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Abstract

Throughout history, water has been the primary resource for all civilizations. Although there were no official rules governing the use of water in ancient India, there are numerous recorded codes, conventions, and religious writings that do. The Indus Valley civilization was renowned for its water management, despite the fact that we have not found any particular regulations for it. A strong concern for the exploitation and management of water resources is implied by well-planned cities with high standards for their sewage, water supply, drainage, and storage infrastructure. However, with the establishment of the Vedic social order—where Dharma served as the cornerstone—legal standards pertaining to the use of water started to take shape. Although there was a legal framework for water management in the past, it was impractical to gather all of the rules, laws, and customs of the time because small republics with independent, self-sufficient villages were in charge of maintaining the socioeconomic system. The issue becomes even more complicated due to the dearth of effective literature on agricultural topics, which makes it difficult to compile a single sociological corpus juris of water for any socioeconomic group in India during that time.

Keywords: Water Resources, Water Management, Exploitation, Dharma, Religious Text.

1. Introduction

Throughout history, water has been the primary resource for all civilizations. Although there were no official regulations governing the use of water in ancient India, there are references to it in various writings and rituals that have developed over time. A sufficient quantity of water was highly valued by people for a variety of uses, including washing, cooking, drinking, and cultivation. They knew that water had therapeutic and medical benefits. The ancient people categorized water into multiple divisions based on its chemical and physical characteristics, along with a few additional considerations.

Additionally, they have thoroughly investigated the various outcomes of water conservation under diverse circumstances.¹ Ancient Indian written rules, conventions, and religious writings all contain references to the water law.

2. Purpose of the Study

Although there were no official regulations governing the use of water in ancient India, there are references to it in various writings and rituals that have developed over time. Examining numerous works of literature and the administration of states that existed during the Vedic and post-Vedic periods can help one comprehend the importance of water and good water management, which is especially relevant given the impending water problem that exists now.

3. Indus Valley Civilization

Indus Valley Civilization reached its height in 2500 B.C. It boasted the most advanced urban water supply and sewage systems in the world and thrived along the banks of the Indus River and other regions of western and northern India. Archaeologists have discovered the remnants of enormous reservoirs for the

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storage of water in addition to wells. Water resource management is clearly demonstrated by the system of huge baths, clearly delineated drains, jabarbads, and nalas.² The inhabitants of this civilization adored the natural world and offered daily prayers to the rivers. The rivers now received divine significance because of them. It was well known that the Indus Valley Civilization managed its water resources. The majority of the excavated locations are in and around the cities of Harappa, Mohanjodaro and Dholavira. Their preoccupation with water was well known.³

The remains at Mohenjodaro and Harrapan have illuminated the reality that even in those prehistoric times, people valued having a sufficient quantity of water for irrigation, domestic use, and public baths. Each large house had its own well, and clusters of smaller dwellings were served by additional wells.⁴ With water channels running to and from it, the Great Bath was the most significant building in the city.⁵ The Great Bath, located at the Mohanjodaro archaeological site and used for a variety of domestic uses by the valley's inhabitants, is without a doubt the oldest public water tank in the ancient world. Along the building's eastern perimeter are a number of rooms, one of which has a well that would have provided part of the water required to fill the tank.

It's possible that rainwater was also gathered for these uses, although no intake drains have been located.⁶ There were one or two drainage channels for each street and lane, covered with brick or stone that could be raised to clear blockages in the drains.⁷Mohenjodaro had an abundant quantity of clean water to boast about. Every home had a brick-lined well of their own. Even now, some of those wells that were reclaimed are still producing clean, fresh water.⁸Ablution areas were placed directly next to the restrooms, adhering to one of the most recent hygienic guidelines. The top floor bathrooms and latrines were typically emptied by the use of vertical terracotta pipes with tightly fitting spigot joints embedded in the wall of the structure.⁹

In handy locations, there were also public trash cans.¹⁰ "The like of which has not yet been found anywhere in the world in any other city of the same antiquity" describes Mohen-jo-daro's intricate drainage system.¹¹

