



Strengthening Environmental Laws in Pakistan: Lessons from England's Regulatory Experience

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ABSTRACT

Lack of awareness consequent upon the poor enforcement of the regulations, create hurdles to sustainable development. Through an example, the author makes a comparison of the Pakistan environmental governance system to benchmark environmental governance in England. For this purpose, an illustration of the environmental governance system in England has been presented, for comparison and contrast with the Pakistani environmental governance system. The study adopts a doctrinal and comparative analysis to analyse the legislation, enforcement, judicial and administrative systems of environmental governance in both systems. The study highlights the successful protection of the environment in England, due to its integrated system of regulation, independent environmental agencies and compliance enforcement culture, whereas in Pakistan, although there are comprehensive environmental laws, the implementation/ enforcement gaps in the governance system leads to environment's failure. The author suggests that there is scope to develop Pakistan's Environmental System of governance by adopting lessons learnt from England on the themes of independence, accountability and public participation in institutions and environmental justice in the court system which are currently being imparted in English schoolchildren. This study makes the case that comparative lessons, which do not focus on the legal system but on governance, will be practically more beneficial to strengthen the country's environmental governance and to support environmental development.

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1. Introduction

Pakistan is facing serious ecological problems which are affecting the health, economy and environment of the country. Environmental degradation results from high population growth rate, unplanned urbanisation, industrialization, and lax laws and enforcement. These issues are even worse in big cities such as Lahore and Karachi where air and water pollution have worsened with the increase in industrial emissions, vehicles and waste disposal practices. Environmental degradation

can also lead to a variety of respiratory diseases, water-borne diseases, and a decrease in the quality of life of the community which in turn harms ecosystems (Asghar et al., 2024).

Air pollution is one of the most important environmental issues of Pakistan. Vehicle, industrial and burning of biomass are the main sources. Smogs have been present at frequent intervals in towns, particularly in winter; and this has brought about bad health and reduced visibility. As per global health assessment, air pollution greatly contributes to morbidity and mortality, particularly for the vulnerable like children and elderly. Additionally, the lack of strict emission standards and the use of old industrial technologies continue to be a problem (Haider & Ahmad, 2024).

Water shortage and water pollution are also serious environmental issues. Freshwater is often polluted with industrial effluents, agricultural run-off with pesticides and fertilizers, and raw sewerage, all of which affect drinking water supplies. Human activities have become a major cause of pollution of the Indus River, which is the main source of water for agriculture, industries and domestic consumption in Pakistan. Moreover, climate change, glacier melting in north areas and sub-optimal water management systems have exacerbated the water scarcity situation, which also negatively affected food security and sustainable development (Saeed et al., 2024).

Moreover, Pakistan is badly impacted by deforestation, land degradation and climate change which are causing imbalance in the ecosystem. Forest cover is still low and illegal logging and fast urbanization still pose a threat to biodiversity. The country is facing the impacts of climate change, such as flooding, droughts and heatwaves, with increasing frequency. The United Nations Environment Programme (UNEP) and other international bodies highlight the importance of sustainable environmental governance and climate adaptation measures. A robust legislative framework is needed to achieve long-term environmental sustainability (Saeed et al., 2024).

2. Overview of Environmental Laws in Pakistan

Over the past few decades, the environmental law has undergone changes while responding to the ever changing environment and the growing concerns of the world around the environment. The main legislation is the Pakistan Environmental Protection Act, 1997 (PEPA) which offers an overall framework for environmental protection, conservation, rehabilitation and improvement. Under this Act a Pakistan Environmental Protection Agency (Pak-EPA) was formed to monitor pollution levels and regulate environmental standards and ensure compliance by industries, municipality and other stakeholders (Zardari, 2026). The Act also grants the relevant authorities, with the power to form National Environmental Quality Standards (NEQS), Environmental Impact Assessments (EIA), for development projects and penalties for its violations. Structured environmental governance and regulatory enforcement in Pakistan were laid down with these provisions (Mushtaq et al., 2023).

2.1. Current Environmental Laws and Regulations in Pakistan

The legal mechanism concerning Pakistan's environment is primarily Pakistan Environmental Protection Act 1997 (PEPA) that provides a comprehensive approach towards protection of the environment. To make the industrial and municipal entities to comply with the environmental law, the Act established the Pakistan Environmental Protection Agency (Pak-EPA) which was also mandated to ensure environmental standards and pollution levels (Hussain & Bilal, 2026). As per the Environmental legislations of Punjab, Sindh, KP, and Balochistan, the respective provincial legislations also deal with the environmental issues pertinent to their particular province following the 18th Constitutional Amendment which put environmental management powers in the hands of provinces. Various forms of supplementary legislations, such as the Pakistan Wildlife Act, 1974, water pollution control regulations, forest and biodiversity laws, Hazardous Substances Rules, 2003 and many more laws create a multi-layered legal framework that helps to address various environmental issues that create ecological sustainability (Dr. Muhammad et al., 2025).

