

# Mother Earth

Volume-2 Number-4, October-December 2024

## *Environmental Thinkers and Leaders of India*



Quarterly e-Magazine

School of Environment and Disaster Management

Ramakrishna Mission Vivekananda Educational and Research Institute

Narendrapur Campus, Kolkata: 700103



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# ENVIRONMENTAL THINKERS AND LEADERS OF INDIA

Dr P G Dhar Chakrabarti

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Indian civilization is considered as the oldest living civilization in the world. While many ancient civilizations like the Babylonian, Mesopotamian, Mayan and Minoan have collapsed, many others like the Chinese, Greek and the Aborigines have been so much overshadowed with new ideas, ethos and ways of life that these can no longer be considered as a continuum of the past. The Indian civilization, on the other hand, despite the evolution through the medieval and modern ages, assimilating many new ideas and cultures from the east and the west, have retained its fundamental ethos and values, including some core environmental values, that are part of the way of life of majority of Indians living in its hundreds of thousand villages, towns and cities.

**Core environmental values:** Some of the core environmental values of Indian civilization include: (a) *Panchamahabhutas* - the five elements (earth, water, fire, air, and space) that are sacred and integral to life; (b) *Ahimsa* – non-violence to all living beings, promoting biodiversity; (c) *Dharma* – righteous duty to protect and nurture nature; (d) *Devrai* - specific forests preserved as sacred spaces, prohibiting cutting of trees or harming animals in these areas. These ancient values continue to inspire the way of life of millions of Indians.

**Environmental thinkers of ancient India:** These value systems cannot be attributed to any individual thinker; these have evolved over the years, enshrined in many ancient texts like Vedas and Upanishads, composed by many Rishis. The Rig Veda praises natural elements like rivers, forests, mountains, and the sun as divine. The Atharva Veda includes hymns for the preservation of forests and emphasizes harmony with nature. Vrikshaayurveda focuses on science of trees, including planting, watering, and nurturing forests, showcasing the advanced ecological understanding of the time. Some of the prominent Rishis who have contributed to these texts include Dadhichi, Vasistha, Agasthya, Viswamitra, Yagnavalkya, Panini, Patanjali, Surapala and others.



Buddha (563-483 BC) taught compassion for all living beings, including animals and plants. Mahavira (599-527 BC) emphasized non-violence towards all forms of life, including microbes, insects, plants and animals. Chanakya Kautilya (4<sup>th</sup> Century BC) authored the Arthashastra that includes detailed guidelines for sustainable use of resources, protection of

forests, and wildlife conservation. The edicts of emperor Ashoka (304-232 BC) prohibit unnecessary killing of animals and encourage planting trees, digging wells, and creating green spaces.

**Environmental thinkers of medieval India:** Medieval India saw a rich confluence of philosophical, spiritual, and practical approaches to environmental thinking. Key environmental thinkers and influences of medieval India include Bhakti saints like Kabir and Sant Tukaram and Sufi mystics such as Nizamuddin Auliya and Baba Farid, who emphasized detachment from materialism, living in sync with the nature, and spiritual connection between humanity and natural world.



Vaishnavite traditions, particularly those around Krishna worship, celebrated the beauty and sanctity of nature. Guru Nanak propounded the philosophy of *Sarbat da Bhala* which means the welfare of all creation and living in harmony with nature. Guru Jambheshwar, the founder of the Bishnoi sect in Rajasthan, was a pioneering environmentalist who advocated for strict conservation of wildlife and trees, emphasizing harmony with nature as part of spiritual practice.

**Environmental thinkers of modern India:** Modern India, marked by the advent of colonial powers and the beginning of western education, ushered in an era when western educated Indians rediscovered their glorious past and reinterpreted ancient thoughts in modern contexts. The ancient philosophy of living in harmony with nature appeared in the life and thought of many Indian thinkers and leaders during the renaissance, reformation and freedom movement. The most important were three contemporary stalwarts in the fields of religion, literature and politics – Swami Vivekananda, Rabindranath Tagore and Mahatma Gandhi – whose profound thoughts on nature have influenced global discourses on environment. Swami Vivekananda (1863-1902) propounded the philosophy of ‘One Life’ manifested in different forms in plants, animals, and insects. Rabindranath Tagore (1861-1941) emphasized the interconnectedness of humanity and

nature, advocating for a harmonious relationship with the environment. Mahatma Gandhi (1869-1948) advocated sustainable living and simple lifestyles, rejecting excessive consumption and industrialization that harm the environment. His famous saying "The Earth provides enough to satisfy every man's needs, but not every man's greed." has become the jargon of modern environmental movement. These three intellectual giants of modern India inspired many early environmental thinkers and leaders of modern India, including many foreigners who adopted India as their home.



**Environmentally blind Constitution and Planning:** Despite these strong philosophical foundations, conservation and protection of environment did not figure in the national discourses on development until the seventies. Neither the Constitution of India nor the first four Five Year Plan made any mention about environment. The emphasis of our Father of Nation on bottom-up, community-oriented and environmentally prudent pattern of development was practically given up for top-down, planned model of development, without adequate consideration of impacts on environment.

**Environmental Movements:** The year 1973 marked a watershed moment as it witnessed the voluntary and peaceful movement of poor villages of Uttarakhand, mostly women, who hugged trees in numbers across the region to protect them from being felled by forest loggers. The movement spread to neighboring regions and encouraged similar movements in other States and sectors, forcing the Government to change its policies. The same year India launched the Project Tiger to save the animal from extinction. Earlier, in 1972 Prime Minister Mrs India Gandhi stole the limelight by her famous speech in the global conference on Human Environment in Stockholm, linking poverty with environment.

**Environmental Laws and Institutions:** Meanwhile the process of economic development of the country through modernization of agriculture, industrialization and urbanization, led to large scale change of land use, indiscriminate exploitation of natural resources and increasing pollution of water, air and soil, necessitating enactment of environmental laws. The Constitution of India was amended in 1976 introducing protection of environment and wild life in the Directive Principle of State Policy and Fundamental Duties of citizens. The Water (Prevention and Control of Pollution) Act 1974 and the Air (Prevention and Control of Pollution) Act 1981 established Central and State Pollution Control Boards and related environmental institutions and infrastructure. On the aftermath of Bhopal Gas Tragedy in 1984, the Ministry of Environment and Forests was established in 1985 and Environment Protection Act was enacted in 1986.

**Environmental Education and Research:** Earlier in 1974, JNU introduced Environment Science as a separate field of post-graduate study and research, and CSIR started National Environmental Engineering Institute. Several other universities and engineering colleges followed, and today nearly three hundred universities are offering Masters and PhD course on environmental science/ environmental studies, churning out large number of environment professionals, many of them holding important positions at national and global institutions on protection of environment, conservation of bio-diversity and climate change mitigation.

**Environment Diplomacy:** India's leadership in Stockholm Conference paved the way for her playing important role as the 'most articulate, balanced and influential' representative of the developing countries in negotiating many international conventions on environment and climate change. It goes to the credit of Indian diplomats that many global principles such as 'common but differentiated responsibilities' were incorporated in UNFCCC and other conventions.

**New generation of environment thinkers and leaders:** Rich tradition of environmental philosophy of India, rooted deeply in its civilizational ethos, supported by modern environmental education and research, and empowerment of communities through grassroots level institutions within and outside the democratic framework of governance has created a fertile field for emergence of environmental leaders across different sectors and fields at various levels.

**Special Issue of Mother Earth:** This Special Issue of Mother Earth presents the contributions of some of the most prominent environmental thinkers and leaders of modern India. They include the environment thinkers (Vivekananda, Tagore and Gandhi) and their followers (Meira Behn, K M Munshi, Patrick Geddes, Verrier Elwin, J C Kumarappa), botanist (J C Bose), sociologist (Radha Kamal Mukherjee), national leader (Indira Gandhi), leaders of environment movements (Sunderlal Bahuguna, Chandi Prasad Bhat, Baba Amte, Medha Patkar, Pandurang Hegde), agricultural scientists (Albert and Gabriele Howard, M S Swaminathan, Janaki Ammal), ecologists (Madhav Gadgil, M Krishnan), conservationist (Jim Corbett, Salim Ali, Valmik Thapar, Rajinder Singh), grassroots environment leader (Dukhu Majhi, Chami Murmu, Tulsi Gowda, Jadav Payeng), environment activists (Vandana Shiva, Prafulla Samantara), poet (Sugatha Kumari), lawyer (M C Mehta), and historian (Ramchandra Guha) among others.

# PEARLS FROM PRĀCĪNA BHĀRATĪYA JÑĀNA PARAMPARA (ANCIENT INDIAN WISDOM TRADITION) ON ENVIRONMENTAL INTERCONNECTEDNESS AND FEELING OF ONENESS WITH THE COSMOS

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**R**ṣi Dadhīci is a revered figure in Hindu mythology and is often celebrated for his selfless acts of sacrifice and his deep connection to the natural world. Rṣi Lomaśa narrates the story of Rṣi Dadhīci to Yudhiṣṭhira in Vanaparva of the Mahābhārata. His story is not only one of deep spiritual significance but also embodies a great ideal of environmental concern in the unique interplay of human-nature relationship.

The Mahābhārata lore has it that the king of gods Devandra helplessly implored the great sage, Rṣi Dadhīci, for his backbone with which to manufacture the powerful and most invincible weapon of adamant strength called *vajrayudha* in order to overpower and destroy the terrible demon king Vritra. The great sage gladly and unhesitatingly sacrificed his own backbone to make the *vajrayudha* overcome by with overflowing compassion for the good of the world and welfare of society.<sup>1</sup> This sacrifice signifying extraordinary selflessness could be viewed through an ecological lens and considered to symbolize Rṣi Dadhīci's profound relationship with nature and concern for universal welfare. It is an eternal inspiration for all human beings that they too must be willing to sacrifice their own narrow self-interest to achieve universal well-being.<sup>2</sup> We may recall in this context the following remark by the city-based historian Rizwan Kadri: "Gandhiji was always inspired by the sacrifice of Dadhīci" and this is considered as the chief reason why he moved from the Kochrab Bungalow of barrister Jivanlal Desai to the Sabarmati Ashrama on 17 June 1917.<sup>3</sup>

Rṣi Dadhīci's life exemplifies the interconnectedness of all living beings among themselves and the 'mother earth' which sustains them. According to ancient Indian philosophy, Nature is sacred and should be respected as an integral part of our life and existence on this earth.<sup>4</sup> Rṣi Dadhīci's surrender of his physical body, his very backbone, is an act of giving back to Nature whence it arose. In doing so, he epitomizes the cyclical nature of existence where life and death are not separate but intertwined and where humans are merely stewards of the earth rather than its owners.

In today's context, where environmental degradation is a global challenge, Rṣi Dadhīci's message of extreme selflessness and reverence for Nature offers great inspiration, timely reminder to all of us, human beings on this planet earth, that we ought to gladly participate in this Cosmic Cycle of Existence, this Cosmic *yajña* (sacrifice). His narrative calls for responsible action towards preserving the environment, emphasizing that the health of the planet is integral to

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१ततो दधीचः परमप्रतीतः

सुरोत्तमांस्तानिदमभ्युवाच।

करोमि यद् वो हितमद्य देवाः

स्वं चापि देहं स्वयमुत्सृजामि॥ (वनपर्व/१००/२१)

tato dadhīcaḥ paramapratītaḥ

surottamāṁstānidamabhyuvāca|

karomi yad vo hitamadya devāḥ

svaṁ cāpi dehaṁ svayamutsrjāmi|| (Vanaparva/100/21)

"Rṣi Dadhīci felt happy that he would be able to contribute to the good of the worlds. So he said to the gods, 'What is to the good of all of you will be done by me immediately, i.e. I shall give up my body voluntarily.'" (Agarwal, 2002, p.47)

<sup>2</sup> Pertinent to state how Swamiji thought that 'if a very small fractional part of human beings living today can put aside the idea of selfishness, narrowness, and littleness, this earth will become a paradise tomorrow; but with machines and improvements of material knowledge only, it will never be' (CWSV 2, p.82).

<sup>3</sup>(Tewari, 2015)

४तस्माद्वा एतस्मादात्मनः आकाशः संभूतः। आकाशाद्वायुः। वायोरग्निः। अग्नेरापः। अद्भ्यः पृथिवी। पृथिव्या ओषधयः। ओषधीभ्योऽन्नम्। अन्नात्पुरुषः। (तैत्तिरीय उपनिषद् २.१.१)

tasmādvā etasmādātmanah ākāśaḥ sambhūtaḥ| ākāśadvāyuh| vāyoragniḥ| agnerāpaḥ| adbhyaḥ pṛthivī| pṛthivyā ośadhayaḥ| ośadhībhyo'nam| annātpuruṣaḥ| (Taittirīya Upaniṣad 2.1.1)

"From that Brahman indeed, which is this Self, was produced space. From Space emerged air. From air was born fire. From fire was created water. From water sprang up earth. From earth were born the herbs. From the herbs was produced food. From food was born man." (Gambhirananda, 1988, p.304)

the health of humanity. Just as Rṣi Dadhīci's sacrifice begot the greatest good of the world, our collective efforts to protect natural resources, mitigate the effects of climate change, live a participatory life with the Cosmos and Nature, can alone ensure us a sustainable future. Life as a whole is sacred, divine and immense. We may recall the Vedic dictum, a favourite quote of the great poet RabindraNath Tagore— *prāṇo virāt* (translated by the poet himself as 'Life is Immense').<sup>5</sup>

Another glorious instance of sacrifice is that of King Sivi mentioned in the Vanaparva of Mahābhārata who happily sacrificed his own life in order to save a helpless creature, a pigeon, from the mouth of a hawk which was chasing it to kill its prey.<sup>6</sup>

Rṣi Dadhīci's profound connection with the earth, its environment and the living beings on the earth, as well as King Sivi's sacrifice of his own life to save a pigeon, palpably demonstrate that profound environmental concern is not only not new to ancient Bhārat, but embedded in our collective consciousness, practised by our sages as well as the common man for millennia upon millennia. These are eternal sources of inspiration for us, human beings on this earth at the present time, reminding us that all we are integral parts of a huge ecological system, mutually interconnected and therefore interdependent. Now that humankind is at crucial cross-roads, the threat of very survival of the human race being at stake, we will do well to go back to our roots in the Prācīna Bhāratīya Jñāna Parampara (ancient Indian Wisdom Tradition) rejuvenated and practised in our individual and collective lives. This is the very idea of Dharma developed, cultivated and practised since time immemorial as part of our cultural and spiritual heritage—this idea of sacrifice for the welfare of all and harm to none.<sup>7</sup>

## Abbreviation

CWSV 2: Vivekananda, Swami 2018. *The Complete Works of Swami Vivekananda*, vol.2: 'The Real Nature of Man', 3rd edn. Mayavati: Advaita Ashrama.

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<sup>5</sup> प्राणो विराट् प्राणो देष्ट्री , प्राणं सर्वं उपासते।

प्राणो ह सूर्यश्चन्द्रमाः , प्राणमाहुः प्रजापतिम्॥(अथर्ववेदसंहिता 11/4/12)

prāṇo virāt prāṇo deṣṭrī, prāṇam sarva upāsate|

prāṇo ha sūryaścandramāḥ, prāṇamāhuḥ prajāpatim|| (atharvavedasamhitā 11/4/12)

त्यजे प्राणान् नैव दद्यां कपोतं

सौम्यो ह्ययं किं न जानासि श्येन।

यथा क्लेशं मा कुरुष्वेह सौम्य

नाहं कपोतमर्पयिष्ये कथञ्चित्॥(वनपर्व/१९७/१८)

tyaje prāṇān naiva dadyāṃ kapotaṃ

saumyo hyayaṃ kiṃ na jānāsi śyena|

yathā kleśaṃ mā kuruṣveha saumya

nāhaṃ kapotamarpayiṣye kathañcit|| (Vanaparva/197/18)

<sup>7</sup>प्रभवार्थाय भूतानां धर्मप्रवचनं कृतम्।

यत् स्यात् प्रभवसंयुक्तं स धर्म इति निश्चयः॥ (शान्तिपर्व/१०९/१०)

prabhavāsthāya bhūtānāṃ dharmapravacanam kṛtam|

yat syāt prabhavasamyuktaṃ sa dharmā iti niścayaḥ|| (Śāntiparva/109/10)

'Dharma exists for the general welfare (abhyudaya) of all living beings; hence, that by which the welfare of all living creatures is sustained, that for sure is Dharma.' (Chapple and Tucker 2000, p.13)

# SWAMI VIVEKANANDA'S THOUGHTS ON THE ENVIRONMENT

**Dr. Sudipta Tripathi**

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Swami Vivekananda was a significant spiritual leader and philosopher in the 19<sup>th</sup> and early 20<sup>th</sup> centuries. He emphasized the unity of all living beings and the connection between humans and nature, which greatly influenced Indian society and beyond. While renowned for reviving Hinduism and representing Indian spirituality at the 1893 Parliament of the World's Religions in Chicago, his environmental views are often overlooked. This report will examine his perspectives on nature and the ecological principles in his philosophy.

## Swami Vivekananda's Philosophy of Nature

Swami Vivekananda's teachings emphasize the interconnectedness of all life. He frequently discussed the presence of a divine force that permeates the entire universe. His philosophy can be understood through several key principles that connect spirituality with environmental consciousness.

### The Concept of "Atman" in Nature

Vivekananda's teachings on "Atman" (the soul) highlight the divine essence in all beings, including nature. He emphasized the importance of respecting and preserving every tree, river, and mountain, as they all hold spiritual significance.

### Unity of All Living Beings

Swami Vivekananda emphasized the fundamental unity of all life forms, viewing humans, animals, and plants as expressions of the same divine energy. He believed that humans are an integral part of nature, not separate or superior to it. His teaching, "All beings are essentially one", highlights the connection between human well-being and the health of the natural world.

### Self-Sufficiency and Simplicity

Swami Vivekananda advocated for a lifestyle of self-sufficiency, simplicity, and mindfulness with significant environmental implications. He encouraged living in harmony with nature, avoiding excessive consumption, and embracing sustainability. By promoting a modest lifestyle, Vivekananda highlighted the need to reduce strain on natural resources, minimize waste, and cultivate a culture of conservation.

### Swami Vivekananda's View on the Relationship between Humanity and Nature

Vivekananda emphasized the importance of spiritual development, highlighting that true spirituality involves a responsible relationship with the external world and the environment. He believed that the material world should be understood and respected, not discarded.

**Consciousness of Interdependence:** He taught that the human mind is part of a larger cosmic order, where disruption in one area affects the whole system. Neglecting our responsibility to nature harms us spiritually, mentally, and physically.

**Environmental Awareness as a Path to Higher Consciousness:** Caring for the environment is integral to spiritual awakening. Just as meditation purifies the mind, living in harmony with nature fosters higher consciousness and balance, promoting empathy and compassion for all life, which is sacred.