The sanitary and drainage systems of the Harappan town were also excellent. Every home had a main drain connected to it, which made sure that trash was disposed of properly. The passage of filth out of the city was ensured by covering the drains and connecting them to the larger sewerage outputs. Given the state of technology, the kind of effective system the Harappans of Dholavira devised for water conservation, harvesting, and storage speaks loudly about their excellent hydraulic engineering.¹² Situated in the Western Ghats, approximately 130 kilometers from Pune, is a superb example of a water collecting system along the Naneghat. There were two flights of steps leading to the bottom of the other reservoirs, whereas the largest reservoir featured three flights. As the water level dropped, the staircases allowed people to walk down and retrieve water. In fact, the eastern reservoir's sandstone bed featured a stunning tiered well.¹³

Water accessibility was obviously given top attention in the Indus Valley based on the excellent calibre of municipal town design that was done there. A strong concern for the exploitation and management of water resources is implied by well-planned cities with high standards for their sewage, water supply, drainage, and storage infrastructure. However, as the Vedic social order developed, legal standards pertaining to water use started to take shape, with Dharma serving as the yardstick for some laws—though not all of them—to determine their legitimacy.¹⁴

The majority of ancient scriptures and secular literature, which originate from long after the Indus Valley Civilization vanished, mention the development and enhancement of water control systems as endeavours that advance the welfare of people and should be encouraged and supported by monarchs.¹⁵ Water was employed in all religious rites and ceremonies in ancient India because it was thought that offering to the gods was sent by pure, well-provided water.

4. Vedic Period

Hindu law holds that all living things are composed of pieces and are a part of the universe and society. When human behaviour, or karma, aligns with human nature, harmony arises. Human behaviour is dictated by Dharma, which is found in the Hindu scriptures, the Vedas, which also contain the Samhitis and Shrutis.¹⁶ The Manu laws included matters pertaining to water regulation, including the effects of water pollution on human health.¹⁷

During pre-colonial Hindu and Muslim dominance in India, governing concepts such as ethical, moral, spiritual, social, and ecological are mentioned in ancient religious book commentaries and stone inscriptions. These ideas were applied to the management of water resources.¹⁸

Rainfall deficits have been compensated for since ancient times in one way or another by man-made

tanks, wells, ponds, canals, lakes, and other structures. The nation of Kosala is praised in the Ramayana for being adevamatrka, or not reliant just on rainfall.¹⁹ In the Mahabharata, Narada questions Yudhistra about the construction of tanks, lakes, and other features at appropriate intervals for agricultural use throughout the kingdom.20 Rivers are revered as gods in Vedic culture. 21 In numerous hymns, the seers of Vedī called upon water, the cleansing agent, to be friendly to humans, to cleanse them, and to wash away all physical impurities. They held that males who drank water gained strength and the water turned into an auspicious drink in their stomachs. In light of this, they prayed, "May the waters be sweet to the taste, free from sin, disease, and anxiety of death, be full of divine qualities, and be the strength of everlasting laws."22

Water-related songs and petitions to the water deity Lord Varuna show that people were taking care of their water supply even before the Vedic era, when they avoided using any unclean water. Varuna was regarded as the cleanest and holy of all the Aryan gods, so much so that offering a sacrifice alone would not win him favour because he detests iniquity. Varuna not only punished the misdeeds of the person, but he also visited the sins of the ancestors onto him. Because of his ubiquity, the offender was unable to escape.²³ The oldest texts in Hinduism, the Vedas, were written during the Vedic period (or Vedic age, which is 1500–500 BCE) in Indian history. It is commonly acknowledged that the universal, transcendent, and unchangeable Dharma is fundamentally a law of interdependence, based on a hierarchy that matches the nature of things and is important to the upkeep of social order.²⁴ The King used his powers in the Vedic system. The royal orders, which were supported by the punishments, upheld dharma. The regal Kings, as well as the community in some situations, exerted management, control, and exploitation over water regulations. Hindu Vedic society flourished under the rule of Chandragupta Maurya, Harshvardhana, and the Gupta dynasties, who united the nation under a single, centralized bureaucracy.²⁵ The Rig Veda emphasizes the hydrologic cycle: water that is heated by the sun splits into tiny particles, which are then carried by the wind and turn into clouds, which cause repeated rain.26 According to "Adityat JayateVrishti," or "the Sun gives rainfall," the sun is the source of both water and rainfall.²⁷ Water is called Apahor, or the waters, in Vedic scriptures. When it comes to spiritual matters, water is thought to be cleansing.²⁸

Hail to you, Divine, unfathomable, all-purifying rivers, is how the Rig Veda depicts the holiness of water²⁹.

