Ancient Wisdom for Modern Sustainability

Disha Kamlesh Pansuriya[1] and Anitta G. Kunnappilly[2]

mātā bhūmih putruahan prthivyā

(Trans.—"Do not harm the environment, do not harm the water and the flora, the earth is my mother, I am her son, may the waters remain fresh, do not harm the waters. . .. Tranquility be to the atmosphere, waters, crops, and vegetation"—Atharva Veda, Prithvi Sukta, slok no. 12).

Ancient Indian literature gives innumerable references to managing, preserving, and protecting the environment. The *Brahamanas*, *Upanishad*, *Vedas*, *Ramayana*, *Mahabharata*, and the Sangam literature like *Silapadhikarama* and *Manimekhalai*, are abundant with verses that address protecting natural resources, and provide insights with respect to the ancient ideas behind environmental conservation and the insistence on maintaining a balance within the forest ecology. The *Arthashastra*, written by Kautilya, for instance, is a treatise on statecraft and economics, from the 4th century BCE. It includes detailed instructions on managing forests, emphasizing the need to preserve them for future use. The text also outlines the principles of sustainable agriculture, with a focus on crop rotation and soil conservation. Further, artifacts of the Indus Valley civilization indicate town planning and construction that purposely incorporated living in harmony with the natural environment.

Specific geographic artifacts continue to provide evidence of human symbiosis with the natural world. For example, the Ajanta caves (2nd BCE), a series of 29 rock-cut caves from ancient India, has vaulted ceilings. These rock-cut caves had sun windows that would naturally light up the prayer halls. The Ajanta caves, unlike other rock-cut caves, have low ceilings that were specifically designed to allow stifling air from prayer halls to rise and move into the surrounding cells that held cool water. This warm air would then be cooled naturally, leading to the cooling of the entire cave. Badgirs (2nd BCE), like a cooling tower, are an ancient technique used in Rajasthan to keep the insides of a building cool (Ayilara *et al.*, 2020a, p. 7). Baolis (1st AD) are synthetic stepwells that were constructed to serve as underground water resources and played a significant role in water conservation.

Specific to cultural life, is the yogic principle of *aparigraha*, 9th BCE, a virtue of being nonattached to possessions, keeping only what is necessary at a certain stage of life. In this perspective, humans and nature share a harmonious relationship, which goes as far as a reverence for

[1]Northeastern University - Boston Campus, Boston, Massachusetts, USA.
[2]Mahatma Gandhi University, Kottayam, Massachusetts, USA.

various flora and fauna. A notable example is the Bishnoi community (1485 AD) in the Jodhpur region, Rajasthan, for whom wildlife protection is part of their faith (Ayilara *et al.*, 2020b, p. 7).

The ancient Indians based on extant evidence can be characterized as custodians with great awareness of the decisive importance of the vulnerability of a man's environment. During the pre-Vedic time (4,500 BC–2,500 BC) the Harappan civilization revealed a sophisticated drainage pattern. The Vedic era (2,500 BC–2,000 BC) highlight that the Vedic Aryans knew that Nature and humankind ("Prakriti" and "Purusha") form an inseparable part of the Earth life support system. They had clear insight and intuition on the hidden knowledge of Nature. In *Isopanisad,* there is a profound statement. "Everything animate or inanimate that is within the universe is controlled and owned by the Lord. One should therefore accept only those things necessary for himself, which are set aside as his quota, and one should not accept other things, knowing well to whom they belong" (Bhaktivedanta and Prabhupada, n.d pp. 13–14).

South India's environmental conservation history dates to the Sangam era (3rd BCE). The Sangam literature outlines the Tinai concept (the coexistence of the environment and human beings), land divided into five zones: Kurinji—mountainous zone, Mullai—pastoral zone, Marutam—riverine zone, Neytal—coastal zone, and Palai—arid zone. These Tinais were interconnected, and they formed a symbiotic relationship with each other.

Agroforestry and mixed cropping, where farmers intercrop multiple crops with trees like coconut or mango, enhancing soil fertility and diversifying income sources (Singh & Singh, 2017, p. 5) were common techniques. Terrace farming is prevalent in hilly regions, preventing soil erosion and enabling the cultivation of crops like rice and vegetables. Seed saving and exchange are integral, preserving locally adapted varieties and maintaining genetic diversity (Srivastava & Pandey, 2006, p. 9). Organic farming methods, including natural pest management with neem-based formulations, promote ecological balance and reduce environmental risks. Traditional irrigation systems, such as tank irrigation and canal networks, harness rainwater, and manage seasonal floods for sustained cultivation.

Medieval India was the major hub for spices, immense raw materials, huge labor, which attracted the British colonization into the country. Colonization disrupted the sustainable farming practices and modifying farming as an input to fuel and aid British industrialization. In 1940s, the unsustainable farming and industrial practices implemented by the British resulted in famines, which contributed to the deaths of a thousand people. The 1945 world war also looted the Indian workforce and their assets. Post-Independence, during the consecutive five-year plan, India in an urge to break the vicious cycle of poverty advanced to industrial policy advancement disregarding the environmental and economic conditions of the people. After achieving independence in 1947, India's industrialization accelerated, but sustainable traditions persisted, especially in rural regions. However, because of Western influence, there has been a significant increase in urbanization and industrial growth in recent decades, placing a strain on natural resources and exacerbating environmental problems such as soil degradation, deforestation, and pollution of the air and water (Gupta, 2019).

The focus on growth has come at the cost of attending to the needs of society. In many areas of India grain shortages have led to mass hunger. Highlighting the inconsistency between economic growth and societal well-being.

The India's Economic Survey 2018 annual report states that the net availability of food grains is 487 grams (about 1.07 lb.) per person daily. In 1961, the per capita availability

of food grains was 468.7 grams (about half the weight of a water bottle), while in 1971 it was 468.8 grams (about 1.03 lb.). This dipped to 454.8 grams (about 1 lb.) in 1981. Net availability did increase to 510 grams (about 1.12 lb.) per person per day in 1991 but has not shown an increase since (Jitendra, 2018). "Our target of a net exporting country would be lost if the government decides to feed all its hungry people," noted agriculture policy analyst Devinder Sharma (Jitendra, 2018). The Millennium Ecosystem Assessment (2005) found that 60% of ecosystem services are used unsustainably and concluded that "any progress achieved in addressing the goals of poverty and hunger eradication, improved health, and environmental protection is unlikely to be sustained if most of the ecosystem services on which humanity relies continue to be degraded (Rai, 2019, pp. 1–19). India, with a population of 1.4 billion, accounts for one-quarter of the world's undernourished and is home to over 190 million hungry people (Shan, 2024, p. 12).

India provides an accessible observation of the impact of growth orientation on both human and environmental sustainability. Given that the subcontinent has been inhabited for millennia, the present period vulnerability highlights the need to question the significance of growth orientation and the definition of progress.

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Address correspondence to:
Disha Kamlesh Pansuriya Northeastern University
360 Huntington Ave
Boston
Massachusetts 02215
US

E-mail: pansuriya.di@northeastern.edu