### Sustainability through Inner Transformation

Swami Vivekananda linked nature protection to personal spiritual transformation. He believed that inner change leads to caring for the environment, and a spiritually awakened person naturally reduces their ecological footprint for the benefit of society and the planet.

Swami Vivekananda's views on the environment were rooted in his spiritual philosophy. He advocated for a harmonious relationship with the environment, promoting simplicity, self-sufficiency, and ethical living. Although he did not directly address modern environmental issues like climate change, his teachings provide a timeless framework for ecological awareness. Today, his call for spiritual and material harmony is more relevant than ever, urging humanity to embrace unity and responsibility to tackle current and future environmental crises.





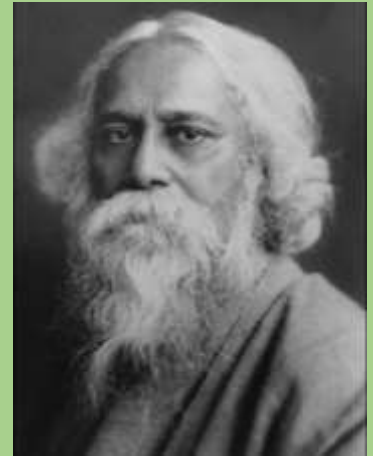
# TAGORE'S ENVIRONMENTAL WISDOM: BRIDGING NATURE AND HUMANITY

Dr. Malini Roy Choudhury

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A renowned Nobel laureate and an esteemed Bengali polymath, Rabindranath Tagore is not only celebrated for his literary contribution, and scholarly insights, but also for his progressive environmental leadership and thoughts on the environment and the interrelationship between humans and nature. In addition to being a response to the world ecological crisis, Tagore's environmental philosophy reflected his wider ethical, cultural, and spiritual convictions.

Tagore envisioned a sphere where humans coexisted peacefully with the natural environment. His environmental ideas were far ahead of their time, yet they still have a lot to say about current ecological issues. Tagore's theories provided a useful framework for reconsidering the relationship between humans and nature in a time of climate change, biodiversity loss, and environmental degradation. As an environmental thinker, he believed and strongly emphasized unity between the natural environment and the human spirit. His profound bond with nature was deeply reflected through his literary work from childhood. He has considered nature as a living, breathing creature that merited reverence, respect, and protection rather than just being a resource to be used for human benefit. In '*Tapavana*', Tagore critically evaluated the reasons for ecological imbalance<sup>1</sup>. In his view, the exploitation of nature was not only an environmental crisis but also a spiritual and ethical one. By distorting their relationship with the natural world, humans risked losing their inner harmony and moral compass. In the spirit of advancement, Tagore vehemently opposed upsetting this peaceful connection and cautioned in "*Atma Shakti*" (Rabindra Rachanabali, vol-2 page 692) that humans should not disturb the natural equilibrium in order to sate our hunger<sup>2</sup>.



Tagore's view of nature as a moral and spiritual force was central to his environmental philosophy. He held that as humans are a part of a bigger, interrelated system, they cannot be separated from nature. Tagore frequently portrayed nature as a heavenly creation in his songs, poetry, and literary works, full of beauty, wisdom, and life. This was reflected in his "*Prakriti Parjaay*" collection where *prakriti* was depicted as nature and *parjaay* as genre, signifying the protection of our planet Earth. Through his remarkable creation of 'Muktadhara' (The Waterfall), he demonstrated against human intervention in dominating nature by constructing a dam on Muktadhara, the stream<sup>2</sup>. Furthermore, he promoted a more peaceful and mutually beneficial relationship with nature, criticizing the industrial mindset that viewed it as a resource to be used. The environmental damage caused by colonial exploitation, which devastated India's natural resources and local cultures, was also criticized by Tagore. According to him, the colonial era was characterized by a severe ecological imbalance, with local communities being disempowered and ecosystems being destroyed in the name of material wealth.

He saw environmental exploitation as a component of the larger imperial endeavor to force foreign ideals and institutions on India. For Tagore, the pursuit of independence included ecological and cultural autonomy in addition to political freedom. He promoted a return to sustainable, local methods that honored the environment and the expertise of indigenous people. Instead of unbridled industrialization endangering ecological stability, he envisioned rural development that prioritized land agriculture in line with natural cycles. Tagore's ambition for education similarly mirrored his leadership through the establishment of 'Santiniketan'. In 1927, He introduced the pioneer festival '*halakarshan*', tilling the land to promote greenery and eliminate desertification, and wrote; "*maruvijaye ketan urao he shunne...*"<sup>3</sup>. Geetabitan: Lyricnumber.12 (Anusthanic Paryay),p.514)<sup>4</sup>.

In conclusion, Rabindranath Tagore's environmental philosophy embodies an ethical and comprehensive view of the natural world, emphasizing spirituality, morality, and cultural respect, going beyond the material and economic viewpoints that frequently rule contemporary environmental discourse. Environmental leaders and thinkers continue to be guided by Tagore's vision of a sustainable, interconnected world, which calls for humanity to return to a more peaceful state.

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# ECO-VISIONARY OF INDIA: MOHANDAS KARAMCHAND GANDHI'S ENDURING LEGACY AS AN ENVIRONMENTAL THINKER AND LEADER

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**M**ohandas Karamchand Gandhi, revered as the Father of the Nation in India, is globally recognized for his non-violent philosophy and moral leadership. However, Gandhi's contributions to environmental thought, though less discussed, are profoundly relevant in today's context of ecological crises and sustainability challenges. His life and teachings provide timeless insights into the harmonious coexistence of humans and nature, making him an eco-visionary ahead of his time.

## The ecological core of Gandhian philosophy:

At the heart of Gandhi's philosophy is the principle of *Sarvodaya*, or the welfare of all, which inherently includes the welfare of the environment. Gandhi advocated a life of simplicity, minimalism, and self-reliance, values that align closely with modern principles of sustainable living. He believed in reducing human wants to align with nature's capacity to provide, famously stating, "The Earth provides enough to satisfy every man's need, but not every man's greed." Gandhi's emphasis on *Ahimsa* (non-violence) extended beyond human relationships to encompass the environment. He viewed violence against nature as a moral failing and warned against the reckless exploitation of natural resources. His vision of a self-sufficient village economy was rooted in respect for local ecosystems and the sustainable use of resources.

## Critique of industrialization:

Gandhi's critique of industrialization and modernity forms a cornerstone of his environmental thought. He viewed the industrial revolution as a source of environmental degradation and social inequality. Gandhi's rejection of large-scale industrialization was not an outright opposition to technology but a call for appropriate technology that serves the needs of people without harming the environment. In *Hind Swaraj*, his seminal work, Gandhi questioned the Western model of development, equating it to a "mad rush" for material wealth at the expense of spiritual and ecological balance.

## Sustainability through Swadeshi and self-reliance:

Gandhi's concept of *Swadeshi*, or self-reliance, has profound environmental implications. By advocating for local production and consumption, Gandhi aimed to reduce the ecological footprint of communities. He believed in empowering individuals to meet their needs locally rather than depending on distant and often exploitative industrial systems. His promotion of khadi (hand-spun cloth) is a classic example of this ethos. Khadi not only represented economic self-reliance but also embodied environmental sustainability through the use of renewable resources, minimal energy consumption, and the elimination of industrial pollution.



## Simplicity as a model for sustainability:

Gandhi's personal lifestyle was a testament to his environmental ideals. He lived frugally, used resources judiciously, and practiced what he preached. In his dietary habits, Gandhi emphasized vegetarianism, locally grown food, and minimal waste, recognizing the interconnectedness of human health, animal welfare, and the environment. This perspective resonates strongly with contemporary movements for ethical consumption and sustainable agriculture.

In the face of climate change, deforestation, biodiversity loss, and pollution, Gandhi's environmental teachings are more pertinent than ever. Movements like organic farming, circular economies, and renewable energy adoption echo Gandhian principles of sustainability. Overall, Gandhi's enduring legacy as an environmental thinker and leader lies in his holistic vision of development that integrates ecological balance, social justice, and spiritual well-being. In an era of ecological upheaval, Gandhi's eco-visionary ideals remind us that true progress lies not in conquering nature but in living in harmony with it.

*"The good man is the friend of all living things"* - Mahatma Gandhi

# RADHAKAMAL MUKERJEE: PIONEERING HUMAN ECOLOGY AND SUSTAINABLE DEVELOPMENT IN INDIA

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**R**adhakamal Mukerjee (1889–1968) was a significant Indian sociologist, economist, and environmentalist known for his impactful contributions to the fields of ecology and environmental studies. He is celebrated for his multidisciplinary approach, which integrates ecological and environmental issues with the social sciences. Although his work is not widely recognized in contemporary environmental discussions, it laid the groundwork for ecological thinking in India.

Radhakamal Mukerjee was one of the first academics to connect environmental issues with social and cultural factors. He viewed the relationship between humans and nature as a blend of sociology, economics, and anthropology rather than solely an ecological concern. Mukerjee believed that social structures, cultural practices, and values were intricately linked to environmental challenges. He was among the earliest individuals in India to recognize the importance of ecological balance and the necessity of sustainable natural resource use. Mukerjee argued that economic advancement should not come at the expense of environmental degradation, as he saw the environment as a crucial element of social development. He introduced the concept of “*human ecology*”, which examines the interaction between humans and their natural surroundings, to the Indian context. Mukerjee emphasized the need to consider human behaviour, socioeconomic structures, and cultural customs when analyzing environmental issues. He believed that social norms and ecological constraints shaped how communities interacted with nature.



Unchecked industrialization and its resulting environmental damage have been criticized by Mukerjee. In his works, he warned about the negative effects of deforestation, the overuse of resources, and the decline of traditional lifestyles. He advocated for a more balanced approach to development that considers the long-term sustainability of resources and the health of ecosystems. Mukerjee emphasized the importance of development models that prioritize ecological preservation alongside economic growth, well before the contemporary concept of sustainable development gained widespread recognition. He was one of the first advocates for considering ecological boundaries and ensuring that economic growth did not lead to the destruction of natural resources and habitats.

Mukerjee's strategy aimed to ensure that the benefits of environmental preservation were distributed fairly while also protecting the natural world. He was concerned that marginalized and impoverished groups often experienced the most severe consequences of environmental degradation and had the least ability to influence environmental regulations. His research highlighted the link between environmental preservation and social justice. Mukerjee's work significantly impacted India's early environmental discourse, particularly during the 1930s and 1940s. He combined environmental philosophy and cultural considerations with scientific investigation. Additionally, he was ahead of his time in recognizing the importance of Indigenous customs and traditional knowledge systems in environmental protection.

In 1934, Radhakamal Mukerjee wrote an article for the *Indian Journal of Economics* to highlight the restrictions that ecology placed on livelihood options. He argued that ignoring the laws of nature could have harmful consequences for business operations. The article was titled “*The Broken Balance of Population, Land, and Water*”. It focused on the depletion of forests and grasslands in the Indo-Gangetic Plains, which resulted in the creation of vast ravines unsuitable for farming or habitation. This environmental degradation also led to more irregular and scarce rainfall. Consequently, the resulting shortages of water and fodder severely affected cattle, making them smaller and weaker, which in turn reduced their milk production and their ability to work in the fields. Mukerjee warned, “*It is not improbable that in some distant future, the Ganges valley may share the fate of the Indus valley, where once there was smiling plenty. The traces of ancient river beds and sand-buried cities extended over a vast space in the desert country east of the Indus testify to the gradual desiccation of a once fertile region*”.

Radhakamal Mukerjee's approach to environmentalism emphasized the connections between human civilization, culture, and the environment. He believed that preserving nature should not be for its sake alone, but rather about human well-being. His creative and multidisciplinary approach laid the foundation for contemporary discussions in India regarding human ecology, environmental justice, and sustainable development. Although Mukerjee's work may not be as widely recognized as that of other global leaders in the environmental movement, its depth and insight continue to be relevant today.

# INDIRA GANDHI: A VISIONARY LEADER ON CONSERVATION OF ENVIRONMENT

Lopamudra Mukherjee

India's first and only female Prime Minister, Indira Gandhi, is renowned for her capable leadership and lasting influence on the nation's growth in a number of areas. Among her many accomplishments, is her groundbreaking work in environmental protection. Being the daughter of Jawaharlal Nehru, India's first prime minister, educated in Tagore's Viswa Bharati and mentored by Mahatma Gandhi, our Father of Nation, Indira Gandhi was extremely sensitive to nature, wild life and environment and became a leading proponent of sustainable development, striking a balance between economic growth, social development and environmental protection during her tenure as Prime Minister, which coincided with the growth of international environmental movements.

**Indira Gandhi's Environmental Vision:** India was rapidly becoming more industrialized and urbanized during the time when Indira Gandhi was prime minister. She showed incredible vision in identifying the necessity for environmental conservation in spite of the demands of economic progress. Her profound awareness of the relationship between nature and human well-being led her to dedicate herself to conserving India's natural heritage.



Indira Gandhi frequently underlined the significance of striking a balance between ecological protection and economic advancement. She thought that environmental deterioration would eventually impede the nation's progress and have a detrimental effect on the standard of living for coming generations. The foundations for many of India's environmental laws and institutions were established during her tenure.

**The Stockholm Conference and Global Advocacy:** Participating at the 1972 Stockholm United Nations Conference on the Human Environment Indira Gandhi played a leading role in shaping international environmental diplomacy. In her well-known lecture, she emphasized the difficulties encountered by developing nations like India, where environmental degradation and poverty are closely related.

Her statement, "Are not poverty and need the greatest polluters?" struck a chord with people all around the world and raised awareness of the particular environmental problems faced by underdeveloped countries and communities. She advocated for a fairer global approach to conservation, asking wealthy nations to accept accountability for their increased pollution levels while encouraging sustainable practices in developing countries.

**Key Initiatives and Policies:** The Wildlife Protection Act (1972), which established protected places like national parks and sanctuaries and established a legislative framework to protect wildlife and their ecosystems, was passed under her administration. In 1973, she also started Project Tiger, which established tiger reserves and preserved their natural habitats in an effort to save the endangered Bengal tiger. The Water (Prevention and Control of Pollution) Act 1974 and the Air (Prevention and Control of Pollution) Act 1981 were also enacted during her tenure, establishing Central and State Pollution Control Boards and related environmental institutions and infrastructure in the country.

The 42nd Amendment to the Constitution (1976) gave the government the authority to enact laws pertaining to the environment and made environmental protection a basic responsibility of all citizens. Another significant law was the Forest Conservation Act of 1980, which limited the use of forest land for non-forest uses and attempted to stop deforestation. Gandhi also stressed expanding India's green space and supported afforestation initiatives. She founded the Department of Environment in 1980, and it subsequently changed its name to the Ministry of Environment and Forests. India's environmental laws and awareness were established by Indira Gandhi's policies, which made conservation a crucial component of the country's growth.

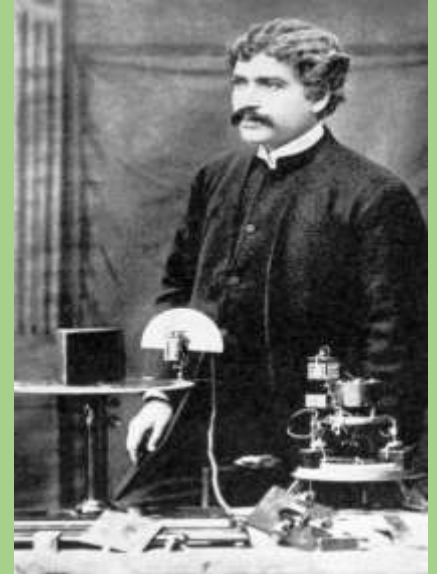
**Legacy and Influence:** A generation of residents, activists, and legislators were motivated by Indira Gandhi's dedication to environmental preservation. Her efforts paved the way for the establishment of the Ministry of Environment and Forests in 1985 as well as other environmental legislation and institutions in India. She made sure that conservation was included in the discussion of India's development by including environmental issues into national planning.

India's stance to environmental concerns, ranging from climate change mitigation to wildlife protection, is still influenced by her work. Her vision serves as a reminder that effective leadership and a comprehensive grasp of how environment and society interact are essential for sustainable development. Government of India instituted Indira Gandhi Paryavaran Purashkar in 1987 to honour individuals for their contribution for the protection and conservation of environment.

# JAGADISH CHANDRA BOSE: A PIONEERING ENVIRONMENTAL SCIENTIST OF INDIA

Sujan Mandal

Jagadish Chandra Bose (1858–1937), a pioneering scientist from India, made monumental contributions across multiple disciplines, including physics, biology, and plant physiology. Born in Mymensingh (now Bangladesh), Bose grew up amidst the vibrant natural landscapes of Bengal. His father, Bhagawan Chandra Bose, instilled in him a deep respect for nature and its harmonious balance. He did his schooling in a Bengali Medium school. Then, he joined St. Xavier's College in Kolkata and received a Bachelor of Arts degree. He wanted to study medicine but had to quit due to health problems. Instead, he conducted research with Nobel Laureate Lord Rayleigh at the University of Cambridge. After returning to India, he joined the Presidency College of the University of Calcutta as a professor of physics. This upbringing influenced Bose's perspective on the environment as an interconnected system where every component—forests, water, soil, plants, and animals—plays a critical role. While he is widely celebrated for his groundbreaking work in wireless communication and plant studies, his research and philosophical approach to nature also underlines his contributions to environmental conservation and understanding of life systems' interconnectivity.



## Legacy of Jagadish Chandra Bose

- **Father of Radio Science:** Jagadish Chandra Bose's contributions to the field of radio science earned him the title of the "Father of Radio Science." His pioneering work in wireless communication paved the way for modern technologies such as Bluetooth and Wi-Fi.
- **Scientific Spirit in India:** Jagadish Chandra Bose's achievements instilled a scientific spirit in India during a time when scientific research in the country was not well-established. He encouraged Indian scientists to take pride in their heritage and contribute to the global scientific community.
- **Global Recognition:** Bose's scientific contributions were recognized and celebrated worldwide, earning him numerous accolades and honors, including being made a Fellow of the Royal Society in London.
- **Continuing Influence:** Even today, Jagadish Chandra Bose's legacy continues to influence scientific research, especially in the fields of physics, radio science, and plant physiology.

**Electrophysiology of Plants:** Bose built incredibly sensitive devices, such as the crescograph, to quantify subtle reactions in plants to environmental stimuli. His research has shown that plants are responsive to environmental variables such as light, temperature, and chemicals, underscoring the need for sustainable engagement with nature. Bose's research on plant stress responses established a basis for comprehending the impact of environmental alterations, such as soil degradation and pollution, on vegetation. His discoveries prompted an early acknowledgment of the need to maintain ecological equilibrium.

**Advocacy for Forest and Wildlife Conservation:** Bose's work highlighted the significance of forests as complex, living systems. He emphasized the delicate balance of ecological interactions, reinforcing the idea that deforestation and habitat destruction would disrupt the harmony of life. Though not directly involved in activism, his scientific discoveries inspired future forest conservation and wildlife protection efforts.

