GREEN ON PAPER, GREY IN PRACTICE: PAKISTAN'S ENVIRONMENTAL LAW FAILURES IN THE INTERNATIONAL LEGAL ARENA

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Abstract

Recent floods and unbearable summer heat have caused unprecedented devastation across Pakistan. This damage, along with greater public pressure regarding the environment, has called into question the legislative framework that Pakistan currently employs to tackle climate change and environmental destruction. This paper highlights the consistent failure of national legislation, drawing a comparison from the international standard in Western countries as well as international treaties. Recent constitutional and judicial developments, particularly the enactment of Article 9A through the 26th amendment to the Constitution of Pakistan, indicate that environmental legislation has made some progress in recent times. However, this paper contends that these changes remain only on paper and not in practice. It is further argued that without meaningful change, not only at a legislative level and in the implementation of said laws, there will continue to be an ever-growing and immeasurable amount of environmental destruction in the country. Without effective changes, the environmental destruction will go further than just damage to the environment we live in but also cause an unacceptable violation of fundamental human rights as well as harming Pakistan's international law commitments. Ultimately this paper concludes its findings that changes with no real implementation are a fatal plague to any future where the Pakistani people can enjoy the right to a clean and healthy environment that has been safeguarded in the Constitution of the Islamic Republic of Pakistan.

Keywords: Pakistan, Climate Change, Human Rights, PEPA, Constitution, Article 9A, International Environmental Law.

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Introduction

Every year, human civilization as a whole continues to evolve, whether through changes in societal norms, improvements in technology, or the continued development of the very cities and towns we live in. However, one of the essential factors of human life continues to worsen, with no end in sight. That factor is the environment. From the land we farm, the water we drink, and the air we breathe, it is the environment that enables a person to live and enjoy life on earth. There is no one element that is safe from this decline, with 2024 being the single hottest year since global records began, according to the United States' National Oceanic and Atmospheric Administration (NOAA).[1] This is not an isolated change; 2024 was the hottest year for both hemispheres.[2] Sea levels have similarly continued to increase year over year, with the global average rising 21-24cm. This is far from unexpected, as rising temperatures and sea levels have been on an upward trend for centuries, with real-world effects of this unyielding change being apparent. The effects are devastating across the board and showcase an extreme change; unprecedented droughts, lethal floods, more potent than ever hurricanes, cyclones and heat waves that have resulted in deaths in the thousands. The World Health Organisation terms climate change as "a fundamental threat to human life".[3]

This continued damage to the environment has not gone unnoticed in the international community, with alarm bells ringing since the 1960s, with Rachel Carson's Silent Spring serving as one of the first major exposés on ecological destruction. This brought into question what can be done to ensure such devastation never happens again. The answers to such questions did not come quickly, with the international community's first action towards legislative change taking 10 years after the first alarm bells rang. It was only in 1972 that the first-ever major conference on the environment was held, the United Nations Conference on the Human Environment (UNCHE), also known as the Stockholm Conference, which served as the basis for a future binding treaty on the environment. This first binding agreement to build upon this foundation took another 24 years, with the Kyoto Protocol adopted in 1997, setting a historical landmark towards a greener future.[4]

The International Framework and Pakistan's Initial Commitment

The Kyoto Protocol, the birth child of the earlier 1992 United Nations Framework Convention on Climate Change (UNFCCC), was a monumental treaty in many ways.[5] It established legally binding targets for industrialised and developed countries to reduce their emissions, in particular greenhouse gases. [6] Along with this, the Kyoto Protocol established the Clean Development Mechanisms[7] (CDMs), a mechanism of particular importance to Pakistan, as it allowed greater investment into greener projects. The treaty did not come into force until 2005, with Pakistan ratifying the protocol in the same year. [8] Pakistan, under this treaty, was classified as a developing country[9], with it being exempt from the targets of reducing greenhouse gases. Pakistan's primary commitment was through the CDMs, and while initially this was a positive step with 76 CDMs[10] being approved by the Pakistani government at a national level as of 2018, with more steps being taken towards open communication and reporting on the environment. One would think that the country was moving towards a greener future, but it is only after the creation of the Paris Agreement[11] that the real cracks started to show.

The UN Climate Change Conference (COP21) was held in Paris in 2015. This was the most comprehensive environmental conference yet, and it is in this conference that the Kyoto Protocol was replaced with the Paris Agreement. The Paris Agreement remains the most comprehensive international legal treaty on climate change and came into force in November 2016, and remains in force to this day.[12] Unlike the previous Kyoto Protocol, the Paris Agreement went beyond limiting greenhouse gas emissions for industrialised nations; instead, it set a collective goal for all nearly 200 participating countries to limit global warming to well below 2 degrees Celsius above pre-industrial levels.[13] At this point, it was questioned whether Pakistan could really commit under the newer international framework and its requirement to reduce greenhouse gases. This would have been possible only with a robust national framework, yet by 2016, it was critically outdated.

A Fundamentally Flawed National Framework

The history of environmental law in Pakistan started in a surprisingly positive fashion, with the first-ever national environmental law not coming because of international commitments; rather, it was a progressive initiative that started because of growing global concerns of damage to the environment. This incorporation came in the form of the Pakistan Environmental Protection Act 1997 (PEPA 1997).[14] This laid a respectable foundation towards a greener future, with the Act including Environmental Impact Assessments (EIAs) [15] and Initial Environmental Examinations (IEEs) [16] mandatory for certain projects; as well as setting up a public complaints system[17] and heavy penalty for polluters[18]. Furthermore, in 2012, the provinces of Punjab and Balochistan, and in 2014, those of Sindh and Khyber Pakhtunkhwa, enacted province-specific legislation to create laws suitable for addressing various environmental problems observed across Pakistan's diverse geographical landscape.

By 2016, with the creation of the Paris Agreement, Pakistan's previous commitment under the Kyoto Protocol was seen as backsliding, and this backsliding was made even more evident in the context of climate change specifically. Despite ever-growing concerns of climate change and the need for a proper legal framework compatible with international law being long overdue, it took until 2017 for the first climate change-focused legislation to come in the form of the Pakistan Climate Change Act 2017, the Act which ratified the replacement treaty of the Kyoto Protocol, the Paris Agreement.[19]

Domestic legislation that addresses and adds Environmental and Climate laws to its legal framework was certainly a step in the right direction; the next step, of course, is their implementation and evolution, keeping in mind the needs of changing times and the subsequent climatic challenges faced by Pakistan.

