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Cultural Ecology: An Earliest Indian Physique

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Abstract
Culture is core to studying society to understand human interaction with human beings. Cultural ecology is such an approach that provides an interdisciplinary approach to understanding the evolutionary process of humans. India is known for its rich cultural diversity and ecological as well. Ecology shapes men's culture, which means human relations with ecology shape the cultural environment. Every aspect of human existence and its culture, determined by environmental phenomena, can be placed within the scope of cultural and ecological characteristics that contribute to the formation of historical events and cultural contexts. This paper captures ecology in ancient India presented through studies that are part of environmental history. The old and complex traditions and rituals function as the ecological relationship between humans and nature is depicted in this study. As ancient culture was concerned with reflections on the deep connection between life and ecology, it presents an in-depth analysis of ancient culture's responses to ecological concerns.

Keywords: *Cultural Ecology, Environmental, Nature, Civilizations, Arthashastra*

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I. Introduction

In early human civilization, the environment was crucial in determining people's livelihood. A new ecological perspective is needed on ancient texts and other sources that have not been examined ecologically. There is evidence that environmental factors have influenced cultural practices. The Indian culture is one of the world's oldest living cultures, and it believes in balancing the environment through the integration of customs, rituals, beliefs, and values, which we call cultural ecology. Furthermore, these models for India's environment have often been articulated through religion and enforced by rituals. In this regard, it is also important to mention that the Indians of ancient times had a good understanding of ecology, reflected in various Indian texts. In India's environmental past, the modern era has gained the most attention, with appropriate alternatives. Culture and the environment are the two main challenges of our generation. Given the role of the environment in shaping human cultures, in this paper, I would like to focus on environmental characteristics that have impacted our cultural process over thousands of years.

Clarification of Terms

The two key terms that are a central idea of this paper- as we see in the title are cultural ecology and ancient India. Firstly,'cultural ecology' is a modern term that emerged as a hindsight concept denoted by men-nature interaction. These terms are made by two fundamental cultures and ecology, meaning that human values, symbols, ideas, practices, institutions, and beliefs are reflected in ecological perspectives. Cultural ecology is an interdisciplinary approach to understanding the man-environment relationships proposed by Julian Steward. It explains religious beliefs and practices as cultural-ecological adaptations that are consistently involved in sustaining human ecosystems. Ecology is the study of the composition and behavior of the natural world, of which humans are a part (Gunn, 1980). The study of ecology is a theoretical context for examining human civilizations rather than just a reality of the life sciences. The second term denoted the region of the earliest time of India. Ancient India was the ideal ecological region for developing civilization in the ancient world. Although the ancient peoples did not study environmental or ecological science as it stands, they were very conscious of its basic principles. The societies of antiquity have created cultures based on ecology so that our environment remains in balance. Thus, ancient Indian literature revealed they lived close to forests and natural resources.

A Methodological Notes

This monograph on cultural ecology in ancient is mainly a study of the interaction between men and the nature of India from the earliest times to the Gupta period. I have tried to reconstruct the picture based on all available literary, archaeological and secondary sources. One crucial school that provides the theoretical

framework to understand the relationship between earliest cultural manners and ecology is the cultural ecological school. It explains how historically interact with people and their beliefs and practices as cultural ecological adaptation systemically involved in maintainingthe human ecosystem. Ecology and environmental studies began gaining popularity in the 1960s in academia and the general public. Julian Steward's Theory of Culture Change, published in 1955, set the groundwork for cultural ecology. In the 1960s, anthropologists like Robert Netting, Roy Rapport, and John Bennett continued to define the field's boundaries, symbol, and substance (Steward, 1972). In a broader sense, Steward described cultural ecology as an analytical tool for identifying whether similar adjustments occur in similar situations or how the adaptation of a culture to its environment may involve specific alterations (Steward, 2005). From the methodological point of view, the gist of this article is that we cannot ignore such cultural and ecological factors to understand the development of civilization in ancient India. Contemporary eco-management does not understand how traditional environmental knowledge relates to animal, plant, and mineral life. So, we take a new ecological look at cultural relations, which can help define men-ecological ties through a unique cultural ecology approach. Hence, this paper aims to offer an environmental perspective on critical studies of ancient India. This paper has been tried to highlight in six appearances and finally concluded it.

