

The Enforcement of Water Pollution Legislation in Pakistan

Idrees M¹, Donatus D¹, Ilyas R², Sattar A³

¹LLM Ocean University of China, China

²BS honors Physical Education LCWU Pakistan, Pakistan

³MS zoology LCWU Pakistan, Pakistan

*Corresponding Author: Idrees M, LLM Ocean University of China, China. Tel: 00923359404515, Email: mamoonakhan596@gmail.com

Citation: Idrees M, Donatus D, Ilyas R, Sattar A (2022) The Enforcement of Water Pollution Legislation in Pakistan. J Indust Pollut Toxic 2(1): 101

Abstract

All living and non-living organisms in this universe require a clean and healthy environment. Every country has enacted a number of laws to combat environmental damage. All governments have created special arrangements to ensure that these laws are implemented effectively. Many environmental institutions have been established in Pakistan to regulate the cleaned environment. Several changes have occurred in Pakistan's legal framework for environmental legislation throughout this century. Every human being needs a healthy environment, yet it is severely polluted due to a variety of circumstances. The purpose of this research study is to examine how environmental institutions operate within Pakistan's current legal framework for a healthy environment. In addition, efforts will be made to critically assess the shortcomings of Pakistan's legislation and the performance of organizations responsible for the protection of a clean and healthy environment. This paper will also provide recommendation and proposals for improving the effectiveness of Pakistan's environmental institutions.

Keywords: Water, Pollution, Laws and Policies, Enforcement, Healthy Environment

Introduction

‘It is man’s birth right to have clean water’ [1]

Water pollution may be called as the undesirable adverse change in composition of the water such that it becomes unsuitable for the purpose for which it would be suitable in the natural state. Water is a vital resource which makes possible survival of living things. The availability of water often determines the rate of economic development as well as setting its limits. The increasing demand for water for human activities has in recent years exerted tremendous pressure, resulting in the deterioration of both the quality and quantity of available fresh water resources.

Background and Significance

Water is an essential component of life. However, in most third-world nations, this basic necessity is not available in a portable form. More than one thousand million people in the globe do not have access to safe drinking water, according to estimates [2,3]. Only five nations, India, China, Indonesia, Pakistan, and Nigeria, account for 50 to 80 percent of the world's inhabitants who do not have access to safe drinking water. According to United Nations statistics, 40 percent of Pakistanis do not have access to safe drinking water. In Pakistan, diarrhea, pneumonia, and nutritional deficiencies account for 80% of mortality among children under the age of five [4]. In Pakistan, there are two major water sources. Groundwater and fresh surface water from lakes and rivers are two of these sources. Pumps and wells are typically used to extract ground water. It was once regarded to be one of the safest drinking water sources. However, research has showed that even groundwater is no longer a reliable supply of safe drinking water, with its quality varying significantly [5]. Drinking water from the surface is also possible. In this situation, the most likely source of contamination is the untreated discharge of domestic and industrial garbage straight into rivers or other water bodies. Rainwater or river water is also commonly held in lakes before being treated and made available for public use [6,7]. This approach uses a boiler to produce high-quality water. It's most commonly used to describe well-developed neighbor hoods. However, water provided in this manner may become contaminated as a result of treatment plant inefficiency or sewage mixing with water supply lines as a result of distribution network leaks. As a result, the drinking water provider must guarantee that the water delivered is safe to drink [8]. In fact, the protection of public health is the major purpose for the construction and installation of a public water system. In essence, a properly functioning water system acts as a barrier between disease and the general populace. Water treatment and supply systems that are properly operated eliminate or inactivate pathogenic microorganisms such as bacteria, viruses, and protozoa, minimize or remove potentially harmful compounds, and generate good quality water [9,10]. Many rivers and canals travel through Pakistani provinces, including the Swat River and the Indus River, however the rivers are polluted due to poor design and the dumping of massive garbage by NATO forces and the American embassy in Afghanistan [11]. It is additionally contaminated by home and municipal effluents. Sludge water is immediately falling into water resources in some regions. People drink from wells; however, the subsurface water is contaminated due to a lack of appropriate management of water resources in Pakistan. Because of poor administration and a lack of expertise, rivers and canals are not effectively managed, putting Pakistan's natural resources at danger. There is virtually a stream in every section of Pakistan, but they are heavily impacted by faulty sewage systems, which is generating a slew of diseases, and owing to a lack of education, the general public is unaware of the importance of water quality and its impact on their health, ecology, and society. Household water is not properly treated, and there is no effective sewage treatment process, so all contaminated water ends up in freshwater bodies.