Change Brought about, Too Little and Too Late

One would think, naturally, that by the addition of PEPA 1997[20] and further provincial legislations enacted after the 18th Constitutional Amendment[21], namely; Punjab Environmental Protection Act 2012[22], Sindh Environmental Protection Act 2014[23], Khyber Pakhtunkhwa Environmental Protection Act 2014[24] and Balochistan Environmental Protection Act 2012[25], that Pakistan's negative impact on the environment would have decreased and a comprehensive framework for the future would have been created. Alas, that is the furthest thing from the truth. These enactments may have laid down a basic framework in the right direction for reducing environmental impact, but there is a long way to go and little to no implementation of these very laws, resulting in a further worsening of the environmental state.

There are multiple reasons for this. Firstly, there is a lack of specialised legislation addressing the specific geography of Pakistan. The provincial level legislation should have included this, yet legislation such as the Punjab Environmental Protection Act 2012 is "a complete reproduction of the Federal legislation in verbatim"[26] and other provincial legislation remains woefully underfunded and limited in any technical expertise for implementation.

This lethargic approach is seen in how Pakistan handles its international law commitments as well. Despite Pakistan's relatively quick ratification and commitment to the Kyoto Protocol as well as, greenhouse gas emissions have continued to rise 5% each year[27] with no end in sight. The CDMs issued before should have prevented this, as the most significant contributor of greenhouse gas emissions in Pakistan is the energy sector, and to combat this, 69 out of the 76 CDMs were issued for clean energy,[28] yet a major switch to renewable power across the board remains a far-fetched dream. The reasons behind this can be seen from the very CDMs that were issued, with only 36[29] out of the 76 CDMs ever being registered with the UN's CDM executive board, and 3 of them being rejected by the board[30]. More than half of the green energy projects were lost due to inaction, overly complicated processes and a fatal lack of care and attention. Out of the CDMs that were registered, many of them remain in limbo, either stuck in mountains of documentation or halted due to a lack of funding.

With the creation and subsequent ratification of the Paris Agreement, the little progress being made crawled to a halt. After the enactment of the Climate Change Act 2017, there should have been the immediate formation of the relevant regulatory authority, that being the Pakistan Climate Change Authority. This authority was meant to operate under a Climate Change Council that would be chaired by the Prime Minister. Despite the international obligations and growing public concern about climate change, it took 7 entire years since the enactment of the Climate Change Act for the Climate Change Authority to start the formal process of formation. The more shocking aspect is that this formation process did not start because of the government's own action; rather, it was after the Supreme Court of Pakistan, through a public interest constitution petition, that the government finally took the needed action.[31]

When viewing the actuality of the matter, there is a rather harrowing political reality faced by Pakistan that mustn't be ignored: political challenges. Politicians engaged in developmental projects are most often focused singularly on roads, routes and infrastructural projects.[32] This is nothing short of a sad, desperate and gaudy[33] attempt to show off the so-called "progress"[34] so graciously made by the government during their time in office. This leaves environmental concerns so low on the list, they barely ever make it to be a part of the agenda. Such development is done, not only with such massive priority that it barely leaves any remainder of time, funds and resources for other far more pressing concerns at hand, but it is also done through unsustainable methods, leading to further environmental deterioration.[35]

Even the changes that the government brings about to address environmental concerns are exemplary and the kind to make for a fantastic press release that would resultantly put the electorate under the impression that efforts are being made towards preserving the environment, whilst the implementation is little to none, if not entirely negligible in its essence. A major example of this can be seen in the latest clean drinking water initiative by CM Punjab.[36] The promise of clean water for all is being hindered by sewage lines filled to the brim with severely harmful contaminants that are far from fit for consumption by any life forms, let alone humans. This is relevant as the very same contaminated sewage pipelines lie right next to the water pipelines for consumption.

Due to breakage in pipelines, harmful waste from the sewage pipelines mixes into the water pipelines[37], deeming it unfit for consumption as per WHO guidelines on the standard of drinkable water.[38]

There is also a strong preference of the governments to chase 'nature-based solutions', such as the 10 billion trees tsunami programme[39] which claims to "improve the overall conservation of the existing Protected Areas; encourage eco-tourism, community engagement and job creation through the conservation" [40] yet the government chose to completely ignore the environmental concerns highlighted by researchers, both international and national alike.[41] These concerns are yet another example of the utterly flawed approach taken by numerous ruling governments. A bold framework and plan are created, some visual progress is made to show the world and the Pakistani people that their government is making a difference, and then the project is left abandoned or forgotten after yet another political or financial crisis.

The 10 billion trees programme showed all of these problems and also an extreme short-sightedness. Such programmes have superficial goals rather than improving the actual environment long-term. Experts outcried that "Imagine billions of trees and calculate the total cost, which could have been diverted for clearing the river banks, ensuring the flow of water from rivers that would have led to natural growth of trees without spending any money''.[42] If that was not bad enough as is, the programme was then met with irregularities in its audits and allegations of fraud[43], and was later left in limbo, like many other projects before it, after another political crisis that ousted the government initially responsible for this project.[44]

The Governance Paradox

The contemporary landscape of environmental governance in Pakistan is a paradox in itself, one that is as instructive as it is troubling. Pakistan, on one hand, is a signatory to most of the major multilateral environmental agreements, including the United Nations Framework Convention on Climate Change, the Paris Agreement, the Convention on Biological Diversity, and the Vienna Convention and Montreal Protocol on Substances that Deplete the Ozone Layer.

On the other hand, the domestic governance mechanisms prevalent in Pakistan reveal persistent weaknesses, capacity gaps, and systematic vulnerabilities which undermine the effective realisation of these international commitments. This disjuncture between normative aspiration and institutional performance lies at the heart of Pakistan's environmental dilemma. It can perhaps be understood through the interrelated lenses of environmental governance, regulatory capture, and implementation deficits.