Water is referred to as pratishta, the fundamental principle or the very foundation of this cosmos, because the Rig Veda names the waters as the original dwelling place, or Ayana, of Nara, the eternal entity. Water is thought to be the most widely used purifying agent. It is thought to possess inherent purity and the ability to absorb and remove pollutants.³⁰

Water was hence a remarkable and pervasive element in the Rig Veda. It was the defender of all life and the saviour of all things on Earth, alive or dead. Water was revered spiritually not only by the Rig Veda but also by the ancient communities that existed before it.³¹ Similarly, the Yajur Veda and Sam Veda make explicit mention of the hydrologic cycle. According to the Atharva Veda (II, 3.1), rivers that flow from snowcovered mountains will continue to flow throughout the summer. All of the major rivers that originate in the Himalayas are perennial because they receive their water from snowmelt during the summer and rains during the monsoon.³²

The Atharva Veda (II, 23.1) states the following regarding water management: Effective use and management of water from ponds, rivers, wells, and other sources will lessen the severity of drought and water shortages. They were aware of the necessity of conserving water in order to address the issue of water scarcity.³³It says, "Your golden home is built in the heart of waters, O king Varuna."³⁴ Although our ancient books such as the Carak Samhita state that all water is essentially of one kind, water was traditionally divided into two categories: divya and bhauma. Divya means "that which descends from heaven."

Once more, there are four types: dhara, kara, tusara, and haima. The rainwater that falls constantly from the sky is called dhara, hailstones are called kara, snow water is called tusarais, and due water is called haimai.³⁵

5. Manu's Code

The Manav Dharma Shastra, also known as the Code of Manu, is the most significant body of literature on water law. The water legislation of the time is indicated in the Laws of Manu. Water was seen as un-dividable. According to Manu Samriti, the king is obligated to construct the irrigation system.³⁶ King ought to safeguard public lands and levy charges for waterway crossings. Water diversion or obstruction was discouraged, and regulations were put in place to punish individuals who stole, contaminated, or altered waterways. Building embankments was forbidden. In order to guarantee that as many communities as possible had access to water, the law promoted the use of bodies of water as boundaries between villages. However, during a battle, enemy water bodies may be destroyed.

Rivers are said to have been created by the Goddess Saraswati, according to the Rig Veda. "Let him not entertain a sradda (dinner) ... he who diverts water courses and he who delights in obstructing them," reads Chapter II, Sect. 151 of the Code. Chapter IV, Sect. 226 declares, "He who gives water obtains satisfaction," and Sect. 229 reads, "A rich man must always, without avoiding it and with faith, do charitable works as constructing a reservoir or a well or building a public fountain." This clause bears similarities to the Islamic legal concept of Waqf, or religious endowment. The concept of public waterways is given in Chapter IX, Sect 219, when "water" is stated to be indivisible along with other things. In order to cross rivers, the king used to gather rights of way (Chapter VIII Sect 404). A specific duty was imposed on the monarch concerning public water, requiring him to set up watch keeping, guards (both standing and on patrol), and spies "on waters and on houses where water is distributed" (Chapter IX, Sect. 264-266). A reservoir's dam must be broken in order to prevent water loss, and the person who does so will be punished with death by drowning or having his head cut off. This is known as the moral obligation to "consider water as a matter for exclusion from society of good people the sale of consecrated reservoir (Chapter VII, Sect. 61 and 69)." "The offender" is required to pay the maximum fine even though he is allowed to repair the harm (Chapter IX, Sect. 279). However, according to Chapter IX, Sect. 281, "whoever shall take away the water, must be made to pay the first (or lowest) fine."³⁷ Lunar penance is the penalty for taking water from a well or cistern without authorization (Chapter XI Sect 164). Waters were also thought to be a part of purification and a way to determine a person's guilt for specific offenses. To be purified, special rituals had to be carried out.³⁸ A strong water administration led by a water superintendent was in charge of managing the use and distribution of water. This senior officer had absolute authority over all matters pertaining to water.³⁹