2.2. Strengths of the Existing Framework

The fact that in Pakistan there have been regulatory institutions like Pakistan Environmental Protection Agency (Pak-EPA), which facilitates uniformity in the environmental government

regulations. This authority also supports cooperation for environment protection. Environmental Impact Assessment (EIA) is one of those exercises usually required for big projects, but can be a proactive exercise that can identify and mitigate potential impacts before a project is approved (Sial et al., 2018). Moreover, the incorporation of international environmental policies such as Stockholm Convention on Persistent Organic Pollutants or Paris Agreement into national policies sets an example of national policies reflecting good governance on the environment. As a principle, these laws and institutions can be seen as being gigantic foundations for environmental planning and enforcement (Hameed et al., 2025).

2.2.1 Comprehensive Legislation

PEPA, 1997, provides a structured framework for environmental protection and viable development.

2.2.2 Regulatory Authority

Establishment of the Pakistan Environmental Protection Agency (Pak-EPA) centralizes enforcement.

2.2.3 Environmental Impact Assessments (EIAs)

Mandatory EIAs for development projects help to prevent environmental degradation proactively.

2.2.4 Integration of International Conventions

Laws incorporate obligations from global treaties like the Stockholm Convention and Paris Agreement.

2.2.5 Provincial Adaptation

Provincial environmental acts allow region-specific regulation and closer monitoring of local environmental issues.

2.3. Weaknesses of the Existing Framework

The Pakistan Environmental Protection Act, 1997 (PEPA) is an Act of Parliament that offers a full-fledged legal answer to environmental protection in Pakistan. Still, the implementation of its effective programs remains a hurdle, because of its limited funds, weak institutional capacities, as well as lack of technical expertise. Local governments, known as Provincial Environmental Protection Agencies (EPAs), may be less funded and have less up-to-date monitoring technologies. Furthermore, the shortcomings of horizontal coordination between federal and provincial levels and interprovincial, hinder the effectiveness of environmental governance. Consequently, there could be stark disparities in environmental conditions and implementation of environmental laws in different parts of the country (Dr. Muhammad et al., 2025).

There may be variations in compliance, and not regular inspections or penalties may be enforced. This has kept production of pollutants and degradation of the environment as well as unsafe industrial operations alive in the face of the prohibition laws. Secondly, administrative confusion and incompetence due to overlapping jurisdiction between federal government and provincial governments have resulted from 18th Constitutional Amendment. Poor levels of community awareness, awareness amongst the public, and engagement are also issues that compromise enforcement. The water quality impact in terms of environmental sustainability is therefore, although limited, at best Sial et al. (2018) as implementation of these laws is also low, not only in gesture but also in terms of their extent.

2.4 Weak Enforcement: Lacks resources and staffing of regulatory agencies

2.4.1 Industrial Non-compliance

A lack of monitoring by industry and mild punitive measures leads to non-compliance with environmental standards in many industries. Federal-provincial tensions cause uncertainty and hinder effectiveness in implementation.

2.4.2 Legislative Gaps

No adequate regulation in place exists for some issues such as air quality management and hazardous waste control. Legislative issue planks were prepared to address those matters, but they were not implemented.

2.4.3 Poor public awareness

Population and communities are not familiar with environmental regulations, and thus, less pressure to meet requirements.

3. England's Environmental Regulatory Experience

Over the previous few decades, England has built up a complete, and solid, environmental regulatory system, driven by national policy concerns and much influenced by European Union environmental legislation. A key element of this is the Environmental Protection Act 1990, which contains a wide range of provisions on pollution control, waste and regulation of air quality. The Act clearly sets out the role to be played by businesses, local authorities and individuals as well as providing standards and routes of enforcement. The additional legislation supports the protection of the environment, such as the Wildlife and Countryside Act 1981, dealing with the issue of biodiversity, and the Water Resources Act 1991, regarding the sustainable use of water resources (Khan & Xu, 2021). One of the remarkable things about the environmental governance system in England is that it is very much focused on monitoring, enforcement and public involvement. The Environment Agency (EA) and Natural England ensure compliance, issue permits and enforce environmental regulations. Both preventive or punitive measures are part of the approach, such as environmental permits, environmental impact assessment, financial penalties and legal prosecution. In addition, England have a suite of scientific and technical tools, including risk assessments, environmental audits and environmental reporting systems, to inform effective environmental management. These mechanisms contribute to the transparency, accountability, and efficiency of environmental governance (Qayum & Farhad, 2026).