Environmental governance refers to the system through which authority over environmental matters is exercised, shared, and held accountable. It encompasses the legal frameworks, policy instruments, administrative institutions, and participatory mechanisms, which collectively determine how environmental decisions are made and further implemented. The United Nations Environment Programme defines environmental governance as the processes by which societies manage the environment through interactions between state, market, and civil society actors.[45] Thus, it is evident that environmental governance is not limited to regulation but extends to transparency, participation, equity, and the rule of law. The principle of participatory environmental governance finds its textual home in Principle 10 of the Rio Declaration on Environment and Development of 1992, which recognises access to environmental information, public participation in decision-making, and access to justice as foundational guarantees for sustainable environmental management.

The architecture of environmental governance in Pakistan is primarily built upon the Pakistan Environmental Protection Act 1997, supplemented by provincial legislation following the Eighteenth Constitutional Amendment, which devolved environmental matters to the provinces. The creation of the Ministry of Climate Change and the Pakistan Climate Change Act 2017 signalled an attempt to integrate environmental priorities within national policy frameworks. Yet, the effectiveness of this architecture remains deeply compromised by structural incoherence, jurisdictional overlaps, and weak enforcement mechanisms. The transition from federal to provincial control, though constitutionally justified, fragmented authority and created a mosaic of uneven enforcement capacities across the provinces. This fragmentation reflects a classic governance failure: a well-intentioned legal framework undermined by a lack of institutional cohesion and administrative capability.

The second concept, regulatory capture, illuminates the subtle but powerful ways in which governance frameworks become distorted by vested interests. First articulated by George Stigler in his seminal 1971 paper "The Theory of Economic Regulation,". [46] The concept posits that regulatory agencies, originally designed to act in the interests of the Public at large, often become dominated by the industries they are supposed to regulate. In Pakistan, this phenomenon is vividly visible in environmental decision-making. Environmental Impact Assessments, which should be objective evaluations of ecological risk, frequently serve as perfunctory formalities rather than substantive safeguards. Large infrastructure projects, industrial zones, and energy ventures often receive rapid approvals despite evident environmental consequences. The mechanics of capture in Pakistan are rooted in a broader political economy of governance where industrial actors, developers, and political elites form an interdependent nexus. Regulatory bodies lack financial and political autonomy, rendering them susceptible to pressure and manipulation. Senior appointments within environmental agencies are frequently politicised, and monitoring mechanisms remain opaque. The result is a governance system that formally recognises environmental principles yet substantively operates in contradiction to them. Capture transforms regulation into ritual, depriving it of its normative content and transforming environmental law into an instrument of legitimisation rather than constraint.

Closely connected to regulatory capture is the phenomenon of implementation deficits, a term that describes the gap between law on the books and law in action. Pakistan's environmental legislation is conceptually sound and aligned with international principles. However, the translation of these legal commitments into actual practice has been consistently weak. Implementation deficits stem from multiple sources, including institutional underfunding, lack of technical expertise, bureaucratic inertia, and political interference. Provincial Environmental Protection Agencies often lack sufficient staff, equipment, and laboratories to monitor pollution levels or enforce compliance orders. Penalties for environmental violations remain minimal, while litigation is slow and cumbersome.

This implementation gap becomes particularly stark when viewed against Pakistan's obligations under the Paris Agreement.

The Agreement, adopted in 2015, represents the cornerstone of the global climate regime. Article 4 requires each party to prepare, communicate, and maintain nationally determined contributions that reflect its ambition. Pakistan's updated Nationally Determined Contributions, submitted in 2021, pledge a 50 per cent reduction in projected emissions by 2030, including a conditional 35 per cent reduction dependent on international support. Yet these commitments presuppose a level of governance capability, data transparency, and policy coordination that remains largely aspirational. Without robust implementation at the domestic level, Pakistan's international pledges risk becoming performative declarations rather than enforceable obligations.

The principle of *pacta sunt servanda* articulated in Article 26 of the Vienna Convention on the Law of Treaties binds every state to perform its treaty obligations in good faith. However, good faith in environmental law demands more than formal compliance; it requires demonstrable administrative diligence, transparency, and institutional capacity. When regulatory capture and implementation deficits persist, the state's conduct risks falling short of this standard. This tension between international expectation and domestic execution has been observed across much of the Global South, where states often ratify environmental treaties to signal international credibility while lacking the internal mechanisms to realise their promises.[47]

Pakistan's judiciary has sought to bridge this governance gap through what scholars describe as judicial environmentalism. The landmark case of *Asghar Leghari v. Federation of Pakistan*[48] stands as a defining moment in South Asian climate jurisprudence. The Lahore High Court held that the government's failure to implement the National Climate Change Policy and Framework of Implementation constituted a violation of fundamental rights under Articles 9 and 14 of the Constitution, which guarantee the rights to life and dignity. The Court's creation of a Climate Change Commission to monitor compliance exemplifies the judiciary's evolving role as a corrective to administrative inertia. This interventionist approach has resonated with global developments where courts, particularly in developing countries, increasingly assume a quasi-regulatory role in enforcing environmental and climate commitments.

However, while judicial intervention has been instrumental in catalysing action, it is not a sustainable substitute for systemic reform. Courts can identify lapses and compel compliance, but enduring change requires institutional transformation. Strengthening environmental governance in Pakistan, therefore, demands a shift from reactive judicial enforcement to proactive administrative accountability. This entails depoliticising regulatory appointments, enhancing the financial autonomy of environmental agencies, and institutionalising public participation in environmental decision-making. Pakistan must, in a swift manner, recalibrate its environmental policies in light of recent decisions adopted at COP27 in Sharm El Sheikh and COP28 in Dubai. The evolving global consensus on climate adaptation, finance for loss and damage, and just energy transitions presents an opportunity for Pakistan to align its domestic policies with the broader goals of climate justice and sustainable development.[49] Doing so would also advance the implementation of Sustainable Development Goals 13 and 15, which emphasise climate action and ecosystem protection, respectively.

The central lesson emerging from Pakistan's experience is that the environmental crisis is fundamentally a crisis of governance rather than of law. Legal instruments exist, but they operate within an ecosystem of political incentives, bureaucratic constraints, and economic dependencies that subvert their purpose. Addressing this requires embedding environmental rationality into the state's development model. Environmental agencies must be insulated from short-term political cycles, climate policy must be made mainstream into national planning, and civil society must be empowered to hold both public and private actors accountable.

