Indian Traditional Knowledge on Environmental Conservation: A Survey*

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Introduction

In many parts of India, communities have inherited the rich tradition of love and reverence for nature through ages. Religious preaching, traditions and customs have played a big role in this regard: Indian religions have generally been the advocates of environmentalism. They campaigned for such guidelines to the commoners that ensured an intimate contact and sense of belonging in nature. It came in the form of directives to the believers to perform certain rites and rituals, so that it became a way of their life. Sometimes the messages of environmental protection and conservation are in a veiled form. Today, when the world is undergoing a serious crisis of ecological imbalance and environmental degradation, it is all the more important for us to understand such traditions.

Nature

The culture of conservation of nature dates back to the ancient Vedic Period. The four Vedas — Rig-Veda, Sama-Veda, Yajur-Veda and Atharva-Veda — are full of hymns dedicated to the supremacy of various natural entities. The Rigvedic hymns refer to many gods and goddesses identified with sun, moon, thunder, lightening, snow, rain, water, rivers, trees etc. They have been glorified and worshipped

Collect a few contemporary poems, songs which have in them elements of nature.

* This module will be supplemented by another for Class 12, which will cover sections on Weather Prediction, Rainwater Harvesting and Water Management.

as givers of health, wealth and prosperity. The rain–god Indra has the largest number of hymns attached to him.

Sun worship is of vital importance in Vedic worship; the sun was worshipped in the form of gods like Sūrya, Mārtaṇḍa, Uṣa, Pūṣan, Rudra, etc. Today it has been proved that solar energy is the ultimate source of energy that regulates the energy flow through the food-chain, drives various nutrient cycles and thus controls the ecosystem all over the earth, but it was probably well understood and realized by the ancient people as well. The Gāyatrī mantra of the Rig-Veda, which is chanted on every auspicious occasion, is full of praise for the sun. Similarly, the Atharva-Veda highlights the importance of nature and has a beautiful hymn in praise of the earth. With remarkable foresight, Thiruvalluvar's *Kural*, an ancient text in Tamil from south India stresses the need to remain under nature's protection: 'Sparkling water, open space, hills and forests constitute a fortress.' Guru Granth Saheb states, 'Air is the guru, water is the father, and earth is the great Mother of all.'

Flora and fauna

Tress have also been given huge importance the ancient Indian tradition. The four Vedas are full of references to various herbs, trees and flowers and their significance. Trees and plants were considered as animate beings and to harm them was regarded as a sacrilege. The Atharva-Veda glorifies the medicinal value of various herbs. In the ancient texts we come across references to trees like *kalpavṛkṣa* and *pārijāta* with mythical powers. *Padma* (lotus) and trees like *vaṭavṛkṣa* (banyan), or flame of the forest (*pālāśa* in Hindi, *Butea frondosa*) were given special attention. The worship of the pipal tree (also known as Boddhi tree, *aśvattha* in Sanskrit, *Ficus religiosa*) became a folk ritual, and the pipal was called the king of trees in *Brahma Purāṇa*. In the course of time, many such plants and

trees came to be associated with various gods and goddesses and were worshipped accordingly.

In your own locality, you must have seen women moving in a circle around a tree each morning. Did you ever try to understand the reason? There are some scientific reasons underlying those beliefs. The pipal tree continuously releases oxygen in the atmosphere, and therefore, such knowledge must have been put into a spiritual form by our ancestors.

Name other such practices from Indian culture in which nature is revered.

Similarly, trees such as bael (*Aegle marmelos*), *aśoka* (*Saraca asoca*) sandalwood and coconut hold special significance in various religious rituals; so do *dūrvā* grass (*Cynodon dactylon*), *tulsi* or *tulasī* (*Ocimum*), the banana, lotus, marigold, china rose (hibiscus), and the flowers of milkweed (*aak*, *Calotropis*). Three major factors were responsible for the origin of the tree-cult in India: their wood, leaves, fruits, etc. were useful to humans; it was believed that trees were possessed by spirits who guided humans in their distress; and humans developed respect for trees which often provided them with an alternative for medicinal plants.

