CHAPTER 2

NATURAL RESOURCES AND THEIR CONSERVATION IN THE

MAHĀBHĀRATA

The dictionary meaning of the word 'conservation' is preservation, especially of natural environment; economy, husbandry, maintenance, management, protection, safeguarding, saving, upkeep. The practice of conservation of natural environment has been prevailing in India from a very early period. Conservation of the forests, wetlands, mountains, etc. was a matter of concern for the people of ancient India.

Nature has offered some resources, which are boundless in quantity. Again, supply of some of the resources is limited or these may be exhausted by limitless exploitation. It is to protect the limited resources of nature, mankind has started the practice of conservation. This has been mentioned in David Cushman Coyle's book, The Book of Popular Science, Vol. 6: "It is to safeguard the resources that are not unlimited that man has introduced the practice of conservation, which means the wise husbanding of his natural assets."

In ancient India, the concept of environment was associated with some divine qualities and powers. On account of the human dependence on various objects of nature, these were considered as the resources and preservation of these resources were connected with the attainment of the highest virtues. Man and environment were so integrally knitted that it is difficult to think man as something separate from the natural environment. The four Vedas, later Vedic Samhitās, Upaniṣads, Purāṇas, Epics and the ancient Sanskrit literature depicted the importance of the natural resources and their preservation. Even in the Vaiyākaranasiddhāntakaumudī, a grammatical work of Bhattoji Dīksit, we find the reference of the importance of trees and their protection. While interpreting 'karmani dvitiyā', one of the sūtras belonging

2. Coyle, David Cushman, The Book of Popular Science, Vol. 6, p.1
to kārakapraṇakaraṇa of Pāṇini's grammar, Bhaṭṭoji Diksita has cited in his commentary one example from V. No. 55(B) of the 2nd canto of Kālīdāsa's Kumārasambhavam: ‘viṣavṛkṣopāni samvardhyā svayam chettumasāmpratam’ (kvacinnipatenaḥbhidhānām), which means it is not proper to cut even a poisonous tree after being planting it with one's own hand. This signifies that the grammatical literature in India also highlighted the tradition of preservation of trees and plants. The attitude of the Vedic seers towards the environment comes to light from their proclamation like: ‘mātā bhūmih putro'ham prthivyāḥ’, i.e., the Earth is our mother and we are her offspring. This has been clearly explained in the essay, 'Vedesu Paryāvaranam', written by Rakesh Sastri, published in the journal Samskṛtamāṇjarī: “......bhūmiresā mātrsvaramāpā pośikā mamatāmayi ca vartaite. esā asmabhīyam jīvanāya mātrvat sarvam dadāti. atosmābhirapi asyāḥ samrakṣanam sadaiva putravat sajjo bhūtvā karaṇīyam”. This means that the Earth nourishes us and protects us like a mother. As a mother she offers everything needed for our survival. Therefore, we should also protect her as her offspring. In the Mahābhārata, Vedavyāsa also gave equal importance to the biodiversities, i.e., trees and plants, animals, etc., and other natural resources like forests, rivers, mountains, oceans, etc., and preservation of these natural resources for the well-being of the living beings. Even in the appraisal of the Mbh., Vyāsa compared its greatness with the natural objects like Ocean and Meru Mountain:

'yathā samudro bhagavān yathā merumahāgirih /
ubhau khyātau ratnanidhi tathā bhūratamucyate'ītrī\n
[Trans: As the illustrious ocean and the great mountain Meru are famous sources of gems, so this Bhārata, i.e., the Mahābhārata is also said to be a mine of gems.]
In this world all the creatures depend on physical elements like land, water, heat, air and space and biological objects like animals and forests. As both these physical and biological objects have made this planet congenial for the living beings, preservation of these objects has become indispensable. Rajiv Ranjan Upadhyay in his essay, 'Paryāvaran pradūsan evaṁ paryāvaran cetanā prasār ke prayās', published in the journal, *Vigyan Prakash* has mentioned that our existence depends on these two types of objects: “प्राकृतिक सम्पदा में निहित जाविक कारक, यथा-वनानी सम्पदा एवं जीव-जंतु तथा जाविक कारक-तत्त्व यथा- वायु, जल, भूमि, दोनो होते है। यह कारक गण हमारे आस्थित्व से जुरे हुये है। हम इक्कि उपेक्षा करके स्वतः आस्थित्व पर अघि गाट करते है। इस कारण इसके समरक्षण अवश्यक है”.

This means that the biological objects like forests and animals and physical elements of nature like land, water, heat, air and space are connected with our existence. When we harm these objects, we actually make our existence worse. Therefore, preservation of these objects is necessary.

The conservation of biodiversity is essential for ecological balance and for the health of the human beings and other species of animals. The importance of biodiversity is mentioned in the book, *Biodiversity for Sustainable Development*. The book states: “The conservation of biodiversity has both intrinsic and practical values. There are aesthetic, cultural, ethical and spiritual reasons to conserve species; biodiversity is essential to the health of ecosystems, people, and all species”.

In this chapter, efforts have been made to collect those references of the *Mahābhārata*, where Vedavyāsa has highlighted that adoration of nature is one of the excellent ways of protecting nature and its resources.

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8 Editor Trivedi, P. C., *Biodiversity for Sustainable Development*, p. 68.
A. Worship of trees: The best way of preserving forest resources

The Mahābhārata contains valuable information regarding the importance of various natural resources, especially the forest resources. The Hindu Scriptures opine that the trees have consciousness and they can feel happiness and sorrow. Manu has rightly stated: ‘antahsamijñā bhavantyete sukha-duḥkhasamanvitāḥ’. [Trans: These (plants) possess a latent consciousness and hence they feel pleasure and pain.] Vedavyāsa has also mentioned this fact in Ch.184 of the Śānti. of the Mahābhārata. There he has propounded that the trees can feel pleasures and pain, regenerate stems and leaves when their branches are cut, drink water with their roots, these are also treated whenever attacked by diseases. Considering these facts Vedavyāsa has pointed out that they possess various sense organs and consciousness:

‘pādaśāh salilapānācca vyādhinām cāpi dārsanāt /
vyādhipratikriyatvācca vidyate rasanaṁ drume //’

[Trans: They draw water by their roots. They catch all sorts of diseases. Those diseases again are cured by various operation. From this it is clear that trees have perception of taste.]

‘sukhaduhkhayośca grahanācchinnasya ca virohanāt /
jivāṁ paśyāmi vrksāmacaitanyam na vidyate //’

[Trans: They are subject to pleasure and pain, and grow when cut or lopped off. These facts clearly prove that trees have life. They are not inanimate.]

The Buddhist commentator, Dharmottara in his Nyāyavindu Tīkā, Udayana in the Prthīvī Nirūpana and Gunaratna, a Jaina writer, in his commentary on Saḍḍarśana samuccaya, have mentioned that the trees possess the characteristics of a living
object.\textsuperscript{14} So, these also require special attention.

In ancient India, rural folks used to worship trees as a mark of respect to nature. In this regard reference may be made to the worship of caitya vrksa, a tree laden with leaves and fruits. In the Ayodhyākānda of the Rāmāyana, Adikavi Vālmiki has given a description where Rāmacandra entered into the palace after showing due honour to the junctions of the four roads, path leading to the temples, religious trees and altars:

\begin{quote}
\textit{catuspathān devapathāṁścaityāścāyatanāṁ ca /}
\textit{pradaksinam pariharan jagāma nṛpateh sutah} \textsuperscript{15}
\end{quote}

[Trans: He proceeded leaving on his left side the junctions of four roads, the path leading to temples, the religious fig trees and altars, and reached after all the family dwelling of the king.]\textsuperscript{16}

Kālidāsa has referred to caitya vrksa in his Meghadūtam, V. No. 23 of Pūrvameghah:

\begin{quote}
\textit{pānducchāyopavanavrta-yayā keṭakaiḥ sūcibhinnaṁr ī /

nirārambhairgrhabalibhujāmākula-grāmacaityāṁ} \textsuperscript{17}
\end{quote}

[Trans: At your approach, the Dasarna country will have its garden-hedges white through blossoming of Ketaki flowers (buds)- its sacred-trees will be crowded with the nest-buildings of domestic birds- the outskirts of its Jambu forest will look black due to ripe fruits- it will also have swans resting and tarrying there for a few days.]\textsuperscript{18}

The word caitya is derived from the word citā or a cityā, which means a funeral ground. cityāyāṁ imāṁ iti cityā+an caityāṁ, i.e., sacred trees. Mallinātha in his Saññīvinī Commentary on Meghadūtān explained the word ‘caityāṁ’ as rathyāvrksāh.\textsuperscript{19} [’caityamārācanu buddhāvinbe (?bandye) coddeśapādape’ iti visvah].