Primitive Life and Civilization

Primitive society depended on the natural world for their daily sustenance. The initial mode of care for men was hunting and gathering. For example, in the Belan Valley (UP) of Vindhays, remains related to the Paleolithic site were rich in stone tools and animal fossils, including cattle and deer. (Sharma, 2006: 53). He lived in caves; In addition, they lived in houses made of tree branches, leaves and other materials. The public lives of Paleolithic communities have been shaped by their specific environmental circumstances. Such communities utilize all of the natural resources at their disposal wisely and have a strong sense of conservation. The Paleolithic age saw the most significant prevalence of hunting and gathering, and gathering practices remained throughout the Mesolithic period. Climate change throughout the Mesolithic period affected human existence and led to changes in flora and wildlife, making it possible for humans to settle in new regions. According to Irfan Habib, 'The arid climate has forced people, plants, and animals to coexist around the available water sources. This proximity has led to mutual dependence' (Habib, 2017; Singh, 2015: 67, 83). The rock drawings show these changes. Mesolithic People used to feed themselves by hunting, fishing, and gathering food; subsequently, they began the domestication of animals. The livelihood of the Neolithic people depended on the exploration of plants and animals through domestication, hunting, and gathering.

Cattle, introduced at the beginning of the 2nd millennium B.C. from the Northwest to the central region of the Ganges, was the basis of a mixed agro-pastoral economy.(Singh, 2010; Murphy & Fuller, 2017). Available evidence suggests that in addition to agriculture and domestication, the Neolithic people of this region also hunted and fished. Evidence of hunting for animal husbandry is found in Bagore, Rajasthan. Cattle herders were Neolithic settlers in Piklihal. Sheep, goats, and other animals were domesticated. The earliest traces of the domestication of animals are found at Adamgarh in Madhya Pradesh and Bagore in Rajasthan (Singh, 2015: 84). A Neolithic person was the oldest cultivator in India.

The Neolithic period they created its ecological knowledge foundation to make the shift from hunting and gathering to animal husbandry and the start of agriculture.In the sixth millennium B.C., rice was cultivated in Neolithic sites in Allahabad and Mirzapur. In India, fossilized artifacts and ancient tools were used to narrate the history of human origins and creation (Singh, 2015: 98-99). Stone marked the beginning of the Paleolithic Civilization. Tools from the Paleolithic, Mesolithic, and Neolithic periods, prehistoric artifacts, and megalithic relics are examples of cultural objects.Mainly, these cultural object artifacts were made with the purpose of cultural beliefs. A deeply held religious principle that has long been reflected in people's daily lives and ingrained in myths, folklore, religion, the arts, and culture is the protection of nature and wildlife. They finally did, though, move close to rivers and start farming. This led them to become cultivators and later merchants. At that time, humans lived in their natural habitat, which featured forests, mountains, and water sources. They had access to food from mountains and woods, which led to the development of human civilization. The sacred and loving bond between them benefited both men and the environment. Pictographs and other forms of rock art on the rocks depict how early man interacted with the natural world. Paleolithic cave paintings representing fauna indicate that animals played an expanding role in the consciousness of humans. This role then expanded to include a range of animism, totem, and religious symbolism and became even more complex after the domestication of food animals around 10,000 years (Lodrick, 2005: 62; Singh, 2015: 83). Around the Neolithic age primitive peoples started to adopt in their customs and myth a ritual attitude towards animals and other natural species. The feminine clay figures belong to the Neolithic Age in the northwestern region. These clay figures are denoted as mother goddesses. (Singh, 2015: 78). Men became civilized over time and engaged with the environment and others at every stage (Patra, 2016). Because of their ecological background, which aided their adaption to nature, humans could produce biological growth. Stone tools were used for plant hacking, root

crop digging, wood scraping, and honey extraction. As a result, society evolved from a simple to a complex social structure.