Flora and fauna and their associations with human beings were depicted in epics like the Mahābhārata, the Rāmāyaṇa, and in Kālidāsa's compositions such as *Meghadūta*, *Abhijñānaśakuntalā*, etc. They provide colourful portrayal of trees,

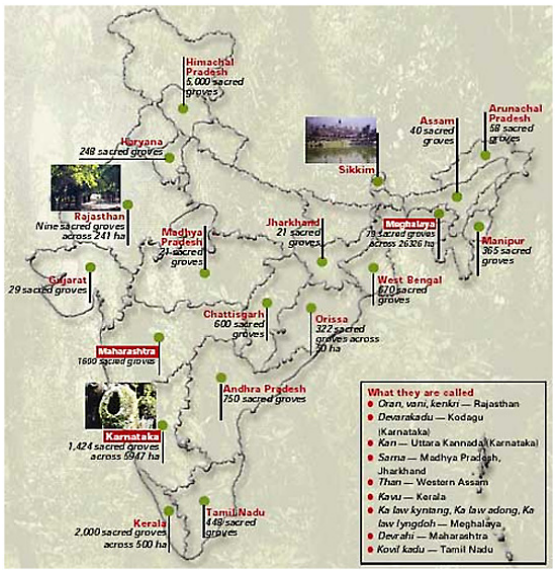
Why did our ancient texts pay such importance to trees? Discuss.

creepers, animals and birds conversing with people and sharing their joys and sorrows, which shows that people believed in harmony between man and nature.

Manusmṛti, an early Sanskrit text, gives a distinct classification of plants and states that some of them can experience pleasure and pain and have awareness. It is also marked in the scriptures that a tree could be adopted as son; many Purāṇas describe this ritual as *taruputravidhi*. The *upanayaya* (initiation) ceremony performed for the *aśvattha* tree (pipal) and the marriage ritual performed between the banyan tree and neem tree are also noteworthy. Watering the plants is considered as greatly rewarding in the *dharmaśāstra* texts.

According to Kautilya, cutting trees or its branches is an offence and he prescribed various punishments for it (see **Extracts from Primary Texts**).

Sacred groves



State-wise numbers of sacred groves in India. (Courtesy: *Down to Earth*)

The tradition of sacred groves was also common in the ancient period and is still practised by folk and tribal communities. A sacred grove consists of a bunch of old trees, generally at the outskirts of a village, which were left untouched when the original settlers cleared the forest to establish the village. Such groves were regarded as the abodes of gods and goddesses or spirits and hence protected with utmost care. The cutting of trees was prohibited in these areas and nobody

dared to disobey the injunction, partly because of religious faith and partly due to the fear of facing the wrath of the gods, goddesses and spirits. In many sacred groves, villagers perform sacrifices and offerings to the gods during festivals and other occasions. This tradition of sacred groves could be matched with the contemporary notion of biosphere reserves.

Votive horses in a sacred grove, Madurai region

Wildlife

Wild animals and even domesticated ones were also given pride of place and respect in the ancient tradition. Many Hindu gods and goddesses have some particular animal or

bird as their vehicles or *vāhana*. These include lion, tiger, elephant, bull, horse, peacock, swan, owl, vulture, ox, mouse, etc. The association of wild animals with peoples' religious beliefs played a significant role in their preservation for so very long in India, until the colonial rule indulged in intensive hunting. The feeling of sacredness attached to wildlife protected it and contributed to maintaining an ecological balance.

For instance, the snake's association with god Śiva and snake (or *nāga*) worship was a conscious effort by our saints to preserve the animal, who otherwise incites fear and persecution because of its perceived venomous nature. In fact, snakes are an important link in the food cycle and play a significant role in maintaining the ecological balance.

Nāga-nāginī sculpture from Belur
(Courtesy: Kamat's Potpourri, www.kamat.com)

Manusmṛti has references to direct and indirect instructions about the conservation of plants and animals. It gives specific punishments for harming trees or animals.

Many artefacts and seals of the ancient Indus valley civilization depict animals like the bull (with or without a hump), the tiger, the elephant, the rhinoceros, the buffalo, the gharial (crocodile), but often too mythical animals such as the unicorn. Although the precise significance of this animal symbolism remains a matter of debate, Harappans clearly attached great importance to it. They also appear to have worshipped trees, as evidenced by several tablets, such as this one *(left)* in which a tree is depicted raised over a platform.

