

EARLY INDIAN PERSPECTIVE ON ECOLOGY AND ENVIRONMENT

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Ecology and environment of early period refers to the study and understanding of the natural world and its interactions in early times. Ecology and environment of early times encompass the knowledge, practices, and beliefs about the natural world from various early cultures and civilizations. Early human societies were intimately connected to their environments and relied on natural resources for survival. They developed an understanding of the ecosystems they inhabited and the interactions between living organisms and their surroundings. However, it is important to note that early ecological knowledge varied across different cultures and regions. In early India, the ecology and environment held immense significance and were deeply intertwined with the cultural, philosophical, and spiritual fabric of the society. The early Indian perspective on ecology and the environment was shaped by the teachings of various religious and philosophical traditions, such as Hinduism, Buddhism, and Jainism. These traditions emphasized the interconnectedness of all living beings and advocated for a harmonious relationship between humans and nature.

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Ecology and environment are interconnected fields that focus on studying and understanding the natural world and its interactions. Ecology is the scientific study of the relationships between organisms and their environment, including the physical and biological factors that influence those relationships. The environment encompasses the natural surroundings, including the physical, chemical, and biological components that form ecosystems. Ecology examines how organisms interact with each other and their environment, from small-scale interactions within a population to broader patterns at the community, ecosystem, and global levels. It investigates topics such as population dynamics, species interactions, energy flow, nutrient cycling, and the distribution and abundance of organisms. The environment comprises various components, including the atmosphere lithosphere hydrosphere, and biosphere. These components are interconnected and influence one another through complex processes. In short, ecology and environment are multidisciplinary fields that investigate the relationships between organisms and their surroundings. They address the functioning, dynamics, and health of ecosystems, the impacts of human activities, and the conservation and sustainable management of natural resources. Understanding and promoting the principles of ecology and environmental science are crucial for

addressing current environmental challenges and working towards a sustainable future.

Ancient civilizations, such as those in Mesopotamia, Egypt, the Indus Valley, and China, had a profound impact on the environment and were influenced by it in return. They developed agricultural practices, constructed irrigation systems, and managed water resources to support their civilizations. These early societies recognized the importance of environmental sustainability and the consequences of mismanaging natural resources. In early India, the texts known as the Vedas and Upanishads contained references to ecological principles and the interconnectedness of humans and the natural world. The philosophical traditions of India and the teachings of various sages and philosophers provide insights into the Indian perspective on ecology and the interconnection of all living beings. They emphasized the importance of living in harmony with nature and recognized the value of forests, rivers, and other natural elements. Overall, early ecology and environment in ancient civilizations revolved around the sustainable use of natural resources, the understanding of ecosystems, and the recognition of the profound connection between humans and nature. These early practices and beliefs laid the foundation for future environmental knowledge and conservation efforts.

Ancient Indian civilization had a rich perspective on ecology and the environment. Early Indian philosophy emphasizes that humans are an integral part of nature and that any harm to the environment ultimately affects human well-being. This understanding forms the basis for concepts like *Vasudhaiva Kutumbakam*, which translates to "the world is one family." Indian traditions promote a deep respect for nature and all its manifestations. Nature is considered divine and is often personified as deities, such as Lord Indra, Agni, and Vayu. This reverence encourages a sense of responsibility and stewardship towards the environment. Ancient Indian practices emphasize sustainable living in harmony with nature. The concept of "Ahimsa" or non-violence extends beyond humans to all living beings, including animals and plants. This principle encourages the adoption of vegetarianism and the avoidance of unnecessary harm to any living creature. Natural resources are seen as sacred and are considered gifts from the divine. Water bodies, forests, mountains, and rivers are revered and often associated with deities or divine entities. Practices like tree worship, river conservation, and ecological rituals aim to preserve and protect these resources. Ancient Indian thought emphasizes the importance of maintaining balance and harmony in the ecosystem. This balance is seen as essential for the well-being of all beings. Concepts like "Rita" and "Dharma" guide individuals to live in harmony with nature and fulfil their responsibilities towards the environment. The ancient texts, such as the Vedas and Upanishads, contain ecological wisdom in the form of hymns, prayers, and philosophical discourses. They describe the interplay between natural elements, the importance of biodiversity, and the need for sustainable practices. For example, the Atharva Veda contains hymns dedicated to the protection of the environment and the prevention of ecological disasters. Indian culture has a long history of traditional practices that promote environmental sustainability. These include practices like rainwater harvesting, organic farming methods and the use of medicinal plants for healthcare. These practices are rooted in the understanding of ecological balance and have been passed down through generations.