Indus Valley Civilization

Most ancient civilizations, such as the Indus Valley Civilization, were heavily affected by environmental factors. The Indus Valley grew up in areas with plenty of water for agriculture and human needs.The so-called Harappa civilization in the river valleys of northwestern India was a society based on highly productive settled agriculture like Kalibangan in northern Rajasthan was an agricultural field in pre-Mature Harappa times. (Lal, 2010: 10). Harappa culture is worldwide for its urban nature and habitat. In the town planning of urban settlements, various bricks are used at Kalibanga and Lothal, although mud and bricks were used for most of the residential houses (Lal, 1984; Chakrabarty, 1995; Basham, 1975). The Indus Valley civilization provides evidence of human interest in wildlife as seen in seals depicting an image of rhino, elephant, bull, etc. Most of the photographs depict animals in a cultural setting. People in the Indus Valley also revered trees such as *pipal* and animals such as humped bulls, elephants, and other animals, which were domesticated too. The tradition of tree worship, especially *pipal* associated with scenes of sacrifice and worship (Pant and Singh, 2021: 57) and even growing out of the head of a three-faced male figure, which has to be a proto-Shiva in the aspect of *Pashupati,*"Lord of the Beasts (Srinivasan, 1975; Lal, 2003:163; Sharma, 2006: 87). It has been a common form of worship in Indian cultural and social life since Harappa time. The Harappa was well-versed in some techniques for controlling and conserving water. One of the earliest public water tanks in ancient history is thought to be the Great Bath of Mohenjo-Daro. Mohenjodaro featured over 700 wells, residences with baths and toilets, a sophisticated sewage system, and running water (Sanyal, 2012). Small bunds were constructed to collect rainwater in places like Lothal and Inamgao. Lothal, a Harappan porttown with a tidal dockyard encouraging marine trade, was located along the BhogavaRiver (Patra, 2016; Lal, 2016). There are many reasons for the decline of the Harappa civilization, but one of them is climate change, weak monsoons, and drought, which show ecological imbalance. The Harappa culture came to an end between 2000 and 1500 BC. This could have been caused by a climatic change or lousy water management, sharply reducing the surplus available from agriculture. They may remain sedentary for a few months, looking after a small patch of cultivation in years of favorable rainfall; there is no cultivation in years of poor rainfall. However, around 2200 B.C., we see recent research that the monsoons had become much weaker, and there were protracted droughts(Rangrajan, 2020: 76). The drying up of the Ghaghggar River was one of the problems which the Indus civilization (Sanyal, 2012). In the dry season, they moved to other places extensively with their animal herds. Briefly, other causes may not be ignored due to the decline in Harappa, like demographic pressure, excessive flooding, and lack of natural resources. Harappa cities did not collapse suddenly, but due to deteriorating environmental conditions.

Aryan Settlements and its Culture

However, it isn't easy to conclude the nativity of the Indo-Aryans. However, their early settlements in northern India and gradual expansion over this area are available as evidence of Vedic literature. The hymns of the Rigveda have abundant geographical sources in this regard. The Puranas are silent about the origin home of the Aryans. In the Rigveda mentioned Mujavant Mountain, one of its peaks, is referred to as the source of Soma, located in Brahmin settlements. Around 1500 BCE, the Aryans originally lived somewhere in west-central Asia and spoke Vedic-Sanskrit (an Indo-European family language). They settled in eastern Afghanistan and part of Sindh and Rajputnas, the northwest frontier provinces, Kashmir, and east India up to Sarayu.

In the famous Nadistuti (X 75), the Rigveda lists several trends of rivers, most of which belong to the Indus system, which are mentioned as Ganga, Yamuna, Sarasvati, and Sarayu. Ganga is not an essential watercourse in the Rigveda period. In this period, the Sarasvati River was of vital significance and is located between the Yamuna and the Sutlej. The Vedas were composed in the Indus Sarasvati region. The Indus, Sutlej, Ravi, Beas, Chenab, Jhelum, and Saraswati are the 'seven rivers' that are called collectively Sapta Sindhu and that, after some time, called this region Brahmavarta, which means 'the land of Brahma. Aryans gradually occupied the whole of northern India from the Himalayas to the Vindhyas. This region was called Aryavarta or 'the land of the Aryans. The migration of Aryans led to agricultural colonization of wetter river valleys. The first begins with the Indus, and the last is Saraswati. Accordingly, the tract between these two rivers was the first Indo-Aryan settlement. (Mazumdar, 1968: 65; Pannikar, 1954: 11).