TABLE I : PROTECTION OF PLANTS

Sl. No.	Nature of offence	Punishment prescribed
1. (a)	Felling living tree for establishing mine, factory or constructing big bridge/dam etc.,	Offender should be condemned as a degraded person (XI. 64).
(b)	firewood.	Offender should be condemned as as a degraded person (XI. 65).
2.	Cutting down fruit-laden tree or shrub or twiner or climber or flowering herb.	Offender should recite certain *Ṛks* for hundred times (XI. 143).
3.	Destroying plants - cultivated or monocarpous or wild.	To atone for the sin, the offender has to attend on a cow throughout a whole day, and undergo penance by subsisting only on milk (XI. 145).

TABLE II : PROTECTION OF ANIMALS

Sl. No.	Nature of offence	Punishment prescribed
1.	Teasing the animals.	Punishment should be commensurate with the gravity of offence (VIII. 286).
2.	Wounding, injuring leading to blood-shed, etc.	Cost of the treatment should be borne by the offender (VIII. 287).
3.	If other animals are harmed because of untrained driver of a vehicle.	Owner of the vehicle is to pay a fine of two hundred *paṇas* (VIII. 293).
4.	Causing harm to noble animals like cow, elephant, camel, horse, etc.	Offender is to pay a fine of five hundred *paṇas* (VIII. 296).

Punishments prescribed in *Manusmriti* for acts hostile to the environment (from Priyadarsan Sensarma, "Conservation of Biodiversity in *Manu Samhita*", *Indian Journal of History of Science*, 33(4), 1998)

Seals from the Indus civilization depicting a bull, an elephant, and two unicorns (a mythical animal with a single horn) on either side of a pipal tree. (Courtesy: ASI)

During the Vedic period, the cow was considered a very valuable animal; Aditi, the mother of the gods in the Rig-Veda, was often called 'the divine Cow.' In the Mahābhārata, the whole earth is compared to a cow which humans, gods and demons, trees and mountains all milked to get what they desire out of her. Many of the *śāstras* proscribed the unnecessary killing of animals. Later, the Mauryan ruler Aśoka also prohibited in his edicts hunting and cruelty to animals; his edict at Girnar in Gujarat *(left)* also ordered medical treatment to them when necessary.

Kautilya's *Arthaśastra* also mentioned forests and animal sanctuaries, where animals were protected from poaching. A

superintendent of forests was responsible for their upkeep and for the proper management of forest produce; poaching was punished with various penalties.

Conservation teachings in Buddhism and Jainism

Buddhism and Jainism, the two most popular heterodox sects of ancient times also advocated nature conservation. Buddhism believes in tolerance, love, compassion, forgiveness and non-violence to all. Jainism advocates complete non-violence or Ahimsa; it treats every creature on earth including the smallest insects or microbes as of equal importance and forbids their killing by all means. This perception went a long way towards preserving biodiversity. While Jainism preaches complete non-violence, Buddhism follows the middle path and states that killing of animals or felling of trees should not be done until absolutely necessary.

A bas-relief from Bharhut (Madhya Pradesh) showing worship of Buddha's throne, and, behind it, the sacred pipal or Boddhi tree (*Ficus religiosa*). (Courtesy: ASI)

Mahāvīra gives the following preaching to his followers about the environment in the *Āchārāṅga Sūtra*. Nature, according to him, is to be 'protected in all ways — no waste, no overuse, no abuse, no polluting. If we follow these principles, then we would stop destroying our environment as well as preserve the resources that are available for all to share. If there are more resources available for all, then the poor will also get a fair share thereof' (R.P. Chandaria).

Bishnois and conservation

During the medieval period many religious sects became popular which vehemently advocated conservation of the natural environment. One such sect was that of the Bishnois, which became widely accepted in a climatically hostile zone of Rajasthan. The followers of the sect advocated the banning of tree-felling since they believed that trees are the basis of a harmonious and prosperous environment. The love for trees was so greatly infused in the minds and souls of the Bishnois that in Khejrali village of Rajasthan about 363 young and old men and women embraced the *khejri* trees (*Prosopis cineraria*) to protect them from being felled by

A specimen of *khejri* tree (courtesy: Wikipedia)

the king's men. The local ruler had ordered the cutting of *khejri* trees to use them for his lime kilns as fuel; the Bishnois hugged them and many were killed in the episode. Later, a temple was built in honour of the Bishnoi martyrs. One of the leading women of the movement was Amrita Devi Bishnoi. The repentant king later issued an edict protecting trees and animals in Bishnoi-controlled lands.