**Water and Soil Conservation Insights:** Through his studies on plant life, Bose indirectly contributed to understanding the importance of soil and water conservation. His experiments on nutrient uptake in plants stressed the role of healthy soil and water systems in maintaining biodiversity. His recognition of the interdependence between plants and their environment foreshadowed modern environmental science.

**Legacy in Environmental Protection:** Bose's holistic perspective integrated physics, biology, and ecology, bridging gaps that modern environmental science continues to explore. His work inspired generations of scientists and thinkers to view nature as a unified whole. His emphasis on the sensitivity and intelligence of plants contributed to the broader realization of the intrinsic value of all life forms. As an educator, Bose emphasized the importance of studying natural sciences for understanding and preserving the environment, influencing curricula in colonial India.

**Philosophical Contributions:** Bose saw no distinction between the animate and inanimate, advocating for the unity of all life. This philosophy aligns with contemporary views on ecological conservation, which emphasize interconnectedness and sustainability. Jagadish Chandra Bose's groundbreaking research and philosophical outlook contributed significantly to environmental awareness and conservation. His work laid the scientific and ethical groundwork for understanding the symbiotic relationship between humans and nature, fostering a vision of environmental protection that remains profoundly relevant today.

# MIRA BEHN: A PIONEER ON SUSTAINABLE DEVELOPMENT IN THE HIMALAYAS

Sravana Chanda

**M**ira Behn, whose name was Madeleine Slade, was born on 22 November 1892 in England to a wealthy aristocratic family. Her early life was influenced by her love of classical music and her appreciation for Beethoven, but her destiny took a profound turn when she was inspired by the teachings of Mahatma Gandhi on nonviolence, simplicity, and sustainable living. She gave up her luxurious life in England in 1925 to follow Gandhi to India, adopting the name Mira Behn. Throughout the years, she integrated herself into India's freedom struggle and led a life of simplicity and selfless service.

Though Mira Behn is remembered for contributing to India's independence and rural upliftment, her legacy as a pioneer in environmental conservation is equally significant. She understood the critical link between the health of an environment and the well-being of rural communities and devoted herself to solving ecological challenges in India, particularly within the delicate ecosystems of the Himalayan region. She established Kisan Ashram near Haridwar involving the local community for sustainable agricultural and animal husbandry practices.

After Independence, Mira Behn established Bapu Gram and Gopal Ashram in Kumaon and Garhwal where she took to dairying and farming experiments and also spent a while in Kashmir. During this time she observed the destruction of the forests there and the impact it was having on floods in the plains.

Mira Behn's environmental efforts formed a significant part of her spiritual and ecological philosophy that supported harmony with nature. She was one of the earliest voices in modern India voicing the disastrous effects of deforestation on the erosion of land, drying up of water supply, loss of biodiversity and reduced agricultural productivity. She worked hard to restore degraded lands through afforestation and advocated for the planting of native tree species that would eventually help replenish the soil and water systems. She emphasized watershed management to ensure protection of natural springs and streams, which were major sources of irrigation and drinking water for rural communities. Mira Behn also began natural and organic farming that conserved soil, reducing its dependency on fertilizers and pesticides.

Mira Behn perceived the potential dangers of ignoring India's bio-diversity and overexploitation. She exhorted local communities and policymakers to recognize the intrinsic value of wildlife and its role in ecological balance. She critiqued the environmental damage caused by modern industrial practices in strong writings such as *Something Wrong in the Himalaya*. Her writings argued that India's development should be aligned to the principles of ecological sustainability, cautioning against overexploitation of forests, water, and other natural resources.

Contributions of Mira Behn were not limited to grassroots activism only; she also sought to influence public policy. She advocated for large-scale reforestation projects and urged the government to adopt conservation measures that could address the growing environmental crises. She firmly believed that the health of the environment was intrinsically linked to the survival and prosperity of rural communities, particularly in India, where agriculture formed the backbone of the economy. Her work in the Himalayas became a model for sustainable rural development, and her work inspired future environmental movements, such as Chipko Andolan, which came to be years later in the same region.

Mira Behn's environmental vision was ahead of its time, as she foresaw the long-term consequences of unsustainable practices. She believed it was from this disconnection between humanity and nature that environmental degradation was brought about, which she intended to counter by inspiring a sustainable, easy going, and harmonious way of life. Her pioneering efforts toward soil conservation, reforestation, water management, and protection of wildlife laid the foundation of India's awareness of environment.

She returned to England in 1959, and relocated to Austria in 1960 where she spent 22 years in small villages in the Vienna Woods, where she died in 1982. She was awarded India's second highest civilian honour, the Padma Vibhushan, in 1981.



# SIR ALBERT AND GABRIELLE HOWARD: PIONEERS OF ENVIRONMENT CONSERVATION IN INDIA

Brahmchari Soumitra Maity

In 1905, the government of India appointed Sir Albert Howard and his wife Gabrielle as economic botanists. Their mission at the new agricultural research centre in Pusa, Bihar, was twofold: to increase wheat production and to discover sustainable farming practices that were affordable for small farmers. These farmers sought out organic ways to increase crop yields and protect plants from pests and illnesses because they could not afford the costly chemical alternatives. Thus was born the organic farming movement in India as a daring opposition to industrial agriculture, founded on the efforts of Albert and his wife Gabrielle, and after her demise, his second wife Louise. Together, they developed innovative agricultural methods that prioritized harmony with nature over-reliance on synthetic chemicals, thereby revolutionizing the process.



The scientific method of composting was one of the revolutionary inventions by Sir Albert Howard. He came up with a way to extract atmospheric nitrogen using compost pile bacteria. By revitalizing the soil's humus, this amended compost improved nutrient uptake by plant roots. Importantly, this method was practical and inexpensive for small farmers since it used easily accessible plant materials and a tiny quantity of manure as a beginning.

An *Agricultural Testament*, Howard's seminal work, summed up his perspective. He was an ardent supporter of organic farming methods and considered nature "the supreme farmer" in India. Howard regarded pests and weeds, which are typically perceived as adversaries of crops, as "Professors of Agriculture." According to him, pests were signs of problems with soil fertility or inappropriate crops cultivated under unfavourable circumstances. By tackling these fundamental reasons, he discovered that pests naturally vanished, rendering crops and livestock nearly impervious to illness and infestation.

Central to Howard's work was the Indore composting process, named after the Institute of Plant Industry in Indore, where he held the position of Director. This method enhanced the traditional practice of composting, establishing a scientific foundation for its efficacy. Through the amalgamation of organic waste materials, Howard produced nutrient-dense compost that improved soil vitality and agricultural yield without reliance on synthetic fertilizers.

Throughout his 25-year career in India, Howard had multiple positions, including Agricultural Adviser to States in Central India and Rajputana, and subsequently, Director of the Institute of Plant Industry. This process refined the ancient art of composting, providing a scientific basis for its effectiveness. By combining organic waste materials, Howard created nutrient-rich compost that enhanced soil health and crop productivity without the need for synthetic fertilizers.

He rejected the overspecialization of conventional agricultural science, which he criticized for focusing on laboratory conditions that did not reflect the realities of field farming. Instead, he prioritized understanding how to cultivate healthy crops in real-world conditions, working alongside farmers to develop practical solutions.

Howard's philosophy extended beyond technical innovation; it was rooted in a profound respect for nature's interconnected systems. He argued that agriculture should work with natural processes rather than against them, creating a sustainable balance between soil, plants, and the broader environment.

His approach emphasized the long-term health of the soil, which he regarded as the foundation of all successful farming. The publication of *An Agricultural Testament* marked a turning point in the history of agriculture. Howard's ideas gained widespread recognition and inspired a global movement toward organic farming. By demonstrating the feasibility of natural methods to maintain soil fertility and combat pests, he provided a compelling alternative to the chemical-intensive practices of industrial agriculture.

Sir Albert Howard's legacy endures as a cornerstone of the organic farming movement. His innovative methods, developed in collaboration with Gabrielle and Louise, continue to inspire farmers and researchers worldwide. Their work in India not only addressed the immediate needs of small farmers but also set the stage for a broader rethinking of agriculture.

Howard's vision of sustainable farming remains even more relevant today than it was a century ago, offering a blueprint for addressing contemporary challenges in agriculture while respecting the balance of nature, for the much required transformation of what Dr. M S Swaminathan said, Green Revolution into an Ever Green Revolution.

# VERRIER ELWIN: A PIONEER IN TRIBAL AND FOREST RIGHTS FOR CONSERVATION

Falguni Murmu

Verrier Elwin (1902–1964) was a pioneering anthropologist, environmentalist, and advocate for tribal rights in India. Born in Dover, England, he transitioned from a Christian missionary to a staunch supporter of India's indigenous communities. His deep understanding of tribal cultures and their harmonious relationship with nature solidified his legacy as a visionary in environmental conservation.

**Early Life and Journey to India:** Elwin, born into a devout Christian family, studied English and theology at Oxford University. Arriving in India in 1927 as a missionary with the Christa Seva Sangh, he was deeply influenced by Mahatma Gandhi and Rabindranath Tagore. This led him to abandon missionary work and throw his lot with the Congress, winning Gandhi's affection and becoming a camp follower and occasional cheerleader to the popular movement against British rule.

**Life in Central India:** Seeking fuller immersion in the toil and sufferings of the poor people of India, Elwin resolved to make his home among the Gonds. He spent some twenty years in Central India, living with and fighting for tribal rights. His studies on the tribes are some of the earliest anthropological studies in the country. In January 1954, Elwin became the first foreigner to be accepted as an Indian citizen.

**Advocacy for Forest Conservation:** Elwin worked closely with tribes like the Gond and Baiga, highlighting their spiritual connection to forests. His writings, including *The Leaves from the Jungle Life in a Gond Village*, detailed their sustainable practices like rotational farming and ethical foraging. He opposed industrial deforestation and commercial exploitation, advocating for sanctuaries where wildlife and tribal communities could coexist. Elwin believed tribal knowledge offered vital lessons for forest conservation and preserving biodiversity.

**Contributions to Water and Soil Conservation:** Elwin also documented tribal techniques in water and soil conservation, such as building check dams and reservoirs. These methods supported agriculture and preserved water resources, showcasing the relevance of indigenous practices in addressing challenges like soil erosion and water scarcity.

**Focus on Cultural Ecology:** Elwin emphasized cultural ecology, demonstrating how tribal traditions and rituals were intertwined with environmental conservation. Sacred groves, protected as spiritual spaces, were biodiversity hotspots. His studies of medicinal plants further underscored the ecological wisdom embedded in tribal customs.

**Role in Policy Making:** After independence, Elwin served as an advisor to Prime Minister Jawaharlal Nehru on tribal affairs. As the Anthropological Advisor to NEFA (now Arunachal Pradesh), his Philosophy for NEFA, incorporating the Panchsheel: the Five Principles for NEFA that became a cornerstone document, advocating for development while respecting tribal traditions and ecological preservation.

**Awards:** Elwin was awarded the Padma Bhushan in 1961. His autobiography *The Tribal World of Verrier Elwin* was published posthumously in May 1964, earning the Sahitya Akademi Award in 1965 as an "outstanding contribution to contemporary Indian writing in English" The citation for the award mentioned that the book is written "with sincerity, courage and charm, revealing a mind in which Western and Indian idealism were uniquely blended".

**Enduring Legacy:** Elwin's work remains crucial for understanding the link between human culture and nature. His contributions to tribal welfare and environmental conservation continue to influence policymakers and conservationists. Elwin's philosophy demonstrated that sustainable development must respect indigenous knowledge and harmonize human activity with nature. His legacy inspires holistic approaches to conservation, remaining profoundly relevant in today's ecological and cultural contexts.



*"Conservation is a state of harmony between men and land" - Aldo Leopold*



# JAMES A. CORBETT: THE FAMOUS HUNTER AND A GREAT CONSERVATIONIST

Joyeta Basu

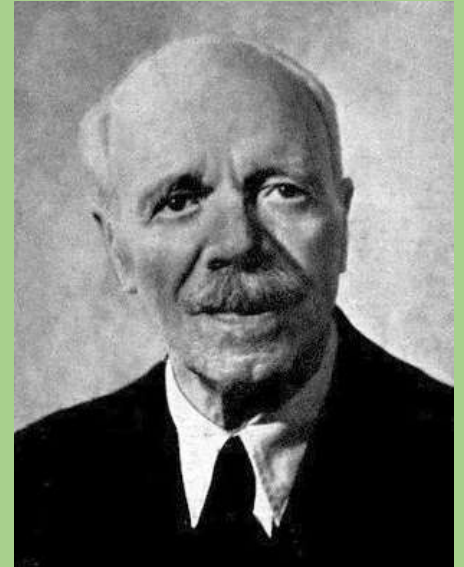
Jim Corbett was a celebrated hunter, tracker, naturalist, and conservationist. Known for his exceptional skill in tracking and hunting man-eating tigers and leopards, Corbett left an indelible mark on wildlife conservation and inspired generations with his deep understanding of India's wilderness and its inhabitants.

Corbett was the eighth of thirteen children born to Christopher William and Mary Corbett. The family lived in the Kumaon region, an area surrounded by dense forests and rich biodiversity. From an early age, Corbett developed a fascination with nature, often exploring the forests around his home. His keen observation skills and curiosity about wildlife were nurtured during these formative years.

## Career as a Hunter

Corbett gained fame for his ability to track and kill man-eating tigers and leopards that terrorized villages in northern India. These predators, often driven to preying on humans due to injury, old age, or scarcity of natural prey, were a significant threat to rural communities. Corbett's intimate knowledge of the forest, combined with his patience and courage, made him uniquely qualified for this dangerous task.

Among his most famous exploits was the killing of the Champawat Tiger, responsible for over 400 human deaths. This tigress, believed to be the deadliest man-eater in history, was tracked and shot by Corbett in 1907. His ability to connect with local villagers, understand their fears, and work tirelessly to eliminate the threat earned him widespread respect.



## Conservation Efforts and Legacy

Despite his hunting prowess, Corbett was a deeply empathetic man who understood the plight of both the villagers and the animals. He recognized that human encroachment on wildlife habitats often forced predators into conflict with humans. His experiences gradually shifted his perspective, leading him to advocate for wildlife conservation.

Corbett's transformation from a hunter to a conservationist is one of the most compelling aspects of his life. By the 1930s, he began using his skills to photograph wildlife rather than hunt it. His observations about the declining tiger population and the threats to India's ecosystems motivated him to speak out about the importance of preserving nature. He played a key role in the establishment of India's first national park, initially named Hailey National Park, in 1936. After his death, the park was renamed Jim Corbett National Park in his honor. Located in the present-day state of Uttarakhand, the park is a sanctuary for endangered species, including the Bengal tiger, and a testament to Corbett's conservation efforts.

## Writing and Legacy

Jim Corbett was also a gifted writer, and his books remain classics in the field of wildlife literature. Works like *Man-Eaters of Kumaon*, *The Man-Eating Leopard of Rudraprayag*, and *Jungle Lore* recount his thrilling adventures and provide insights into the behavior of tigers and leopards. His writing combines vivid storytelling with profound reflections on nature, making his books both educational and captivating.

Corbett's humility and respect for the natural world shine through in his narratives. He often expressed admiration for the animals he hunted and lamented the necessity of killing them. His writings have inspired countless readers to appreciate and protect wildlife.

## Personal Life and Death

Corbett never married and lived a simple life, devoting himself to the causes he believed in. In his later years, he retired to Kenya with his sister Maggie, where he continued his conservation work. He passed away on April 19, 1955, in Nyeri, Kenya, but his legacy endures. Jim Corbett's life is a testament to the power of understanding and empathy in bridging the gap between humans and the natural world. His transition from hunter to conservationist exemplifies the potential for change and the enduring impact of one individual's dedication to preserving the environment.

# PATRICK GEDDES: A PIONEER OF URBAN ENVIRONMENTAL PLANNING

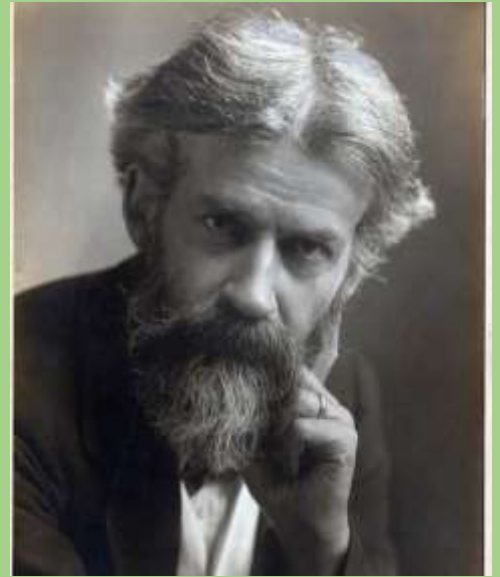
Sneha Mistri

Patrick Geddes (1854–1932) was a Scottish biologist, sociologist, geographer, and a pioneering environmental thinker whose work has had a lasting impact on modern urban planning, environmental studies, and sustainability practices. Often referred to as the “father of modern town planning,” Geddes’s innovative ideas highlighted the connections between people, places, and their environments.

Born in Ballater, Scotland, Geddes began his career as a biologist under the mentorship of Thomas Henry Huxley, a key supporter of Darwin’s theory of evolution. This scientific foundation led him to perceive human societies and environments as dynamic, interconnected systems. His interdisciplinary approach combined elements of biology, sociology, geography, and ecology, which shaped his views on urban and environmental planning.

## The "Place-Work-Folk" Triad

One of Geddes’s most significant contributions is the “Place-Work-Folk” triad, which underscores the relationship between the physical environment (“Place”), human activities (“Work”), and social structures (“Folk”). He contended that sustainable development and urban planning must find a balance among these components, as changes in one will inevitably influence the others. By emphasizing the synergy between natural and human systems, Geddes’s framework foreshadowed key principles of modern environmentalism. His ideas resonate with today’s sustainable development goals, especially in fostering ecological balance and community-focused planning. Geddes advocated for cities to develop organically, honouring their natural and historical contexts. He challenged the rigid, top-down planning methods of his time, promoting instead a participatory approach that involved local communities. He coined the term “conurbation” to describe interconnected urban systems and stressed the importance of green spaces, environmental conservation, and cultural heritage in urban design.



## Patrick Geddes in India

Geddes was invited by the British Governor in Madras to advise on emerging urban planning issues. He visited multiple Indian cities and was impressed by the seamless merger of traditional temples within the urban fabric of Indian cities. He stayed in India, off and on, for a whole decade, working as a freelance town planner and then as the first Professor of Sociology and Civics of the University of Bombay. He met Mahatma Gandhi, knew Annie Besant, and befriended Rabindranath Tagore and Jagadish Chandra Bose. During his decade long stay in the subcontinent he wrote nearly fifty town plans, from Dhaka in the east to Ahmedabad in the west, from Lahore in the north to Thanjavur in the south.