\textsuperscript{14} Translated by: Saikia, Yogendranath, Bhāratiya Cintā, ‘Udbhādāru udbhīdār jīvan samparke Hindusakalar dhāranā’ (One of the chapters of) Seel, Brājendranath, ‘The Positive Sciences of the Ancient Hindus’, p. 44.
\textsuperscript{15} Rāmāyana, Vālmiki, Ayodhyākānda, 17. 16.
\textsuperscript{16} Eng. Trans. by: Dutt, M. N., Vol. 1, p 54
\textsuperscript{17} Kalidasa’s Meghadutam, Pūrvameghah, ed. by: Kumudranjan Ray, 23 (A), p. 89.
\textsuperscript{18} Eng. Trans. Ibid, p. 90.
\textsuperscript{19} Ibid.
V. S. Ápte in his *The Practical Sanskrit-English Dictionary* has given the meaning of *caitya* as a religious fig tree or any tree growing by the side of streets or a fig tree standing on a sacred spot. The *charcha* of this verse mentions that according to the old Hindu custom, when a sage died, he was buried on the bank of a river. To pay homage to him, a tree like *vata* was planted on his grave. An alter was constructed on the root of that tree and it became a sacred place of worship. Vedavyása has also mentioned about this sacred tree in the Ādi. of the *Mahābhārata*:

\[ 'eko vrkso hi yo grāme bhavet parnaphalānvitah / caityo bhavati nirjnātiracaniyah supūjitah ' \]

[Trans: Where there is only one tree full of leaves and fruits in a village, it became sacred and is worshipped and venerated by all.]  

The importance of a *caitya vrkṣa* is also revealed in the queries of the great sage Nārada, where in the form of a query he actually advised Yudhisthīra that a king should bow down to a *caityavrksa*:

\[ 'haccit jñātin gurūn vrddhān dvātām stāpasānapi / caityāṁśca vrksān kalyāṇān brāhmanāṁśca namasyasi ' \]

[Trans: Do you bow your head to your relatives and to your superiors, to the gods, to the ascetics, to old men, to the large trees that are so beneficial (to men) to the Brahmans?]  

At the time of battle between Sṛkṛṣṇa and Śālva, in Ch. 16 of the Vana., the army of Śālva, was deployed in Dvārakā, apart from the places occupied by *caityavrksas*, anthills, funeral grounds and temples:

\[ 'varjayaśtvā śmaśānāṁi devatāyatanāṁi ca ' \]

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25 Eng Trans by. Dutt, M N, Vol 1, p. 353
Avoiding cremation-grounds, temples of gods, sacred trees and grounds covered with ant-hills, his army occupied every other places.\textsuperscript{27}

Every religious activity has its own justification. Worship of trees also has an inherent scientific truth covered with religion. The seers and wise people of ancient India had this scientific knowledge. They used to understand the importance of trees in our life. They also realised that various plants, trees and wild life are the permanent sources of our health and wealth. Trees are called \textit{taru} (\textit{taravah}) in Sanskrit as these save us from threats and ensure our existence. Thus the word \textit{taravah} is derived from the meaning ‘\textit{taranti apadam}’, which means that the trees dispel dangers. In the \textit{Rgveda}, plantation is prescribed by the seers for the purification of the environment as well as for preservation of this Earth: ‘\textit{vanaspatim vana āsthāpayadhvam}’\textsuperscript{28} [Trees should be planted in the forests.] But, it was a very difficult task to take this logical truth to the general masses. So, to infuse the basic scientific truths to the common people and to develop compassionate attitude towards nature, these logical facts were blended with religion. Our scriptures have suggested that by planting a single plant one becomes more virtuous than the good result that one acquires by giving birth to one hundred sons. \textit{Sārangadharapaddhati} has attributed the highest amount of appraisal to a tree equalising it with ten sons: ‘\textit{dasaputrasamo drumah}’.\textsuperscript{29} It has been stated in the \textit{Carakasamhītā} that destruction of trees symbolises destruction of a state, and reforestation is considered as rebuilding the state and enhancing its welfare.\textsuperscript{30} It is also a general assumption that whenever branches of full-grown trees fall without any particular reason, it implies that the heroes of a country will die in the battle field. When fluid ooze out of the trees

\textsuperscript{26} \textit{Mbh., Vana.}, 16.3

\textsuperscript{27} Eng. Trans. by: Dutt, M. N., Vol. 2, p. 27.

\textsuperscript{28} \textit{Rg V}, 10 101 11 (B).

\textsuperscript{29} \textit{Sārangadharapaddhati} 2086 as quoted in \textit{Subhāsitaratnabhāṇḍāgār}, p. 114.

\textsuperscript{30} www.hinduwisdom.info/Nature_worship.htm.
without any definite cause then there will be no rainfall: "yadā svasthebhyah vrksebhyaḥ akāraṇameva sākhāḥ chinmāh bhūtvā dharanyām patanti tadā deśasya virāh sainikāḥ yuddhe mārayisyante. yadā vrkṣēbhyaṁnāyāsameva rasaḥ prasravati tadā vrṣtirna bhavisyati".31 One of the stories of the Purāṇa depicts that Prācetasah, i.e., the sons of Varuna practised penance in the ocean for one year. When they came out of the ocean, they saw that the Earth was covered with forests. Then they began to cut the forests for their dwelling places and fuel. At that time Brahmā appeared before them and told them not to destroy the forests. As this Earth is full of resources this should be protected by the protection of the trees and forests. In the Brhadāraṇyaka Upanisad the trees are compared with the Purusa. The leaves of the trees are his hair, its barks are his skin, its wood is his flesh, the fibers spread all over the branches of the trees are his nerves, the branches are like his bones, its stem may be compared with his backbone. As blood lets out when human body is cut, similarly juice lets out when trees are chopped:32 'yathā vrkṣo vanaspatistathaiva puruṣah amṛśā/ tasya lomāni parnāni tvagasotpātikā vahih/ (1) tvaca evāṣya rudhiram prasyandi tvacah utpatah/ tasmāttaḍātrnanāt praiti raso vrksādivāhatā/ (2) māṃsāṁyasya śakarāṁi kinātam snāva tat sthiram/ asthinyantarato dārūni majjā majjopamā kṛtā/ (3) 33

Worship of a caityavrksa is again depicted in V. No. 58, Ch.192 of the Udyoga of the Mahābhārata. The description says that Drupada, the king of Pañcāla and his son, Śikhandi began to worship the brahmins, caityavrksas and catuspathas, when Śikhandi was blessed with the characteristics of a male by Sthūnakarna, a yakṣa, on the condition that she would return it in due time:

'pūjayāmāsa vividhairgandhamālāyairmahādhanaiḥ /
dviśāṭin devatāścaiva caityānathā catuspathān /'34

32 Ibid.
33 By U., 3. 9. 28.-
34 Mbh., Udyoga, 192. 58.
[Trans: And he worshipped with great sumptuousness and with scents and garlands of all sorts, all those of the twice-born, and the gods and the (sacred) trees and cross-ways.]  