Hypothesis

1. Water pollution is the unwelcome modification of the physical, chemical, or biological properties of water. explosion in human population, quick industrialization, deforestation, unplanned urbanization, progress in science and technology, etc. are primarily to blame for the global pollution catastrophe.

2. Wastewater from industrial production and chemical activities adds to water contamination Typically, industrial wastewater contains identifiable and readily distinct chemical substances.
3. India has had a sharp increase in the number of industries during the past years. However, a small number of subsectors account for the majority of the water pollution, which primarily takes the form of organic and hazardous wastes. A significant percentage of this can be linked to the production of food goods and the processing of industrial chemicals.
4. Water contamination has terrible impacts on not only people but also animals, fish, and birds. Water that has been contaminated cannot be used for drinking, recreation, farming, or industry. It lessens the scenic value of rivers and lakes. More seriously, polluted water kills aquatic life and hinders its capacity to reproduce. It eventually becomes a risk to human health. The consequences of water pollution are felt by everyone.
5. Industrial wastewater treatment facilities are present in the majority of large industries. Small-scale businesses, however, cannot afford to make significant expenditures in pollution control technology because of their thin profit margins. As a result, the current work might be useful for identifying ways for the economical treatment of effluents on a batch scale so that small-scale enterprises can handle their wastes before releasing them into the environment.
6. The government of Pakistan though have enacted policies on other issues has little to do on the enforcement of water pollution, and this has exposed many water bodies to pollution of various degrees.