Geddes’ town plans are deeply ecological, and in at least four respects. First, he saw the Indian city as defined by its relationship to water and stressed ‘the fundamental and central River-factor of human environments’. Second, he was always alert to spaces, however small, that could be claimed by trees. As a skilled botanist, he had a keen eye for which species went with which aspect and made meticulous recommendations on types of trees to be planted in specific areas of the city. Third, he stressed the conservation of resources, to minimize the city’s dependence on the hinterland. Particularly noteworthy here is what he says about wells. These, he said, should ‘be regarded as a valuable reserve to the existing water supplies, even if these be efficient.’ Fourth, he emphasized the importance of recycling. Sewage could be fruitfully used to manure gardens; to convert ‘a fetid and poisonous nuisance into a scene of order and beauty’.

Geddes’ town plans are democratic in as much as it pays special attention to the needs of less privileged groups. He stressed the rights and needs of women and children, which tend to be ignored in most plans. Hence his appreciation of courtyards and balconies, where women had their own private space, and of parks for children to play.

Finally, Geddes was opposed to the mindless destruction of buildings to ‘improve’ the town or to build highways for cars to drive through. His ground rule for clearance and eviction was that ‘these must in any and every case be deprecated until and unless new and adequate location is provided’—words that would guide the actions not only of the town planner, but of the engineer and the builder as well.

# SIR DANIEL HAMILTON: A PIONEER OF COMMUNITY DEVELOPMENT IN SUNDARBANS

Abhijit Pal

**S**ir Daniel Machinon Hamilton (1860 – 1939) was a Scottish businessman who was sent out to Bombay in 1880 to look after the branch of the mercantile firm Mackinnon-Mackenzie. He became the chief of the firm in Calcutta and made good fortune, but unlike other British business man in India, he did not go back to England to spend his life in luxury. He adopted Bengal as his second home and decided to spend his wealth for ameliorating the poverty of rural Bengal through various innovative schemes.

He took about 9000 acres of land on lease from Government for forty years in three deltaic islands of Sundarban - Gosaba, Rangabelia and Saatjelia – which was opened up by the setting up a port in Canning and opening of a railway line that connected Canning with Calcutta. His aim was the socio-economic development of the region focusing on the welfare of the poor, for which he took up various programs, such as cleansing of the jungle, turning the land into arable ground, setting up of Co-operative Society, banks, schools, health clinics, etc.

Hamilton invested in building essential infrastructure that included embankments for protection of land, digging ponds for rainwater harvesting and development of fisheries, and establishing primary health clinics, post offices, and primary schools. He arranged for training in paddy cultivation and distributed paddy seeds free of cost to encourage agricultural productivity and support the local economy in the sundarban region. He established various educational institutions, including lower primary, upper primary, adult education centers, and night schools.



Hamilton established *Gosaba Rural Reconstruction Institute* where two courses, senior and junior, were conducted. The junior course was of four year and the senior course two year duration that included both theoretical and practical classes. After the successful completion of the senior course, students could either take up farming or join any service. Besides, various vocational training programs such as sewing, accountancy, milk preservation, poultry, etc. could also be done.

Hamilton established cooperative societies to support farmers financially and promote collective economic development. He introduced a Cooperative Lending Society in 1915, which aimed to provide loans and resources to farmers, fostering a sense of community and cooperation. He once opined “If Co-operation fails, the best hope of rural India will fail.” In 1919, Hamilton set up a Central Model Farm to make better kinds of paddy seeds to increase productivity and improve income of the farmers. In 1928, he started the Central Weaving Institute and taught people how to cut string, weave silk, clean and dry cloth, paint it, and mix colours. Cottage businesses grew thanks to these efforts, which also gave people in the area new ways to make a living. In 1933, he formed the Gosaba Central Co-operative Bank, which began functioning with 628 members of 19 small Societies and with a total capital of rupees 11830. In 1936, Hamilton introduced a One Rupee Paper note within his estate to improve the economy of the region. Farmers could borrow money in both paper currency and silver coins outside of the estate by exchanging this note for silver coins. Businesses were able to interact more easily because of this innovation.

Hamilton's efforts were more than what the government did at the time. These ushered a social revolution in Sundarbans. Through these contributions, Hamilton not only transformed the agricultural landscape of the Gosaba region but also set a precedent for a more humane and community-focused approach to the Zamindari system in Bengal.

Rabindranath Tagore visited his estate Gosaba in December 1932 and was highly impressed by his innovative and dedicated work for uplifting the economic conditions of rural Bengal. Hamilton got a stilt cottage constructed for Rabindranath which has withstood the vagaries of successive cyclonic storms in the region. This is pointer to the cyclonic resistant designing of houses that can be adopted with suitable modifications for solving the recurring damage of houses in the region.

Mahatma Gandhi sent his secretary Mahadev Desai who spent about a week with Hamilton at Gosaba in 1935 and wrote about the visit in a four-part series in *Harijan*, the Gandhian weekly, eulogising Hamilton for his “lofty idealism”.

Hamilton breathed his last on his 79th birthday on 6<sup>th</sup> of December in Scotland where he is buried.

# K.M. MUNSHI: A CULTURAL AND ENVIRONMENTAL LUMINARY

Tazmin Sultana

**K**anhaiyalal Maneklal Munshi, commonly known as K. M. Munshi, is a significant figure in Indian cultural and political history. While he is primarily recognized as a statesman, educationist, and writer, Munshi's contributions as an environmental thinker are equally important. He was a prominent individual with diverse interests, which allowed him to develop a comprehensive understanding of environmental preservation, particularly concerning the cultural and ecological significance of India. Munshi's legacy is complex and multifaceted, encompassing literature, law, politics, education, and ecology.

Munshi was heavily influenced by Indian culture and philosophy regarding the survival and harmony with nature. Growing up in Gujarat, a region rich in culture, ecology, and diversity, he developed a strong awareness of the environment. As a student of law and later a political activist, Munshi recognized the interconnection between human well-being and ecological balance. He believed that humanity should act as stewards of nature rather than exploiters.

Drawing inspiration from ancient Indian scriptures, Munshi emphasized the co-dependence of nature and human culture. He promoted practices that nourish the earth instead of depleting it. One of his most significant contributions to environmentalism is Van Mahotsav, the festival of trees. Launched in 1950 while Munshi served as India's Union Minister for Agriculture and Food, Van Mahotsav aimed to combat deforestation, raise awareness about afforestation, and foster a sense of ecological responsibility among citizens. Thanks to Munshi, this initiative evolved into a mass movement, resulting in the planting of millions of trees. The festival highlighted the economic and environmental benefits of afforestation and sought to rekindle India's ancient cultural respect for trees as sacred and life-giving entities.



Even today, Van Mahotsav is celebrated annually across India, serving as a testament to Munshi's vision. In 1988, to commemorate his birth anniversary, the Indian Post released a stamp featuring K.M. Munshi alongside a tree, symbolizing his commitment to the festival. He played a crucial role in afforestation efforts in the Baroda region, developing programs to restore degraded lands and promote tree planting in barren areas, which helped shape the early years of India's environmental policy framework.

Munshi was an advocate for preserving indigenous flora, understanding its essential role in stabilizing ecosystems. His approach of prioritizing local plants in conservation efforts remains relevant in 2023. He believed that environmental degradation was primarily a cultural issue rather than merely an ecological one. In his writings, Munshi often referenced the sacredness of rivers, forests, and other natural entities in Indian tradition, calling for a reconnection to these values for a sustainable future. Mr. Ramchandra Guha noted that Munshi is regarded as both a novelist and a politician who integrated Hindu beliefs into the context of environmental concerns.

K.M. Munshi's contributions to environmental thought remain especially relevant today, as we face critical challenges such as deforestation, global warming, and species extinction that threaten human survival. His initiatives, particularly Van Mahotsav, continue to inspire ecological awareness and action in India and beyond. Munshi emphasizes that sustainable development can only be achieved through a harmonious balance of cultural values, scientific innovation, and collective effort. His work has laid the foundation for a greener and more peaceful future, establishing him as a visionary in environmental thought. Remembering Munshi's contributions serves as a reminder of the enduring wisdom in blending environmental care with cultural and social contexts, which is essential for long-term survival and prosperity.

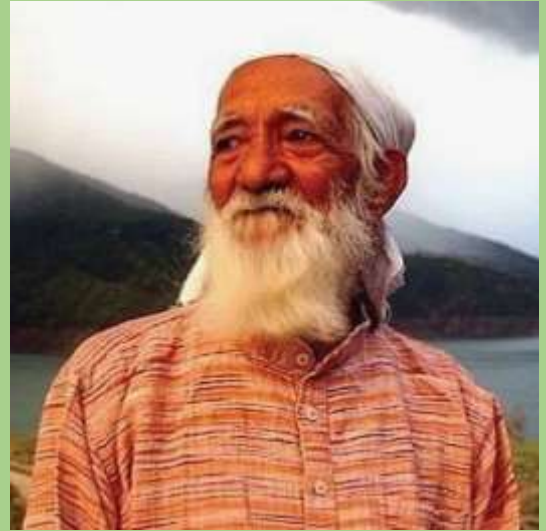
# SUNDERLAL BAHUGUNA AND HIS GREEN LEGACY

Akash Chakraborty

**S**underlal Bahuguna, a revered figure in Indian environmentalism, dedicated his life to the protection of Mother Nature. He was born in 1927 in the small village of Maroda, near Tehri in Uttarakhand. His journey is an inspiring story of perseverance and purpose, transforming from an ordinary individual to a global environmental icon. Bahuguna's legacy is rooted in the green hills of the Himalayas, where his activism and philosophy drew worldwide attention to the importance of sustainable living and ecological preservation.

Sunderlal Bahuguna's most remarkable contribution was his leading role in the Chipko Movement, which stands out as a significant moment in green activism. During the early 1970s, as deforestation threatened the ecosystems of the Garhwal Himalayas, local women, inspired by Bahuguna's teachings, adopted a unique method of hugging trees to prevent them from being cut down. In Hindi, "chipko" means "to cling" or "to embrace." This simple yet powerful act symbolized resistance against global ecological exploitation.

Through his eloquence and commitment to Gandhian non-violence ideals, Bahuguna conveyed the deep interconnection between human life and nature, making the Chipko Movement a pivotal event in global environmental history. From 1981 to 1983, he led a 5,000-kilometer march across the Himalayas, culminating in a meeting with Indian Prime Minister Indira Gandhi. As a result of his efforts, legislation was passed to protect certain areas of the Himalayan forests from clear-cutting.



In 1987, the Chipko Movement was honored with the Right Livelihood Award for its dedication to the conservation, restoration, and ecologically sound use of India's natural resources. Inspired by Bahuguna and the Chipko Movement, Pandurang Hegde, an environmental activist from Karnataka, initiated the Appiko movement (which means "to hug" in Kannada) in 1983 to protest against tree felling, monoculture, and deforestation in the Western Ghats..

One of his significant efforts was to raise awareness about the construction of large dams in ecologically sensitive regions. The Tehri Dam, in particular, became a focal point of his activism in the 1980s. He employed Satyagraha methods and frequently went on hunger strikes at the banks of the Bhagirathi River as a form of protest. In 1981, he refused to accept the Padma Shri award due to the government's refusal to cancel the Tehri Dam project despite his protests. Although a court case regarding the project continued in the Supreme Court for over a decade, construction of the Tehri Dam resumed in 2001. Following this, he was arrested on April 24, 2001, for continuing his protest.

To Bahuguna, the Himalayas are not merely geographical features; they are living, breathing entities that deserve respect and care. He dedicated his entire life to preserving the intricate harmony between these mountains. His advocacy for sustainable development highlighted the importance of balancing economic growth with ecological preservation. He famously stated, "Ecology is permanent economy," reflecting his vision of a society where development does not come at the expense of the environment.

Even after his passing in 2021, Sunderlal Bahuguna's vision for a greener and cleaner tomorrow remains alive. The trees he helped preserve, the rivers he fought to protect, and the mountains he honored stand today as living monuments to his dedication. His green legacy serves as a powerful reminder for people to cultivate a more respectful and harmonious relationship with the Earth. Through all his efforts and philosophy, Bahuguna is likely to ensure that the spirit of environmental leadership resonates for generations to come.

# CHANDI PRASAD BHATT: LEADER OF THE CHIPKO MOVEMENT AND ADVOCATE FOR ENVIRONMENTAL CONSERVATION

Sneha Bhattacharyya

Chandi Prasad Bhatt, born on June 23, 1934, is an Indian environmentalist and social activist. In 1964, he founded the Dasholi Gram Swarajya Sangh (DGSS) in Gopeshwar, which later became a key organization in the Chipko Movement, where he played a pioneering role. Bhatt was born in Gopeshwar, located in the Chamoli District of Uttarakhand, India. He was the second child of Ganga Ram Bhatt and Maheshi Devi Thapliyal, in a family of priests at the Rudranath Temple. Bhatt's family was deeply rooted in the spiritual traditions of the Himalayas, and he was raised with a profound respect for nature. He completed his early education in Gopeshwar and later attended Kumaun University, where he earned a Bachelor of Arts degree in Hindi.



## Activities and Contributions

**Chipko Movement:** Bhatt was a central figure in the Chipko Movement, which began in the early 1970s. In this movement, villagers, particularly women, hugged trees to prevent loggers from felling them. The campaign highlighted the ecological and economic value of forests for local communities and became a pivotal moment in forest conservation efforts in India. As a result of this campaign, the Indian government imposed a 15-year ban on commercial logging in Himalayan forests in 1980.

**Forest Conservation:** Bhatt emphasized that forests are crucial for conserving biodiversity, preventing soil erosion, and supporting local livelihoods. He advocated for community-based forest management, where local people play a central role in conservation efforts.

**Soil Conservation:** Recognizing the link between deforestation and soil erosion, Bhatt recommended afforestation and sustainable land use practices. He promoted the use of indigenous vegetation for afforestation to help restore ecological balance.

**Water Resource Management:** Bhatt stressed the importance of preserving Himalayan watersheds, which are vital for India's major river systems. He advocated for developing rainwater harvesting techniques and reviving traditional methods of water conservation to address water scarcity in the country.

**Ecological Consciousness:** Bhatt was dedicated to educating local communities about the ecological significance of forests, water, and wildlife. He encouraged responsible farming and resource utilization practices among rural populations.

**Wildlife Protection:** Bhatt highlighted the interdependence of forests and wildlife, asserting that natural habitats must be protected to sustain endangered species.

**Grassroots Mobilization:** In 1964, Bhatt founded the Dasholi Gram Swarajya Sangh (DGSS), a cooperative aimed at providing employment to local youth through small-scale industries and sustainable resource use. The DGSS became a hub for mobilizing villagers for environmental conservation efforts.

## Philosophy and Approach

Bhatt's approach to conservation is grounded in Gandhian principles of simplicity, non-violence, and self-reliance. He believed that empowering rural communities is essential for achieving sustainable development and ecological balance. Bhatt advocated for a harmonious relationship between humans and nature, emphasizing the importance of ethical stewardship of the environment.

## Awards and Recognition

Chandi Prasad Bhatt's remarkable contributions to environmental conservation and rural development have earned him widespread recognition and prestigious awards, including the Ramon Magsaysay Award for Community Leadership (1982), the Padma Bhushan (2005), and the Gandhi Peace Prize (2013). These honors underscore his profound impact on shaping Indian environmental policy, particularly in forest management, sustainable development, and grassroots empowerment. His work with the Chipko Movement and his advocacy for community-led conservation have inspired countless individuals and movements both in India and globally. Bhatt's legacy demonstrates that a committed individual, guided by a vision for ecological harmony and social justice, can effect transformative change—one that not only preserves the environment but also uplifts communities, fostering a more sustainable and equitable world for future generations.

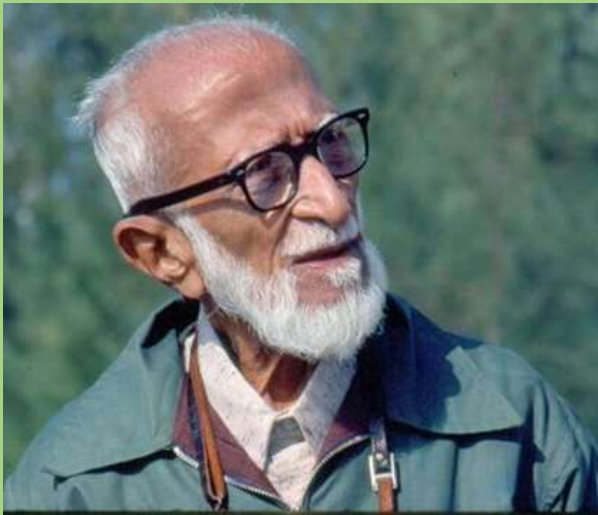
# DR. SALIM ALI: THE BIRDMAN OF INDIA AND PIONEER IN ORNITHOLOGY AND CONSERVATION

Mir Wasif Ahammed

*“A bird's song is a sound that touches the soul; it reminds us of the beauty of nature that we must protect”*

*-Dr. Salim Moizuddin Abdul Ali*

**D**r. Salim Moizuddin Abdul Ali, affectionately known as the "Birdman of India," was a distinguished ornithologist, naturalist, and conservationist who significantly influenced India's environmental policies. Born in 1896 in Bombay, he developed a fascination with birds early in life, ignited by a childhood encounter with a pair of kingfishers. This passion ultimately evolved into a lifelong commitment to studying and safeguarding avian species.



## Early Life and Education

Salim Ali faced significant disruption in his early education due to the loss of his parents at a young age. Despite this hardship, his passion for nature remained strong. He actively pursued his interest in ornithology through self-study and careful observation, meticulously documenting his findings. His dedication caught the attention of prominent ornithologists, who recognized his talent and encouraged him to continue his pursuit of knowledge.

## Life Dedicated to Conservation

Salim Ali made significant contributions to ornithology and conservation through his extensive fieldwork across India. He meticulously documented various bird species, their habitats, and behaviors. His research offered invaluable insights into the avian diversity of the Indian subcontinent. Ali authored numerous books and papers, including the seminal "The Book of Indian Birds," which continues to be a cornerstone of Indian ornithology.

## Championing Bird Sanctuaries

One of Salim Ali's most significant achievements was his pivotal role in establishing the Bharatpur Bird Sanctuary, now known as Keoladeo Ghana National Park, in Rajasthan. He recognized the ecological importance of this wetland and tirelessly advocated for its protection. As a result of his efforts, the sanctuary was established and has since become a globally recognized haven for migratory birds.

## Protecting India's Natural Heritage

Salim Ali's conservation efforts went beyond establishing bird sanctuaries. He actively campaigned against the destruction of the Silent Valley rainforest in Kerala, emphasizing its ecological importance and the necessity of preserving it. His advocacy was instrumental in preventing the construction of a hydroelectric project that would have severely harmed this unique ecosystem.

## Inspiring Future Generations

Salim Ali's legacy goes beyond his scientific achievements; he inspired many people to appreciate and protect nature. He founded the Bombay Natural History Society (BNHS), one of India's oldest and most respected conservation organizations, which continues to play a crucial role in environmental research and education.