This tradition of worshipping caityavrksas was related to the celebrations of various auspicious occasions. This kind of worship offered to a tree symbolises the concern and care for the trees that directly take care of the creatures of this world.

All the materials used for the worship are nothing but the ingredients applied for protecting the trees from harmful elements. In addition, these auspicious materials also enhance the growth of the trees by supplying nourishment to these. Thus the essence of this worship was to generate the sympathetic feeling needed for understanding the contribution of trees in our life.

The auspicious materials used for the worship like sesamum, paste of sandal wood, white masturd, māṣa (a kind of bean), milk, curd, ghee, honey, water, dhūpa, (incense) etc., are some of the ingredients necessary for the nourishment of the trees. Manures prepared from these components are applied to the trees for curing diseases and for getting better result. V. No. 58, Ch. 192 of the Udyoga. mentions gandha, i.e., sandalwood and mālyas, i.e., garlands and other ingredients of worship.

The Upavanavinoda refers that sandalwood is a good fertilizer that may turn non-fragrant flowers into full of fragrance:

\[ \text{malayajara}jolepaddhapadh ghtasya ca bhuruhām / \]
\[ vrajati kusumam nirgandhanāmativa sugandhatam / \]

In fact the offerings of various auspicious materials are proved to be beneficial to the growth of the trees. The worship of the trees signifies that the trees, which offer their products generously, should be taken proper care of and given protection by applying various nutrients. So, worship of the trees is nothing but to take due care to promote the growth of the trees for getting long run benefits. When people will attribute their tending care to the trees and offer a congenial atmosphere for the plants and trees to grow, the worship of trees will be done in true sense of the term.

In V. No. 17-21, Ch. 63 (āstikaparvani vyāsādyutpatau) of the Ādi. of the \textit{Mbh.}, reference of the worship of a bamboo stick or a bamboo tree (Indra's banner) gifted to the king Uparicaravasu by Indra, provides another example of solicitude shown to the fauna and flora. This glory of the banner of Indra is discussed elaborately in Ch. 43 of Varāhamihira's \textit{Brhaṣṭamhitā}:

\begin{quote}
\textit{\textquote{\textit{uparicarasyāmarapo vasordsadau cedipasya venumayim /}}
\textit{\textquote{yasātin tām sa narendro vidhi\textit{v}at sampājayāmā\textit{s}a}}
\textit{\textquote{}}\textsuperscript{37}
\end{quote}

[Trans: Thereafter once Indra gave a bamboo flagstaff to the king of Cedi, named \textit{Uparicaravasu} (who could travel to Heaven from the earth). The king worshipped that according to the sacred laws.]\textsuperscript{38}

Varāhamihira in his \textit{Brhaṣṭamhitā} also mentioned that the trees like Arjuna, Ajakarna, Priyaka, Dhava and Udumbara or other trees of excellent qualities that grow on white (or red) or black soil were generally selected for making the banner of Indra:

\begin{quote}
\textit{\textquote{\textit{srestho'rjuno'jakarnaḥ priyakadhavodumbarāśca pañc\textit{c}ate /}}
\textit{\textquote{etesāmekatanam prasastamathavāparam vrksam \textquote{}}}\textit{\textquote{}}\textsuperscript{39}
\textit{\textquote{gaurāsitaksitibhavam sampājya yathāvidhi dvijāḥ pūram \textquote{}}
\textit{\textquote{vijane sametya rātrau sprś\textit{v}ā brūyād\textit{m}am man\textit{t}ram \textquote{}}}\textit{\textquote{}}
\end{quote}

[Trans: The best trees are the following five: Arjuna, Ajakarna, Priyaka (Priyangu), Dhava (Lythrum fruticosum) and Udumbara (Glomerous fig-tree). One of these or any other of excellent qualities that has grown on white (or red) or black soil should be selected. A Brahmana should approach alone in the first part of the night such a tree, worship it according to the rules and recite the following hymn, touching the tree.]\textsuperscript{40}

Then the tree used for the preparation of Indra's banner was worshipped by a \textit{brāhmaṇa}. A hymn was recited to salute the living beings, residing in that tree:

\begin{enumerate}
\item \textsuperscript{37} Varāhamihira's \textit{Brhaṣṭamhitā}, Pt. 1, By: M. Ramakrishna Bhat, 43. 8, p. 345.
\item \textsuperscript{38} Eng. Trans., \textit{Ibid.}, pp. 345-346
\item \textsuperscript{39} Varāhamihira's \textit{Brhaṣṭamhitā}, Pt. 1, By: M. Ramakrishna Bhat, 43. 15-16, p. 347.
\item \textsuperscript{40} Eng. Trans., \textit{Ibid.}, pp. 347- 348.
\end{enumerate}
'yāniha vrkse bhūtāni tebhyaḥ svasti namo'stu vah' The bamboo flagstaff was worshipped according to the sāstric injunctions. The celestial tree selected for preparing the flag of Indra was bedecked with wreaths of little bells, garlands, cloths, paste made of sandalwood and various ornaments and jewels. That banner was worshipped at the behest of Indra believing that Indra would take those offerings in the form of a swan.

'ṁālyadāmaparikṣiptā vidhitav kriyate'pi ca /
bhagavān pūjyate cātra hamsarūpena cesvarāḥ

[Trans: (They decorate the stick) with garlands and various ornaments. The god Indra was thus worshipped in due form with garlands and ornaments.]

'aparedyustatasyāḥ kriyate'yuucchrayo nrpaiḥ /
alamkrtyāḥ pitakaigandhamālyaiśca bhūsanaiaḥ

[Trans: After that day, i.e., on the first day of New Year, the stick is covered with the cloths, perfumed with scents and it is decorated with garlands and different types of ornaments.]

This tradition of worshipping the banner of Indra was nothing but the worship of trees. This practice of preparing Indra's banner indicates the compassionate attitude of the ancient Indians towards trees and plants. This activity of the ancient kings had an inherent spirit of conservation and it declares that most of the activities of the people of ancient India were woven around the objects of nature.

The affairs of human life cannot be isolated from the affairs of nature. Worship of natural objects was the best way to generate the concept of awareness towards environment. This indicates an approach of realising nature, which was totally Indian in character and completely unique. Unique in the sense that Indian environmental thought moved around religious faith, but its purpose was based on

41. Varāhamihira’s Brhat Samhitā, Pt 1, By. M. Ramakrishna Bhat, 43. 17 (A), p. 348.
42. Mbh., Ādi., 63. 21
44 Mbh., Ādi., 63. 20.
reason and this reason gives a solid foundation to those thoughts of ancient India.
The banner of Indra was carried to the gate of the city by a carriage or by men. This
tradition of worshipping Indra’s banner, started by the king Uparicaravasu, was
adopted by the later kings, who aspired victory, power and prosperity.

The greatest tribute to the trees was given by Vedavyāsa when these were
considered as the covers of the body of Lord Śiva: ‘vrksairāvrataścāyāya-.45 Respect to
a tree is illustrated in another occasion, where Damayanti paid her homage to an
āsoka tree by moving thrice round the tree:

‘evam sāsokavrksam tamārtā trih parigamyah ā
jagāma dāruṇataram deśam bhaimi varānganā.]46

[Trans. That excellent of damsels the afflicted daughter of Bhima, then three-times
going round the Ashoka tree, entered a more dreary part of the wilderness.]17

Worship of trees symbolises worship of nature. Plants are the symbols of
vitality and divinity. It has been rightly mentioned by Ksemachandra in an essay,
where he wrote: “bhāratīyasamskrtyān vanaspatin devatā iva svikrtam. na kevalam
svikrtameva apitu devaih sādṛṣam pujiṣā āsan. sarvāḥ vanaspatayah roganivāraka āsan.
anena suvicārena puṣyā āsan asmākam vanaspatayah”.48 [Trans: In Indian culture, the
trees are regarded as the gods. Trees are not only been accepted as something divine,
but these are also worshipped like gods. All these trees have the power to heal. From
this point of view these deserve our worship.] So, plantation is regarded as a part of
sacred ceremonies of the Indians till today. Particularly, the Hindus start their day
with the worship of a tulasi (Holy Basil) plant. This worship signifies the highest
amount of respect, concern and care taken for the protection of the plants. In the
Anuṣāsana. of the Mahābhārata, Vedavyāsa advocated for plantation of trees and
suggested to protect the trees as one’s own son:

‘puspitaḥ phalavantaśca tarpayantiḥa māṇavān /


Trees that bear flowers and fruits please all men. The planter of trees is saved in the next world by the trees he plants like children saving their own father. (30)

Therefore, the man who is desirous of achieving his own good, should plant trees by the side of tanks and rear them like his own children. The trees which a man plants are, according to both reason and the scriptures, the children of the planter. (31)

The tribute attributed to a tree, sends a message to the people that trees should be protected for the continued existence of mankind and other living creatures, as these supply oxygen, food and fuel. The seers of the Yajurveda termed the trees as \textit{samitā}, i.e., pacifier: \textit{vanaspatim samitāram} \textit{vanaspatih samitā}. Trees have been considered as one of the best creations in the 10th skandha of the \textit{Srimadbhāgavatam}:

\begin{quote}
\textit{\textquoteleft}aho esām varam janma sarvaprāṇyupajīvanam / sujanasyevasa vai vimukhāḥ yānti nārthinah\textquoteright}
\end{quote}

[Trans: Oh! Blessed is their birth, as these (trees) are the sustainers of lives of all creatures. As a kind-hearted person never disappoints the suitors, similarly, these trees also never disappoint the seekers.]

The \textit{Mahābhārata} has also mentioned the role that a \textit{rauhina pādapa}, i.e., a fig tree plays, and the special care needed for it. A \textit{rauhina pādapa}, releases oxygen and repels carbon-di-oxide from the air. Thus it gives immediate relief to suffocation: \textit{\textquoteleft}yasya cchāyāṃ samāśṛtya sadyo bhavati nirvṛtāh\textquoteright} [Trans: Under its (the tree's) shade men get relief instantly.] Reference has been found in the \textit{Atharvaveda} that the

\begin{flushright}
49 \textit{Mbh.}, \textit{Anuśāsana}., 58. 30-31.
52. \textit{Ibid.}, 29. 35.
53. \textit{S. Bh.}, 10. 22. 33.
54 \textit{Mbh.}, \textit{Ādi.}, 29. 45 (B).
\end{flushright}
air of a 'Nyagrodha', i.e., an Indian fig tree rejuvenates a person by supplying fresh air:

\[
yatràśvatthà nyagrodhà mahàvrksàh śikhandìnàh / 
tatpatureśarasah pratihàdà abhùtana //^{55}
\]

The greatness of an Aśvattha, i.e., an Indian fig tree has been found in the sayings of Lord Kṛṣṇa in the Śrimadbhagavadgītā included in the Bhīsma. of the Mbh.:

\[
\text{‘aśvatthah sarvavrksànàṁ devarsìnànca nàradàh/} 
gandharvànàṁ citrarathàh siddhànàṁ kapilò muniḥ //^{56}
\]

[Trans: Among all trees, I am the Aśvattha (the holy fig tree); among the celestial sages, Narada; among the Gandharvas (celestial songstars), Chitraratha; among the Siddhas, the sage Kapila.]^{57}

In the Āśvamedhika. of the Mbh. Śrīkṛṣṇa compared himself with a Aśvattha tree:

\[
\text{‘ahamasvattharàpìna pálayàmi jagàtrayàm /} 
asvatthà na sthitò yatra nàham tatra pratiśhitàh //^{58}
\]

[Trans: I am in the form of an Aśvattha (the holy fig tree), protecting the three worlds. Where there is no Aśvattha, I also do not exist there.]

\[
yastvenàm praharet kopànmàmeva praharet tu sah / 
tasmàt pradaksìnàm kuryànna chindyàdenamvahàm //^{59}
\]

[Trans: He, whoever strikes it (an aśvattha tree) out of anger, actually hits Me. Therefore, one should go round the tree and it should not be cut.]

This actually shows that an aśvattha tree plays an important role in the purification of our environment. This tree is called a kalpavrksa as it fulfills the wishes and desires of the worshippers. This has also been attributed the status of a devavrksa as it releases maximum amount of oxygen that cleanses the environment.

Kamalakanta Pathak in his essay, 'Haritagrhaprabhāva' wrote that an Aśvattha tree

55 Atharva. S., 4. 8. 2. 4.
56 Sr. B., 10. 26.
58 Mbh., Āśvamedhikà (vaisnavadharnaparvani), 19. 25.
59 Ibid., 19. 27.
releases 1622 kg. of oxygen in an hour.60

B. Adoration of birds and animals

Ancient Indian people were aware of the role played by the environment in the development of an individual. They had acknowledged the peaceful co-existence of human beings and animals. Therefore, animals were loved, appreciated, nurtured and even worshipped. Animals are treated as gods in India. Each and every god and goddesses are attached with their favourite carriers. For example, Śiva has a bull as his carrier. Likewise Śrīkṛṣṇa has a cow, Indra an elephant, Sūrya a horse, Durga a lion, Lākṣmi an owl, Sarasvatī a swan, Ganeśa a rat, Kārttikeya a peacock, etc. In order to make the common people conscious about their importance, the animals were given the status of gods and goddesses. In the Purāṇas it is stated that Almighty takes the figures of different animals in His different incarnations. This idea is based on a very modern concept of the theory of organic evolution. In this regard the perception of dasāvatara of Lord Viṣṇu may be cited as an example of the organic evolution theory.61

In the Ādi. of the Mbh., the gods eulogized Garuda, who is associated with Lord Viṣṇu. V. No. 15-26, Ch. 23 (āstike sauparne) of the Ādi of the Mbh., depict that Garuḍa came out forcefully from the womb of his mother assuming a great shape. At that moment the temperature of the atmosphere increased and conflagration of extinction appeared in all sides and a glittering heavenly body, like another sun, began to afflict the gods and other creatures. Consequently, the all-entangling flames surrounded the sky [Ādi., 23. 21]. The irritating terrible sound of that divinely figure tormented everyone and the Earth began to quiver. That great sound polluted the environment and even the hearts of the gods also shivered. It seemed that everything

would be annihilated within a moment. The gods through their extraordinary power of realisation, understood the serious consequence of that abnormal situation. They started to adore Garuda, the king of birds, comparing him with Padmaja Brahma (Ādi., 23. 16), Sūrya (Ādi., 23. 15), Prajāpati (Ādi., 23. 15), Agni and Vāyu (Ādi., 23. 16). This adoration shows the regard of the gods towards the king of the birds.

This concept of the carriers of the gods and goddesses proclaims the inseparable relation between gods and animals. Their association with the gods has exalted their status and they are being worshipped along with them. Their involvement with the gods also assures their inseparable relation with the human beings.

A study of the ancient literatures starting from the Veda, reveals the value of a cow in diverse ways. Amongst the animals, the cow was attributed maximum honour and the ancient writers lavishly bestowed their appraisal to the cows for the huge amount of return it provides to the mankind. Śrīkṛṣṇa himself has been depicted as a cowherd and Lord Śiva travels riding on a bull. Like the Earth, the cow offers many things to us without seeking anything in return. So, ancient Indian literatures were full of the feeling of care and compassion for the cow. In the Brhatparāśarasamrthih, the sage Suvrata has stated that people should always take the responsibility of the protection of the cows:

\[ \text{'gāvo deyāh sadā raksyāh pālyāh poṣyaśca sarvadā'} \]

[Trans: Cows should always be given, protected, reared and looked after.]