The commoners from a semi-arid zone had understood the real value of trees. *Khejri* leaves constitute an important feed for livestock in a desert region like western Rajasthan, as they have high nutritional value for camels, cattle, sheep and goat. A unique feature of this tree is that it yields much green foliage even during dry winter months when no other green fodder is available in the dry tracts. People from semi-arid parts of western Rajasthan encouraged the growth of the *khejri* tree in between the cultivable lands and pastures because its extensive root system helped stabilize the shifting sand dunes. It also fixes nitrogen through bacterial activity. Besides, villagers used *khejri* leaves as organic matter for rejuvenating non-fertile soil. Women use its flowers mixed with sugar during their pregnancy as a safeguard against miscarriage, and its bark is effective against dysentery, asthma, common cold and rheumatic arthritis.

Tradition of resistance

The nineteenth and twentieth centuries saw more examples of resistance against forest cutting. Most of those movements were largely against unjust colonial forest laws which affected the livelihood of the local people, especially tribals: the creation of government-protected forests by the colonial government was disastrous for the tribals, who were purely dependent on forest produce. The tribal communities were thus the worst hit by governmental forest departments.

Forest communities earlier also had been subject to pressure of the agrarian communities of the plains, but the magnitude of impact was nothing compared to the consequences of the state's takeover of forests under the British rule. Before the nineteenth century, the commercial exploitation of the forest produce was restricted to pepper, cardamom or other spices, whose extraction did not dangerously affect the ecology of the forest and the region. But the coming of the colonial government meant extraction of timber on a large scale and this led to a qualitative change in the utilization of forests. It also meant an intervention in the day-to-day lives of forest communities, who were largely hunter-gatherers and shifting cultivators.

State reservation of forests drastically affected the subsistence activities of these communities. For instance, the forest and game laws affected the Chenchus of Andhra Pradesh by making their hunting and collection of forest products gathering illegal. Similarly, the British banned the *jhum* or shifting cultivation, calling it a primitive and unremunerative form of agriculture. The Baiga tribe of Madhya Pradesh also opposed the British government's move to ban *jhum* cultivation. In some areas tribal resistance took a violent and confrontationist form. This was especially so where commercialization of the forest was accompanied by the penetration of non-tribal landlords and moneylenders who came to exercise a dominant influence on the indigenous population.

Even after the formation of an independent government in 1947, the official forest policy reiterated the main tenets of the colonial act of controlling all aspects of forest management through 'governmental forests'. The Chipko and later Appiko movements emerged out of these post-independence forest policies. These movements were led by individuals such as Mirabehnn, Sunderlal Bahuguna, Anna Hazare, Chandi Prasad Bhatt, etc., who were motivated by the Gandhian ideology of non-violent satyagraha.

Anna Hazare used the village temple as a focus for eco-development in his area in Ahmadnagar district of Maharashtra. He involved local people in water management schemes with the logic that 'rain water should be trapped where it falls' to raise the water table.

Indian traditions, customs and religious beliefs enlighten us about the protection of the flora and fauna. They teach us one fundamental principles of ecology, especially that every living entity of the biosphere has its own important role in the flow of energy and cycle of nutrients which keep the world going.

Environmentalists, therefore, have started realizing the significance of culture as a force for conservation and have focused on traditional knowledge systems. Religious teachings and cultural traditions could be used in a positive sense for conservation of the environment and ecology.

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Comprehension

- What is the general attitude of Indian religious texts towards nature?
- What are the cultural as well as practical motivations in worshipping trees?
- Why should trees or animals be regarded as sacred and associated with gods or religious rituals?
- How can the earth be compared to a cow?
- Sum up the consequences of British colonial policies on the forests and people dependent of them for their livelihood.

Explore

- With scientists predicting the impact of global warming to grow more severe and frequent, world governments are realizing the need to protect the environment and move towards a 'green economy' and 'sustainable growth'. Should India, with her rich cultural and traditional heritage of environmental protection, lead the world in this transition?
- Sacred texts recognised the sun as the ultimate provider of energy. For example, the food we eat comes from plants that utilize solar radiation through photosynthesis. Discuss how power from the sun is ultimately responsible for each form of energy — fossil fuels such as coal, oil and natural gas, as well as renewable sources such as hydropower, wind power and biomass power.

Match the following

Bishnois	pipal tree
Kautilya's *Arthaśastra*	Chipko movement
King Aśoka	animal sanctuaries
aśvattha	*khejri* tree
Sunderlal Bahuguna	treatment of animals

Project ideas

- Collect (for instance from the Internet, www.harappa.com) a number of representations of Indus or seals with animal motifs and classify them. Tabulate the kinds of animals depicted. Propose possible rationales for such depictions (keeping in mind that the Indus script is still undeciphered).