## Lasting Impact

Salim Ali's tireless efforts to conserve India's natural heritage have made a significant impact on the country's environmental landscape. His passion for birds and strong commitment to their protection have inspired generations of conservationists and continue to influence India's environmental policies. Known as the "Birdman of India", he serves as a symbol of hope and a reminder of the importance of preserving our planet's bio

## **ANIL AGARWAL: VISIONARY ENVIRONMENTALIST AND FOUNDER OF THE CENTRE FOR SCIENCE AND ENVIRONMENT**

**Ditsa Maity**

**A**nil Agarwal (1947–2002), the founder and head of the Centre for Science and Environment, was a visionary thinker as well as a skilled writer and scientist—a rare combination. He dedicated his life to advocating for laws and practices that empower individuals to manage their natural resources, drawing inspiration from India's customs and history. After earning his engineering degree from one of India's top engineering schools in 1970, Anil left a successful technical career to pursue science journalism. In 1974, while working as a scientific correspondent for the Hindustan Times, one of India's leading newspapers, he learned about Chipko, which is recognized as India's most inspiring environmental campaign. His coverage marked the first time a narrative about a grassroots movement to protect the environment was reported in India and perhaps in the developing world.

In 1980, he founded the Centre for Science and Environment, one of India's pioneering environmental non-governmental organizations. The goal of the Centre is to analyze and research the relationship between development and the environment while raising awareness about the importance of sustainable development. Under his leadership, the Centre published a groundbreaking report in 1982 known as the Citizens' Report on the State of India's Environment. This report provided the first comprehensive overview of environmental deterioration in the country and its impacts on the people of India. Following the release of the second Citizens' Report in 1985, Anil received a rare request from Rajiv Gandhi, the then Prime Minister of India, to present before his Council of Ministers.



Anil was the author and editor of several significant works. One of these was the 1989 study “Towards Green Villages”, which provided a macro-plan for rural development that focused on environmental responsibility. In 1990, he co-wrote a paper titled "Global Warming in an Unequal World," which was the first to address the issue of equity in relation to global warming. This study notably influenced the G-77's position in the discussions leading up to the Framework Convention on Climate Change. In 1992, Anil founded “Down To Earth”, a biweekly news magazine that covers science, the environment, and development. His in-depth research on India's indigenous water harvesting systems culminated in the publication of “Dying Wisdom” in 1997, which has since become one of the most renowned and respected works in its field.

The Government of India honored Anil with two of the country's highest civilian awards, the Padma Shri and the Padma Bhushan. Based in Nairobi, Kenya, Anil served as the chair of the Environment Liaison Centre, which is the largest network of environmental NGOs worldwide. In 1987, he was elected to the United Nations Environment Programme's Global 500 Honour Roll. Anil traveled extensively throughout rural India to document community-based environmental regeneration initiatives. His insights and reports helped Indian policymakers recognize the importance of public participation in natural resource management and environmental conservation. He was also deeply concerned about the impact of environmental change on public health and pollution control, particularly regarding air pollution. Anil advocated for equitable solutions to address global warming on an international scale.

The establishment and growth of the Centre for Science and Environment, one of India's most significant and vocal environmental NGOs, is undoubtedly Anil's greatest contribution. This organization is now renowned and respected worldwide for promoting logical approaches to environmental management based on social justice and scientific principles. Although Anil passed away from cancer in 2002, his ideas and vision continue to be upheld by the Centre and all that it supports and values.



# RAJENDRA K. PACHAURI: GLOBAL CLIMATE LEADER

Maitreyee Biswas

Rajendra K. Pachauri was an Indian environmentalist, engineer, and economist known for his global advocacy for climate action. He was born on August 20, 1940, in Nainital, India. Throughout his lengthy career, which spanned several decades, Pachauri made significant contributions to the worldwide discussion on climate change. He is best recognized for his leadership of the Intergovernmental Panel on Climate Change (IPCC), an organization he chaired from 2002 to 2015.



## Early Life and Education

Pachauri's academic journey began in India, where he earned a Bachelor's degree in Mechanical Engineering from Delhi University. He went on to pursue a Master's degree in Industrial Engineering at the University of North Carolina at Chapel Hill and later obtained a Doctorate in Industrial Engineering from North Carolina State University. His diverse educational background, which combined engineering, economics, and environmental science, equipped him to effectively bridge the gap between technical and policy discussions on climate change.

## Career and Leadership at TERI

After completing his studies, Pachauri returned to India and became actively involved in research related to the environment and energy. He joined The Energy and Resources Institute (TERI), a think tank focused on sustainable development, where he eventually rose to the position of Director-General and later became Chairman. Under his leadership, TERI evolved into a leading global institution addressing issues related to energy, the environment, and sustainable development. He initiated several research projects aimed at solving energy-related challenges, promoting renewable resources, and advocating for climate change policies.

## Chairmanship of the IPCC

Rajendra Pachauri's most significant contribution was as the Chairman of the Intergovernmental Panel on Climate Change (IPCC), a position he held for over a decade. The IPCC is an international scientific body established by the United Nations (UN) and the World Meteorological Organization (WMO) to assess scientific knowledge related to climate change. Under Pachauri's leadership, the IPCC released the landmark Fourth Assessment Report in 2007, which played a crucial role in raising global awareness about the urgency of climate change. The report concluded that human activities were significantly contributing to global warming, a message that had a profound impact worldwide. The 2007 report was not only important for advancing scientific understanding but also laid the foundation for the Nobel Peace Prize awarded to the IPCC and former U.S. Vice President Al Gore. Pachauri's leadership brought credibility and visibility to the IPCC, making him a prominent figure in the global climate change movement.

## Advocacy for Climate Action

Throughout his career, Pachauri consistently advocated for urgent action on climate change, stressing the importance of global cooperation to mitigate its effects. He collaborated closely with policymakers and leaders worldwide, urging them to implement stricter regulations on greenhouse gas emissions, promote renewable energy sources, and invest in climate resilience. His speeches, writings, and interviews often highlighted the moral imperative of addressing climate change, particularly regarding its disproportionate impact on the most vulnerable populations around the globe.

## Death and Legacy

Rajendra K. Pachauri passed away on February 13, 2020, after a prolonged illness. Despite facing legal controversies, his contributions to global climate science are undeniable. He is remembered as a key architect in establishing climate change as a central issue in global policy debates. His legacy endures through the institutions he led, the reports he championed, and the global movement he helped galvanize in the fight against climate change.

Pachauri's life serves as a testament to the importance of science-driven policy and the necessity for collective action to protect the planet's future.

# BABA AMTE: A CRUSADER FOR ENVIRONMENTAL CONSERVATION WITH SOCIAL JUSTICE

Riyanka Das

**B**orn on 26 Dec, 1914, in Maharashtra, a blessed son to a prosperous family, Baba Amte was initially lured towards a life of luxury. His view about life underwent a drastic change after being exposed to deprived societies, more particularly, leprosy patients. He took a firm step toward his lifelong pilgrimage for social and environmental causes. His early crusade revolved around human calamity, whereas he has widened his horizon to address ecological disaster realising that social justice is intrinsically proportional to the one that saves the earth from ecological disaster.

**Anandwan (A Model of Sustainable Living):** One of the contributions Baba Amte made was founding Anandwan, a totally self-sustaining community meant for leprosy patients as well as other marginalized peoples. Founded in 1951, Anandwan served not only as a refuge but also as an active laboratory where sustainable development was practiced by involving community and ecological methodologies.

Baba Amte showed it was possible to rejuvenate highly barren and degradable land. Scientific means such as contour plowing, composting, and crop rotation improved soil fertility and productivity. Baba Amte concentrated on the preservation of water, building check dams, and harvesting rainwater. These measures ensured the sustenance of the community and became a replicable model for other water-scarce regions. The community set up biogas and used solar energy to minimize reliance on non-renewable resources and reduce the ecological footprint of their households.



**The Narmada Bachao Andolan (A Fight for Environmental Justice):** Baba Amte was an environmental leader in his extension to the Narmada Bachao Andolan (NBA), which is a grass-root movement that protests the construction of big dams on the Narmada River. He aligned with Medha Patkar and other activists in resistance against the displacement of thousands of tribal communities and destruction of biodiversity. Large dams, touted as harbingers of development, have come to be known to cause deforestation, loss of wildlife habitats, and displacement of indigenous communities. Through his work, Baba Amte brought these issues to international attention by showing what sustainable and people-friendly development really meant. Mobilising the affected communities and speaking to policymakers, Baba Amte was actually the leader who bridged grassroots activism with systemic change.

**Philosophical Underpinnings (Reverence for Nature):** The environmental philosophy of Baba Amte was deeply rooted in the Indian ethos of coexistence with nature. His belief in the interconnectedness of all life forms mirrored the principles of ecological balance and sustainability. Research corroborates that traditional practices of living in harmony with nature, as advocated by Baba Amte, are often more sustainable than modern industrial approaches. For example, the indigenous knowledge systems he respected are now being recognized worldwide for their role in biodiversity conservation. Baba Amte's reverence for nature was not a mere theoretical ideal; it was a practice. He lived a frugal life, reduced waste, and inspired others to follow the same path of eco-friendliness.

**Education and Environmental Awareness:** The most significant factor in Baba Amte's work is promoting education as a better means of environmental conservation. He believed that adequately informed communities should always be able to protect their natural resources. The educational programs, such as organic farming, waste management, and renewable energy, enable individuals to have sustainable practices. Graduates of these educational programs acted as ambassadors of ecological conservation in their regions. Baba Amte was a strong advocate for environmental and social causes through padyatras (foot marches) and other campaigns. Such initiatives mobilized public opinion and created a feeling of collective responsibility.

**Legacy and Contemporary Relevance:** Baba Amte has inspired generations of environmentalists and social reformers, whose struggle will be pertinent to the causes of climate change, deforestation, and resources in today's context. Success in Anandwan triggered other initiatives in similar settings across the nation, highlighting the scalability of sustainable practices. The policies formed through his activism related to the reclaiming of land, managing water, and harnessing renewable energy all complement the goals towards global sustainability.

Baba Amte's life was a testament to the fact that environmental conservation and social justice cannot be separated. He demonstrated collective action and ecological wisdom through his initiatives, such as Anandwan and Narmada Bachao Andolan. His approach to problem-solving was empirical, based on practical implementation and measurable outcomes, and he set a benchmark for future leaders.

# MEDHA PATKAR: CHAMPION OF ENVIRONMENTAL JUSTICE

Ashis Sarkar

**M**edha Patkar is a prominent Indian social activist and environmental thinker, recognized for her significant contributions to environmental justice, sustainable development, and advocacy for marginalized communities. She is best known for her leadership in the Narmada Bachao Andolan (NBA), where she has strongly advocated for a balance between development, ecological preservation, and human rights. Born on December 1, 1954, in Mumbai, Medha Patkar was raised in a family deeply engaged in social work. She earned a master's degree in social work from the Tata Institute of Social Sciences (TISS), which reinforced her commitment to social justice and grassroots activism. This early experience laid the groundwork for her lifelong mission to advocate for the environment and the rights of underrepresented communities.

## The Narmada Bachao Andolan

One of Medha Patkar's most significant contributions to environmental advocacy is her role in the Narmada Bachao Andolan (Save the Narmada Movement), which began in the 1980s. This movement opposed the construction of large dams on the Narmada River, including the Sardar Sarovar Dam, which threatened to displace thousands of indigenous and rural communities while also causing considerable ecological damage. Under Patkar's leadership, the movement emphasized the importance of sustainable development and challenged the top-down approach commonly adopted in large-scale infrastructure projects. She highlighted the socio-environmental costs associated with these initiatives, advocating for the protection of natural ecosystems and equitable distribution of resources. The movement attracted international attention to the issues of displacement, environmental degradation, and the rights of indigenous peoples.



Medha Patkar's environmental philosophy is grounded in the belief that development should never come at the expense of human rights or ecological integrity. She has consistently advocated for alternative development models that prioritize local communities, renewable energy, and sustainable resource management. Her work challenges the prevailing growth paradigm and emphasizes the need for inclusive, environmentally conscious policies. Patkar has played a crucial role in mobilizing grassroots movements to empower marginalized populations. Her advocacy extends beyond

environmental issues to include concerns such as land rights, access to water, and fair governance. Through her activism, she has inspired countless individuals to engage in initiatives focused on environmental and social justice.

Her contributions to both environmental and social justice have significantly influenced policymaking and raised awareness about the connections between development, ecology, and human rights. Medha Patkar's relentless efforts continue to inspire activists worldwide to strive for a more equitable and sustainable future. By promoting sustainable practices and championing the rights of vulnerable populations, she remains an essential voice in the fight for environmental justice and equitable development.

*"All that is differentiated is nature. Nature is the quality of the plant, the quality of the animal, and the quality of man. Man's life behaves according to definite methods; so does his mind. Thoughts do not just happen, there is a certain method in their rise, existence and fall. In other words, just as external phenomena are bound by law, internal phenomena, that is to say, the life and mind of man, are also bound by law"-Swami Vivekananda*

# PROF. M S SWAMINATHAN: A GREAT AGRONOMIST AND ENVIRONMENTALIST

Sushanta Sarkar

Prof. M.S. Swaminathan, a renowned agronomist, environmentalist, and geneticist, was born on August 7, 1925, in Kumbakonam, Tamil Nadu. He is known as the "Father of the Green Revolution in India" and "The Father of Economic Ecology." His efforts significantly increased crop production in India, transforming the country into a food surplus nation and saving millions from starvation. Additionally, he made substantial contributions to environmental protection and conservation.

In 1988, he established the MS Swaminathan Research Foundation to promote sustainable agricultural practices. According to M.S. Swaminathan, "Biodiversity is the foundation of agriculture; we must conserve it to ensure food security for future generations. Farmers are the custodians of biodiversity; their knowledge and practices are invaluable for sustainable agriculture." He authored numerous research papers on sustainable agriculture and the environment. Some of his notable statements about sustainable agriculture include: "Sustainable farming practices can help mitigate climate change," "Agriculture is the backbone of our society and needs to be sustainable," "The use of chemical pesticides and fertilizers should be minimized," "Integrated pest management can reduce reliance on harmful pesticides," and "Future nations will thrive on grains, not guns". He elaborated on how agricultural practices contribute to environmental pollution and proposed solutions. In his paper titled "Agricultural Research in an Era of Climate Change" (2012), he showed that 28% of greenhouse gas emissions in India come from the agricultural sector. He found that 50% of methane emissions are attributable to rice cultivation, along with nitrous oxide emissions from manure and fertilizers. He suggested minimizing these emissions by using neem-coated urea. Swaminathan notably emphasized the connection between agriculture and environmental sustainability.



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Some of his well-known statements about environmental sustainability include: "The Earth belongs to all living creatures, not just humans", "We must protect and preserve our natural resources for future generations", "Technology should be used in harmony with nature, not against it", "Climate change requires urgent action and global cooperation", "Access to clean water is a basic human right," and "The power of innovation can solve many of the world's challenges".

M.S. Swaminathan also worked on conservation efforts, focusing on ecosystems such as mangroves, biodiversity, and genetic conservation. He served as the head of the expert committee for the Coastal Regulation Zone (CRZ) notification and Coastal Zone Management in India. He proposed legislation for coastal management and described sustainability through the concept of "Ecotechnology". He wrote and published 254 papers, of which 155 were single-authored. His most frequent publishers include the Indian Journal of Genetics (72), Current Science (36), Nature (12), and Radiations Botany (12).

He received numerous international awards and honors, including the Ramon Magsaysay Award in 1971, the Tyler Prize for Environmental Achievement in 1991, and the World Food Prize in 1987. In 2000, he was awarded the Planet and Humanity Medal by the International Geographical Union. He was also conferred the Padma Vibhushan in 1989 and the Bharat Ratna on March 30, 2024.

In 1972, he became the Director General of the Indian Council of Agricultural Research (ICAR) in India. In 1982, he joined the International Rice Research Institute (IRRI) in the Philippines as its Director General. By 1984, he held leadership positions as President and Vice President of the International Union for Conservation of Nature and the World Wildlife Fund.

He established numerous research institutions aimed at promoting sustainable development in agriculture and the environment. Notable among these were the International Crops Research Institute for the Semi-Arid Tropics in India, Bioversity International in Italy, and the International Council for Research in Agroforestry in Kenya. His research papers addressed various challenges related to agriculture and the environment, and his leadership in various national and international agricultural and environmental institutions led to the implementation of many plans and actions aimed at tackling these issues. He created research institutions focused on future sustainable practices. This esteemed agronomist and environmentalist passed away peacefully on September 28, 2023.

*"If conservation of natural resources goes wrong, nothing else will go right"- M.S. Swaminathan*

# PRAFULLA SAMANTARA: CHAMPION OF INDIGENOUS RIGHTS AND ENVIRONMENTAL JUSTICE IN INDIA

Sangita Saha

**P**rafulla Samantara is an iconic leader of social justice movements in India. He led a historic 12-year legal battle that affirmed the land rights of the indigenous Dongria Kondh community and protected the Niyamgiri Hills from a massive open-pit aluminum ore mine. Born in Odisha, India, Prafulla Samantara grew up witnessing the socio-economic disparities faced by marginalized communities, particularly the tribal populations that depend on forests and natural resources. His early exposure to these injustices shaped his determination to fight for social and environmental justice. Inspired by Gandhian philosophy, which emphasizes non-violence and grassroots activism, Samantara took a path of peaceful resistance to confront the powerful interests threatening both the environment and the rights of vulnerable communities.



## The Landmark Battle for Niyamgiri Hills

Samantara's leadership in the fight to protect the Niyamgiri Hills from extensive mining operations stands out as his most significant contribution to environmental advocacy. The Niyamgiri Hills in Odisha are not only a center of biodiversity, but they are also revered by the Dongria Kondh clan, who view them as a deity and a source of sustenance.

At the beginning of the new millennium, the Indian government granted a multinational company, Vedanta Resources, mining rights to extract bauxite from the Niyamgiri Hills. This decision threatened the way of life of the Dongria Kondh tribe and disrupted the ecological balance of the region. Recognizing the severity of the situation, Samantara initiated a grassroots campaign and legal efforts to halt the mining project.

He challenged the Indian government's mining permit, arguing that it violated indigenous rights and environmental regulations. Samantara organized public gatherings, protests, and awareness campaigns to bring attention to the issue.

In 2013, the Indian Supreme Court upheld the land rights of the Dongria Kondh, rejecting the proposed mining project. This ruling was a significant victory for indigenous and environmental rights, helping to protect the Niyamgiri Hills and setting a precedent for similar cases in the future.

## Global Recognition

Prafulla Samantara's tireless efforts earned him the prestigious Goldman Environmental Prize in 2017. Often called the "Green Nobel Prize," this award recognized his remarkable courage and commitment to leading a grassroots movement that protects the environment and the rights of tribal communities. The accolade brought international attention to the Niyamgiri struggle and underscored the vital role of grassroots activism in safeguarding the planet.