The sentiments of love and care to the cows are also frequently mentioned in the Mbh. Vedavyāsa's respect and highest admiration to the cows has been expressed in V. No. 9, Ch. 186 of the Vana. of the Mahābhārata:

\[ \text{dhenun datvā suprabhām supradohām} \]
\[ \text{kalyānnavatsāmapalāyinīḥca /} \]
\[ \text{yāvanti romāni bhavanti tasyā-} \]

---

62. Brhatparāśarasamrthih, 5 23 (A)
stavad varsanyasate devaloke

[Trans: He who gives away a beautiful cow with a fine calf, a cow which is easily milked and which does not run away, lives in the celestial region as many years as there are hairs on the body of that cow.] 

Throughout the epic, the poet has bestowed his highest esteem to the animal world, particularly to the cows. The distinctive qualities and practical utilities of the cow distinguish it from other animals. The Cow is considered to be the most eco-friendly animal. It occupies a unique place, as it is associated with the primary need of the human beings. The Anusāsana of the Mbh. has attributed highest regard to the cow comparing it with the mother:

'lokān sīrṣunā pārvam gāvah srstāh svayambhuvā /
vrtyarthaṁ sarvabhūtānāṁ tasmāt tā mātāraḥ smṛtāh

'gaurme mātā vrśabhah pitā me

'gāvah svargasya sopānam gāvah svarge'pi pūjitāh

'gobhistulyam na pasyāmi dhanam kiṃci dihācyuta

'gāvo lokāṁstārayanti ksaraṁ

'gāvastānam saṁjanayanti loke /

yastam jānanna gavāṁ hārdameti

sa vai gantā nirayam pāpācetāh

[Trans: Earlier the creator (Brahmā) willing to create this world created the cows, which are the sustainers of all creatures. Therefore, these are called as mothers. (145 [11]. 203)

The cow is my mother and bull is my father. (76. 7 [A])

Cows are the steps of heaven and these are also worshipped in heaven. (51. 33 [A]).

63 Mbh., Vana., 186. 9.
65 Mbh., Anusāsana., 145 (11). 203
66 Ibid., 76. 7 (A)
67 Ibid., 51. 33 (A)
68 Ibid., 51. 26 (B).
69 Ibid., 71. 52.
Oh! Undeteriorating one! no other wealth is as precious as the cow. (51. 26 [B]).
The milk of the cows relieves human beings from hunger. The cows produce food-grains for them. Knowing this useful contribution of the cows, who does not take care of them, commits sin and that leads him to hell. (71. [52]).

It directly and indirectly helps agricultural production. Its finest product, i.e., milk directly nourishes and its refuse, i.e., cow-dung supplies manures to the paddy fields and facilitates the process of agricultural production, which saves the lives of the people of this world. The cow-dung is a good bio-fertilizer that has no harmful effect on the soil. The fertilizing capacity of the cow-dung has been accepted both by the Vedic seers and modern scientists. This has been mentioned by Mukesh Kumar in an essay titled 'Vaidiki Paryavaranacetanā', where he has written: "gomayena gomūrena ca prthivyāḥ urvarāśaktih vardhate iti na kevalam vaidikinām matam apitum adhunikavedājñānikānāmpādābhimatam." [Trans: That the productivity of the Earth increases by the application of cow-dung is not only accepted by the Vedic seers but also by the scientists belonging to modern era]

Nowadays, the application of various modern chemical fertilizers has raised the agricultural products and supplied adequate quantity of food to the mouths of millions. But the harmful effect of the chemicals proved to be injurious to the health of mankind. The application of the cow-dung has no adverse effect on crops. Cow-dung is time-tested conventional manure that acts as a better favourable stimulant for the harvest till today.

The direct and indirect utility of the cow was understood by our ancestors for continued development and long-run benefit. The age-old ideas and ideals of our ancestors have not been wiped out by the progress of time, as these are deep rooted in logic and based on facts, which lead to human welfare. Since the cows serve diverse benefits to the human beings, their protection was regarded as one of the greatest virtuous activities in the Mbh. The concept of virtue and righteousness were attached to the act of maintenance of the cows, so that people are motivated to

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70 Kumar, Mukesh, 'Vaidiki Paryavaranacetanā', Samskritamahajati (April 2004-June 2004), Year: 2, Issue: 4, p 60
participate in the mission of protecting the cows.

The *Mbh.* has also depicted the bond between the human beings and dogs. The quality of devotion and faithfulness made a dog to become the ultimate companion of Yudhisthira in his journey to heaven. The bond between Yudhiṣṭhira and the dog got its expression when Yudhisthira refused to go to heaven without his loving dog, which was none but Dharma personified. Yudhisthira told Indra, “This dog, O Lord, is highly devoted to me. He should go with me. My heart is full of compassion for him.”

C. **Preservation of natural & artificial sources of water: A requirement for ecological balance**

The existence of various sources of water and wetlands, etc. gives indication of a healthy environment. It helps cultivation and maintains ecological balance. In today's world, people are more concerned for judicious distribution and preservation of water, which was the concern of our seers in the days of yore. The seers of the *Atharvaveda* prayed for the availability of profuse pure water and pleaded for its conservation in the following mantra:

\[ˈsam te āpo dhanvanyāḥ ˈsam te santvanūpyāḥ\]
\[ˈsam te khanitrīmā āpah ˈsam yāḥ kumbhebhirābhrīḥ \[\text{Trans: May the waters of the deserts, waters of the places where there is plenty of water, the waters of the wells and ponds and the waters of the pitchers be favourable.}\]

The *Matsyapurāṇa* has highlighted that the sources of water like wells, ponds, lakes, etc., are important as these fulfill the basic requirement of all living beings by supplying water, which supports life in this Earth. While appraising these sources of water, *Garudapurāṇa* has stated that larger the source, the maximum is their utility:

\[ˈdaśakūpasamā vāpi daśavāpisamam sarah\] [Trans: A pond is equal to ten wells, a

73. *Garudapurāṇa*, *Uttarakhandah*, 37. 50 (A)
lake is equal to ten ponds. The act of digging ponds, water tanks, wells, etc., was considered to be the greatest achievable virtues in our scriptures. Garudapurāṇa mentions:

\[\text{\`kahpa-vapi-tadagādi ārāmāṇi ca kārayet/}
\text{trihsaptakulamudhṛtya viṣṇuloke maḥiyate/}\]

[Trans: He, whoever makes wells, ponds, lakes and gardens, gets rid of impurities his third to seventh generations and thereby enjoys the highest pleasure in the Viṣṇuloka, i.e., heaven.]

Manu has also stated:

\[\text{dānadharmam niśeveta nityamaistikopaurttikam /}
\text{paritustena bhāvena pātramāśādyā saktītah /}\]

[Trans: One should try one's level best to perform sacrifices, do the activities related to the digging of wells and ponds, etc. and give offerings to the brahmins, who are well-versed and with profound asceticism in a regular and satisfactory manner.]

It has been referred to in the Mahābhārata that Yama also fears to punish him, whoever constructs artificial reservoirs of water or gives encouragement to it:

\[\text{yesāṁ tatākāṇi mahodakāṇi}
\text{vāpyaśca kāpāśca pratiśrayāśca /}
\]

[Trans: Those, that give away lakes and large tanks, wells and ponds, shelter, have not to bear the upbraiding of Yama.]

Vedavyāsa followed the footsteps of the seers of our past and transmitted the ideas relating to the environment in a very compact manner, but those made some eternal contributions to the environmental studies. He spoke little, but hinted a lot. He coded many facts of environmental importance by religious aspects, but scopes

74. Śrīgarudapurāṇam, Pūrvakhandāḥ, 225. 23, Āryaśāstra series.
75. M. S., 4. 227.
76. Mbh., Vana, 200. 40
are left to decode these for the betterment of the society.

D. Homage to the rivers: Adoration of nature

We find several references of adoration of nature in the Mahābhārata. The awareness for sustainability and preservation of natural resources is presented in a very ornate manner in this epic, considering their values more philosophically, with the spirit of devotion. Here the adoration of the river Ganges, forests, lakes, cows, etc, shows the importance of the environment for the survival of living beings. Adoration means absence of abhorrence. It helps to strengthen any kind of spirit. The spirit of devotion is the essence of environmental science, which is reflected in the Mahābhārata in a haphazard manner. But, plenty of opportunity is left to arrange it systematically.