There is also good institutional co-ordination and clear legislative requirements and effective enforcement in England. Promotion of environmental protection through public awareness and environmental education programs also encourages the society to participate in environmental protection. Furthermore, the issue of sustainable development, climate change mitigation and resource efficiency is very relevant in the field of policy making on a long term basis. While there are still problem areas to be addressed, some of which is balancing economic development and environmental protection, the English model of a structured, adaptive and enforceable system of environmental governance is an example which can be followed by other countries including Pakistan (Razzaque, 2004).

3.1. Key features of England's Regulatory Framework

3.1.1 Comprehensive Legal Structure

The environment legal structure in England is strong and the Environmental Protection Act 1990 is the mainstay of contemporary environmental legislation. Pollution control, waste management and water resource conservation/biodiversity protection are specific aspects of this Act and its Enabling Regulations, alongside other legislation, such as the Wildlife and Countryside Act 1981 and the Water Resources Act 1991 (Sultan et al., 2025). These laws clearly outline legally enforceable requirements for enterprises, municipalities. These safeguards are continuously ensuring energetic responsibility has been established. Before projects get approval, a full checklist of the impact they could have on the environment – the Environmental Impact Assessment (EIA) – is carried out as part of the regulatory framework for the major development projects. This trend is turning into a precautionary and preventive approach (Afridi, 2025).

3.1.2 Institutional Oversight and Enforcement

One important aspect of environmental governance in England is that there are specialist institutions, such as the Environment Agency (EA) and Natural England. These organisations manage the compliance with the environmental regulations, give permits, make inspections and check the

enforcement of environmental laws. They also have a legal right to act against the offenders through action as fines, administrative action, criminal action, and orders to remediate the burdens associated with environmental damage (Shahzaib Mustafa Baloch, 2025). Their strong technical and scientific skills enable them to implement an environmental management approach based on risk. Environmental audits, environmental impact assessment and formalized reporting mechanism aid transparency, accountability, and implementation of environmental policies. This in turn boosts the effectiveness and believability of England's environmental governance structure (Weiss & Jacobson, 2000).

3.1.3 Public Participation and Sustainability Focus

This is a key matter for environmental governance in England, as citizens and community are seen as key actors. Public right to access environmental information, to report environmental violations by citizens and civil society organisations and arrangements for legal and regulatory frameworks on public consultation in planning and development processes exist. The participatory elements are also backed by laws, including the environmental protection act 1990, the transparency regime etc. that have been established in line with international conventions, including the Aarhus convention, in favor of access to information, public participation and access to justice in the matter of environment (Munir & Ghouri, 2025).

In addition, there is a strong link between environmental policies and long-term sustainability issues, such as climate change mitigation, resource efficiency and ecosystem protection, in England. Along with regulatory monitoring, the public is educated and informed about environmental stewardship through public education and awareness campaigns to encourage voluntary compliance. Enforcement along with institutional oversight and participatory governance is also effective in strengthening the environmental protection and furthering Sustainable Development goals (Shabbir et al., 2024).

3.2. Comparative Analysis with Pakistan Regulatory Framework

Some differences exist between the effectiveness, enforcement and public participation in environmental regulatory systems of Pakistan and England. On paper, Pakistan has a comprehensive legislation on environmental protection, Pakistan Environmental Protection Act 1997, which provides the backbone of the environmental legal system in Pakistan. But weak institutional capacity, lack of technical expertise and overlapping federal-provincial jurisdictions can impede effective implementation. There is no uniformity in the enforcement and compliance from industries is not well monitored and Environmental Impact Assessment (EIA) is not applied uniformly (Mehmood et al., 2024).

The English system is well organized, but has a strong regulatory body (Environment Agency), monitoring systems, legal obligations and accountability and enforcement mechanisms. Environmental governance in England is further enhanced by public engagement, awareness raising and the incorporation of scientific knowledge (Mehmood et al., 2024).

A comparative study shows some of the gaps in the framework which needs to be filled in Pakistan. Enforcement should be enhanced, with increased resources, personnel and technical expertise. Laws are lacking in several areas, particularly in standards and enforcement of air quality, hazardous waste and industrial emissions, and should be corrected with more stringent standards and penalties. In addition, there is a need to raise public awareness and participation to generate social pressure that will lead to compliance. Furthermore, the effectiveness of the regulatory framework can be enhanced through improved coordination between federal and provincial authorities, risk-based monitoring and a common reporting system. The government of England's model of structured, transparent and participatory governance is a best practice example for Pakistan to learn from to achieve effective governance and sustainable development in the environment (Paul, 2024).