Samantara addresses social and environmental issues surrounding the Niyamgiri Hills. It advocates against displacement, water pollution, deforestation, and promotes sustainable development, ensuring that social injustice and environmental degradation are not sacrificed for economic growth.

Samantara opposes laws that prioritize business profits over environmental preservation. They advocate for transparency and accountability in decisions regarding resource use, emphasizing the interconnectedness of human rights, sustainable development, and environmental conservation.

Prafulla Samantara's journey has faced numerous challenges. He has encountered threats, intimidation, and resistance from powerful corporate and political entities. Despite these obstacles, his resilience and unwavering commitment to his cause have made him a symbol of hope and inspiration for environmental activists around the world.

Prafulla Samantara's life and work exemplify the transformative impact of dedicated activism in the face of adversity. His fight for the Niyamgiri Hills and broader environmental causes continues to inspire individuals and organizations to prioritize ecological sustainability and social equity. As the world confronts the escalating climate crisis, Samantara's story serves as a powerful reminder of the role that individuals and communities can play in shaping a more just and sustainable future.

# J. C. KUMARAPPA: ARCHITECT OF GANDHIAN ECONOMICS AND ENVIRONMENTAL HARMONY

Soheli Saha

*“If the nature of the work is properly appreciated and applied, it will stand in the same relation to the higher faculties as food is to the physical body.” ~ J. C. Kumarappa*

Joseph Chelladurai Kumarappa, the famous Indian economist, philosopher, and social reformer, is popularly referred to as J. C. Kumarappa, born in Tanjore, Tamil Nadu (4 January 1892 - 30 January 1960). He graduated with a commerce degree from Sydenham College in Mumbai and studied Economics at Columbia University. Kumarappa was deeply influenced by the philosophy of Gandhiji and devoted his life to formulating and populating the idea of an economic life based on social justice, environmental sustainability, and self-reliance.

Kumarappa was one of the major promoters and architects of Gandhian economics, and also the pioneer of ideas of *trusteeship, sustainability, and economic non-violence*. His decentralized, village-centered economic policy gave priority to community welfare and local self-sufficiency. He was the Chairman of the **All-India Village Industries Association (AIVIA)**, where he advocated rural industry and traditional crafts (khadi, pottery, and natural dye) development and revival. Long before the term "**sustainability**" became popular, Kumarappa emphasized the **interdependence of nature and man**. He was among the earliest proponents of ecological economic thinking in India also human well-being.



Historian Ramachandra Guha calls Kumarappa, "**The Green Gandhian**," portraying him as the founder of modern environmentalism in India. His theories are now regarded as fundamental to ecological economics. He examined such issues as the conservation of water and forests effect of erosion and waterlogging on soil quality and the availability of fodder and fuel in the rural economy. The "**Economy of Permanence**" was an economic theory that placed a higher priority on harmony with the environment than on short-term exploitation. He promoted a system in which human activity was in harmony with ecological processes i.e., avoiding over-extraction of natural resources, promoting renewable and non-invasive methods of production, and protecting biodiversity. He believed that "**economic violence**" against the environment was a result of **industrial capitalism**, which resulted in soil erosion, water contamination, and deforestation, all of which negatively impacted not only the environment but also the rural people who thrive on natural resources.

Furthermore, Kumarappa was among the first proponents of sustainable and organic farming in India. He promoted the use of organic fertilizers rather than inorganic ones because it was more environmentally sustainable and profitable for small farmers. He and Mirabeau argued against large-scale dam-and-irrigation projects, saying that small projects were more efficacious, that organic manure was better and less dangerous than man-made chemicals, and that forests should be managed with the goal of water conservation rather than revenue maximization. He emphasized the need to utilize local resources responsibly by utilizing the waste from one process to serve as input for another, creating a self-sustaining and environmentally friendly system. This approach minimized environmental degradation and reduced dependence on external, resource-intensive industrial processes.

Overall, J C Kumarappa stands out as a great environmental thinker of India for his foresight, wisdom, and commitment to a harmonious relationship between humanity and the environment. Historian Ramachandra Guha states the environmentalists of today are only taking up where he left off. His ideas are still relevant to modern-day problems and also inspire modern environmentalists and policymakers to strive for a more sustainable and equitable world.

*“The world will not be destroyed by those who do evil, but by those who watch them without doing anything”-Albert Einstein*

# JANAKI AMMAL: THE BOTANIST WHO SAVED BIODIVERSITY AND SWEETENED INDIA

Dr Saurabh Kole

**E**davalath Kakkat Janaki Ammal (1897–1984) was a trailblazing Indian botanist whose groundbreaking work in plant breeding, cytogenetics, and phytogeography left an indelible mark on both Indian agriculture and environmental conservation.

## Life and career

Born on November 4, 1897, in Thalassery, Kerala, Janaki Ammal grew up in a progressive family that valued education and nature. Her father, Diwan Bahadur Edavalath Kakkat Krishnan, was a Deputy Collector of Malabar District and a passionate gardener. Her mother, Devi Kuruvayi, was the daughter of John Child Hannington, a colonial administrator, and Kunhi Kurumbi Kuruvai. This diverse heritage exposed Janaki to both traditional Indian values and the scientific rigor of Western education.

Janaki Ammal's academic journey began at Sacred Heart Convent in Thalassery, followed by a bachelor's degree from Queen Mary's College, Madras. She earned an honors degree in botany from Presidency College and later pursued advanced studies at the University of Michigan, where she received a master's degree in 1926 through the Barbour Scholarship and a PhD in 1931. Her doctoral thesis on *Chromosome Studies in Nicandra Physaloides* established her as a cytogenetics expert.



After returning to India, she worked as a professor at Women's Christian College in Madras and later joined the John Innes Institute in London. She collaborated with eminent geneticist C.D. Darlington, co-authoring the seminal *Chromosome Atlas of Cultivated Plants* in 1945. Her career took her to institutions like the Sugarcane Breeding Institute in Coimbatore, where she developed high-yielding, disease-resistant sugarcane hybrids suited to India's tropical climate. Her work also extended to medicinal plants, eggplant hybridization, and pioneering research on magnolias during her tenure at the Royal Horticultural Society in Wisley, England.

## Scientific Contributions

As a cytogenetics expert, Janaki Ammal's work laid the foundation for numerous agricultural advancements. At the Sugarcane Breeding Institute, she created intergeneric hybrids like SG 63–32, which significantly boosted India's sugarcane production. Her research established that the *Saccharum spontaneum* variety of sugarcane had its origins in India, highlighting the country's rich agricultural heritage.

At the Royal Horticultural Society, she became the institution's first female scientist. Her research on colchicine treatments enhanced magnolia varieties, including the *Magnolia kobus* 'Janaki Ammal'. Her expertise in hybridization led to a deeper understanding of plant genetics and species evolution. She also contributed to the taxonomy and cytogenetics of economically and medicinally significant plants such as *Mentha*, *Datura*, and *Dioscorea*.

## Environmental Activism: Saving Silent Valley

Janaki Ammal's environmental activism peaked with her involvement in the Save Silent Valley Movement in the 1970s. The proposed hydroelectric project threatened the biodiversity of this rainforest in Kerala, home to rare orchids and countless endemic species. At the age of 80, she conducted a chromosomal survey of the region's flora, emphasizing its unique genetic diversity. Her advocacy, combined with that of other activists, led to the cancellation of the project. In 1984, months after her death, Silent Valley was declared a national park, preserving its ecological richness for future generations.

## Legacy and Honors

Janaki Ammal's contributions to science and conservation have been celebrated both during her lifetime and posthumously. She received the Padma Shri in 1977 and honorary degrees from the University of Michigan. Two national awards, the E.K. Janaki Ammal National Award on Plant Taxonomy and the National Award on Animal Taxonomy, were instituted in her honor.

Several plant and animal species have been named after her, including *Sonerila janakiana* and *Dravidogecko janakiae*. Her work is commemorated through the *Magnolia kobus* 'Janaki Ammal' and a rose variety bred in her name. The John Innes Centre also offers scholarships in her honor for students from developing countries.

# VANDANA SHIVA: A FIERCE ADVOCATE OF SUSTAINABLE AGRICULTURE

Ashmita Rakshit

**D**r. Vandana Shiva was born in the forests of the Indian Himalayan Region on 5 November 1952. Her father was a conservator of forests, and her mother was a farmer with a love for nature. She was educated at St. Mary's Convent High School, Nainital, and at the Convent of Jesus and Mary, Dehradun. She was trained as a Physicist at the University of Punjab, graduating as a Bachelor of Science in 1972. After a brief stint at the Bhabha Atomic Research Centre, she moved to Canada to pursue a master's degree in the philosophy of science at the University of Guelph in 1977 where she wrote a thesis entitled "Changes in the concept of periodicity of light". In 1978 she completed her PhD in philosophy focusing on the philosophy of physics on the 'Hidden Variables and Non-locality in Quantum Theory' from the University of Western Ontario, Canada.

She later shifted to inter-disciplinary research in science, technology and environmental policy, which she carried out at the Indian Institute of Science and the Indian Institute of Management in Bangalore, India.

In 1982 she founded the Research Foundation for Science, Technology and Ecology (RFSTE). Initiatives of this foundation are the organic farming programme Navdanya (a national movement to protect the diversity and integrity of living resources, especially native seeds) and the Bija Vidyapeeth (or Seed University, International College for Sustainable Living), and 'Diverse Women for Diversity'.

For nearly five decades, Dr. Vandana Shiva has been a fierce advocate for environmental justice and sustainable agriculture in India. Her work focuses on:



- **Saving seeds:** Dr. Shiva believes that seeds are the foundation of life and that controlling them is a crucial step towards controlling our food system. She has tirelessly worked to collect and preserve traditional seed varieties, establishing seed banks across India to protect them from the dominance of genetically modified crops.
- **Promoting organic farming:** Dr. Shiva strongly advocates for organic farming practices, emphasizing the importance of healthy soil, water conservation, and the use of natural resources. She believes that this approach is crucial for sustainable agriculture and the well-being of both farmers and the environment.
- **Fighting against corporate control:** Dr. Shiva has been a vocal critic of large corporations, particularly those involved in the production of genetically modified seeds and agrochemicals. She has challenged their practices in courts and through public awareness campaigns, highlighting the negative impacts on farmers and the environment.

Through campaigns, such as the "Neem Campaign" and "Basmati Campaign" Dr. Shiva has contributed intellectually and as an activist to the area of Intellectual Property Rights (IPRs) and Biodiversity. Besides her activism, she also serves on expert groups of government on IPR legislation.

Biotechnology and Genetic Engineering are another dimension of Dr. Shiva's campaigning internationally. She has helped movements in Africa, Asia, Latin America, Ireland, Switzerland and Austria with their campaigns against genetic engineering. She has inspired countless individuals and communities to embrace sustainable practices and protect their environment. Her unwavering commitment to truth and justice, coupled with her deep understanding of ecological principles, makes her a truly remarkable figure in the global environmental movement.

Dr. Shiva is the author of numerous books, including *Earth Democracy: Justice, Sustainability, and Peace* and *Stolen Harvest: The Hijacking of the Global Food Supply*. Her books, 'The Violence of Green Revolution' and 'Monocultures of the Mind', have become basic challenges to the dominant paradigm of non-sustainable, reductionist agricultural practices. Dr. Shiva is a founding board member of the International Forum on Globalization

Vandana Shiva is the 1993 winner of the alternative Nobel Peace Prize, the Right Livelihood Award.



# KAILASH SANKHALA: THE TIGER MAN OF INDIA AND PIONEER OF WILDLIFE CONSERVATION

Sanchita Saha

**K**ailash Sankhala was born on 30 January, 1925 in the city of Jodhpur of Rajasthan state in India as a true Indian biologist but was widely known as 'Tiger Man of India'. Sankhala's career was that it was in the area of wildlife conservation during which his passion for wildlife went to earn him the dignity of one of India's most noted conservationists to date.

**Early Life and Career:** The education of Sankhala in biology and wildlife biology was the beginning of his journey into wildlife conservation. In 1953, he joined the Indian Forest Service and managed many wildlife sanctuaries such as Sariska, Bharatpur, Banvihar, and Ranthambore. His hard work and expertise made him a suitable candidate for the post of Director of the Delhi Zoological Park in 1965.



**Project Tiger:** Sankhala's most important contribution to environmental conservation was in 1973 when he was appointed the first Director of Project Tiger. This was an initiative by the Government of India to protect the endangered Bengal tiger and its habitat. Under Sankhala's leadership, Project Tiger implemented measures such as the creation of tiger reserves, training of forest guards, and stringent anti-poaching laws. His efforts saw the reversal of the alarming drop in the population of tigers due to poaching and habitat loss.

**Innovative Conservation Strategies:** Sankhala was innovative in his approach to conservation and was a man who had the whole aspect of conservation covered. He recognized that community participation in any initiative is what sustains it in the long run. Scientific research was something he stressed, alongside decision-making that is informed by data, on the management of wildlife. His efforts at publicizing the plight of tigers and other endangered species were innovative and contributed to a culture of conservation in India.

**Environmental Education and Advocacy:** As long as his commitment to conserving this wildlife raises public interest in its survival, and makes people learn why biodiversity exists and live sustainable lives: Sankhala consistently interacted with schools and communities on wildlife and always engaged the policy makers over his message on wildlife, which ultimately was helpful enough in drafting policies for conservation in India, making those new generations conscious about nature, being an asset towards mother earth and its cause.

**Challenges and Triumphs:** Throughout his career, Sankhala battled bureaucracy, resource limitations, and threats of poaching; nonetheless, with his steadfast resolution and creative approach, Sankhala made major achievements in conserving wildlife. The ability with which he has been navigating challenges and yielding concrete results testifies to the unrelenting determination of this individual as well as his leadership.

**Global Influence:** Sankhala's work did not limit him to the boundaries of India; rather, he earned recognition and respect across the world. He worked with international conservation organizations and participated in international forums where he shared his knowledge and experiences. His contributions have shaped wildlife conservation strategies around the world, and his legacy inspires many across the globe.

**Legacy and Continuing Impact:** Even after he passed away on August 15, 1994, his work keeps going through the Tiger Trust, which he himself had launched in 1989, and now also continues on through his son Pradeep Sankhala and later on his grandson Amit Sankhala.

Overall, Kailash Sankhala's life and work are a testament to his dedication and passion for environmental conservation. His multidisciplinary approach, combining biology, ecology, and public policy, has set a benchmark for future conservation efforts.

# THE GUARDIAN OF RIVERS: DR. RAJENDRA SINGH'S TIMELESS CRUSADE

Dipayan Laha

**D**r. Rajendra Singh, fondly known as "The Waterman of India," embodies the essence of unwavering commitment to humanity's most vital resource—water. Born in the quaint village of Dola, Uttar Pradesh, in 1959, Dr. Singh transformed his journey from an Ayurveda practitioner to a global environmental icon, making ripples far beyond India's borders.

His legacy shines like a beacon of hope in a world grappling with escalating water crises, as he has not only rejuvenated 14 lifeless rivers across the nation but also empowered over 1,500 villages to achieve water security. Under the banner of Tarun Bharat Sangh, founded in 1975, Dr. Singh pioneered a grassroots movement that combined ancient wisdom with modern community participation, crafting a narrative where local populations became custodians of their water resources. With 14,800 water structures dotting the Indian landscape and a footprint that spans an incredible 10,600 square kilometers, his work transcends mere conservation—it embodies resilience, dignity, and life itself. Recognized globally, Dr. Singh's accolades read like a chronicle of unparalleled excellence: the Ramon Magsaysay Award in 2001, the Stockholm Water Award in 2015, and the designation by *The Guardian* as one of the "50 People Who Could Save the Planet," among many others.



Yet, his journey is not just about awards; it is about the indelible impact of his work on communities once devastated by droughts and floods. The Chambal region of Rajasthan, for instance, saw hardened lives softened by the flowing streams of rejuvenated rivers, where villagers once drawn to crime due to desperation now embrace lives of peace and prosperity. Dr. Singh's philosophy of "water is climate and climate is water" resonates profoundly in an era where climate adaptation and mitigation are critical for survival. His global outreach through initiatives like the "Water Ethics, Justice, and World Peace Tour" has brought his message to 40 countries across Africa, Asia, and Europe, inspiring a global movement toward sustainable water practices. His Gandhian belief in non-violence underpins every action, as he weaves the sacredness of Neer (water), Nari (woman), and Nadi (river) into the tapestry of environmental justice. His fight is not against development but against the greed that undermines the delicate balance of nature, urging governments and industrialists to respect the intrinsic rights of people and ecosystems to water. Dr. Singh's leadership in halting dam constructions on the Bhagirathi River, the lifeline of the Ganga, is a monumental achievement, emphasizing the power of community advocacy in influencing policy. His writings, rich in wisdom and experience, bridge the gap between knowledge and action, inspiring youth worldwide to take up the mantle of conservation.

Dr. Singh's dedication is a clarion call to awaken global consciousness and galvanize collective action against the impending water wars predicted as the Third World War. His vision transcends the here and now, urging humanity to see water not merely as a resource but as a sacred thread binding all life. With every drop he saves and every river he revives, Dr. Singh reminds us that the prosperity of humanity is inseparable from the health of our natural world, and in the prosperity of the Panchamahabhutas—earth, water, fire, air, and space—lies the salvation of all living beings.

As we stand on the precipice of environmental collapse, Dr. Rajendra Singh's life work is a testament to the transformative power of vision, action, and an unwavering belief in the collective strength of humanity to restore harmony between nature and civilization. Let us take inspiration from his legacy, for in every revived river flows a message of hope, resilience, and the enduring spirit of life itself.

*"Environmental protection doesn't happen in a vacuum. You can't separate the impact on the environment from the impact on our families and communities"- Jim Clyburn*

# PANDURANG HEGDE: CHAMPION OF THE APPIKO MOVEMENT AND GUARDIAN OF THE WESTERN GHATS

Biplab Pal

**S**ri. Pandurang Hegde is an environmentalist from Uttara Kannada district, Karnataka, India. He was born in 1956 in a nine-house village amidst the tropical forests of Karnataka. After his father died, he lived with his brother, following him to postings in Nagpur and Bombay. After graduating from Karnataka University with a B. Com., he worked in Delhi as a chartered accountant. However, his spirit was in public service, not accounts, and he enrolled and did well in the Delhi School of Social Work. Then he worked with Damoh, a non-government organization in Madhya Pradesh among the rural communities for four years and later focused on environmental protection.

Pandurang Hegde was inspired by the Chipko Movement led by Sundarlal Bahuguna, which aimed to protect the forests in the Himalayan region through non-violent resistance. Motivated by this, Hegde sought to address similar issues in the Western Ghats of Karnataka, which were facing deforestation and ecological degradation due to commercial logging.

The Appiko Movement officially began in September 1983 in the village of Salkani, situated in the Western Ghats. The term "Appiko" means "to hug" in Kannada, symbolizing the act of embracing trees to prevent them from being cut down. The movement was a direct action by the villagers, led by Hegde, to protect their forests from commercial exploitation through the adaptation of the Gandhian principle of non-violent protest.