The cold dominant climate, rainy season, natural vegetation, and fauna of the SaptaSandhav region influenced the Rigvedic society.The rich alluvial soil provides plenty of sustenance for men and cattle. The nation that had colonized the entirety of Punjab was unlikely to remain dormant on the banks of the Saraswati and the Satlej, so resourceful bands of colonists quickly crossed the Punjab Rivers. They expanded their conquests eastward, establishing villages along the way. And then around between b.c.. 1400 to b.c. 1000, The Aryans spread over the Gangetic Valley (Allchins, 1996: 316; Souza, 2007: 150). Iron was the one element of

technology brought in by the Vedic tribes, and this technology evolved from nomadic pastoralism dependent on cattle to a form of settled agriculture (Gadgil, 1985; Erdosy, 1995: 263). Livestock breeding is considered their primary occupation, and a significant portion of rich people's wealth consists of large herds of cattle (Fisher, 2018: 43). The economic importance of livestock in Aryan society is much more than their ceremonial and symbolic significance. The rivers were used for transportation, and many trading towns were built on the banks of the rivers. Bulls, horses, and camels were used for carriage. Yajana was the cornerstone of Vedic religion, and cattle were the victims of Yajana (Keith, 1925). The cow and the ox were offered as sacrificial offerings (Rig Veda 8:43.11; Thapar, 1987: 115), and the flesh of the offerings was given by the priests (Brown, 1964). Animal sacrifices are made in Yajna, along with offerings of the soma plant. The animals are cooked using the intoxicating juice of Soma's herb, which was the gods' preferred beverage. The gods eat from these sacrifices, and Brahmins do as well (Jurewicz, 2014: 79).In addition, domestic animals like goats, sheep, and buffaloes were used for both cultivation and war, and dogs carried burdens. Agriculture became more important as a primary source of livelihood during the later Vedic period, c.1000 BCE to c.600 BCE (Patra, 2016: 44; Dutta, 1936:51; Allchins, 1996).Agricultural commodities included wheat, rice, cotton, and oilseeds. Rig Veda contains many contexts in irrigated agriculture, rivers, dykes, water reservoirs, wells, and water lifting structures that are still known in northern India (Agrawal and Narain, 1997). The wells are mentioned in Vedic literature for irrigation purposes. (Mazamudar, 1968) The Aryans used organic fertilizers in their agricultural fields daily and practiced irrigation-based seasonal agriculture (Bhattacharya, 2014). The plow was used for cultivation, evidenced by the clearing of the flat, often marshy forest of the Gangetic Plain for agriculture (Souza, 2007:154).

Nature's elements are revered and protected as divinephenomena in the earliest Indian writings. Vedic culture and scriptures have profoundly stated about ecosystems and emphasized maintaining the balance. The Vedic hymns are thousands in number and addressed to the power of nature gods and goddesses such as Agni (fire), Indra (rain god), Varuna (sky), Sabita(sun),Maruts (storms) andPrithavi (Earth). Finally, they considered all manifold manifestations of the one God, called by different names. A fundamental sense of harmony with nature nurtured an ecological civilization in the Vedas. The forest was considered the highest form of cultural development. The worship of trees is part of a fertility cult in Indian rituals. According to Zimmermann,'The jungle appears in classical writings as the pole within the framework of a normative ecosystem that is positively valued, while the dry plains are superior in every way. The jungle is the land of Brahminity since it is healthy, fertile, and inhabited by Aryans (Zimmermann, 1999). The idea of protecting forests and wildlife emerged around the sages ashrams in ancient India because forests were revered as places of spiritual peace (Chakrabarti, 2020: 4; Thapar, 1987: 12). In the post-Vedic period, the Aranyak (forest education) texts have shown the characteristics of such secluded priests, besides this, the priests and their disciples could get education in another way (Habib, 2017: 73). The Krishna story cycle draws from both the pastoral forest and the soft forest associated with cattle grazing (Rangrajan, 2007: 38). A Tree Plantation Ceremony called "Vanmahotsava" is mentioned in the Matsya Puran. (Pant and Singh, 2021: 62). It says plants should be watered and adorned with clothes. Sacred groves are an excellent example of forest protection since they are strongly related to spiritual observances, the significance of watersheds, and the use of cremation grounds. They may even contribute to the growth of the forest. There are poems devoted to Aranyani Devi (the lady of the woods) in the 10th Mandala of the Rigveda, one of its linked sources. (Pant and Singh,2021: 61).The significance of trees in the lives of Ancient Indians can be drawn from the four *Vedas,*which provide a lot of references to various herbs, trees, and flowers (Bithin, 2009: Sinha, 2007: 224). Ritual vessels used in the Vedic Yajna had specific junctions and were only made of particular kinds of wood, which suggests a symbolic myth concerning trees and timber.It makes sense that Indians worship trees because they not only offer shade during the sweltering months, food, medicine, and fuel but also rain, which was necessary for a solely agricultural economy. Being helpful to humans, trees were turned into the homes of tree spirits or vanadevatas to safeguard them. The *Prithvisukta*primarily advocates human close man's relationship with ecology and nature.The development of agriculture and domestic animals provided the basis for sedentary societies, made possible the emergence of urban civilizations, and ultimately permitted the evolution of the contemporary.