3.3. Lessons Gained from England's Experience

The environmental regulatory regime in England offers some interesting lessons for Pakistan, which could be incorporated in its regulatory regime to enhance it. A major conclusion is that it is important to have robust and well-coordinated regulatory institutions. There is effective implementation of compliance, monitoring and policy making and agencies, such as Environment Agency and Natural England, have clear roles with sufficient resources and technical expertise. This can be done by building capacity of PEP and provincial environmental agencies by equipping them with trained staff, modern monitoring equipment and simplified mandates (Werksman et al., 2014) in Pakistan.

A further important lesson is the use of risk-based monitoring and scientific assessment and the focus of regulatory action on high risk areas, specific inspections conducted, and policy decisions made on the basis of data and scientific evaluation. This method is not well developed in Pakistan (Javeed et al., 2024).

The importance of public participation and transparency are also key elements of England's environmental governance. Public consultation, access to environmental information and means for reporting environmental violations contribute to accountability and to commitment to regulations in society. Similarly, the people of Pakistan can utilize their communities, civil society groups and media to keep a check on compliance and sensitize the masses. The solutions and policies needed for long term environmental problems cannot be limited to short-term solutions. However, environmentally sensitive policies can be implemented in a better and more forward-looking way, to tackle issues like climate change, biodiversity loss, and unsustainable use of resources. Pakistan can further enhance its environment governance, by the strengthening of environmental institutions, by scientific evidence base in the formulation of laws, by inclusive participation of the stakeholders in environmental governance and promotion of sustainable development for long lasting environmental protection (Khayam & Ahmad, 2020).

4. Conclusion

Pakistan is a country with serious environmental issues such as air and water pollution, deforestation, land degradation and calamities. Though the country has already put in place a comprehensive legislative system including the Pakistan Environmental Protection Act, 1997 and the various supporting provincial laws, enforcement and compliance of the laws is inconsistent. These are compounded by a combination of the increasing rate of industrialization, uncontrolled urbanization and low public awareness of the degradation of the environment, which impacts the wellbeing of the population, their socio-economic development and environmental sustainability.

A comparative analysis to England shows the loopholes in the Pakistan regulatory system. The structure of England under the leadership of the Environmental Protection Act, 1990 enjoys good regulatory institutions, legal mandates, scientific monitoring and active participation of the populace. In Pakistan, poor governance, poor jurisdiction, poor technical capacity and lack of citizens is the problem, however. Some of the areas deserving of improvement are the strengthening of the regulatory agencies, revision of laws, filling in loopholes in pollution control and public participation in pollution control.

It is when institutions are properly funded and functioning in a coordinated way that environmental governance is effective, England experience suggests. Dealing with risk is not just important, monitoring and reporting are strong elements too! One of the important considerations is sustainability in policy making which helps in long term protection of environment.

So the environmental information and access and participation of the people are also crucial because with this transparency increases, compliance improves and accountability is ensured. There is need to shift gears for the decision makers and stakeholders of Pakistan so that environmental laws could be reformulated and enforced. This involves institutional capacity building, law reforms, law enforcement and awareness and engagement in the society. If Pakistan phases in actions in a

coordinated and persistent manner, it can be able to conserve the natural resources, reduce pollution, reduce the risk to climate change and can move towards sustainable development that would have the potential to safeguard the health of Pakistan populace and nature.

5. Recommendations for Strengthening Environmental Laws in Pakistan

Pakistan's legal literacy is urgent for its environment to reform and amend. There is a need to strengthen institutional capacities as agencies will be able to perform their work more effectively if capacities are strengthened. There should also be a clear demarcation of the responsibilities between federal and provincial institutions to avoid duplication of efforts while complying with responsibilities. There will need to be an update of existing laws and environmental standards to assure that issues of air quality, hazardous waste, industrial emissions, and water pollution are properly taken care of. For the sake of legality, if an environmental law is to be enforced, fines need to be stringent, but compliance incentives should also be given, so that industries and local authorities would be motivated to follow the rule. At the end of the day, Environmental Impact Assessment (EIA) is an essential and effective process for large-scale development projects that can protect the environment only at the stage of development.

Public engagement and awareness is also essential. Citizens and civil society and local communities should have the power to engage in environmental decision-making, report violations and hold authorities to account. Incorporating EE into school curriculum and running national EE awareness campaigns can contribute to building a culture of sustainability. Pakistan can also learn from the international best practices such as risk-based monitoring, transparent reporting and scientific expertise in policy making, which are being followed in England. Pakistan can do much to strengthen environmental governance and its sustainable development agenda through strengthening enforcement, updating legislation, increasing civil engagement and adoption of global best practices.

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