- Collect at least a dozen representations art pieces (sculpture, panel, painting, etc.) from any Indian religion in which an element of nature — river, mountain, tree, animal — is depicted. Analyze those depictions and elaborate on the message that is sought to be conveyed.
- Contact a tribal or rural community in your region and document their relationship with the land, forests, flora and fauna, and their knowledge of the ecosystem. Assess the importance of nature in their daily lives and compare with the place of nature in the lifestyle of city people.
- Make a herbarium of traditional herbs which are used in home remedies. Clue: Visit a botanical garden.

Extension activities

- Compare the attitude of Indian religions towards nature with those of Native Americans and Australian aborigines. Point out similarities as well as differences.
- Travel to the nearest sacred grove. Interview the villagers to find out their involvement in its preservation, the prohibitions in force, and the grove's condition. Assess its biodiversity by attempting a list of the main species of flora and fauna it shelters. Assess also its state of preservation.
- Prepare a play / street play explaining the need to protect trees and highlighting the role of tree-protection movements such as the Chipko movement.

Further Reading

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  www.bishnoism.com
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- **Centre for Science and Environment** (CSE), New Delhi:
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- **C.P.R. Environmental Education Centre** (CPREEC), Chennai
  http://cpreec.org
- **Kalpavriksha Environment Action Group**, Pune:
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- **Research Foundation for Science, Technology and Ecology** (RFSTE), Dehra Dun:
  www.navdanya.org

Extracts from Primary Texts

Atharva-Veda

Hymn in praise of the Earth

May the Earth pour out her milk for me, as a mother does to her son.

O Earth, may your snowy peaks and your forests welcome us! ...

Set me, O Earth, in you centre and your navel, and in the vitalizing forces that emanate from your body. Through them may you purify us!

The Earth is my mother, her son am I;

Heaven is my father: may he fill us with plenty! ...

Upon the immutable, vast earth supported by the law, the universal mother of the plants, peaceful and welcoming, may we walk for ever! ...

Agni is in the earth, in the plants; the waters hold Agni in them, in the stones is Agni. Agni dwells in the hearts of men; Agni abides in cows and horses. ...

May we glorify you, O Earth, in villages and the open land, and assemblies and gatherings across the world. (12.1, *Bhūmī Sūkta,* tr. adapted from Louis Renou and R.T.H. Griffith)

Note: These few lines from a hymn in praise of the Earth, *Pṛthvī* ('the broad or vast one') spell out two fundamentals of India's ecological conceptions: (1) The earth is our mother and we feed on her 'milk', that is, the food we get from her or grow on her. (2) Agni, the fire, taken here as a symbol of consciousness, is not only in humans and animals, but also in waters and stones: the entire creation is conscious.

Mahābhārata

The cosmic tree

That man who worships every day the *aśvattha* [pipal tree, *Ficus religiosa*] ... is regarded as worshipping the whole universe with the gods and demons and human beings. (13.126, tr. by K.M. Ganguli)

Note: Here the pipal tree is regarded as a miniature symbol of the universe. This is in fact a Vedic idea: in the Rig-Veda, 'Vanaspati', the tree-lord of the forest (another name for Agni or the fire-god) is described as having 'a thousand branches' (3.8.11, 9.5.10). The tree becomes a cosmic symbol of unity (its trunk) in diversity (its many branches and countless leaves). Worshipping the tree is thus equated to worshipping the whole creation. This is the reason why most temples in India have a sacred tree (*sthalavṛkṣa*), which worshippers circumambulate.

Milking the Earth

Once on a time, the tall trees of the forest, the mountains, the gods, the Asuras, men, the snakes, the seven Rishis, the Apsaras, and the Pitris [ancestors], all came to [king] Prithu [and asked for boons]. ... He then addressed the Earth, saying, 'Coming quickly, O Earth! Yield to these the milk they desire. From that, blessed be you, I will give them the food they solicit.' ... And first of all, the tall trees of the forest rose for milking her. The Earth then, full of affection, stood there desiring a calf, a milker, and vessels [to hold the milk]. Then the blossoming Sala [*śāla* tree, *Shorea robusta*] became the calf, the Banian tree became the milker, torn buds became the milk, and the auspicious fig [pipal] tree became the vessel. [Next, the mountains milked her:] The eastern hill, whereon the sun rises, became the calf; the prince of mountains, Meru, became the milker; the diverse gems and deciduous herbs