Jainism and Buddhism

Religion has been reinterpreted as enhancing man-land relationships and as a tool to protect nature. In the second half of the sixth century B.C., many religious communities emerged in the middle Gangetic plains. Jainism and Buddhism are the two most important religions of India. These heterodox sects of ancient India also advocate ecological conservation through *Ahimsa* (non-violence) and karma. Mahaveer Swami was a founder of the religion of Jainism. Jaina culture relies mainly on the principle of non-violence. That is why it is utterly forbidden in Jaina's scriptures to kill plants and other living beings. Jaina's philosophy is largely based on spiritual ecology, meaning that Jainism presents a comprehensive approach that advocates the interrelatedness

of all life forms (*Jiva*). It grants that every human being is a highly advanced creature of the Earth, that is why every *Jiva* must be respected. The world consists of countless living forces known as *Jiva.*Jainism states, "Earth, water, fire, and air all have Jiva or individual bodies of vital force (Tucker and Grim, 2021: 210). Jainism believes in rebirth, meaning it can returnas living beings (Sharma et al., 2014).Therefore, no living beings should ever be harmed is one of the basic principles of Jainism. According to Shah, "Jainism in Action is an eco-friendly religion that preserves and protects the Earth and Environment, respects the lives of animals, birds, fish, and other beings, and promotes the welfare of society by applying its primary tenets of Ahimsa and Non-possessiveness (Shah, 2005:31). Gautama Buddha and Mahaveer Swami were contemporary. Gautama Buddha was the founder of Buddhism.Buddhism is considered an ecological religion or religious ecology. From birth to death, the life of the Buddha was intimately connected with nature, particularly trees. Lord Buddha usually spent his night near the pond or in the Amarvana and other forests during the journey. *Divyavadan* mentions that Lord Buddha was born under the Ashoka tree in *Lumbini Vana* (forest), attained enlightenment under a *peepal* tree, and even attained *parinirvana* under the *Shala* tree (Heming, 2002). Not only Buddha Mahavir Swami also attained enlightenment under the *shala* tree. Forests also provide a natural, pure, and peaceful environment for those who want privacy and peace and the cover of green earth life of human society (Pandey, 2008:298). *Sutta-Nipata* mentioned: "The tree gives you pleasing shade sitting or lying down, not cruel deeds to its branches." The saffron-colored cloth usually worn by monks is wrapped in a tree trunk to indicate its sacredness.The tree becomes a substitution monk and is generally protected (Darlington, 2012). Most of its principles are relevant to nature to the degree that Buddhism believes in intolerance, love, compassion, forgiveness, and non-violence toward all beings, not only humans(Koizumi, 2010). Buddhism follows the middle path and states that killing animals or felling trees should not be done until necessary. The Buddha instructed the monks to take care of the tender trees in the *Vinaya Peethak.* Based on this, we can learn the virtues of plantation and nurture. There is a story in the '*VinayaPeetak*' of Buddhism. According to him, Buddha has prohibited the cutting of *penpals.* Not only this, in the Buddhist tradition, there is a law of rain for three months in the rainy season, in which any monk is supposed to come out so that the new plant's green trunks do not die and the animals with one sense, the vegetation will not suffer. Buddhist writings always treat animals with a great deal of compassion and understanding. It was Gautama Buddha who first emphasized the need to protect cows in his Pali canonical text, the Suttanipata (Sharma, 2016:44; Shahu, 2006: 43). His emphasis was on the virtue of rearing with food that creates vitality, health, and happiness(Sharma, 2016:44; Shahu, 2006: 43). Therefore, he prohibited killing cows. The elephant, the horse, and the Naga, the noble serpent, are just a few examples of creatures used to personify noble traits. According to Buddhism, the root causes of climate change can be understood as cravings, delusions, and aversions. (Statement, International Dharma Teachers) The Buddha himself is Sakya-Shia, the Lion of the Sakya clan (Torgersen, 2019: 28). Before Buddha Shakyamuni illumined himself, he lived 500 lives as an animal and 500 lives as a human (Torgersen, 2019: 37; Singh, 2015: 53). In Suvarnaprabhasasutra, when the Buddha saves the fish and worms of a pond that is about to dry. He does this by getting the help of the elephants to bring the water to the pond, thus saving the lives of the worms and fish that live there (Torgersen, 2019: 43). Buddhism believes that all things, including humans, exist by their interrelationship with all other parts of nature. This indicates a sort of ecology training for the Buddhist monks. Monasteries or ashrams as a community garden were made to live together with sages or monks to purpose meditation or spiritual things in ancient times. Many traders and guilds donated viharas Buddhist architecture to live for Buddhist sanghas or monks as Jetvahanvihar. Buddhist monks lived together in a community in this type of monastery, which may be called a sangha. This type of structure was built with a rock-cutframework as a cave. In addition, sometimesit was made of bamboo ribs, tree leaves, and mud bricks.Julia Shaw has expressed it as transcendence or control of nature (Shaw, 2016: 526). We see social changes that mean nature has no discrimination and no hierarchy. For the reason thatBuddhism is mainly based on equality, liberty, and fraternity.Buddhism and Jainism have condemned both creatures' violence. They believed in maintaining cordial relations while causing no harm to nature or wildlife.