The Cost of Inaction

The subsequent consequences of the tardy application of the legal framework set in place to control Pakistan's pollution and retain its environmental integrity are observed through the evident deteriorating state of the land, water and air. Findings of Amnesty International state that of those affected by climatic disasters, children and older people are certainly on top of the list, thus making them most vulnerable to environmental calamities such as floods, an obscene rise in temperature (as documented in the previous years) and subsequent heat waves observed in many areas across the country.[50]

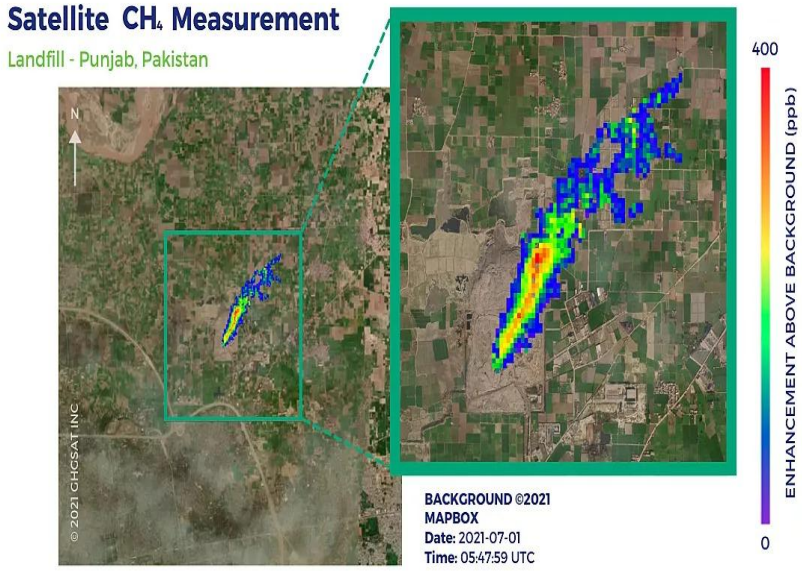
In fact, Pakistan as a whole was the single most vulnerable country to environmental calamities, with the climate risk index ranking Pakistan as the most affected country by extreme weather events in the year 2022.[51] This meant that in 2022 alone, over 1700 fatalities and 15 billion USD of losses were caused due to floods.[52] The lack of preparation for these floods, which should have been anticipated and countermeasures taken, resulted in over 33 million people being affected directly[53] and the ripple effects of such devastation being felt across the entirety of the country. According to the World Health Organization (WHO), "It is estimated that 24% of the global disease burden and 23% of all deaths can be attributed to environmental factors. About 36% of this burden affects children from 0 to 14 years of age."[54]

Land

Be it the enormous Lakhodair landfill[55] at the outskirts of Lahore or piles of trash across the slums of Karachi[56], Pakistan is ridden with elements causing land pollution across the country like a widespread plague by plastic.[57] This is attributed to the lack of implementation of the legal provisions enacted to reduce environmental impact.

The Lakhodair landfill[58] has been a massive dumping site where Lahore and its surrounding areas dispose of their trash, resulting in heaping mounds of garbage turning into mountains. Resultantly, the slow decomposition of these mounds-turned-mountains has become a significant source of methane gas emissions.[59] The methane emissions caused were of such an extent that Sentinel 5P[60], a European Space Agency[61] observation satellite for monitoring the atmosphere back in 2017, recorded a cloud of methane emissions of 126 metric tons per hour whilst capturing images of Lahore back in 2021. Upon further review of the data collected, this was found to not be an isolated incident. In fact, a minimum of 15 methane gas clouds[62] were seen between 2019 and 2020 above the city of Lahore. Moreover, the matter of methane emissions is further linked to the Air Pollution in Pakistan, which is further discussed later in this paper.

Images by Sentinel 5P of the methane emissions above Lakhodair landfill, Lahore, in 2021[63]



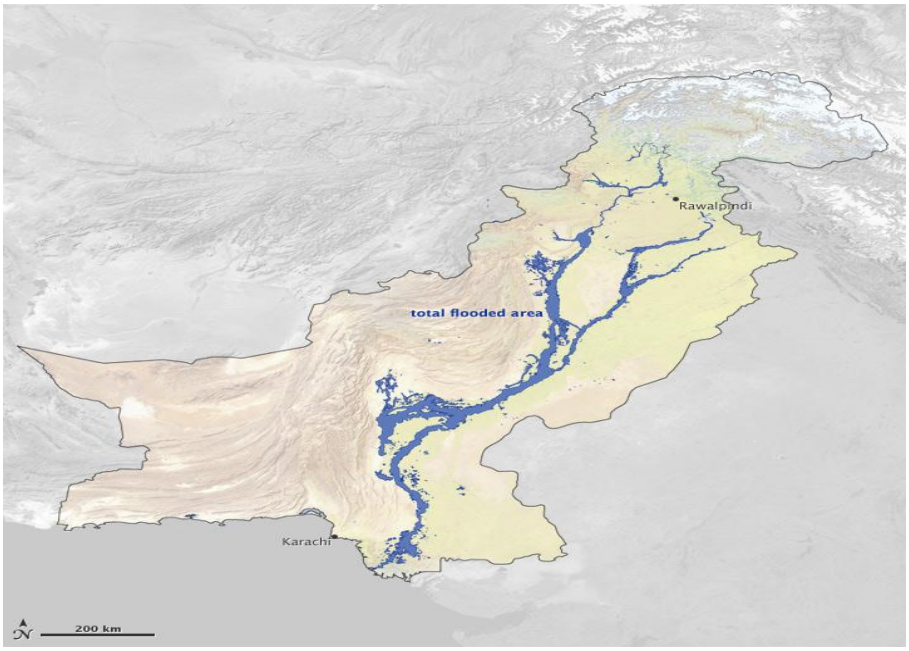
Other factors contributing to land pollution are urbanisation and unsustainable development. With the rapidly growing population of Pakistan, many areas are being developed into urban localities.[64] Resultantly, naturally preserved land, fit for the cultivation of crops, is turned into societies and housing schemes. After people settle into them, the foul, non-eco-friendly practices begin, further deteriorating the environment. Furthermore, the development is unsustainable; bouldering with heavy carbon emission machinery, the land is bursting and eroding the top fertile layer of the earth. Urbanisation, coupled with unsustainable development, is a recipe for disaster to set the world on fire as the carbon emissions from the machinery, deforestation and depletion of the top fertile layer of soil, all directly contribute to global warming.