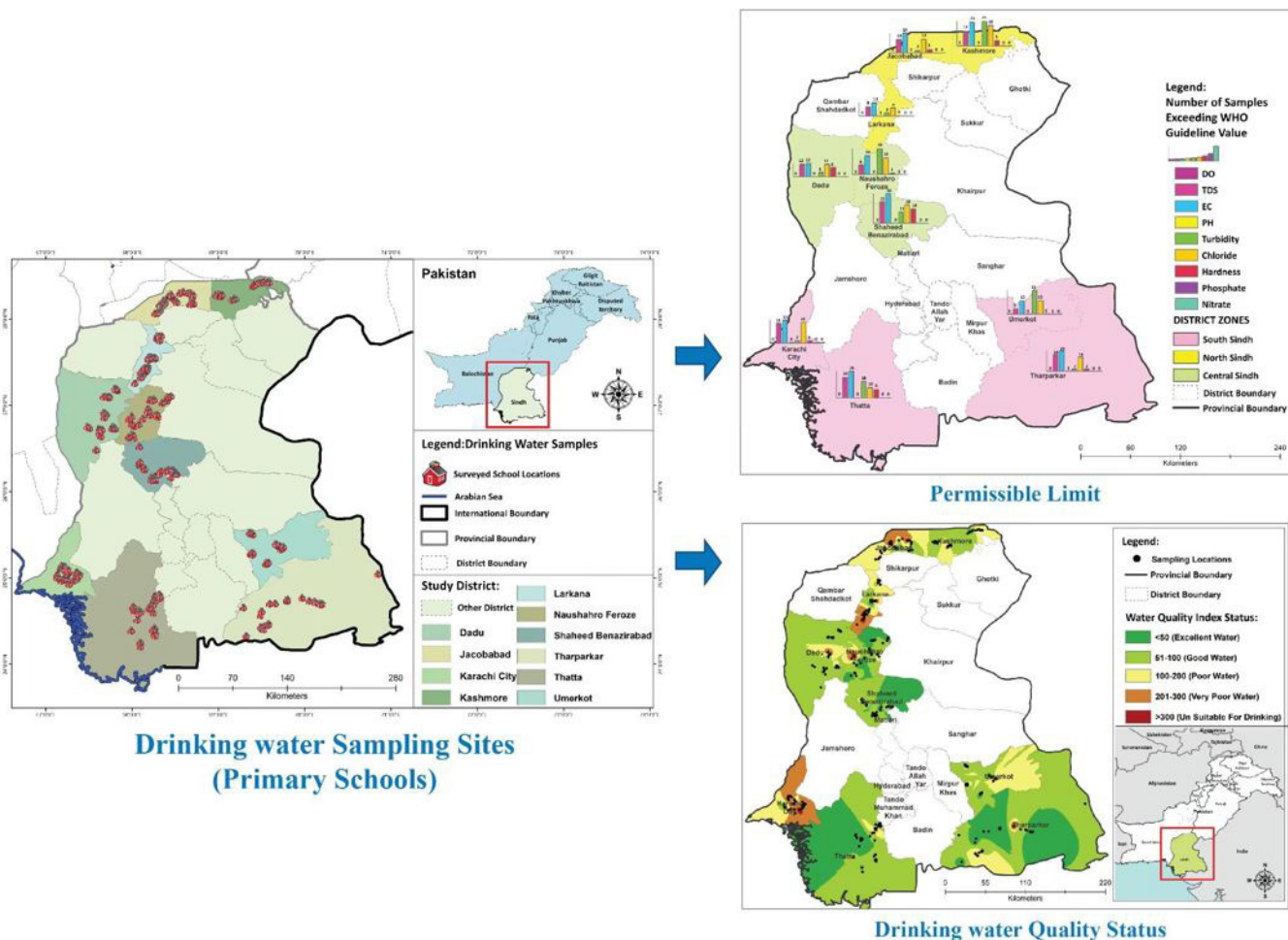
Methodology

1. Mainly qualitative data was employed to complete this study. Primary and secondary data sources such as books, journal articles, convention texts, etc., are accessible on Westlaw, Hein online, google scholar, Springer, Science direct, and relevant governmental documents.
2. The conduct of this study is also an exploratory research design that is meant to explore and answer hidden questions and trends in a research problem as to how, why, and what.
3. The study adopts an exploratory research strategy that is aimed at knowing more about the phenomenon of the Enforcement of Water Pollution Legislation in Pakistan. With this methodology being used in the study, all necessary answers to the research will be explored to give an in-depth understanding to readers and future policy makers.

Access to Water in Pakistan

Pakistan is an Islamic Republic with the goal of enabling its Muslim majority to "organize their lives in the individual and collective arenas in conformity with the principles and obligations of Islam as laid down in the Holy Quran and Sunnah." Water is seen as an important resource in Islamic teachings, and everyone has a right to a fair amount. The Prophet Muhammad (PBUH) is claimed to have declared, "Muslims have common share in three (things): grass, water, and fire," according to the Hadith. Furthermore, the Holy Quran warns people about unequal distribution of common goods, and most experts agree that Islam prohibits speculation, manipulation, and unbalanced profit with a common good like water [12]. In 1995, the UNDP ranked Pakistan as having one of the highest water potential per person out of 130 nations that needed to drastically improve their water condition to avoid future crises. Pakistan, clearly, has not progressed in any way. Pakistan's rating was reduced by the United Nations in 2003 because its total renewable water resources per capita per year were predicted to be 114th out of 180 countries. Pakistan ranks 80th out of 122 countries in terms of water quality. Pipe water in Pakistan is contaminated with abnormally high amounts of arsenic and increased fluoride, either as a result of bacterial leaks or due to geological conditions and poor filtration. According to the Pakistani government, diarrhea causes 14 percent of diseases in children under the age of five and 7% of all illnesses in persons aged five and up. According to the Pakistan

Council of Research and Water Resources (PCRWR), water is responsible for 40% of all reported ailments. Every year, an estimated 200,000 children in Pakistan die from diarrheal illnesses alone. Unsafe water mostly affects the rural and urban poor, who experience higher rates of sickness and water-related ailments than the general population [13].



<https://www.mdpi.com/2073-4441/12/12/3382>

Some Conventions Related to Water Pollution

Stockholm Declaration

The declaration on the human environment (Stockholm declaration) and action plan were adopted at the united nations conference on the human environment (UNCHE) held in Stockholm in June 1972.

This conference was one of the first attempts of the integrated approach to the global environmental issues. It was stressed in the principle 2 of the Stockholm declaration on the human environment the states shall take possible steps to prevent pollution create hazards to human health. It also requires Parties to take appropriate measures so that POPs wastes are managed in an environmentally sound manner. This includes both destruction and disposal techniques. Although remediation of contaminated sites is not required, any such remediation must be performed in an environmentally sound manner.

Agenda 21

Program of Action for Sustainable Development

Another international conference. The Earth Summit, which took place in Rio de Janeiro, Brazil from 3-14 June 1992- was also very important for the environmental and development issues. This meeting was prepared by the United Nations Conference on Environment and Development (UNCED). The outcome of this conference was the adaptation of several non-binding legal instruments, including Agenda 21 [14].