Towards Early Dynasties

The Magadha, a region of the middle Ganges plain (today India's Bihar region), is well endowed with mineral and bio-resources, which had rich geographical settings in ancient times responsible for creating sixteen significant territorial governments known as Mahajanapadas. In the central Gangetic plains, Magadha transformed into an empire under Bimbisara of the Haryanka dynasty. Its rulers exploited the country's mineral, forestry, and water resources to achieve this development. This was the time that witnessed great empires like the Mauryas, the Satavahanas, the Kushans, and the Gupta. Around a thousand years from the 5th century to the 5th century A.D. was like the formative period. As a result of Chandragupta's revolt (320-c. 298 BCE), the Maurya Dynasty was founded in Magadha. By 268 BCE, Chandragupta's grandson Ashoka's rule was the foremost example of ecologically responsible statehood in India's ancient history. Historically, some evidence indicates that systematic forest tradition was started around this period. The inscription Girnar of Ashoka (273-

232 B.C.) is a vital source written in Brahmi characters for the arrangement of trees and plants along the roads. The Second Major Rock Edict of Asoka mentions planting medicinal herbs and different trees for man and beast. The plantation of banyan trees and mango groves is mentioned in his Seventh Pillar Edict. Ashoka has taken many actions to protect forestry, including the plantation of trees along the national highway to make shade available to animals and humans (Edict Inscription II and Pillar Edict VII). People knew about rainfall regimes, soil types, and adequate irrigation strategies in particular micro-ecological contexts, according to Arthashastra (Chakrabarti, 2012: 70). Ashoka also built some of India's first state-built water control infrastructure, including reservoirs for residential and agricultural use, frequently at geologically suitable locations near Buddhist monasteries or stupas (Fisher, 2018: 65). Administration and rulers were also directed to protect and encourage environmental welfare in state affairs (Jha, 2004). The cult of the Bodhi tree was specifically ordained by the Sakya Muni himself (Jha, 2004). According to Divyavadana, the Bodhi tree was the favorite object of Asoka's worship (Randhava, 1980: 379). Hence,in his 8th Rock Edict, he says that in the tenth year of his reign, he visited Bodh-Gaya to see the Bodhi- tree.[2] In his first proclamation on the rock, he instructed his subjects not to kill or sacrifice one living creature. He prohibited indiscriminately killing birds and animals for food in his kingdom. He also opened hospitals for sick animals. The trees having fruits were maintained carefully, and cutting off such trees was punishable. Several types of fines were mentioned for cutting trees. The king was advised to keep some portion of the forest for the state's welfare and expenditure. In Arthashastra, some guidance was given for maintaining the stables for cattle, horses, and elephants (Ghosh, 2017), the Gupta period, known as the golden age, marked essential environmental advancements. The Chinese Buddhist pilgrim Fa-Hien, who traveled to India during this period, shed light on the Gupta period's ecological features. The stunning paintings from this period and their adoration for natural elements like trees, animals, birds, etc., may be seen at the caves of Ajanta and Ellora. Based on the Allahabad Pillar Inscription, Samundragupta conquered forests and mountains in Central India. People used the water from several rivers, primarily the Ganga, for livelihood purposes. Feudalism led to this period's emergence and the expansion of agriculture, which ultimately involved irrigation issues. In this period, large-scale works relating to the development of water reservoirs took place (Pandey, 2016). In this period, with the decline of trade and commerce, human activities changed the course of the river Ganga, and the ecology of these rivers changed.