Water

Pakistan, being a country at the very foot of the Himalayan and Hindu Kush mountain ranges, is highly prone to rise in water levels with an increase in global warming, coupled with the monsoon winds from down south, making it at an immensely high risk of floods. The 2010 monsoon floods brought about disastrous outcomes, took many lives and put even more in a perilous state.

The 2010 monsoon flood fiasco in Pakistan was such a large-scale natural disaster that it appeared on the satellite imaging by the NASA Earth Observatory.[65]

Image from NASA Earth Observatory[66]



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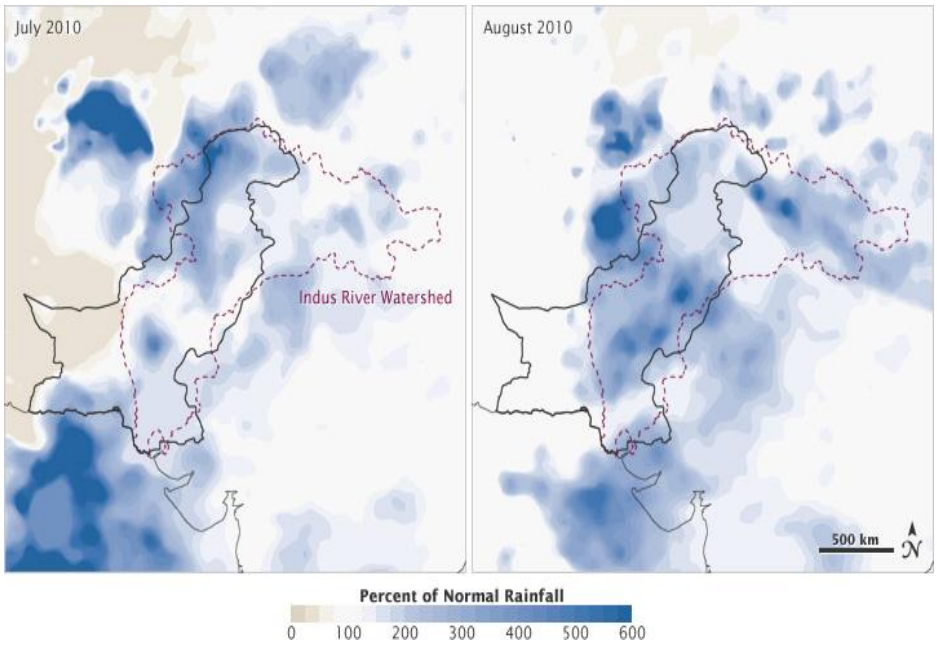

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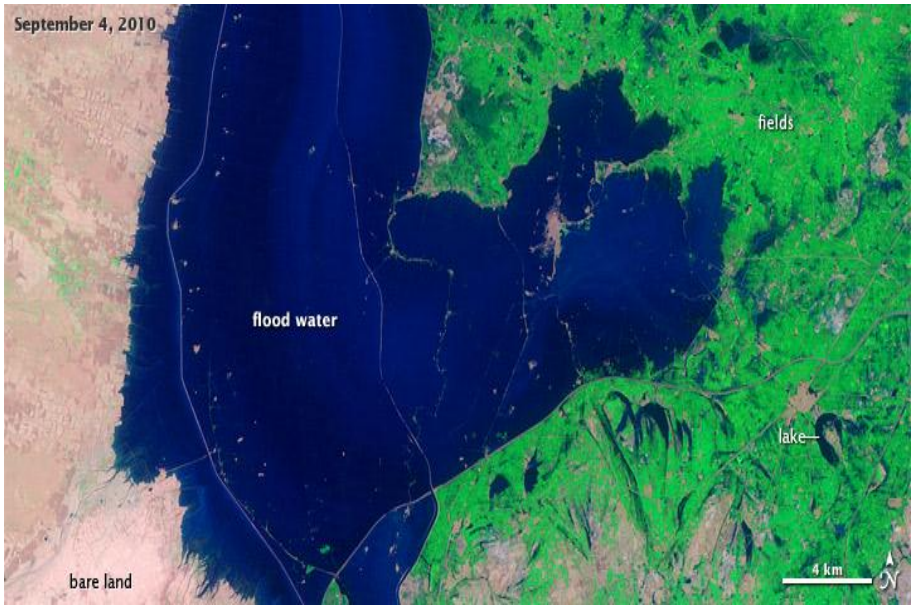

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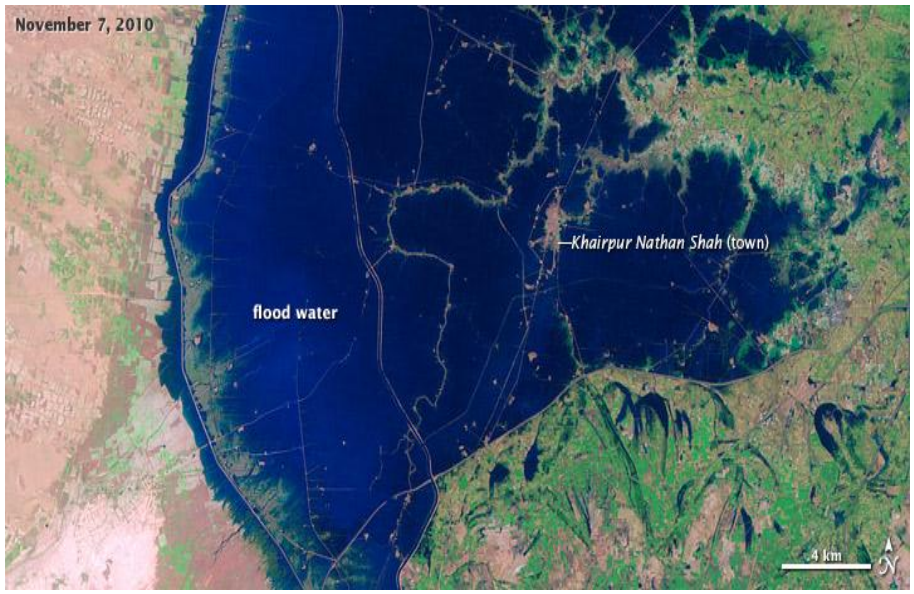