became the milk; and the stones became the vessels. ... [Then the gods milked the Earth, obtaining 'all things capable of bestowing energy and strength'; they were followed by the demons, who obtained wine.] The human beings milked the Earth for cultivation and crops. The self-created Manu became their calf, and Prithu himself the milker. Next, the Snakes milked the Earth, getting poison as the milk ... [The milking continues, with the seven rishis milking the Earth and obtaining the Vedas as their milk, followed by various celestial beings, the ancestors, etc.] Even thus was the Earth milked by that assemblage of creatures who all got for milk what they each desired. ... The powerful Prithu, the son of Vena, performing various sacrifices, gratified all creatures in respect of all their desires by gifts of articles agreeable to their hearts.' (7.69, tr. adapted from K.M. Ganguli)

Note: In this passage from the Mahābhārata, the earth is compared to a cow giving fulfilling the desires of every category of creatures — divine, semi-divine, demonic, human, animal, vegetal, even mineral (the mountains). This is echoed in other myths such as the story of Kāmadhenu, Vasiṣṭha's cow of plenty. The concept is simply that nature generously fulfils all our needs. In our current context we may add that while we are entitled to 'milk' the earth, if we end up harming the cow herself, she will have no more 'milk' to give us.

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Lalitavistara: the birth of the Buddha

Note: This Buddhist text glorifies the life of the Buddha. Here, his mother, Māyādevī, before giving birth to him, enters a park of *śāla* trees (*Shorea robusta*), accompanied by her entourage of thousands of soldiers and maidens. This extract shows how nature responds to the divine birth and brings into play the cosmic symbolism of trees (later,

when the Buddha received enlightenment, he will be sitting under a pipal tree — hence its other name of Bodhi tree).

> The whole of the Lumbini garden was redolent with scented waters, and besprinkled with choice flowers. All the trees in that noble park were clad with leaves, flowers and fruits out of season. That park was decorated by *devas* [gods] ... Now, Māyādevī, having entered the park and descended from her chariot, sauntered about in the company of human and heavenly damsels. Rambling from tree to tree, strolling from one parterre to another, now looking at this tree, then at another, she came near the waved-leaved fig tree (*plakṣa, Ficus infectoria*). It was the noblest of many noble trees, with well-disposed branches, bearing fine leaves and blossoms, covered with exquisite flowers, redolent of aroma, having clothes of various colours suspended from it, resplendent in the lustre of numerous jewels, having its root, trunk, branches and leaves set with all kinds of jewels, having well-disposed and far extending branches, standing on ground even as the palm of the hand, covered with verdant green rivalling in colour the throat of the peacock, and soft to the touch like the down on the pod of the *gunjā* (*Abrus precatorius*). ... This *plakṣa* tree did the lady approach.
>
> Now, that *plakṣa* tree, feeling the glory of the Bodhisattva [the future Buddha], lowered it head and saluted her. Now, Māyādevī, extending her right hand, resplendent as the lightning on the sky, held a branch of the *plakṣa* tree and, looking playfully towards the sky, stood there yawning. .... Thus did the Bodhisattva remain thriving in the womb of his mother. And when ten full months had passed, forth from the right side of his mother, he issued, with full memory, knowing everything. ... (chapter 7, tr. R.L. Mitra)

Manusmṛti

Plants have consciousness

Those born from sprouts are all flora propagated through seeds or cuttings. Those that bear copious flowers and fruits and die after their fruits mature are "plants" (*oṣadhi*); those that bear fruits without flowers, tradition calls "forest lords" (*vanaspati*); and those that bear both flowers and fruits, tradition calls "trees" (*vṛkṣa*). Various kinds of shrubs and thickets and different type of grasses, as also creepers and vines — all these also grow from either seeds or cuttings. Wrapped in a manifold darkness caused by their past deeds, these come into being with inner awareness, able to feel pleasure and pain. (1.46–49, tr. Patrick Olivelle)

Note: This passage from *Manusmṛti* lays out a broad classification of plant life. The interesting point here is the assertion that some plants have awareness and can feel pleasure and pain, a scientific truth that Jagadis Chandra Bose demonstrated some 2,000 years after this text was written.