One of the eighteen heads of disagreements that Manu mentions has to do with village boundaries. According to the Manu law book, tanks, ponds, channels, and other water sources should be used to draw the boundaries between two villages. Naturally, inter-village water supply is taken into account in order to provide a steady flow of water between two such units.⁴⁰

Manu stipulated that the destruction of a tank's embankments would result in drowning or beheading as punishment.⁴¹ In a similar vein, the Vishnu Sutra stipulates that a king must execute anyone who demolishes an embankment. Additionally, erecting embankments that block water courses or using tanks intended for public use without permission carry steep fines.⁴²

6. Kautilya's Arthashastra

Kautilya, the principal political and statecraft counsellor to Chandragupta Maurya (321-297 B.C.), wrote the treatise Arthashastra. According to Kautilya, the King is supposed to build reservoirs with a steady water supply or with water taken from other sources when new villages are formed.43 During the Kautilyan era, Arthashastra stipulated that anybody utilizing water extracted from rivers, lakes, or springs were required to pay a water tax.44 It also offers a thorough explanation of Kautilyan period governance. According to Kautilya, the King need to build reservoirs (setu) and fill them with water-either from a permanent source or another one.45 Alternatively, he may offer locations, roads, lumber, and other essentials to people who build reservoirs on their own. Anyone who avoids this type of cooperative building should delegate his job to his servants and bullocks and split the costs, but he shouldn't be entitled to the profits. According to Kautilya, the government should not only create water reservoirs but also provide the required backing to private contractors who take on the task of doing so. Every day, the Nagaraka, or Government Superintendent of the City, will inspect the water reservoirs. Although private ownership of water works was promoted, a person's tank may be sold or mortgaged. Additionally, a tank loses ownership if it is not utilized for five years, with the exception of emergencies. Kautilya advises against demolishing the waterless and disused tanks.⁴⁶

The Arthashastra addressed the use of water for transportation, irrigation, and the creation of water works. It said that all water belonged to the King and that users had to pay a water fee in order to extract water for the King's irrigation systems. Water tax exemptions were given for the construction or upgrade of irrigation facilities. The use of water for agriculture was subject to taxes.

One-fifth of the produce was charged for the use of water from the King's constructed water works that were physically moved. A quarter of the produce was charged on water carried by bullocks, and a third of the produce was taxed on water raised into channels by machinery. A 1/4th of the produce was taxed on irrigation water drawn from natural reservoirs.⁴⁷

It was forbidden for someone irrigating their land from a tank or reservoir to harm another person's field that had been plowed or sowed. Moreover, prohibition was imposed on:

- 1. Unintentionally releasing water from a dam;
- 2. Negligently impeding others' legitimate usage of water;
- 3. Creating an impassable path for a customary water course;
- 4. Constructing a well or dam on another person's property; or
- Buying, selling, or otherwise mortgaging a bund or embankment that was constructed and long-used as a public charity project, unless it is abandoned or in ruins.⁴⁸

The Chief Superintendent of Crown lands was responsible for collecting the precise taxes that were owing to the king.⁴⁹ It is forbidden to damage other people when irrigating one's own field, according to the Arthashastra. It outlawed erecting water works on someone else's land, obstructing others from using water for lawful purposes, obstructing or diverting the water flow, and releasing water from dams without a valid justification. Compensation was due to the other party in cases when overflowing floods caused harm to them. A list of the several types of damages and the associated payments or penalties is provided by the Arthashastra. The death penalty was one of them. Transport and trade may be conducted via the waterways.⁵⁰

It is clear from the Arthashastra that the farmers were aware of the properties of the soil, the patterns of rainfall, and irrigation methods. The state provided assistance in building irrigation sections. Aside from the king's involvement in water management during the period, the local community had a significant part to play.