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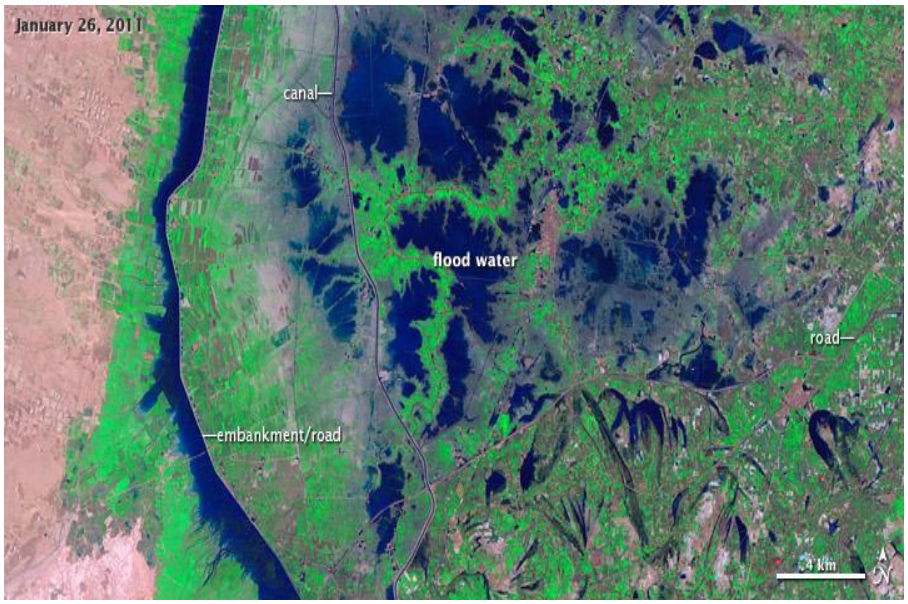
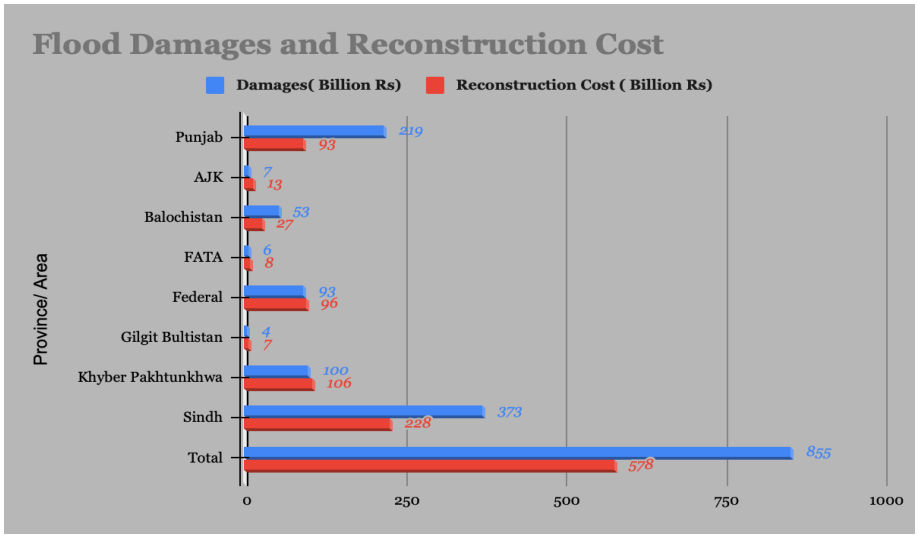


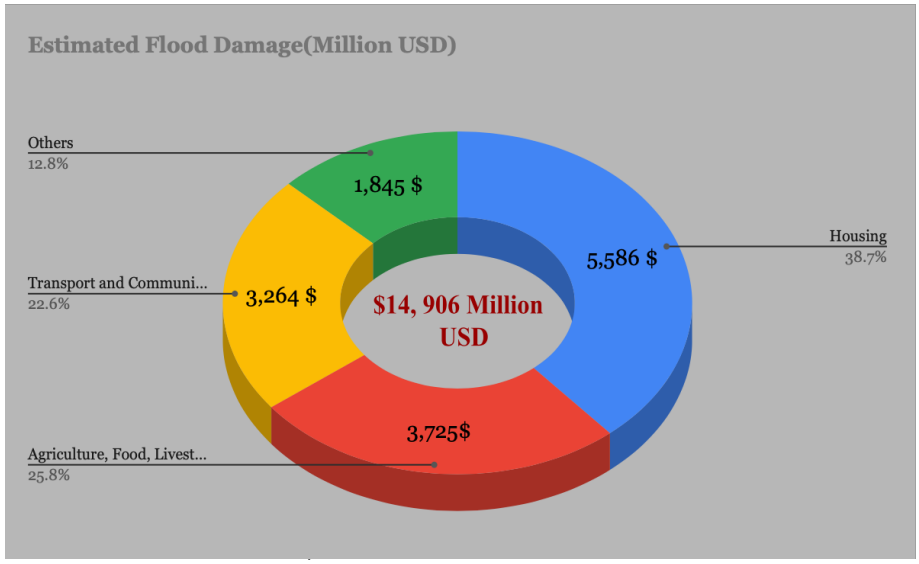
Upon further inspection, a report by the Finance Division titled "Pakistan: Flood Impact Assessment" on the 2010 monsoon disaster documented the devastation caused to a total of 855 billion PKR and the reconstruction cost: 578 billion PKR under the National Flood Reconstruction Plan.[71]

Table 1 from Pakistan: Flood Impact Assessment[72]



Another extensive report by the Finance Division shows the damage: a total of 3905 Billion PKR of damage, 3991 Billion PKR of loss and 4260 Billion PKR of needs for recovery and rehabilitation from floods[73]

Graph 1 from Pakistan Floods 2022 Assessment[74]