Agenda 21 is a program-me of action for sustainable action world-wide. Chapter 18 of this document devoted to the “protection of the quality and supply of freshwater resources”. All kind of water resources. The chapter stresses the need of the water pollution protection. The following program-me areas are proposed for the freshwater sector in agenda 21 chapter 18.

- Integrated water resources development and management.
- Water resources assessment.
- Protection of water resources, water quality and aquatic ecosystems.
- Drinking water supply and sanitation.
- Water and sustainable urban development.
- Water for sustainable food production and rural development.
- Impacts of climate change on water resources.

Laws Related to Water In Pakistan With Sections

1. Constitutional references Article 9 and 14
2. CRPC 1898-chapter 10 section 133
3. Pakistan penal code 1860
4. The forest Act 1921 section 26(1) poisons water
5. The factories Act 1934 section 14
6. Land improvement Act 1883
7. Easement Act 1882 Illustration (f) and (h) section 7
8. Karachi joins water board ordinance 1949 and Karachi join water Rules 1956
9. PEPA Act 1997 section 2 (10)
10. Section (22) Historic water and territorial water of Pakistan
11. Section 2 define pollution
12. Section 6 relate to establishment of environmental protection agency
13. Section 11 Prohibition of Certain Discharges or Emissions
14. Section 13 Prohibition of Import of Hazardous Waste
15. Section 17 enforcement and application of fines and penalties
16. Section 20 Environmental Tribunals
17. Section 33 Power to Make Regulations

The First Legal System

The first legal system of the constitutional references is the systems that regulates the unpolluted water is the fundamental right of every citizen in Pakistan. PPC and CRPC environmental provisions this comprises sections such as the removal of nuisance, fouling water.

Constitutional References Article 9 and 14

Articles 9 and 14 of the Islamic Republic of Pakistan's constitution guarantee that every Pakistani has a fundamental right to clean water. ARTICLE 9 WAS INTERPRETED IN THE SHEHLA ZIA CASE, and the court concluded that every citizen had a right to clean water. The court determined on environmental and clean air issues, as well as the right to a certain standard of living. The government's principal role, according to Article 38(d) of the constitution, is to provide people with basic requirements of life, such as safe drinking water.

The Pakistan Penal Code, 1860 Sections Relating to Environment

Section 268 Public Nuisance

A person who does any act or commits any illegal omission that causes any common injury, danger, or annoyance to the public or to the people in general who live or occupy property in the vicinity, or that must necessarily cause injury, obstruction, danger, or annoyance to persons who may have occasion to use any public right, is guilty of a public nuisance. A common annoyance is not justified because it provides some benefit or convenience.

Section 277 Fouling Water or Public Spring or Reservoir

Whoever voluntarily corrupts or fouls the water of any public spring or reservoir in such a way that it becomes unfit for the purpose for which it is normally used is punishable by imprisonment of either description for a term up to three months, or by a fine up to one thousand five hundred rupees, or by both.

Section 278 Making Atmosphere Noxious to Health

Anyone who knowingly pollutes the atmosphere in any place in such a way that it is harmful to the health of those living in the area, conducting business in the area, or passing along a public road is subject to a fine of up to one thousand five hundred rupees.

Environmental Provisions Under the Criminal Procedure Code 1898

Chapter 10 of the Code deals with public nuisance matters. The very first section of this chapter (section 133) deals with conditional orders of removal of nuisance. However, sections 134 to 143 empower the law enforcing agencies with sufficient powers to combat public nuisance matters.

According to Section 133

When a district magistrate, a sub-divisional magistrate, or a magistrate of the first class considers, after receiving a police report or other information, and after taking on such evidence, that an unlawful obstruction or nuisance should be removed from any way, river, or channel that is or may be unlawfully used by the public, or from any public place.

As can be seen, his section grants him incredibly broad authority. They've been used in the past to cope with a range of scenarios, and orders have included shutting down restaurants, industries, and medical stores in the sake of public health or safety. As a result, these powers could be used to take preventative steps in the interest of human life, health, or safety, such as at a well site or other industrial institution.

Second Legal System

Second legal system comprises of the regulation of the water. This includes different Acts related to the water pollution with specific sections and also future policy for drinking water.

The Forest Act 1927

section 26(1) of the Act makes it punishable if any person who in contravention of the rules poisons water of a Forest Area.

Section 26(n) Removes or causes damage to the soil, water, natural vegetation. Fish and wild birds.

The person shall be liable to punishment of imprisonment for a term which may be extend to six months or fine one thousand rupees, or less.