Arthashastra as Ecological Text

Among the ancient texts, Kautilya's Arthashastra is the first historical evidence of ecological conservation anywhere in the world that is more than two thousand years old.Very few sources are found in the form of environmental authorities in ancient India. Historically, a spiritual or mythological view was applied to understanding the ecological perspective. At the same time, Kautilya's Arthashastra is most secular and pragmatic as Kautilya considered the conservation of the environment and ecology as an integral part of human beings and imposed strict legal provisions for the defaulters (Chandra, 2011). It was designed to identify the rules and regulations of a secular, realistic, and practical nature. According to Kautilya, the preservation of forests became a principle of the state. According to Kautilya, penalties should be imposed as Panas for plants, fruits, and cutting young twigs of a shady tree.

Further, if the trees of places of pilgrimage, forests of hermits, and cremation grounds are cut, penalties should be inflicted on the offenders. If the trees situated on boundaries, a place of religious worship, or in a royal forest are assaulted, the acceptable amount will be doubled. A unique position was occupied by the Director of Forests, who supervises the slaughter of animals, pastures, and cattle. For an example of animal husbandry, the work of Vrajpayrayag suggests proper rearing of calf, bullock, and buffalo and marking their names in the register (Vidhyalankar, 1923: 2/46/5). In addition, the official Gopal was appointed to manage young, old and milky cows (Vidhyalankar, 1923: 2/46/2). Sunadhyaksha official was there to protect the cows and there was a provision of 50 Pan Penalties on those who harmed them (Vidhyalankar, 1923: 2/43/2). Kautilya was perhaps the first authority to develop the Hasti Shastra or elephant-logy. Hastidhyaksh was responsible for the protection of elephants (Vidhyalankar, 1923: 2/48). In addition, He should create a forest for elephants on the kingdom's border with foresters watching over it(Shamasastry, 2010: II/2/6). Protecting elephants was considered a serious business (Jha, 2004). Kautilya gives an elaborate account of water and water bodies in Arthashastra in those days. Kautilya introduced new water sanitation methods and formed laws to punish people who were against them. Kautilya mentions two types of barriers- Sahodaka, where water has a natural flow, and Aharyodka, which is a kind of storage tank in which water is brought through channels specially dug for a purpose(Shamasastry, 2010: II/1/1), and that time more diverse water management techniques proliferated. Kautilya made relevant suggestions in Arthashastra, which valuable help to determine ecological balance and its administrative form and impose the law.

II. Conclusion

Ecology still plays a vital role in our culture and everyday life. The Indian culture deifies nature as an expression of God as the pursuit of unfathomed and infinite. The main reasonfor this article is that in ancient India, there was an active and complex relationship between culture and ecology. The cultural origins of environmental protection can be traced back to antiquity. The history of ancient texts is full of interrelationships between nature, divinity, humans, animals, and plants. The emphasis of old India's scripture has been on protecting environmental values. The Indian-centric modal of ecological conservation at the time of birth is highlighted in this paper. When the world is experiencing ecological crises, the ancient wisdom of Indian environmental protection is still relevant today.

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