7. Other Religious Texts

An authority on civil and criminal law, Apstamba, is known for his Dharma sutra, an aphoristic type of teaching passed down from master to disciple. It states that anyone found to have inadvertently taken another's property, including water, will face consequences. However, if this is done on purpose, his clothes will be taken away.⁵¹ Another Sutra states that the King is immune from the consequences of his actions since he is a sovereign and can take or receive water from wherever without it being viewed as theft.⁵²

Numerous other regulations emphasized the importance of water in religion. It offered people a form of self-control or consequences to follow. According to Chapter V of the Dharamshastra of Vashistha, a man's intellect perishes if he urinates in water. Such rules, which are still in place today in some areas of the nation as religious customs, highlight the necessity of maintaining the purity of all water.⁵³The fundamental components of water laws from antiquity were self-restraining regulations and specific activities meant to preserve and conserve water.

Water is consequently given a hallowed quality by Vedic philosophy, which also identifies it as a means of achieving spiritual enlightenment.

It was believed that knowing the fundamental significance and power of water trumped all customs and rights. According to the Vedas, water is the first step towards achieving the divine order or the very essence of spiritual sacrifice. The following guidelines for water laws can be established by looking at a number of Hindu scriptures. Water was seen as un-dividable. It was the duty of the able to create water works for the good of others. King ought to guard public waterways and levy levies on waterborne traffic. Waterway diversion or obstruction was discouraged. Laws imposed a system of social distancing and penalties on anyone who stole or diverted, or who contaminated the water.

Building embankments was forbidden. In order to guarantee that as many communities as possible had access to water, the law promoted the use of bodies of water as boundaries between villages. However, during a battle, enemy water bodies may be destroyed. Water administration was under the jurisdiction of a water controller.⁵⁴

8. Post Vedic Period

The idea of ritualism was created by Samritis, or post-Vedic literature, in contrast to the idea of spiritualism found in early Vedic writings. Water controlled human existence's ceremonial or physical purification. Ritualism had a connection to the idea of morality or Dharma. In Hindu society, dharma is enduring.

Large food surpluses between 500 and 300 BCE suggested there was no actual water scarcity and

encouraged the growth of trade along waterways.⁵⁵ Buddhism and Jainism emerged at this time as opposing religious movements to encourage the preservation of natural resources. Both Gautam Buddha and Mahavir Jain encouraged moral behaviour, moral convictions, and compassion for other living things. Following the Kalinga war, Ashoka, the victorious monarch, converted to Buddhism and advocated for nonviolence among his subjects.

In addition, Ashoka urged his officers to plant trees and construct reservoirs.⁵⁶ The decline of Buddhism and Jainism about the year 400 CE was followed by a decline in agricultural production, which could have been caused by a decrease in soil fertility, a shortage of water, or an increase in the human population.⁵⁷

Scarcity of resources again led to the worship of particular animals and trees and conservation during the Gupta era and up to roughly 1000 CE. Low trade and urbanization were prevalent during this time. Large-scale agricultural expansion was made possible in South India starting in the ninth century by the advancement of new tank technologies as well as better dams and canals.⁵⁸

There was a Hindu Vedic civilization and a unified nation under the rule of Chandragupta Maurya, Harshvardhana, and the Guptas, with a centralised bureaucracy. During the Mauryan period, Agronomoi, an example of a well-organized bureaucracy, oversaw irrigation among its other responsibilities. The official in question monitored rivers and checked the sluices that allowed water to flow from branches, ensuring that everyone had an equal amount. Building tanks, reservoirs, canals, and wells was considered an essential state role. In a similar vein, regulations governing water transportation and charges applied to commodities transported across waterways also exist. The regulations prescribed penalties for noncompliance, such as goods halt and other measures. Furthermore, the tradition of land grants conferred ownership to the accessible water resources as a means of acknowledging the King's rights in water during the post-Gupta era.

9. Conclusion

In this way, one can observe the existence of a legal framework for water management in the ancient era, but it is impractical to compile various laws, rules, and customs because at that time, small republics with independent, self-sufficient villages maintained the socioeconomic system. The issue becomes even more complicated due to the dearth of effective literature on agricultural topics, which makes it difficult to compile a single sociological corpus juris of water for any socioeconomic group in India during that time.⁵⁹ This makes the task considerably more challenging considering the size of the nation and its political and demographic differences.

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