Ecology and environment played a significant role in early India, shaping the country's cultural, social, and economic development. The ancient Indian civilization had

a deep reverence for nature. Sacred landscapes such as rivers, mountains, forests, and groves were considered divine entities and were often associated with gods and goddesses. People regarded these natural elements as sacred and made efforts to protect and preserve them. Forests held immense importance in early India. Early texts like the *Vedas* and the *Upanishads* emphasized the value of forests and advocated for their conservation. The concept of Vanaprastha was an important stage in the life of a Hindu ascetic, emphasizing the spiritual and ecological significance of forests. Early Indian civilization practiced sustainable agricultural methods. Techniques such as crop rotation, organic farming, and using natural fertilizers were employed to ensure soil fertility and productivity. The use of cow dung as a natural fertilizer was widespread, and water harvesting techniques were developed to support agriculture in arid regions. Water was a crucial resource in early India, and various methods of water management were developed. The construction of reservoirs, tanks, and step wells helped in the storage and conservation of water. Sophisticated irrigation systems like canals were also constructed to support agricultural activities. Ancient Indian cities, such as Mohenjo-daro and Harappa, exhibited advanced urban planning, emphasizing cleanliness, sanitation, and efficient drainage systems. They had well-organized streets, houses, and public structures, indicating an awareness of environmental health and sustainability. Early Indian society recognized the importance of wildlife conservation. Hunting was regulated through laws and regulations, and certain animal species were protected. Ancient texts like the *Arthashastra*, written by Kautilya, advocated for wildlife conservation and prescribed severe punishments for poaching.

The philosophy of ahimsa and the interconnectedness of all living beings formed the foundation of early Indian environmental ethics. The concept of karma and rebirth emphasized the need for humans to live in harmony with nature and treat all life forms with respect and compassion. The rise of Buddhism in early India further emphasized environmental consciousness. The teachings of Buddha emphasized compassion towards all living beings, including animals and plants. Buddhist monasteries promoted vegetarianism and advocated for the preservation of natural resources. While these are some general

aspects, it is important to note that early India was a diverse and complex civilization with regional variations in ecological practices and attitudes towards the environment. The prehistoric period in India refers to the time before written records, making it challenging to provide specific details about the Indian perspective on ecology and the environment during that era. However, we can gain some insights by studying archaeological evidence and understanding the cultural practices of ancient civilizations in the Indian subcontinent. Prehistoric Indian communities were deeply connected to nature. They relied on natural resources for their survival, including hunting, gathering, and early forms of agriculture. Their livelihoods were closely intertwined with the environment, and they likely had an intimate understanding of local ecosystems and seasonal patterns.

Prehistoric Indians likely coexisted with wildlife and recognized the importance of maintaining a balance between human activities and the natural environment. Evidence suggests that they had a diverse range of fauna, including large mammals like elephants, rhinoceroses, and deer. Cave paintings found in different parts of India depict scenes of hunting and interactions with animals. Archaeological excavations have revealed prehistoric cave sites and rock shelters adorned with paintings and engravings. These artistic expressions often depict animals, suggesting a spiritual or ritualistic significance attributed to the natural world. These practices likely reflected a reverence for nature and the belief in the sacredness of the environment.

