funds (NDC, 2021). This contribution feeds into Pakistan ambitious overall target of reducing up to 50% of projected emissions by 2030 with 15%

unconditional NDC, (2021). In other words, TBTTP's carbon uptake is counted toward the country's unconditional effort. The NDC specifically notes that, together with KP original Billion Tree Afforestation Project, these programs could sequester about 500 $MtCO_2$ by 2040 if fully implemented (NDC, 2021). In practical terms, TBTTP helps Pakistan approach its NDC pledges by enhancing land-sector sinks. It also supports other NDC goals, for example, the NDC calls for expanding forest cover and green livelihoods, which TBTTP promotes through greening initiatives and job creation. Thus, the program is fully embedded in the NDC framework. Moreover, the NDC describes it as a flagship national program (2019–2023) intended to restore diverse forest categories on 1.2 million h (Phase I) (NDC, 2021). Its cost (US$800M) and scope are affirmed as an unconditional commitment. TBTTP directly advances Pakistan Paris Agreement contributions by increasing carbon sinks, protecting ecosystems, and generating the NbS benefits stipulated in the NDC e.g. carbon sequestration, climate resilience, jobs (NDC, 2021).

Conclusion

In conclusion, the researchers conclude that Pakistan through his commitment to the cause has done tremendous job by launching various environment friendly projects and implemented it successfully. One of these initiatives is the Ten Billion Tree Tsunami Program which stands as Pakistan's most ambitious climate mitigation effort to date. By mobilizing large scale afforestation and restoration across KP and the whole country, it directly responds to Paris Agreement obligations and Pakistan's NDC through carbon sequestration and ecosystem rehabilitation. The program has already achieved substantial greening expanding forest cover in KP by hundreds of thousands of hectares estimated 350,000+ ha in BTTAP and planting billions of saplings. Early indicators suggest significant carbon uptake on the order of 0.15 $GtCO_2$ by 2030 and 0.5 Gt by 2040 and improved watershed resilience. Equally important, it has generated hundreds of thousands of jobs and sparked a local green economy stimulus, which aligns with the Paris goal of sustainable development. Nonetheless, the program's ultimate legacy will depend on long term ecological survival of forests and genuine community benefits factors that require sustained care, funding, and honest reporting. Moving forward, TBTTP exemplifies Pakistan's commitment to nature-based climate solutions, but must now transition from a planting campaign into enduring forest management. If its tree stocks survive and mature, TBTTP could play a major role in offsetting national emissions and buffering climate impacts in one of the world's most vulnerable countries. In sum, the Ten Billion Tree Tsunami represents both a hopeful model of large-scale environmental action under the Paris framework and a work in progress, reflecting Pakistan's evolving journey in combating climate change through forest restoration.

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