The Factories Act 1934

section 14 mandates plant owners to develop efficient plans for the disposal of waste and effluents generated during the manufacturing process. Polluters are also subject to fines. The Factories Act of 1934, in conjunction with the Provincial Plant Rules of 1952, says that efficient measures must be made in every factory for the disposal of waste and effluents from the manufacturing process, and pollutants are subject to fines. Section 33Q of the Factories Act empowers provincial governments to impose regulations on factories that pose a substantial risk of bodily harm, poisoning, or disease. This act is primarily concerned with worker health, safety, and well-being, as well as the disposal of solid waste and sewage that endangers public and private property. This act also establishes rules for the management and disposal of hazardous poisonous materials. The penalties/fines in the event of committing violations have been amended in successive changes to the Factories Act.

Land Improvement Loans Act 1883 (enforced by Provincial Governments) Loans for land improvements such as storage, delivery, or distribution of clean water, drainage, and reclamation from rivers or other bodies of water are available.

Easement Act, 1882, Illustrations (f) of section 7 deal with the pollution of water.

Illustration (f) The right of every landowner to have the water that naturally passes or percolates by, over, or through his land not be unduly polluted by others before it passes or percolates inside his own boundaries.

Karachi Joint Water Board Ordinance, 1949 and Karachi Joint Water Rules, 1956

prohibits fouling of water supplies, water works, or water tanks.

National Drinking Water Policy 2009 The Pakistani government considers that every citizen has a fundamental right to safe drinking water, and that it is the state's constitutional responsibility to ensure that all citizens have access to it. It is dedicated to delivering an adequate supply of safe drinking water to the entire population at a cost that is both affordable and sustainable. To meet this goal, the Ministry of Environment developed the National Drinking Water Policy through a countrywide consultation process, in accordance with the stipulations of National Environment Policy 15 and Vision 2030. Sections 5(a), (b), (c), (d), (e); Section 6.3, 6.4, 6.6.

The Third Legal Systems

The third legal systems PEPA relates to the Environmental regulation by government which includes functions of the federal agency powers of government and the list of the environmental cases which are register in Pakistan some are decided and some are pending. Table one shows the water pollution cases title and table 2 shows the number of cases pending, decided and penalties.

Pakistan Environmental Protection Act (PEPA), 1997

An act to provide for environmental protection, conservation, rehabilitation, and improvement, as well as pollution prevention and control and sustainable development. Whereas it is necessary to provide for environmental preservation, conservation, rehabilitation, and improvement, pollution prevention and control, sustainable development promotion, and related problems.

- Although the PEPA, 1997 is extensive, most of its provisions can only be implemented through the rules and regulations that will be issued under it. Because this is the first comprehensive environmental law, it includes explicit provisions to address both existing and emerging environmental issues brought on by climate change. Pakistan signed the Rio Declaration in accordance with Agenda 21 as a result of its pledge made while attending the United Nations (UN) Conference on Environment and Development in Rio de Janeiro in 1992. Following devolution and the enactment of 18 amendments to federal laws, the provinces were given authority to implement the Provincial Environmental Protection Act and Strategies.

Relating to prohibition of Water Pollution, is Pakistan Environmental Protection Act, 1997. (PEPA) It's following provision deal in this regard.

Section 2 (10) deals with definition of environmental which include water. "**environment**" means air, water and land.

Section 2 (33) deals with the pollution which include water. "pollution" means the contamination of air, land, or water by the discharge or emission of effluents, wastes, air pollutants, noise, or other matter that, either directly or indirectly, or in combination with other discharges or substances, alters unfavorably the chemical, physical, biological, radiation, thermal, radiological, or aesthetic properties of the air, land, or water, or that may, or is likely to make the air, land, or water unclean, noxious, impure, or injurious.

Section 6; Is concerning the agency's function, while sub sec (g) is regarding water quality criteria.

In conjunction with the provincial agency, the federal agency shall create standards for the quality of ambient air, water, and land, which will be published in the official gazette.

Provided that

- (i) different standards for discharge or emission from different sources and for different areas and conditions may be specified
- (ii) where standards are less stringent than the National Environmental Quality Standards, prior approval of the Council shall be obtained
- (iii) certain areas, with the approval of the Council, may exclude from carrying out specific activities, projects from the application of such standards.