Graph 2 from Pakistan Floods 2022 Assessment[75]

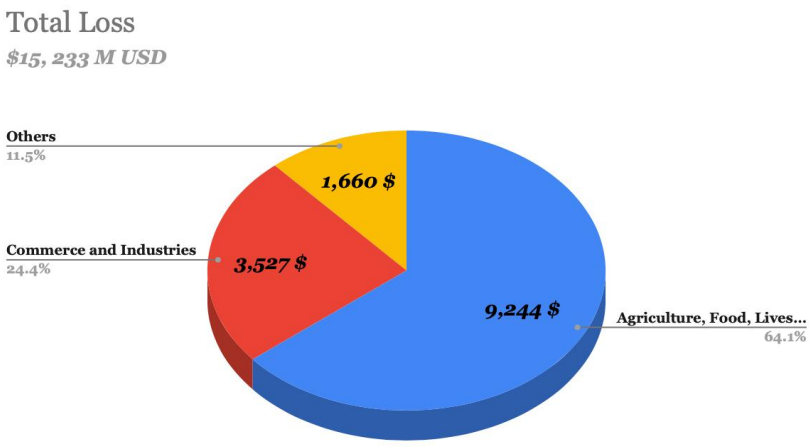
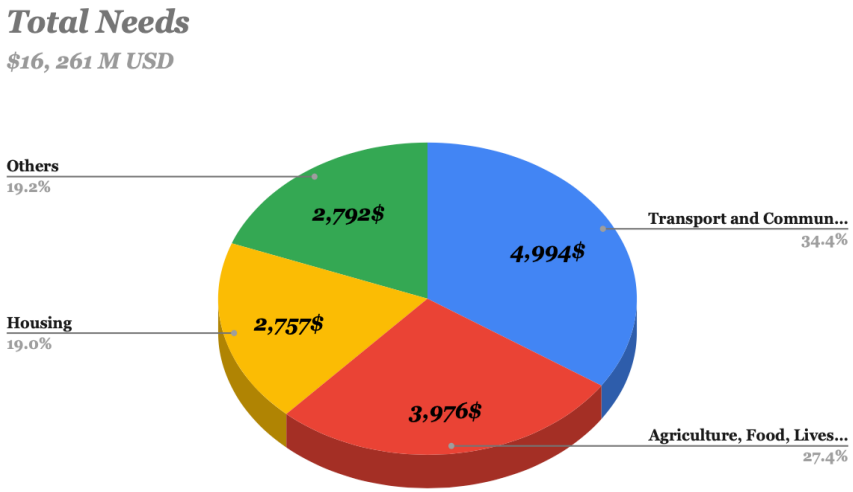


Table 1 from Pakistan Floods 2022 Assessment[76]

Region	Damages (Billion PKR)	Damages (Million USD)	Loss (Billion PKR)	Loss (Million USD)	Needs (Billion PKR)	Needs (Million USD)
Balochistan	425.75	1,625	659.192	2,516	598.932	2,286
Khyber Pakhtunkhwa	244.97	935	172.396	658	204.36	780
Punjab	134.93	515	148.292	566	195.452	746
Sindh	2,375.82	9,068	2,980.51	11,376	2,059.32	7,860
Cross-Provincial	715.522	2,731	17.554	67	1,189.48	4,540
Special Regions	8.384	32	12.838	49	12.576	48
Grand Total	3,905	14,906	3,991	15,233	4,260	16,261

Graph 3 from Pakistan Floods 2022 Assessment[77]



Pakistan, being at such a high risk of floods, has not learned its lesson after the 2010 monsoon flood disaster.[78] The country was not prepared to deal with the devastation caused by the floods in 2022, where the damages were 14.9 million USD, all attributed to the state being unprepared for a highly likely natural disaster, which was also experienced in 2025.

Air

Air pollution in Pakistan has reached dangerously high levels that are deemed toxic and far higher than the healthy and acceptable standards by the WHO.

The WHO in a report states,[79]

"...about 200 deaths per 100,000 population are attributable to environmental factors in Pakistan. The World Bank estimates that Pakistan's annual burden of disease due to outdoor air pollution accounts for 22,000 premature adult deaths and 163,432 DALYS lost, while that for indoor pollution accounts for 40 million cases of acute respiratory infections and 28,000 deaths/year. The WHO Global Health Observatory estimates that about 30 deaths per 100,000 are attributable to indoor air pollution, while about 25 deaths per 100,000 are attributable to outdoor air pollution."

The air pollution in Pakistan is a result of carbon emissions by industries, vehicles and burning of crops, and methane emissions through improperly disposed waste. Additionally, the greenhouse gases released put Pakistan at an immensely high risk of ozone depletion[80], making it vulnerable to bands of Ultraviolet rays (UVB)[81], resulting in adverse effects on plants[82], marine ecosystems[83], biogeochemical cycles[84] and materials[85] such as synthetic polymers and even polymers that occur naturally. Additionally, a raised UV index has a direct correlation with an increased risk of melanomas, a deadly form of skin cancer.[86]

Infringement of Fundamental Rights

Fundamental Human Rights are rights that cannot be done away with; they are inherent to all humans regardless of their backgrounds. These rights have evolved immensely with time, albeit separately from environmental law. However, there is a distinct overlap between human rights and the environment.[87] Without a safe and healthy environment to live in, the fundamental rights that are enshrined in our constitutions and are inherent to us as human beings cannot be fully enjoyed. This long-recognised overlap has resulted in recent years in the inclusion of rights such as that of a clean and healthy environment.

The enforcement of this right under international law was historically under the environmental treaties, rather than the human rights treaties themselves. This put the right to a clean and healthy environment at a lesser footing, with countries like Pakistan not having any constitutional protection of this right. This slowly changed, with the most major change coming with the United Nations Human Rights Council (UNHRC) adopting Resolution 48/13[88] in 2021 and officially acknowledging this right as a fundamental human right through a near-unanimous vote. This resolution by the UNHRC paved the way to a legally binding resolution by the United Nations General Assembly in 2022 with Resolution A/RES/76/300[89] and inviting states to implement it in their domestic laws.