The Indians are quite familiar with the greatness of the sacred river Ganges from time immemorial. It is believed that a dip into the holy water of this river or sipping a few drops of it relieves human beings from sin:

`punātī kṛttītā pāpam drstvā bhadrām prayacchati /
avagāḍhā ca pītā ca punātyāsaptamam kulam Ir`78
[Trans: He who recites the name (of the Ganges) is purified. He who beholds her obtains prosperity. He who bathes in her and drinks her water saves seven generations of his race upwards and downwards.]79

It is also a common belief that this river brings emancipation to those who take a bath in her current. The Ganges is regarded as the highest symbol of sanctity: ‘na gangāsadrśam tirtham…’80 [Trans: There is no Tirtha like the Ganges.]81

The Gangā, Yamunā, Sarasvatī, Rathasthā, Sarayū, Gomati, Gandakī- all these

78. Mbh., Vana., 85 93.
80. Mbh., Vana , 85. 96 (A).
81. Eng Trans. by: Dutt, M N., Vol 2, p 147
rivers play a very distinctive role in controlling the way of lives of the people of India. These rivers remained the source of livelihood to the aquatic flora and fauna and have been maintaining ecological balance from a very early period. The motherly attitude of the Ganges had inspired the Astavasus to choose Gaṅgā as their mother. This is lucidly described in the story of Astavasus mentioned in the Ādi. of the Mbh. They being cursed by irritated Vaśiṣṭha had to take their birth in the human race. They were cursed because they had stolen the cows, which supplied sufficient quantity of milk to the great sage Vaśishtha.

Theft, particularly the stealing of cows was considered to be a great crime and treated as great sin in India. For the said sin, the Astavasus were degraded from their status and they had to take birth in the lower category (in the class of human beings) as a punishment:

\[ \text{yasmānme vasavo jahurgāṁ vai dogdhrim suvāladhim /} \]
\[ \text{tasmāt sarve janisyanti mānuseśu na saṁśayah /}\]

[Trans: (Vaśiṣṭha cursed the Vasus saying) “As you (Vasus) have stolen my cow having handsome tail, all of you will have to take your birth as human beings on this Earth.”]

A dip in the Ganges could make them free from the curse. The Astavasus requested Gaṅgā that after their birth she should throw them in to the water for their welfare, so that being released from their curse they could go back to their origin:

\[ \text{yathā na cirakālam no nisṛtih syāt trilokage /} \]

[Trans: O lady of three courses (celestial terrestrial and subterranean), you should throw your children into water just after their birth, so that we may not have to live for long on earth.]84

The eulogy of the river Gaṅgā has been found in Ch. 110 of the Agnimahāpurāṇa as:

\[ \text{gatigangā tu bhūtānāṃ gatimanvesatāṃ sadā /} \]

82. Mbh., Ādi., 99. 32.
83. Ibid., 96. 19.
The river Ganges is the earthly door to salvation to men who long for emancipation from this prison house of life. The river Ganges duly worshipped succours, from the nether regions, the two branches of the family of a bather therein. The greatness and sanctity of Gaṅgā has been depicted by Śaṅkarācārya in his Gangāstotram:

\[
\begin{align*}
\text{‘tava cenmātah srotah snātah} \\
punarapi jathare so’pi na jātah / \\
naraka-nivārini jāhnavi gange \\
kalusa-vināśini mahimottunge \text{/} \\
\end{align*}
\]

(Trans: O Mother, one who takes his bath in your water, does never take his birth in this Earth. O Ganges, the daughter of Jahnu, you keep him away from hell. By your greatness you destroy his sin.)

Akbar, the great emperor of the Mughal dynasty attributed utmost reverence to the river Ganges, when he termed the water of the Ganges as amaratirtham, i.e., ‘water of immortality’ and always used this water at the time of travelling. The emotional attachment with this river is based on scientific precision. Julian Crendal Halic opined that the Mysterious factor found in the water of the Ganges is the main reason of its sacredness: \text{“gaṅgājale sthitah ‘viśistah amśah’ (Mysterious factor) eva parisuddhatāyāh kāranaṃ.”}\footnote{Mahendradatta, ‘Paramaparīśuddhā Gaṅgā’, Sambhasanasandesah. March 2008, Issue: Magha-Phalguna, p 5} Bhargav, who assisted Halic in his study, has found that the water of the Ganges is different from the water of other rivers. The amount of oxygen found in the water of the Ganges is 25% higher than the water of other rivers. The excessive amount of oxygen found in the water of the Ganges does not allow the bacteria to survive. That is why it is beneficial to the health and sanitation. A thing

\footnote{83. The Agnimahāpurāṇam, 110. 2, Vol. 1, p. 435
87 Stavakavacamalā, Gangāstotram, Śaṅkarācārya, pp. 285-286
suitable for improving the health of the human beings is always revered in ancient India. According to Śrī Rāmakṛṣṇa, “She is a blessing for all, good or bad. Flowing through the plains she gives India both physical and spiritual nourishment. She is, in short, her life and soul. She is the bridge between heaven and Earth. She is divinity in the form of water.” Jawaharlal Nehru remarked, “The story of the Gaṅga is the story of India’s civilization and culture.”

The river Sarasvatī is another sacred river that supports the livelihood of millions of people living in proximity with it. It has been personified as goddess and eulogised since the time of the Ṛgveda. Personification of the river Sarasvatī is found in the Śalya. of the Mbh., where she has been depicted as a mother, who gave birth to a son:

`susuvē cāpi samaye putram sā saritām varā /
jangāma putramādāya tamrśīm pratī ca prabhō//'90

[Trans: When the time came, the best of rivers delivered that child and then went, O lord, taking it with her, to that Rishi.]91

Millions of people come to her banks to pray, to pay homage to her as it has been sustaining the living beings for many centuries. It fertilizes the Earth, influences the way of life of the people, nourishes human beings and gives a soothing effect to their troubled souls:

`sarvasvatī sarvanadiśu punyā /
sarvasvatī lokaśubhāvahā sadā /
sarvasvatīm prāpya janāh suduṣkṛtam
sadā na socanti paratra ceha ca //92

[Trans: Sarasvatī is the most sacred of all rivers. Sarasvatī always brings welfare to the people of this world. When people approach Sarasvatī, they do not have to think

90 Mbh, Śalya, 51 11.
for their sins here in this world and hereafter.]

E. Mountains: The symbols of sanctity

In early society, people understood the importance of mountains for their survival. These mountains support forests and rivers, which help to maintain balance in the environment. The forest cover of the mountains is the principal source of oxygen. The essay, ‘Vedānusāreṇa manuṣyasya pariṣthitīsambandhah’, published in the Journal Samskṛtamāṇjari, the writer, B. Chandrika has stated: “parvatebhya nirgatāh nadyah mānavarāseḥ bahūpoyogam kurvanti. tātra mānusikaloke sāmyāvasthām naikaprákāreṇa kurvanti kintu anēkaprákāreṇa. te asmākaṁ saukhyāya và vanam prāṇavāyum ca dadāti. attēva pariṣthitisamraksane etesām sthānam atipradhānam bhavati”.93 [Trans: The rivers, originated from the mountains, serve the human community in various ways. These bring equilibrium to this living world in diverse manner. These mountains ensure welfare to us as the resorts of forests and supply fresh air. Therefore, these play an important role in the preservation of the environment.] Mountains were the symbols of sanctity. As a mark of reverence, earlier people used to worship these mountains. In V. No. 25 (B) of the 10th Ch. of the Śrīmadbhagavadgītā, Śrīkṛṣṇa has identified himself with the Himalayas: ‘yajñānāṁ japa-yajñocatiḥ sthāvarānāṁ himālayaḥ’94 [Trans: Among the yajñas (sacrifices), I am japa-yajña and among the immovable I am the Himalaya.]