Section 11 Prohibition of Certain Discharges or Emissions

(1) Subject to the provisions of this Act and the rules and regulations promulgated thereunder, no person shall discharge or emit any effluent or waste, water or air pollutant, or noise in an amount, concentration, or level that exceeds the National Environmental Quality Standards or, where applicable, the standards established under clause I of clause (g) of sub-section (1) of section 6. Any individual who violates or fails to comply with the laws is subject to a pollution charge imposed by the federal government.

Section 13 Prohibition of Import of Hazardous Waste

No hazardous waste may be imported into Pakistan's territorial waters, exclusive economic zone, or historic waterways.

Section 17 Penalties

(1) Whoever contravenes or fails to comply with the provisions of section 11, 13, or any order issued thereunder is subject to a fine of up to one million rupees, plus an additional fine of up to one hundred thousand rupees for each day the contravention or failure continues and where such contravention or failure continues.

Number of Cases and Progress in KPK Environmental Protection Agency

Table 1

Sr no	Region	Cases submitted to EPT
1	EPA head office central directorate	1814
2	EPA northern directorate Abbottabad	631
3	EPA southern directorate D I khan	695
4	EPA Malakand directorate , Swat	590
	Total	3730

Total cases with EPT	Decided cases	Pending cases	Total fine imposed(pkr)
3730	2012	1718	60.5 million

Presentation of EPA to Director General

Analysis of Legal System

The Legal Framework and How It Is Enforced

A regulatory framework known as the PEPA Act 1997 was enacted in 1997 to control and monitor environmental issues in the country [15]. The relevant provisions of federal legislation relating to the human right to water, including the prevention of water pollution, include provisions of the PEPA Act, 1997 relating to the disposal of wastes and effluents, and Art. 20 of the amended Factories Act of 1934 relating to drinking water [16]. Polluting the water of any public spring or reservoir is punishable under Pakistan's Penal Code 1860 [17]. Another important piece of legislation is the Pakistan Council of Research in Water Resources Act 2007, which established the Pakistan Council of Research in Water Resources, which is largely responsible for upgrading the technologies required to improve and conserve existing water resources. This Body is also obligated to make suggestions to the government on how to maintain water quality and how existing water sources can be used and conserved [18]. In addition, the national government has established a number of water and sanitation-related rules and guidelines. The IRSA Act of 1992 implements the Water Accord, which divides the balance of river supplies among the provinces, including flood surpluses and future storages. The Water User Ordinances of 1982 are based on the WAPDA Act of 1958. The Sindh Irrigation Act 1879, as well as provincial legislation like the BGWRA Ordinance, IX of 1978, provided regulatory and supervisory powers for the Provincial

Water Board, as well as a Water Committee to oversee the Water Board's policies [19]. The Canal and Drainage Act (1873) and the Punjab Minor Canals Act (1905), both of which prohibit the corruption or fouling of canal water; the Sindh Fisheries Ordinance (1980), which prohibits the discharge of untreated sewage and industrial waste into water; and the Greater Lahore Water Supply Sewerage and Drainage Ordinance (1967), all of which are related to water rights. The TMAs have been entrusted with a number of provincial tasks, including water management and sanitation, under the PLGO (2001). The CDG and TMAs [20] are also in charge of enforcing penalties for offences such as water pollution, industries' refusal to dispose of hazardous waste, and the provision of contaminated water for human consumption [20]. Other types of offences, such as failing to stop drain pipe leaks or obstructing water pipes, are dealt with by the Tehsil/Town Officer and are penalized by issuance of fines rather than by going to court. The National Government has also established a number of water regulations and directives. National drinking water quality guidelines were established in November 2002. Other policies that have been approved include the National Environment Policy 2005 [21], the National Sanitation Policy 2006 [22], and the National Drinking Water Policy 2009 [23]. The National Environment Policy of 2005 establishes a framework for dealing with a variety of environmental challenges, including contamination of freshwater bodies. It recognizes the need of meeting international obligations effectively and in accordance with national goals [24] as well as public health and environmental issues. It outlines a variety of recommendations by which the government can assure sustainable access to healthy water resources [25] when it comes to water delivery and management.

Water was recognized as a core human right by the National Drinking Water Policy of 2009 [26]. By 2025, the strategy seeks to provide inexpensive safe drinking water to the whole Pakistani population, particularly the poor and vulnerable [27]. Both urban and rural regions must have access to safe drinking water, according to policy. The policy specifies that different forms of legislation, including the Pakistan Safe Drinking Water Act [28], will be implemented to ensure the implementation of these policies.