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Pandurang Hegde's leadership was instrumental in mobilizing the local community. He conducted awareness campaigns to educate the villagers about the ecological importance of forests and the long-term benefits of conserving them. Hegde's ability to communicate effectively and rally the community was crucial in garnering support for the movement. He emphasized the traditional knowledge and cultural significance of the forests, which resonated deeply with the local population.

Under Hegde's guidance, the Appiko Movement employed various strategies to achieve its goals. One of the most iconic strategies was direct action, where activists would physically hug the trees to prevent their felling, symbolizing their unwavering commitment to forest protection. Simultaneously, awareness campaigns were conducted to educate the public about the ecological and economic significance of forests, inspiring a sense of responsibility and ownership among communities. To address the systemic issues underlying deforestation, the movement also engaged in legal action. Activists advocated for policy changes to strengthen forest conservation laws and challenged illegal logging practices in courts. The movement's success was marked by its ability to halt deforestation activities in several areas of the Western Ghats. This brought significant attention to the issue of forest conservation at both national and international levels. The movement also influenced policy changes, leading to stricter regulations on logging and a greater emphasis on sustainable forest management.

Pandurang Hegde's involvement in the Appiko Movement did not end with its initial successes. He continued to be an active environmentalist, focusing on various ecological issues in the Western Ghats. His efforts extended to opposing high-rise dams, advocating for the rights of indigenous communities, and promoting biodiversity conservation. Hegde's contributions to environmental conservation have been recognized globally. He has received several awards for his efforts, including the Ashoka Fellowship in 1991. His work continues to inspire new generations of environmentalists to take action for the conservation of natural resources.

The Appiko Movement, under Hegde's leadership, has had a lasting impact on environmental activism in India. It revived the Gandhian tradition of non-violent protest and demonstrated the power of grassroots movements in bringing about significant environmental and social change. His legacy serves as a beacon of hope and inspiration for environmental activism worldwide.

# NITIN DESAI: ARCHITECT OF SUSTAINABLE DEVELOPMENT AND VISIONARY IN GLOBAL ECONOMICS

Priti Biswas

**N**itin Desai is an Indian economist and international civil servant who was born in 1941. His works significantly influenced both national and global policies. He worked at senior levels in the Planning Commission of India from 1973 to 1987. He then worked as a chief advisor and secretary (1988-1990) in the Department of Economic Affairs in the Ministry of Finance.

**Academic life:** Nitin Desai studied at St Xavier's High School. In 1962 he received a Bachelor's degree from the University of Bombay and in 1965 he earned a Master's degree in economics from the London School of Economics and Political Science.

**Career:** Nitin Desai worked as a lecturer in economics at the University of Liverpool and the University of Southampton from 1965 to 1970. After returning to India he worked as a consultant for the then Tata Economic Consultancy Services from 1970 to 1973. Then he began his government career in the Planning Commission of the Government of India. He was also known for the development of an energy policy framework and was also involved in the board of Indian Oil Corporation. He was involved in the development of Backward areas and was the member-secretary of the National Commission on the Development of Backward Areas. He also served as the secretary of the Economic Advisory Council to the Prime minister of India. From 1985 to 1987, he served as the senior economic advisor for the World Commission on Environment and Development i.e. the Brundtland Commission and it was at that time that he introduced the concept of sustainable development. He contributed a lot to the development of the report of the commission "Our Common Future".



Furthermore, Nitin Desai was appointed as the deputy secretary-general of the United Nations Conference on Environment and Development (1992 Rio Earth Summit) in 1990, where he coordinated the Secretariat's work on Agenda 21. In 1993, the UN secretary-general established three new departments at the UN Headquarters, including the Department for Policy Coordination and Sustainable Development. Desai was appointed to head the consolidated Department of Economic and Social Affairs in 1997, which supported the UN's economic and social cooperation processes. He organized and managed the Copenhagen Summit on Social Development (1995) and the Monterrey Summit on Finance and Development (2002). Desai also convened the Executive Committee on Economic and Social Affairs, which brought together heads of all UN Secretariat entities concerned with economic, environmental, and social issues. In October 2001, the secretary-general asked Desai to act as secretary-general of the World Summit on Sustainable Development (2002 Johannesburg Summit), which focused on developmental and environmental aspects of water, energy, agriculture, health, and bio-diversity. Desai undertook this task in addition to his existing responsibilities. Desai retired from the UN in August 2003 but continued his association with the UN as a special adviser to the secretary-general for the World Summit on the Information Society, chairing an international multi-stakeholder Working Group on Internet Governance. Nitin Desai, a distinguished visiting fellow at the Centre for the Study of Global Governance at the London School of Economics and Political Science, was inducted as an honorary fellow in 2004. Desai has been involved in public policy activities in India, chairing the Committee on Technical Innovation and Venture Capital established by the Planning Commission in 2006. He co-chaired the India-UK Round Table with Lord Chris Patten. Desai joined the Advisory Board of IDEACarbon in 2008 and is associated with the Helsinki Process on Globalisation and Democracy and various academic and non-governmental organizations. He has published articles on development planning, regional economics, industry, energy, and international economic relations. In 2012, Desai was elected chair of the Board of Trustees of Oxfam International, an international non-governmental organization.

In conclusion, Nitin Desai has made incomparable contributions to global governance and economics. His contributions have inspired innumerable people in the economics community and beyond, impacted international policy frameworks, and molded the conversation around sustainable development. Desai's legacy as a founder of global economic theory acts as a lighthouse for tackling the difficult problems of our day with wisdom, morality, and tolerance. The life and work of Nitin Desai provide important lessons in a society that is struggling with problems like economic inequality, climate change, and geopolitical tensions. His steadfast dedication to sustainable development and his capacity to bring disparate viewpoints into harmony serve as evidence of the transformative power of visionary leadership in building a more equitable and sustainable world.

## ALMITRA PATEL: INDIA'S GARBAGE CRUSADER

Shreya Mitra

"The twilight frogs are silent.

Stray dogs, smoking waste...

Oh, pity my poisoned land."

--- *Almitra Patel* (September 2001)

**A**lmitra Patel is an Indian environmental policy advocate and anti-pollution activist, celebrated for her pioneering contributions to sustainable waste management and environmental conservation. Often referred to as India's "garbage crusader," Patel has spent decades advocating for cleaner cities, sustainable waste practices, and environmental responsibility. Her work has meaningfully influenced India's solid waste management policies and inspired communities to adopt eco-friendly practices.

Born in 1936 into a family that valued education and social responsibility. Her father was a businessman and her mother a civic activist, involved with an education society she had founded. She was surrounded by science from an early age, and along with her cousin was the first girl to study science at Barnes High School. Her father wanted her to study engineering, so he sent his daughter to the Massachusetts Institute of Technology (MIT), USA to pursue higher studies in ceramics. She finished her BSc in General Engineering and MS in Ceramics in three years, and in 1959 she became the first Indian woman engineer to graduate from MIT. Over the next three decades, she worked in the fields of abrasives, foundry-refractories, and cement tile industries.



Patel's environmental journey began in the 1970s when she was also involved in community and environmental issues, including saving the Asiatic Lions, being a tree warden, saving Ulsoor Lake, solid waste management, and building low-cost homes. In 1991, she set out to find a solution for hygienic municipal solid waste management and found that most of the 80 Indian cities she visited in 1994-1995 had nowhere to dump their waste except on the outskirts of the city or approach roads.

One of Patel's most notable achievements was her contribution to designing *India's Municipal Solid Waste (Management and Handling) Rules, 2000*. Patel was a substantial member of the Supreme Court Committee on Solid Waste Management, under whom rules were drafted to become an innovative framework against the open dumping of municipal solid waste. Her support for source segregation, composting, and scientific landfill management has been contributory in guiding urban waste policies.

She has worked persistently to make citizens understand waste segregation, recycling, and composting. Her efforts have proved that community-led waste management is not only affordable but also environmentally sustainable. Patel has also campaigned for the use of bioremediation to address the challenges posed by legacy waste dumps across Indian cities. She has encouraged the treatment of waste dumps using microbial cultures to reduce waste volume and toxicity, thereby minimizing environmental hazards and freeing up valuable land. Patel imagines an India wherein sustainable waste practices become mainstream in life. She fantasizes over cities with less garbage, and not at all over rural areas being discomfited by the poisonous urban waste. Her work continues to inspire a new generation of environmentalists and citizens committed to preserving the planet.

*"The environment is where we all meet; where we all have a mutual interest; it is the one thing all of us share"- Lady Bird Johnson*

# SUGATHA KUMARI: KERALA'S PIONEERING ENVIRONMENTAL ACTIVIST

Disha Roy

**S**ugatha Kumari (1934 – 2020), a prominent figure in the realms of Malayalam poetry and a committed environmental activist, was a fusion of nature, spirit, and human, all at the same time. Sugatha Kumari was one of the representatives of the finest Kerala poets, as well as an environmentalist, who was using her words and actions to save the remaining forests of India.

**Personal Life:** Sugatha Kumari was born on 22 January 1934 in Aranmula, in the southern Indian state of Kerala. She was the daughter of freedom fighter Keshava Pillai, known as Bodheswaran, and V. K. Karthiyayini Amma, a Sanskrit scholar. After graduating from the University College, Thiruvananthapuram, she did her postgraduation in philosophy from Government College for Women, Thiruvananthapuram in 1955. She spent three years researching the topic 'Comparative Study of the Concept of Moksha in Indian Schools of Philosophy' but could not complete the work. Sugatha Kumari's husband Dr. K. Velayudhan Nair (died 2003) was an educationist and writer who was an expert in educational psychology. They had a daughter, Lakshmi Devi. Sugatha Kumari was the former state vice president of Kerala Students Union (KSU) and she also joined KSU for 3 years, From 1959 to 1962.



**Carrier & Social Activism:** Sugatha Kumari was a multifaceted individual known for her contributions to poetry, environmental activism, charity work, and socio-cultural initiatives. She began publishing poetry in the 1950s and became an advocate for ecological conservation in the early 1970s. Her work focused on nature preservation, with her poems often reflecting personal struggles and deep emotional states. The Noiseless Valley project sparked her passionate response to environmental degradation, intertwining images of women and nature as symbols of resilience. Her poetry and activism have inspired many to care for the Earth and stimulated important discussions about gender and ecology. In addition to being a celebrated poet, Sugatha Kumari founded 'Abhaya', which shelters mentally ill women, helping many start anew. She received numerous prestigious awards over her nearly six-decade career, including the Saraswati Samman (2012), Ezhuthachan Award (2009), Kendra Sahitya Akademi Award for Raathrimazha (Night Rain), first Kerala Sahitya Akademi Award for Pathirapookkal (Flowers at Midnight) in 1960. She has also won the Bhatia Award for Social Sciences, International Divine Soul Award, Lakshmi Award for Social Service and Indira Priyadarshini Vriksha Mitra First Prize from the Government of India for her services in protecting the environment and afforestation, and the Padma Shri in 2006, recognizing her significant contributions to both literature and environmental protection. In 1996, she served as the first chairperson of the Kerala State Commission for Women.

**The Battle for Silent Valley:** Sugatha Kumari was a key figure in the Save Silent Valley Movement, one of India's first modern environmental movements, which lasted from 1978 to 1983. This movement successfully led to the abandonment of a controversial 120 MW hydroelectric power project that threatened to destroy 89.52 square kilometers of valuable forests. As the secretary of the Society for Conservation of Nature in Thiruvananthapuram, she appealed to scholars and activists to join her cause, famously stating, "Every battle has two sides, the winning side and the losing side. Maybe we are on the losing side. But the losing side also needs soldiers. Will you join in this losing battle?" Kumari founded the Prakrithi Samrakshana Samithi, which united writers, scientists, and activists in defense of nature. Her accessible poetry, including "Hymn to a Tree" and "Marathinu Stuti" (Ode to a Tree), played a crucial role in raising public awareness about ecological issues. Under her influence, the movement not only focused on Silent Valley but also aimed at conserving other tropical forests. The 1980 Forest Conservation Ordinance prohibited non-forestry activities on forest lands without central government approval, leading to the abandonment of the hydroelectric project in 1983. Her recent efforts included leading protests against a proposed airport in Aranmula village and contentious hydropower projects in Pathrakadavu and Athirappilly.

Overall, Sugatha Kumari recognized as a pioneer of environmental activism in Kerala, passed away on December 23, 2020, from COVID-19-related bronchopneumonia at age 86. Despite facing criticism from development advocates who labeled her an "environmental terrorist," she remained a formidable guardian of Kerala's natural resources.

*"Earth provides enough to satisfy every man's needs, but not every man's greed" - Mahatma Gandhi*

# JADAV "MOLAI" PAYENG: THE FOREST MAN OF INDIA AND CHAMPION OF ECOLOGICAL RESTORATION

Souvik Dey

Jadav "Molai" Payeng, known as the Forest Man of India, is an environmentalist and forestry laborer from Majuli, Assam. Born in 1963 into the Assamese Missing tribe, Payeng is celebrated for his extraordinary efforts in transforming a barren sandbar on the Brahmaputra River into a dense forest called Molai Forest. This forest spans over 550 hectares and is located near Kokilamukh in Jorhat, Assam. In 2015, he received the Padma Shri, India's fourth-highest civilian award, for his contribution to environmental conservation.



## Early Life:

At the age of 16, Payeng witnessed the devastating effects of floods and droughts in Majuli, the world's largest river island. After a severe flood, he saw thousands of snakes that had died from the heat, lying lifeless on the barren sandbar. This tragic sight moved him to take action. In 1979, Payeng began planting bamboo and tree saplings on the desolate sandbar. Determined to restore the environment, he worked tirelessly to nurture the plants, turning the area into a thriving forest over the next four decades.

## Creating Molai Forest:

Payeng started his environmental journey by working on a government reforestation project in Aruna Chapori, where he helped plant trees over 200 hectares. When the project ended, he chose to stay behind and continue planting trees on his own. Over 40 years, Payeng's dedication transformed the once-barren land into the Molai Forest, which now covers approximately 1,390 acres. The forest is home to a diverse range of wildlife, including Bengal tigers, Indian rhinoceroses, deer, rabbits, monkeys, and many bird species like vultures. It also hosts a herd of elephants that visit annually and have even given birth in the forest. Molai Forest boasts a wide variety of trees, including species like *himolu*, *valcol*, *arjun*, *goldmohur*, *koroi*, and *moj*. Over 300 hectares of the forest are covered in bamboo. The thriving ecosystem has become a haven for both flora and fauna, demonstrating the powerful impact of Payeng's efforts on biodiversity conservation cultures. It also hosts a herd of elephants that visit annually and have even given birth in the forest.

## Challenges during Work:

Jadav Payeng faced numerous challenges throughout his journey of transforming the barren sandbar into the Molai forest. Initially, he encountered the devastating impact of droughts and floods in Majuli, which killed countless snakes and left the land barren. Working in isolation, he planted trees on his own even after government projects ended, demonstrating immense dedication despite limited recognition and resources in the early years. He also dealt with threats from poachers and the challenges of protecting wildlife in the forest, including addressing the damage caused by a herd of elephants to nearby property. Moreover, deforestation driven by profit posed a constant risk to the delicate balance of the forest's ecosystem. Despite these obstacles, Payeng persevered, transforming a lifeless sandbar into a thriving ecosystem and inspiring global recognition for his environmental efforts.

## Award:

Payeng was recognized in 2012 by Vice-Chancellor Sudhir Kumar Sopory of Jawaharlal Nehru University as "The Forest Man of India." The Balipara Foundation later presented Jadav Payeng with the "Ecological Restoration Award" in 2013. In 2015, he received the Padma Shri award for outstanding humanitarian efforts. He received the Karmayogi Award in 2020 in New Delhi for his remarkable contributions to environmental conservation.

## Documentary:

The Molai Forest, a documentary made by Jitu Kalita, came out in 2012. Aarti Shrivastava produced the documentary "Foresteering Life," based on his life, in 2013. In 2013, William Douglas McMaster's acclaimed documentary "Forest Man" was released. In the children's book "Jadav and the Tree-Place," written and drawn by Vinayak Varma, he plays a supporting role.

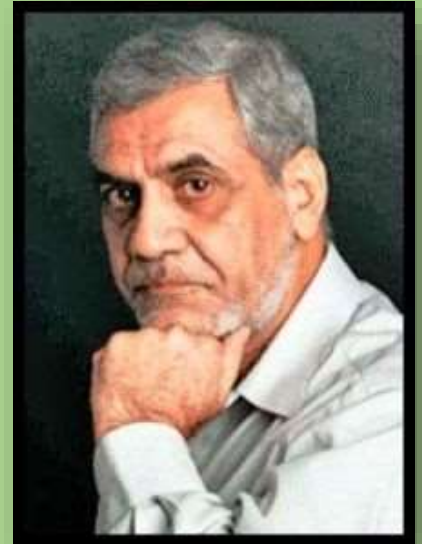
# MC MEHTA: THE GREEN AVENGER OF INDIA AND HIS INFLEXIBLE ENVIRONMENTAL BATTLE

Saikat Dutta

In a world where environmental foulness takes a back seat to industrial progress, MC Mehta stands tall as an icon of hope. As the "Green Avenger of India," Mehta has redefined environmental involvement through legal battles, sending undulations that changed the face of India's environmental policies. His work not only conserves nature but also confirms a sustainable future for millions.

## Early life:

Mahesh Chandra Mehta was born on December 12, 1946, in Rajouri, Jammu & Kashmir. He is an innovator in environmental law. With a degree in Political Science and Law from Jammu University, Mehta began his career in the J&K High Court. But his destiny was greater than courtrooms. The year 1984 marked the day when he saw the Taj Mahal with its once unspoiled white marble marred by pollution, marking a turning point in his life. He then swore to apply his legal expertise to battling environmental issues—a mission that would take eras.



## The Journey of a Legal Environmentalist:

Mehta's first environmental crusading was in filing a public interest litigation (PIL) in 1984 to protect the Taj Mahal from pollution caused by nearby industries. The next year, another issue caught his attention: the Ganga River was heavily polluted and, in parts, even burning due to industrial waste. Mehta took these battles to the Supreme Court, laying the substance for his standing as a determined custodian of India's natural heritage.