Prehistoric Indian communities likely practiced sustainable resource use, as they relied on the environment for their survival. They would have utilized natural resources such as timber, stone, and minerals, but it is reasonable to assume that they did so in a way that ensured the long-term availability of these resources, maintaining a balance with nature. The prehistoric period in India witnessed several environmental changes, including fluctuations in climate and the rise and fall of river systems. Prehistoric communities would have needed to adapt to these changes, altering their settlement patterns and subsistence strategies accordingly. This flexibility and ability to adapt to changing environments demonstrate an early understanding of the interconnectedness between humans and the natural world. It is important to note that these observations are

based on archaeological evidence and assumptions derived from similar prehistoric cultures worldwide. The Indus Valley Civilization, also known as the Harappan Civilization, thrived around 2600 to 1900 BC, the knowledge of their culture and practices is limited due to the lack of deciphered written records, archaeological excavations provide insights into the ecology and environment of the Indus Valley Civilization. The cities of the Indus Valley Civilization, such as Mohenjo-daro and Harappa, were remarkably well-planned with sophisticated drainage and sanitation systems. They had an advanced understanding of water management, with well-laid-out street grids and a complex network of covered drains. The emphasis on sanitation and drainage infrastructure indicates a concern for public health and cleanliness. The Indus Valley Civilization thrived along the banks of the Indus River and its tributaries. They implemented sophisticated systems for water storage and irrigation. Evidence of reservoirs, wells, and water channels suggests that they had effective methods of managing water resources for agricultural purposes.

Agriculture was the foundation of the Indus Valley Civilization's economy. They cultivated a variety of crops, including wheat, barley, peas, mustard, and cotton. The presence of granaries and agricultural tools indicates an organized and efficient agricultural system. It is likely that they practiced irrigation techniques to ensure reliable crop production. The Indus Valley Civilization had an extensive trade network, facilitating the exchange of goods and resources over long distances. They utilized local resources such as timber, stone, metals, and minerals for construction, craft production, and trade. This suggests a sustainable approach to resource utilization within their geographical region. The Indus Valley people were engaged in animal husbandry, as evidenced by the presence of livestock bones and depictions of animals on seals and pottery. They likely domesticated animals such as cattle, sheep, goats, and pigs, which provided them with various resources such as milk, meat, hides, and fibers. The archaeological findings from the Indus Valley sites reveal a diverse range of plant and animal species.

The presence of plant remains, including grains, fruits, and seeds, suggests a close relationship between humans and the local flora. Additionally, depictions of animals in art and

artifacts indicate an appreciation for the surrounding fauna. The Indus Valley Civilization displayed an ability to adapt to their local environment. The location of their cities near rivers provided access to water resources for agriculture and trade. The construction of houses with thick walls and flat roofs indicates an understanding of temperature regulation and the need for protection from extreme climatic conditions. While we can glean some information about the ecology and environment of the Indus Valley Civilization, much of their cultural practices and beliefs remain a mystery due to the lack of deciphered script. Continued archaeological research and advancements in linguistic analysis may provide further insights into their relationship with the environment and ecological practices. The Rigvedic period, which dates back to around 1500 to 1000 BC, is primarily focuses on religious and poetic hymns, it does offer some insights into the ecology and environment of that time. The Rigveda demonstrates a deep connection with nature and recognizes the divinity present in various natural elements. The hymns praise the forces of nature, such as Agni, Indra, Varuna, and Maruts, among others. This connection highlights the early Indians' appreciation for the natural world and their recognition of its power and significance. The Rigveda places great importance on rivers, considering them sacred. The hymns often mention rivers like the Indus, Ganges, Sarasvati, and Yamuna, and speak of their purifying and life-giving qualities. Rivers were seen as vital sources of water, and their abundance and flow were revered. The Rigveda contains references to various animals, plants, and their roles in the ecosystem. Animals such as cows, horses, birds, and even insects are mentioned in the hymns. The significance of cattle is particularly prominent, as they were considered valuable assets and symbols of prosperity. Agriculture played a significant role in the Rigvedic society, with the hymns frequently mentioning agricultural practices, cultivation of crops, and the importance of rain for a successful harvest. The Rigveda acknowledges the dependence on nature's cycles for sustenance and prosperity. The Rigveda hints at the importance of responsible environmental stewardship. The hymns contain prayers and appeals for the preservation and protection of natural resources, such as forests, rivers, and animals. They emphasize the need for harmony with nature and

for humans to act as custodians of the environment.