Weakness in the Enforcement of Laws

Despite the fact that Pakistan has extensive national laws and regulations on water pollution prevention, as well as an institutional framework for environmental management, the country's administrative and execution competence is severely lacking. Pakistan has a long history of water issues. Irrigation water shortages are a source of contention between provinces. Due to a lack of water laws that define water rights, consumers are frequently pitted against one another. The Pakistan Penal Code 1860 and the Factories Act 1934 are both outdated and poorly enforced, defining ineffective penalties. Despite the fact that IRSA 1992 has been reasonably effective in distributing water to provinces in the past, the authority has lately stated that it expects severe water constraints for irrigation coordination and communication between federal, provincial, and municipal administrative institutions. Another Impuissance is the lack of clarity in policy definitions, strategies, and targets. Pakistan's policy approach is likewise deficient, as it is focused on supply-side measures. Islamabad has developed a number of policies and plans to solve the country's varied water issues over the last decade. The Environment Policy (2005), the National Sanitation Policy (2006), and the Drinking Water and Sanitation Policy (2009) are examples of policies that have been proposed but not yet implemented. Despite the fact that ordinances, acts, and regulations have been passed from time to time, concrete strategies have yet to be implemented. As a result, although having adequate and essential administrative capability on paper, its effectiveness in practice is severely limited. The industries do not adhere to national pollution guidelines in their waste effluents. Under the PEPA Act, environmental protection authorities are to regulate industrial effluent through self-monitoring and reporting programs, although enforcement is notoriously inadequate. The performance standards set forth by the NEQS have not been met by the municipal wastewater treatment facilities in Karachi and Islamabad. In Punjab and NWFP(KPK), where supplies are generally plentiful, groundwater or surface water can be obtained at a lesser cost, and the only choice is to discharge treated effluent into open drains. This technique can be used, but it will necessitate more stringent monitoring, especially when the canals are blocked or when the flow is low. The government has introduced various plans to combat water contamination, but due to ineffective law enforcement, none of them have been executed properly, and the problems have persisted. The public's apathy toward water pollution cannot be solved solely through policy; citizen education is also required. However, citizen education requires government backing in the form of laws, conservation initiatives, and law enforcement, all of which are now lacking. Stakeholders and decision-makers are very distrustful of each other, which contributes to the inability to pass effective water policies and plans. The lack of agreement on water sector priorities not only creates a vacuum for better resource management,

but it also makes water security more precarious. If there is to be any meaningful shift in water policy and management, it is critical to correct these misconceptions. Water stakeholders and politicians would be better served if they pooled their skills, knowledge, and expertise to devise a strategy that addresses Pakistan's hazardous water environment and mitigates any potential for conflict over water resources [29].

Conclusion

Water quality and quantity continue to be serious difficulties in Pakistan. When other problems and grievances already exist in Pakistan, water pollution and its effects on environmental sustainability cause political instability. To address the hazards of ground water extraction, legal laws and regulations must be established as soon as possible. Even where applicable legislation exists in the country, such as PEPA 1997, enforcement is exceedingly weak, resulting in low compliance, notably in the industrial and housing sectors. Although policies like as the NEP 2005, the NWP 2006, and the NDWP 2009 are in existence, there has yet to be a clear strategy developed to implement them. To put these policies into action, a clear and practical approach must be created.

Some Recommendation to Improve Environmental Laws And Policy

- Making environmental education a compulsory part of the syllabus from the school level.
- Educate masses about rising environmental issues through electronic and print media such as: writing articles on environmental issues; conduct environmental rallies; organize plantation drive.
- There should be an environmental tribunal in every district court in Pakistan.
- Whoever commits violation of environmental laws shall be strictly punished.
- Huge number of cases relating to the environment are pending before the tribunals and agencies (Dawn, 2012). There should be speedy disposal of cases regarding the degradation of environment
- Environmental reports should be made public, and a reasonable rating system should be devised to provide incentives/rewards/tax rebates to relevant industrial entrepreneurs based on their compliance with environmental legislation.
- The national and provincial environmental protection councils should launch awareness campaigns on all mediums, especially social media to sensitize people about their environmental rights and how to obtain justice should these rights get infringed.
- Pakistan's legislative system should be improved by Parliament.
- The existing resources must be wisely utilized.
- Policies concerning security should be redesigned.