Before observing any special event people use to perform various auspicious activities. For that purpose they generally choose a sacred place. Mountains remain one of the most suitable sacred places where the auspicious works have been performed since time immemorial. This reference of the highest amount of adoration of mountains is found in Ch. 219 of the Ādi. of the Mahābhārata, where Subhadra was engaged in worshipping the Raivataka mountain before she was forcefully taken

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94 Śr B, 10 25 (B).
away by Arjuna. She moved round the mountain along with the hymns uttered by
the brahmins:

\[
\text{subhadrā tvatha sailendramabhyarcyaiva hi raivatam /}
\]
\[
daivatāni ca sarvāni brāhmanān svasti vācyā ca //}
\[
pradakṣīnaṁ gireh kṛtvā prayayau dvārakāṁ prati //\]

[Trans: Subhadra, having worshipped that king of hills, Raivataka and the celestials
and having been blessed by all the brahmins, and having walked round the hill, was
returning towards Dwarka.]\(^{90}\)

Other references of the worship of mountains are available in the V. No. 15
and 20, Ch. 21 of the Sabhā of this epic. Śrīkṛṣṇa, Arjuna and Bhimasena went to
Girivṛaja, the capital of Magadha. Before entering into the capital, they ascended on
the Caityaka mountain. That mountain was worshipped with gāndha (Sandal wood)
and mālya (garland) by the inhabitants of that state:

\[
\text{vārhadrathaṁ pūjymanāṁ tathā nagaravāsibhiḥ /}
\]
\[
\text{magadhānāṁ suruciram caityakāṁ tam samādṛav an /}\
\]

[Trans: (The brothers) pierced the heart of the high Chaityaka (hill) which was ever
worshipped by there of Brihadratha and by the citizens (of Girivṛaja), the hill that
delighted the hearts of all the Magadhas.]\(^{98}\)

\[
\text{arcitam gandhamālyaśca satatam supratisthitam /}\
\]

[Trans: That immovable.... peak, ever worshipped with perfumes and garlands.]\(^{100}\)

In the V. No. 35-36 of Ch.168 of the Vana of the Mbh., Arjuna bowed down to the

\(^{95}\) \text{Mbh., Ādi., 219. 6-7 (A)}

\(^{96}\) \text{Eng. Trans by: Dutt, M. N., Ādi., 220. 6-7 (A), Vol 1, p. 320.}

\(^{97}\) \text{Mbh., Sabha, 21. 15.}

\(^{98}\) \text{Eng. Trans by: Dutt, M. N., Vol. 1, p. 378}

\(^{99}\) \text{Mbh., Sabha, 21. 20 (B)}

\(^{100}\) \text{Eng Trans. by: Dutt, M. N., Vol. 1, p 379.}
Himalayas, moved round it and took its permission to meet Indra, the king of the gods:

\[ \text{'devarājāḥ sahasrākṣastvām didṛksati bhārata /}
\text{ityuktō'ham mātalinā girimāṇantra saśiraṁ /}
\text{pradaksinamupāvṛtya samārohaṁ rathottamaṁ} /\]

[Trans: "O Bharata, the thousand-eyed king of the gods is desirous of seeing you". Thus addressed by Matali and greeting the mountain Himalaya, and going round it, I ascended that excellent car.]\(^{102}\)

The environment of mountains or hilly areas is always healthy due to its non-polluted nature. This might be the possible reason why most of the holy places are found on the hills. Secluded hilly places were given highest preference by the yogis and ascetics for practising yoga and penance. This tradition of the society persists till today.

**F. Worship of oceans: The highest esteem to nature**

Like the worship of the trees, rivers and mountains, worship of the oceans in the *Mahābhārata* also indicated the awareness of the ancient Indian people towards natural objects. The sentiments like respect, love, care and devotion, attached to the objects of worship signify the value of that particular thing. It highlights the concern of the considerate persons of the early society, who desired to utilise an important object of nature for their own satisfaction. When a kind person wished to get a good return from natural objects, he used to express his utmost devotion by performing worship to those things. Such a reference is found in the V. No. 34, Ch. 283 (*rānopākhyānaparvanī setubandhane*) of the *Vana.*, of the *Mbh.*, where Rāmacandra worshipped the ocean and sought its help for crossing the hardly crossable sea for going to Lāṅkā. Rāma had the āgneya weapons in his possession, by which he could dry up the water of the sea. But he kept it as a second option, as the application of

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\(^{101}\) *Mbh.*, *Vana*, 168. 35 & 36 (A).

the devastating āgneya weapons would dry up the water of the sea, which would create a serious trouble to the creatures of this world. To avoid that Rāma bestowed his respect to the ocean by worshipping it according to the sacred laws:

\[
\text{‘aham tvimam jalanidhim samārapsyāmyupāyatah /} \\
pratisesyāmyupavasan darsayisyati mām tataḥ/^{103}
\]

[Trans: I will, however, pray to this Lord of waters (to show me) a means (to cross the sea) and by observing fasts will lie down on the shores. He will then surely show me (a means)]^{104}

G. Tīrthas: The centers for preservation of biodiversity

The psychological bond between man and nature is established in a sensible mind. Sensitivity and caring attitude to the objects of nature is generated in a pure mind. The discussions of the environment in the Mahābhārata are based on the solid foundation of love, compassion and care, where special effort of the composer was to clean the psychological atmosphere of the readers. That is why the reference of the tīrthas is found to be one of the favourite areas of discussion in the Mbh. Chapters 82, 83, 84, 85, 87, 88, 103, 107, 108, 114, 118, 130 of the Vana of the Mbh. precisely describe the greatness of the tīrthas. The term ‘tīrtha’ is originated from the concept of holiness. This sense of sanctity develops in our mind. Tīrthas are the external manifestations of the sentiments of love and care. In India, people are generally more emotional than practical. That is why; spiritualism and symbolic expressions got more preference in explaining the situations of real life. We have got enough evidence of it in the Vedic and post-vedic literatures. The Vedas give us sufficient information that the seers implemented the ideals they preached. They with their immense extraordinary power of intellect understood the main justifications of symbolic expressions. But this was beyond the intellectual level of the general people. So, the post-vedic literatures presented these logical ideas concealing those

103 Mbh, Vana, 283. 30
under spiritualism and allegory, with the hope that those would get easy access to the intellectual world of the masses.

The idea of tirthas was actually generated to make people aware of the preservation of the environment. Tirthas are the holy places, where the devotees assemble to gain peace and tranquility. These places are sacred because these are less polluted and far from the madding crowd. These places of pilgrimage are blessed with the gifts of nature. These sacred places are especially situated on the banks of sacred rivers and lakes, on the mountains and in the forests. The natural sites of these places beckon people towards them. Besides this, tirthas are also important from the viewpoint of health. The concern of the ancient Indians for good-health motivated them to design these sacred places congenial for sound health condition.