The Rigveda describes various rituals and sacrificial ceremonies performed by priests. While these rituals had a religious significance, they also had ecological implications. For instance, rituals involving fire, known as Agnihotra, were performed to purify the environment and maintain a balance in the cosmic order. It's important to note that the Rigvedic period was an agricultural society dependent on the natural environment. Their understanding of ecology and the environment was based on observations, religious beliefs, and the practicalities of their agrarian lifestyle. The Rigveda serves as a valuable source for understanding the early Indian perspective on ecology, as it reflects their reverence for nature and their recognition of the interdependence between humans and the natural world. The period of second urbanization in India refers to the rise of urban centers and civilizations that occurred from around 600 BC to 200 BC. The urban centers that emerged during this period, such as Pataliputra and cities like Taxila, Ujjain, and Varanasi, reflected a certain level of urban planning and infrastructure development. They were often situated near rivers, indicating the importance of water resources. The utilization and management of water resources continued to be important during this period. The construction of reservoirs, tanks, and irrigation canals was undertaken to ensure adequate water supply for agriculture. Land use patterns varied across regions, with agricultural lands, pastures, and forests playing different roles in the overall landscape. Forests continued to be an important part of the ecosystem during this period. Forest resources were utilized for timber, fuel, and non-timber forest products. The hunting of animals for sport and entertainment was prevalent among the ruling elites. However, the extent of forest cover and its conservation practices may have varied across different regions and ruling dynasties. Some rulers and empires during this period demonstrated an awareness of the importance of environmental conservation. Emperor Ashoka, of the Maurya Empire, is known for his pro-environment policies and edicts promoting wildlife conservation, afforestation, and the protection of natural resources. However, the extent to which such policies were implemented and their long-term impact is subject to historical debate.

The Gupta period, which lasted from approximately 320 A D to 550 A D, is considered a golden age in Indian history, while specific information about the ecology and environment during this period is limited. Agriculture continued to be the primary occupation during the Gupta period. The rulers and local administrations likely focused on agricultural development, as evidenced by the construction of irrigation systems, such as canals and tanks, to enhance agricultural productivity. The utilization of advanced agricultural techniques, including ploughing, crop rotation, and soil fertility management, might have been practiced to optimize agricultural output. Inscriptions from this period mention the granting of land for the establishment of groves and gardens, suggesting an appreciation for nature and environmental aesthetics. Religion and culture played a significant role in shaping the relationship between humans and the environment during the Gupta period. Temples, monasteries, and religious institutions were constructed, often surrounded by gardens and trees. While our understanding of the ecology and environment during the Gupta period is limited, the available evidence suggests that the rulers and administrators recognized the importance of sustainable resource management and environmental conservation.

Ancient Indian civilization demonstrated a multifaceted perspective on ecology and the environment, reflecting a deep understanding of the interdependence between humans and nature. From the prehistoric period to the Gupta period, there are discernible elements of environmental consciousness and sustainable practices. In the prehistoric period, the connection with nature was intimate, as evident from cave paintings depicting wildlife and the worship of nature deities. The Harappan Civilization showcased advanced urban planning, sanitation systems, and water management, emphasizing the importance of cleanliness and resource utilization. The Rigvedic period revealed a profound reverence for nature, with hymns praising the forces of nature and the sacredness of rivers. The agricultural practices and rituals performed during this period underscored the dependence on nature's cycles and the need for environmental stewardship. The Later Vedic period highlighted the significance of forests and wildlife conservation, as well as the ethical responsibility of humans in maintaining ecological balance. The Aranyakas emphasized

the value of forests as spiritual retreats and sources of resources. During the time of second urbanization and the Gupta period, agricultural development, land management, water management, and forest conservation gained prominence. Rulers implemented policies to enhance agricultural productivity, constructed irrigation systems, and recognized the importance of forests. Trade networks and resource utilization influenced the environment, necessitating regulations. Throughout these periods, there was a prevailing belief in the interconnectedness of all beings and the need to preserve ecological harmony. Rituals, ethical principles, and philosophical discussions reflected an understanding of humans' role as custodians of the environment. While each period had its specific cultural, technological, and political contexts, the early Indian perspective consistently demonstrated an awareness of the environment's importance and the need for sustainable practices. This holistic approach to ecology and the environment provides valuable insights and lessons for contemporary environmental challenges.

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