References

1. <https://www.pljlawsite.com/2009art11.html>
2. Farooq S, Hashmi I, Qazi IA, Qaiser S (2008) Monitoring of coliform and chlorine residual in water distribution network of Rawalpindi. *Environ Monit Assess* 140: 339-347.
3. Neils R (2005) Drinking water crisis in Pakistan & issue of bottled water-Nestle's pure life in Pakistan. NIH (2004). Survey by the Network. Islamabad: National Institute of Health (NIH) Pakistan.
4. Jehangir M (2002) Bacteriological contamination and upward trend in nitrate contents, observed in drinking water of Rawalpindi and Islamabad. *The Network Consumer Protection in Pakistan*.
5. Khurram M. (2010) Performance evaluation of Sanjani and Simly Eater Treatment Plants. M. Sc Thesis, University of Engineering and Technology, Taxila, Pakistan.
6. West, Larry (2006) World water day: A billion people worldwide lack safe drinking water.
7. Collivignarelli C, Tharnpoopasiam P, Vaccari M, Felice DV, Bella DV, et al. (2008) Evaluation of drinking water treatment and quality in Takua Pa, Thailand. *Environ Monit Assess* 142: 345-358
8. Geldreich EE, Nash HD, Reasoner DJ, Taylor RH (1972) The necessity of controlling bacterial populations in potable waters; community water supply. *J AWWA* 64: 596- 602
9. LeChevallier MW, Seidler RJ, Evans T (1980) Enumeration and characterization of standard plate count bacteria in chlorinated and raw water supplies. *Appl Environ Microbiol* 40(5):922-930
10. Keli H, Yuang HF, Hong L (2005) Spatial variability of shallow ground water level, electrical conductivity and nitrate concentration and risk assessment of nitrate contamination in North China plain. *Environ Intl* 31: 896-903.
11. Lawrence JP, Babakarkhail, Zubair (2020) Sewage from USEmbassy, NATO headquarters dumped into Kabul River due to aging infrastructure. *Starsand Stripes*. Archived from the original on September 14.
12. Faruqi, Naser I, Biswas, Asit K, Bino, Murad J (2001) Islam and water management: Overview and principles. *Water Management in Islam*; Tokyo, New York, Paris.
13. Pakistan National Human Development Report 2003, 32, page 73.
14. <https://www.gdrc.org/uem/water/agenda21chapter18.html>
15. Govt of Pakistan (1997) Pakistan Environmental Protection Act.
16. Art 14, 20 (1997) Disposal of Wastes and Effluents and Quality Drinking Water. PEPA Act 1997.
17. PPC (1860) Pakistan Penal Code Chapter XIV: Offences Affecting the Public Health, Safety, Convenience, Decency and Morals 277

18. PCRWR (2007) See Section 4-Functions of the Pakistan Council of Research in Water Resources-Act 1 of 2007-Pakistan Council of Research in Water Resources Act, 2007
19. BGWRA (1978) Ordinance IX (Baluchistan Ground Water Right Administration Ordinance). Functions of WASA in Baluchistan (Section 3), Establishment and Functions of Provincial Water Board.
20. Punjab Local Government Ordinance (2001). Fourth Schedule-Part D.
21. MOE-PAK (2005) National Environmental Policy. Govt. of Pakistan: Ministry of Environment.
22. MOE-PAK (2006) National Sanitation Policy. Govt. of Pakistan: Ministry of Environment.
23. MOE-PAK (2009) National Drinking Water Policy. Govt. of Pakistan: Ministry of Environment.
24. NEP: National Environment Policy (2005) Section 2.2 (d).
25. NEP: National Environment Policy (2005) Water Supply and Management.
26. NDWP: National Drinking Water Policy (2009) Ministry of Environment, Government of Pakistan. September 2009, Retrieved 7 March 2010, draft.
27. The Nation (2009) Cabinet Okays National Drinking Water Policy. 29 September 2009, Accessed on 7 March 2010.
28. NDWP (2009) Pakistan Safe Drinking Water Act Will Be Enacted to Ensure Compliance with the National Drinking Water Quality Standards.
29. Jabeen A, Huang X, Aamir M (2015) The challenges of water pollution, threat to public health, flaws of water laws and policies in Pakistan. J Water Resour Prot 7: 1516-1526.

Submit your next manuscript to Annex Publishers and benefit from:

- ▶ Easy online submission process
- ▶ Rapid peer review process
- ▶ Online article availability soon after acceptance for Publication
- ▶ Open access: articles available free online
- ▶ More accessibility of the articles to the readers/researchers within the field
- ▶ Better discount on subsequent article submission

Submit your manuscript at

<http://www.annexpublishers.com/paper-submission.php>