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Bhāgavata Purāṇa

The delights of nature

If Kṛṣṇa had gone to a distance to observe the beauty of the forest, they [Kṛṣṇa's fellow cowherds] vied with each other in touching Kṛṣṇa first and enjoyed themselves [in this competition].

Some played on the flutes; some blew their horns, some sang humming in tune with black-bees, some imitated the sweet notes of the cuckoo.

Some ran with the shadows of the birds; some walked beautifully like royal swans; some sat down with the cranes, while others danced with peacocks.

Some pulled monkey's tails dangling down from branches of trees, while others climbed trees along with the tails in hand. Some made wry faces at monkeys while others jumped from one branch to another.

Hopping with frogs, some became drenched with the waters of the streams and waterfalls. ... (10.12.6–10)

[Kṛṣṇa, accompanied by his elder brother Balarāma and the cowherds, has entered the Vrindavan forest. He addresses Balarāma:] 'Oh, how wonderful! Carrying the presents of fruits and flowers on their heads, these trees bow down their heads laden heavily with fruits to your lotus-feet' ...

Adorned with garlands and accompanied by Balarāma, he burst out into singing in imitation of the sweet humming of bees intoxicated with the honey sucked by them, while his followers were extolling his feats in song.

Sometimes he imitated the rapturous notes of swans, and sometimes he danced mimicking the dancing peacocks, provoking his companions to laughter.

Sometimes he imitated the chattering of the parrots in sweet indistinct words. Sometimes he sweetly cooed in imitation of the warbling and cooing of cuckoos.

Sometimes, in a voice deep and sonorous like the rumbling of clouds, and extremely fascinating to the cows and cowherds, he would affectionately call out [by names] cows that had strayed away to distant pastures.

He used to imitate the notes and cries of birds like *cakora* [a fabulous bird subsisting on lunar rays], *krauñca* [a curlew or heron], *cakravāka*, [the ruddy goose], *bhāradvāja* [a skylark] and also peacocks, and sometimes behaved or shrieked like animals terrified at tigers and lions (10.15.5–13, tr. adapted from G.V. Tagare).

Note: These passages from a well-known text about Kṛṣṇa's life describe him in his childhood, with his fellow cowherds, amusing themselves in the forests around Vrindavan, imitating the animals' typical behaviours, from bees to monkeys. These extracts reveal a high appreciation of wildlife and nature's beauty.

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Kautilya's *Arthaśāstra*

Forest sanctuaries

The king should establish [on the border of an animal park for his recreation] another animal park where all animals are [welcomed] as guests [and protected]. ... On the border [of the kingdom], he should establish a forest for elephants guarded by foresters. ... They should kill anyone slaying an elephant. (2.2.4, 6, 8)

Punishments for hurting animals

The Superintendent of Slaughter should impose the highest fine for binding, killing or injuring deer, beasts, birds or fish for whom safety has been proclaimed. ... The calf, the bull and the milch-cow are not to be killed. For killing [them, there shall be a] fine of fifty *paṇas*, also for torturing [them] to death. (2.26.1, 10)

For causing hurt to small animals with wood and other things, the fine shall be one *paṇa* or two *paṇas,* double that for causing bleeding. For these same offences concerning big animals, the fine shall be double and [payment of] expenses for treatment and cure.

Punishments for hurting trees and other plants

For cutting the shoots of trees in city parks that bear flowers or fruit or yield shade [the fine shall be] six *paṇas*, for cutting small branches twelve *paṇas*, for cutting stout branches twenty-four *paṇas*, for destroying trunks the lowest fine for violence, for uprooting [the tree] the middle [fine]. In the case of bushes and creepers bearing flowers or fruit or yielding shade the fine shall be half, also in the case of trees in holy places, penance-groves and cremation grounds. In the case of trees at the boundaries, in sanctuaries, and of trees that are prominent, these same fines doubled shall be imposed, also [in the case of trees] in royal parks. (3.19.26–30. tr. R.P. Kangle)

Note: These passages from Kautilya's famous treatise of governance and administration, show the importance attached to animal sanctuaries (called *abhayāraṇya* or *abhayavana,* i.e. 'forest free from fear'), and the penalties imposed on those killing protected animals (the *paṇa* was the currency in vogue in Kautilya's time). Note that slaughter of some animals was allowed in a controlled way for meat consumption. It is remarkable that even trees and other plants in municipal areas were protected, and any harm done to them was fined.

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