The descriptions of the tirthas, in quite a few occasions in the *Mbh.*, are possibly presented to create a psychological relationship with the trees, rivers, animals and also to feel blessed with the spirit of oneness with the whole natural entity. The tirthas were the centres of preservation of the environment and the aim of these places was to promote the attitude of emotional attachment with the objects of nature. There the pilgrims worship the natural objects like trees, animals and birds along with the worship of gods and goddesses of the holy shrines. The greatness of the natural objects is co-related with the greatness of the gods and goddesses. The idols, worshipped in these shrines are considered to be the protectors of these holy places. Some of these places of pilgrimage became famous for a particular tree and water tank associated with these. In this connection, the *Mbh.* mentions the tirthas like Gaya (for aksayavatavrksa), Kapilavatatirtha (for vatavrksa), Kubjāmrakatirtha (for āmravrksa), Vadarikatirtha (for vadarivrksa), etc., which became famous for trees. Some of the tirthas associated with rivers and water tanks are- Varadānatirtha, Campātirtha, Devikātirtha, Gangādvāratirtha, Gokarnatirtha, Jyeṣṭhilatirtha, Kapilātirtha, Kanyakatirtha, Kedāratirtha, Kuśaplavanatirtha, Kotitirtha, Mrgadhūmatirtha, Madhusravatirtha, Manināgatirtha, Prabhāsatirtha, Pingatirtha, Prthivitirtha, Rṣabhātirtha, Śrīkuṇḍatirtha, Śaśayānatirtha, Somatirtha, Śālihotratirtha, Śatasahasrakatātirtha, Sahasrakatātirtha, Svastipuratātirtha, Varadāsangamatātirtha, Vaitaraṇitātirtha, etc. These tirthas are sacred because these are
the places, where animals, birds and trees, with their branches laden with fruits and flowers are all tended with loving care. Water reservoirs supply pure drinking water to the people and save aquatic lives. Application of medicines keeps the water of the tanks free from contamination. Nobody dares to do any harm to these protected animals, birds, plants and aquatic flora and fauna because of the fear of sin, wrath of the gods and goddesses and also because of the fear of loss of virtues gained by religious performances in those sacred places.

Taking a holy bath, fasting, worshipping gods and goddesses, taking care of the animals, birds and plants, etc. are associated with the duties of the pilgrims. These are actually meant for physical and mental purification of the people. Fasting in suitable manner proves to be beneficial to our health. So, the effects of visiting the tirthas bring a positive result on the health of the visitors.

The Vedic traditions assert that a village becomes complete when the three categories of forest- śrīvānam, tapovānam and mahāvānam are preserved and maintained in its own territory. Every village must also have a cluster of five great trees. These trees are called pañcavati, symbolising the five basic elements of nature like the Earth, water, fire, air and ether, the totality of everything. Śrīvāna, the forest of wealth gives prosperity, tapovana, the forest of religion is the home of the sages. It brings tranquility in mind and the mahāvana, the great natural forest is the resort of wildlife and forests. All these three categories of forests should be protected to save the bio-diversities.¹⁰⁵

The elaborate discussions of various tirthas and penance groves in the Mbh. give a picture of great India, inhabited by the devotees of nature. Rabindranath Tagore said that these penance groves are the finest expositions of the spirit of Indian civilisation. Tagore has mentioned: “....tapovani chilo bhâratvarser sabhyatãr caram nidarsan; ei vaner madhyei mânus nikhil práktir sange âtmãr milankei sânta samâhitabhâve upalabdhi kareche”.¹⁰⁶ [Trans: The penance groves were the distinctive

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¹⁰⁶ Tagore, Rabindranath, Victrâ, Sādhana, Tapovan, p. 239.
marks of Indian civilisation. In these places, human beings realised the assimilation of their soul with the natural entity in a peaceful manner.

But, in recent times, these tirthas are also losing their natural attraction due to the lack of proper maintenance. Now-a-days, the decaying moral values of the society have spoiled the ideals and spirit of these tirthas. Without understanding the basic ideas associated with these tirthas, people want to attain the ultimate bliss only by performing various rituals. So, the primary idea of the tirthas, i.e., the emotional bond with the environment, health and hygiene, etc., has been concealed under rituals with the degradation of our values. But, the age-old ideas associated with these tirthas should be considered in a justifiable manner at present, when people are struggling hard to get physical and mental peace.

Now-a-days, the inhabitants of improperly managed cities have been witnessing the worst consequences of unscientific planning. The highly polluted cities have created the tension of catastrophic consequences. So, our policy makers and administrators have felt it highly essential to redesign the existing cities as 'green cities'. The tirthas should be protected for neutralising the polluting factors of the cities. Peoples' participation in the process of preservation of nature alone would be a proper tribute to these holy places. In this respect, the Mahābhārata may be a genuine source of inspiration to the people.

H. Innovative idea of Vedavyāsa for preservation of natural resources:

Nāvyāśramah

Cruising is a latest concept of entertainment. In recent day cruising, the vessel is being designed with little importance to ecological effect. But in the Mbh., we find a similar arrangement known as nāvyāśramah (a navigable grove), where priority was given to the environment by accommodating more and more herbs, shrubs, plants, trees, etc. Such a reference of artificial floating grove is found in V. No.1-3, Ch. 111 and V. No. 9, Ch.113 of the Vana. of the Mbh: 'sā tu nāvyāśramam cakre rājakāryārthasiddhaye' 107 [Trans: In order to accomplish the king's works, she

107 Mbh., Vana, 111. 1 (A).
made a floating hermitage.]\textsuperscript{108}

‘cakre nāvyāśramam ramyadībhutopamadarsanam’\textsuperscript{109} [Trans: She then made a floating hermitage, which was very charming and exceptionally beautiful.]

‘nirādūpādāya tathaiva cakre /

nāvyāśramam nāma vanam vicitram’\textsuperscript{110} [Trans: Taking the vessel from the water she then made a beautiful forest named ‘Floating Hermitage’.]\textsuperscript{111}

’nāṇāpupaphalairvrksaih kṛtrimairupasobhitaih /
nāṇāgulmalatopetaih svādukāmaphalapradaih’\textsuperscript{112} [Trans: She made that floating hermitage abounding in various plants and creepers, adorned with many artificial trees full of flowers and fruits and capable of giving various delicious fruits.]\textsuperscript{113}

This refers to an ancient example of entertainment by navigation, where the vessel used to accommodate a grove in it. This is an innovative idea of Vedavyāsa regarding conservation of trees and wild life for the purpose of amusement. This idea may be adopted in the present age for artificial afforestation and eco-tourism.

**Artificial forest**

Ch. 192 (Mārkandeyasamāsya parvanī mandukopākyāne) of the *Vana* of the *Mbh.* depicts the marriage of Pariksit, the king of Ayodhya. He married Sūsobhanā (a female frog), who was the daughter of Āyu, the king of the frogs. Sūsobhanā married the king with the condition that she would never see water: ‘nodakam me


\textsuperscript{109} *Mbh., Vana*, 111. 3 (B).

\textsuperscript{110} Ibid., 113. 9 (B).

\textsuperscript{111} Eng. Trans. by: Dutt, M. N., Vol. 2, p 179

\textsuperscript{112} *Mbh., Vana.*, 111. 2

The king accepted the condition and married her. After marriage, the king began to enjoy the company of newly married bride and banned the entry of water in the seraglio. The prime minister of the king understood that the order of the king might bring a serious consequence in the state. The king would not encourage the digging of water-tanks, ponds, wells, etc. and ignore the maintenance of the existing sources of water in his kingdom. So, the prime minister himself took the initiative to make an artificial forest with a small pond in the middle of it. The small pond would be surrounded with various creepers and herbs. As per the plan of the prime minister the forest took its shape. Then he told the king that the forest was ready for his pleasure trip. The king entered into that forest with his beloved wife. The tired king felt thirsty and found the pond with transparent water. He requested the queen to descend carefully into the pond and the queen, being called by destiny disappeared there. She met her destiny and the king repented a lot for his own fault.

This episode brings out the fact that the concept of manmade forests and reservoirs emerged in India long before we felt the necessities of these. These manmade forests and water tanks save people from various environmental crisis. These artificial forests may be the examples before various departments to prepare different schemes to create botanical gardens, renovate the old parks and build new ones for meeting present and future crisis of this planet. The initiative taken by the prime minister of Ayodhya may be a motivating factor before modern men that they should become conscious to increase greeneries and reservoirs of water by making artificial gardens, parks, lakes, etc., and also by maintaining the existing ones. These manmade greeneries and reservoirs of water may be associated with recreation as these natural places normally provide refreshing effect that brings a positive result on the health of the people.

Today, awareness towards the conservation of nature has increased as we are surrounded by several problems relating to the environment. The drastic degradation

114. **Mbh., Vana.,** Prose sec. 192. 11 (B).
of the environment has become a concern to the people all over the world. But credit goes to our seers who could visualise today's situation without being really witnessing it.