Unfortunately, Pakistan once again fell short of its international commitments with no such implementation of this right in the domestic law until 2024 and the 26th Constitutional Amendment.[90] Yet, nearly a year since this amendment there is still no enabling legislation for this right to be enforced.

This right exists on paper only, and a myriad of political and financial issues mean that without the needed operational framework, this right simply is not protected.

Moreover, the government had nearly 30 years to implement the protection of environmental rights in the constitution, after the Supreme Court had already taken prior action in ***Shela Zia* v *WAPDA*** in 1994[91]. The Supreme Court used the 1992 Rio Declaration on the Environment and Development and read environmental rights into Article 9 of the Constitution concerning the security of persons.[92] This foundational judgment towards environmental rights enforcement led to the subsequent creation of PEPA 1997, yet the protection of environmental rights remains non-existent to this very day. This makes a future judgment from the courts difficult, if not impossible, as there is no benchmark or enforceable standard, such as that of appropriate air and water quality, and a lack of defined remedies to be awarded. Continued inaction shows yet another fundamental avenue of inaction without which a greener and safer future for the Pakistani people remains a dream.

Reforms

The inhabitants of Pakistan pay a monumental price every day as a result of the inadequacies of the laws and the shortcomings of those responsible for carrying out implementation. It is prudent and high time that reformative changes were brought to fix the matter at hand.

Legislative

Legislative reforms would primarily lay emphasis and create strict mechanisms of enforcement. This is to be achieved by, first and foremost, setting up a body to oversee and ensure the environmental laws are enforced upon all involved parties, not only at a commercial, but also at a domestic level. These laws are to be enacted, mirroring the International Environmental framework that is deployed globally. This is to be done for three crucial reasons: first, to fulfil Pakistan's international legal commitments, second, so as to draft the laws in accordance with international standards set by bodies such as the WHO, and third, to ensure there are no traces of obsolescence in Pakistan's Environmental Legal framework.

Furthermore, the legislative aspect of reformatory changes required must also account for the changing need of times; it must be updated every year or so, considering as just how rapidly climatic occurrences take place that cause a shift in the professional opinion of scientists concerning what practices are best for the environmental preservation of at risk countries when it comes to climate change, of which Pakistan is no exception at all. If anything, it is far from it. A collaboration between policy makers and experts, be it scientists, doctors or even researchers working on the matter, is indeed integral. Experts in the fields of climate control are to be brought aboard in the legislative process, to seek and take into consideration their expert opinions in the light of which legislation is to be drafted.

Executive

Seeing as how at the end of the day, law enforcement is part of the executive's job description, as is policy making, the laws set in place regarding environmental preservation and climate change must be enacted in the capacity of a parent act that sets out boundaries within which the executive is to exercise its powers and be held accountable, firstly, through the power of judicial review, if they so exceed powers provided for in the parent act, and secondly, by the body set in place to overview their smooth functioning to enforce said environmental laws.

Provisions must also be set, under the parent act, by the governing body over environmental preservation to be applied to the executive upon any display of tardiness or incompetence whilst carrying out the implementation of the new and improved, reformed legislature. This shall ensure it is carried out smoothly, efficiently and effectively.

Economic

Furthermore, the body governing the smooth functioning and implementation of these reforms must include a panel of experts in their designated fields, be it a research scientist working on monitoring climatic changes, or ones working on developing sustainable models to preserve the environment by utilising waste for energy production, recycling it for production of commercial goods or ones exploring and devising environmentally friendly production methods for agricultural practices and industries, experts from all relevant areas must be made given a seat at the table.

This is done to take account of the practical aspects of implementing such changes, alongside providing alternatives that shall ensure that the economic practices taking place are in the spirit of environmental preservation and, practically, do not contribute negatively towards climatic changes by accelerating global warming through any means. Essentially, a model of Environmental Governance[93] is required so as to account for the practical aspects and constraints faced by agricultural, industrial and commercial practices that are essential for Pakistan's economy. Such a model lays emphasis on making everyday practices such that they are in line with Environmental Preservation.

Additionally, it can be mandated for industries to take on a team of environmental consultants, ensuring the industrial practices are in line with the necessary steps that are to be taken for environmental preservation and sustainable industrial practices.

It is by way of a trifecta approach, whereby keeping in mind the legislative, executive and economic realities, that effective reform may take place. This shall guarantee realistic and achievable results by making good use of the experts taken on board to bring about proposed reforms. What is most crucial, however, is the need for a department to ensure these reforms and policy changes are enforced and implemented, and to bring about consequences by holding those accountable who dare not abide by them.

Conclusion

After careful dissemination of this paper's findings, it is concluded that Pakistan's Environmental Laws are not up to par with international standards. Be it with regard to legislative or environmental standards, Pakistan lags behind. Furthermore, they lack implementation, resulting in global warming, which adversely affects the nation. Unfortunately, this continues to prevail; the country shall become a ruin as a result of this colossal environmental damage. This paper identifies the International Legal Standard for Environmental legislation, alongside the current handicapped domestic environmental law, by especially emphasising the negligible provisions to ensure implementation, and just how far it stands from achieving the said international standard set by WHO, which is discussed at length, proposing reforms to meet said standards.

Reforms proposed are extensive and account for the legislative, executive and economic aspects, whereby opinions of experts from relevant fields are taken into account. They should not only provide insights at the legislative stage, but also at the executive stage, so that the parent act is enacted in the spirit of Environmental Governance. Furthermore, economic practices should be done through environmentally friendly means, specifically industrial practices whereby industries are mandated to take on board environmental consultants to provide sustainable methods of production. The reforms lay out the necessary groundwork for the smooth functioning and implementation of legislation. A model of Environmental Governance is to be set, accounting for practical constraints and the economic realities of Pakistan.

Though the reforms proposed are for ensuring environmental governance in Pakistan, they also serve as a model for other Global South countries facing similar enforcement challenges. The reforms bring about an approach for enforcement by certain prudent methods. From considering the opinion of experts in the relevant fields at the legislative stage, to giving them a seat at the executive's table, a realistic landscape is laid out that will yield actual results in environmental perseverance, even at times of implementation. By further making it mandatory for industrialists to take on a board of members that brings about insights into environmentally friendly industrial practices, countries in the Global South that are largely engaged in industrial practices will do so more wisely.

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