## Landmark Cases and Environmental Milestones:

- 1. The Taj Mahal Case:** The PIL by Mehta against the pollutants eating into the Taj Mahal led to the closing down of over 200 polluting units in the locality. The Supreme Court enforced the use of cleaner fuel and the shifting of certain factories to a new site. It saved not just an architectural wonder but called attention to the necessity to preserve the cultural heritage at par with the environment as well.
- 2. The Ganga Pollution Case:** Taking on thousands of industries along the Ganga, Mehta's effort led to tight guidelines for industrial effluents and sewage treatment plants. Close to 5,000 polluting units were sought to clean up their act, and many cities on the riverside were given a directive to install their sewage treatment plants.
- 3. Oleum Gas Leak Case:** In this landmark case, Mehta's PIL from the 1985 Shriram Industries gas leak in Delhi led to the Supreme Court formulating the doctrine of "absolute liability." This legal principle sets industries strictly liable for whatever damage they cause to their environment, without any ifs and buts, laying down a powerful precedent.
- 4. Lead-Free Gasoline:** One important move Mehta made with persistent advocacy led to an order by the Supreme Court in this matter - mandating the nationwide use of lead-free gasoline. This reduced air pollution levels and enhanced public health nationally.
- 5. Coastal Zone Protection:** Mehta has been able to stop injurious activities like intensive shrimp farming on India's 7,000 km coastline. He ensured victory in legal cases that brought protection to the coastal ecosystem and livelihoods of fisher folk.

## Impact outside the Court Room:

Mehta's contributions reach beyond landmark judgments. Mehta, through the MC Mehta Environmental Foundation, trains young lawyers and educates society on the importance of environmental conservation. Work done here is to say that the protection of the environment is not only a concern of the government but each one's responsibility. Mehta's hard work has bagged him international recognition also. Some of his remarkable awards include Goldman Environmental Prize for Asia (1996), UNEP Global 500 Award (1993), and Numerous national and international honours for his unparalleled commitment to environmental protection.

Overall, MC Mehta's journey is a testament to the transformative power of individual action. Combining legal expertise with an unwavering commitment to justice, he has reshaped India's environmental landscape. His victories remind us that protecting the environment is not an option but a necessity.



# DUKHU MAJHI: THE GREEN CRUSADER OF AJODHYA HILLS

Srinjoy Roy

**D**ukhu Majhi, affectionately called *Gachh Dadu* (Tree Grandfather), was born in 1945 in Sindri village, Purulia district, West Bengal. Growing up in a region with arid landscapes, he developed a deep connection with nature from an early age. At just 15, Dukhu realized the importance of trees in sustaining life and decided to dedicate his life to environmental conservation. Despite having no formal education, his determination to combat deforestation and create a greener environment became his life's mission.

Majhi has spent more than five decades planting over **5,000** trees across the barren terrain of Purulia, particularly in the **Ajodhya Hills** region. His efforts have turned once dry and lifeless areas into flourishing green landscapes. He plants a variety of saplings, focusing on fruit-bearing and shade-providing species such as banyan trees, which benefit both the environment and the community.

Majhi's work involves meticulous planning and relentless effort. Each day, he carries two tin containers of water, a spade, and saplings on his **bicycle**, cycling to locations where new greenery is needed. His dedication extends to protecting these young saplings from grazing cattle and human interference.

The Ajodhya Hills, with their porous soil and challenging terrain, presented a significant ecological challenge. Dukhu Majhi's consistent tree planting efforts have not only provided shade and respite to travelers but also enhanced the ecological balance of the region. His work stands as a beacon of hope in combating deforestation and promoting biodiversity.



Majhi's remarkable contributions to environmental conservation have earned him widespread recognition. In 2024, he was awarded the **Padma Shri**, India's fourth-highest civilian honor, for his exceptional service to the environment. The local administration has also acknowledged his work, providing him with a **bicycle** to facilitate his planting activities and issuing certificates of appreciation.

**His** life and dedication were documented in the film **Rukhu Matir Dukhu Majhi** (Son of the Barren Land), directed by Somnath Mondal. The film, which won the **National Film Award for Best Biographical Film** in 2022, brought national attention to his work and inspired many to take up similar causes. His legacy is celebrated through folk songs, stories, and community rituals that emphasize the symbiotic relationship between humans

At 79, Dukhu Majhi's unwavering dedication continues to inspire, having transformed Purulia with thriving trees. His legacy shows how one person's determination can make a lasting environmental impact. Majhi's life highlights the wisdom of indigenous traditions and the importance of preserving nature for future generations.

"অক্সিজেন দেয় গো অক্সিজেন

গাছ না লাগালে বাঁচবো কিভাবে?"

-দুখু মাঝি

# CHAMI MURMU: AN ENVIRONMENTAL LEADER FROM THE GRASSROOTS

Susmita Sarkar

Chami Murmu has emerged as one of India's most influential environmental thinkers and leaders. Hailing from the tribal heartland of Jharkhand, she has dedicated her life to combating deforestation and promoting environmental conservation. Her work stands as a beacon of hope and inspiration, particularly in a world grappling with climate change and environmental degradation challenges.



In 1973, Chami Murmu was born into a humble tribal family. She grew up surrounded by nature, which instilled in her a deep respect and love for the environment. However, as she witnessed the rampant deforestation in her region and its subsequent impact on the lives of local communities, she decided to take a stand. Recognizing the inextricable link between the environment and the well-being of her people, she embarked on a mission to restore the balance between nature and humanity.

One of Chami Murmu's most notable achievements is her leadership in the movement for large-scale tree plantation drives. Under her guidance, 2,500,000 trees have been planted across deforested areas in Jharkhand. Her efforts have not only contributed to reforestation but also revitalized the local ecology, leading to the restoration of biodiversity and improved soil fertility. Murmu's initiatives have also created awareness among local communities about the importance of preserving their natural surroundings. Chami Murmu's environmental activism extends beyond tree plantation. She has been instrumental in empowering tribal women to become custodians of their environment. By organizing self-help groups and educating women about sustainable practices, she has fostered a sense of responsibility and ownership among them. These initiatives have helped improve the socio-economic status of women while simultaneously promoting environmental conservation.

One of the hallmarks of Chami Murmu's leadership is her ability to merge traditional knowledge with modern environmental practices. She has drawn upon the rich tribal heritage of living in harmony with nature and combined it with contemporary scientific approaches to creating sustainable solutions. This unique blend has made her efforts highly effective and culturally relevant, ensuring long-term impact.

Murmu's work has not gone unnoticed. She has received numerous accolades and recognition at both national and international levels. In 2019, she was awarded the [Nari Shakti Puraskar](#). Her achievements serve as a testament to the power of grassroots activism and the pivotal role that individuals can play in addressing global environmental challenges. Through her unwavering determination and innovative approaches, she has shown that meaningful change is possible, even in the face of daunting obstacles.

Chami Murmu's contributions are particularly significant in the context of India's environmental challenges. As a rapidly developing nation, India faces the dual pressures of economic growth and environmental sustainability. Leaders like Murmu provide a roadmap for achieving this delicate balance by emphasizing community-driven and ecologically sensitive solutions.

In conclusion, Chami Murmu's legacy as a great environmental thinker and leader lies in her ability to inspire and mobilize people for the cause of nature. Her work underscores the importance of grassroots leadership and community participation in environmental conservation. As the world continues to grapple with the impacts of climate change, the lessons from Chami Murmu's life and work offer invaluable insights into creating a sustainable and harmonious future for all.

*"Our task must be to free ourselves by widening our circle of compassion to embrace all living creatures and the whole of nature in its beauty"- Albert Einstein*

# TULSI GOWDA: A LIVING ENCYCLOPAEDIA OF THE FORESTS

Sanchari Roy

**T**ulsi Gowda, most affectionately called the ‘Encyclopaedia of the Forest’, was an extraordinary eco-activist and remarkable global environmentalist who had an unparalleled understanding of plants and ecosystems. Though uneducated in the conventional sense, her immense knowledge grounded in indigenous knowledge and her life dedicated to conservation are a source of strength in the fight against environmental destruction.

Tulsi Gowda was born in either 1937 or 1938 in Honnali village in Karnataka and was a member of the Halakki tribal community, which is known for its preservation of nature. However, life was harsh for her from the beginning, even more so after she lost her father when she was just two years old. Since her family was low income, she had to assist her mother who worked as a laborer in a nursery run by the Karnataka Forest Department. She may not have ever set foot into a school, but as a child, she was able to learn a lot about the natural world and the ecosystems of plants, trees and seeds. Gradually her attachment with the forest increased to the extent that she became a great store of knowledge regarding biodiversity and conservation.

For her entire life Tulsi Gowda is said to have planted and cared for over 30,000 trees which makes her one of the biggest contributors towards afforestation and reforestation in Karnataka. Her skills in identifying mother trees and in gathering seeds at the optimal time were also very important for the conservation of the native flora. By ensuring these seeds germinated and thrived, she helped restore degraded ecosystems and enriched biodiversity.

The scope of her work did not end with tree planting. She also acted as a counsellor to her people and even people outside her village on the necessity of forests and of biodiversity. By planting native species, she made sure that the plants would assist in offering wildlife habitat, control erosion, and equilibrate the environment. Her activities illustrated the pivotal role of forests in combating climate change and sustaining life.

The wildlife which was in danger of extinction now had an alternative habitat due to the forests that sprung up as a result of Gowda’s efforts and through conservation of wildlife. Her efforts reduced the chances of human-wildlife conflicts by ensuring that the animals had sufficient places for survival. By conserving these regions, she helped to protect all the living organisms that depend on healthy forests. For the greater part, Tulsi Gowda was also concerned with the conservation of soil and water in her conservation strategies. It is a scientific fact that the trees she planted aided in conserving surface soil and increasing storage deposits of groundwater, which are both adequate for agrarian practices and ecosystems. These steps not only helped to increase the nutrient level of the soil, but they also helped to protect the area from desertification and the effects of global warming.



Tulsi Gowda’s remarkable contributions have earned her a variety of prestigious awards. In 1986, she received the Indira Priyadarshini Vrikshamitra Award for her groundbreaking work in afforestation and wasteland development. The Karnataka government acknowledged her dedication with the Rajyotsava Award in 1999, one of the highest civilian honours in the state. Her most significant recognition came in 2020 when the Government of India awarded her the **Padma Shri**, the fourth-highest civilian honour, in recognition of her lifelong commitment to environmental conservation. These accolades amplified her voice and showcased her grassroots efforts on a global platform, motivating countless individuals to engage in environmental protection.

Tulsi Gowda passed away on December 16, 2024, at the age of 86. Her death marked the end of an era, yet her contributions continue to inspire environmentalists and nature lovers around the globe. Her life, highlighting indigenous knowledge in conservation and sustainable practices, has left a lasting impact on the environment and future generations. Her life story exemplifies the transformative power of grassroots activism and the shared responsibility to care for our planet.

# KAMALJIT SINGH BAWA: BRIDGING SCIENCE AND SUSTAINABILITY

Diksha Kar

The founder and president of the Ashoka Trust for Research in Ecology and the Environment (ATREE), a Bangalore-based organization that has been named one of the top 20 environmental think tanks in the world is Dr. Kamaljit Singh Bawa, a distinguished professor of biology at the University of Massachusetts Boston. Between 1962 and 1967, he earned his PhD from Punjab University in Chandigarh, India. Additionally, he has written or edited 11 books and monographs and has produced over 200 scholarly publications. Bawa's team uses sophisticated climatic models to forecast the effects of temperature and precipitation changes on ecosystems, offering vital information about regional vulnerabilities. He examines how species abundance and distribution are affected by climate change, emphasizing the dangers of extinction and ecological disturbances. To assist communities and ecosystems in adapting, his approach incorporates creative solutions such as improved water management, habitat conservation, and drought-tolerant crops.



Plant population biology has made great strides thanks to Dr. Kamaljit Singh Bawa. In order to provide light on plant reproductive strategies, his groundbreaking study on the development of dioecy in tropical plants examined pollen restriction, inbreeding depression, and resource allocation. His research showed how seed dispersers and pollinators influence plant populations and ecosystems. He has also looked into how plant populations are affected by disturbances like logging, fragmentation, and climate change, exposing how these factors affect genetic variation, diversity, and abundance. Bawa has been an outspoken supporter of habitat preservation, sustainable resource use, plant diversity conservation, and successful conservation tactics. His research has raised awareness of how crucial it is to maintain plant diversity in order to maintain ecological equilibrium.

Kamaljit Singh Bawa's early research on tropical plants focused on the evolution of dioecy (separate male and female plants), exploring factors like pollen restriction, inbreeding, and resource allocation. His work illuminated the evolutionary dynamics of reproductive systems. Bawa also studied pollination and seed dispersal, emphasizing their role in plant populations, communities, and biodiversity. His research on the impacts of logging, fragmentation, and climate change on seed germination, flowering, and fruiting has informed plant management and conservation strategies. Bawa's findings stress the importance of plant diversity, habitat protection, and sustainable resource use in conservation efforts.

He highlighted the necessity for conservation while examining the ripple impacts of climate change on local plants and animals. His research is focused on the region's vulnerability by exposing climate-induced problems to crop yields, water resources, and food security. Bawa promoted resilience by protecting habitat, improving water management, and growing crops that can withstand drought. His research helps develop plans for protecting biodiversity, encouraging the wise use of resources, and maintaining important habitats. Dr. Bawa's insights underscore the urgency of addressing climate change and conserving biodiversity, fostering global awareness and action. Kamaljit Singh Bawa has received several prestigious awards in recognition of his significant contributions to environmental science and conservation. He was granted the Bullard Fellowship at Harvard University in both 1972 and 2009, and the Guggenheim Fellowship in 1987. In 1992, he became a Pew Scholar in Conservation and the Environment and was awarded the Giorgio Ruffolo Fellowship at Harvard in 2009. His accolades also include the Gunnerus Prize in Sustainability Science from the Royal Norwegian Society of Letters and Sciences in 2012, the MIDORI Prize in Biodiversity from the Aeon Foundation in Japan in 2014, and the Linnean Medal in 2018. Additionally, he has received honorary doctorates from the University of Alberta (2014) and Concordia University in Montreal (2019). Bawa is also an elected Fellow of several prestigious institutions, including the American Academy of Arts and Sciences (2012), the Royal Norwegian Society of Letters and Sciences (2012), the Royal Society (2015), and the American Philosophical Society (2019).

*"I only feel angry when I see waste. When I see people throwing away things we could use"- Mother Teresa*

# M. KRISHNAN: A LIFE DEDICATED FOR ENVIRONMENTAL CONSERVATION AND PROTECTION

Aveek Roy

**M**. Krishnan was a renowned wildlife photographer, as well as an Indian naturalist, artist and a prolific writer, who spent months in the forests of India, recording his observations with pen and camera. His works were dedicated to the environmental conservation as well as protection. He was committed to preserve India's rich biodiversity which is evident from his outstanding works and also from his life and activities.

M. Krishnan was born in Tamil Nadu, the southernmost state of India, on 30<sup>th</sup> June, 1912. A. Madhaviah, his father, was a well-known and an established writer as well as a social reformer. Since his childhood, Krishnan developed a strong attraction towards Mother Nature. In his academic life, he perused BA and then MA in Botany from Presidency College, Madras. His love towards nature was further nurtured when he was informally educated under the guidance of a renowned botanist, Professor P.F Fyson.

The career of M. Krishnan spanned across various roles, including Publicity Officer at All India Radio, Wildlife photographer and Chief Artist at Associated Printers. He also made notable contributions through his writings, his fortnightly column named "Country Notebook" was published in The Statesman, which was published without a break for nearly 46 years, and it helped to garner attention to the growing environmental concerns of India.

Krishnan's work for conservation included various aspects such as forest, wildlife, ecology, soil and water. He was a staunch advocate for sustainable management of natural resources, and it can be observed from his writings, in which he often highlighted the concept of holistic approach for conservation.

Krishnan believed in the fact that forests were not merely a source for timber but is crucial for supporting biodiversity and also regulates essential services like soil conservation. Through his writings and illustrations, he tried his best to gather the attention of the masses to the threats faced by Indian forests.

Krishnan's contribution towards protection of the wildlife was of utmost significance. He was personally involved in conducting wildlife surveys of various states of India. He served for decades on diverse Government of India Wildlife Committees and was one of the founding members of the Indian Board for Wildlife In 1968. He was awarded the Jawaharlal Nehru fellowship (1968-1970) for an Ecological Survey of the Mammals of Peninsular India. His work for the fellowship was published by the Bombay Natural History Society as India's Wildlife, 1959-70 (BNHS) in 1971. In 1972, he was one of the founding members of the Steering Committee of Project Tiger, formed to conserve the declining tiger population. Krishnan was awarded the Padma Shri in 1970 in recognition of his work on wildlife conservation for the country. He also wrote on behavioural pattern of many wildlife species such as Elephants and Tigers, which played an important role in raising awareness about the importance of protecting these animals and their habitats.

The legacy of M. Krishnan continues to live on through his works, illustrations and writings. His contributions will greatly inspire young naturalists, environmentalists and conservationists for generations to come. His life and work were a testament to his concentrated dedication and focus in saving and protecting the environment and wildlife. His ability to communicate intricate details and beauty of the nature through his photographs, writings and illustrations have left an unforgettable mark on the field of conservation.



# VALMIK THAPAR: A VISIONARY ENVIRONMENTAL THINKER AND WILDLIFE CONSERVATIONIST

Triparna Pal

Valmik Thapar was born in 1952 in New Delhi, India. He is among the best-known voices of wildlife conservation, with almost all his professional life spent in promoting and protecting tigers in India—a mission that has won him great respect and recognition in this arena.

Thapar was born into a family known for its intellectual and cultural contributions. His father, Raj Thapar, was a prominent journalist and political commentator, while Romila Thapar, his mother, is a noted historian. It was in the atmosphere of such intermingling with multiple perspectives and a great respect for the vast Indian heritage, for its man-made and natural resources, that Valmik had his early growing up. In his young days, he showed keenness for nature. He was really inspired to do something for wildlife by one of the legendary Indian conservationists, known for his work in Ranthambhore National Park, Fateh Singh Rathore. It was he who actually mentored Thapar and inspired him to develop an interest and commitment towards conservation.

Thapar's career has spanned over four decades and during this time he has made a significant mark in wildlife conservation in India. He has written over 14 books and contributed articles focusing largely on the tiger, India's national animal. His works, "Land of the Tiger" and "Tiger: The Ultimate Guide," are already recognized as seminal works in wildlife conservation.

Thapar has been an open critic of Project Tiger, launched by the government in 1973 to save the deteriorating population of tigers, alleging mismanagement of the program due to the forest bureaucracy not being able to equip itself with scientific knowledge. Along with the other ideas, Thapar demanded the establishment of armed patrols against poaching and implementation of expert scientific consultations to scrutinize the workings of the project.

Valmik Thapar is also a well-known wildlife documentary filmmaker. His films have been on international channels like the BBC, National Geographic, Animal Planet, and Discovery Channel. He has taken the beauty and plight of India's wildlife; through his documentaries, they have reached a global viewership where he emphasizes on conserving wildlife.



The Ranthambhore Foundation, which was established by Thapar in 1988, is one of his most noticeable contributions. The foundation works for the conservation of the Ranthambhore Tiger Reserve, which is one of India's most important tiger habitats. Under his leadership, the foundation has actively worked to protect both the tigers and their habitats, engage the local community, and promote sustainable practices of national economic development for the benefit of both wildlife and people.

Thapar's unwavering commitment to wilderness conservation has made him an outstanding personality in the field. His work has not only protected the wild tigers and other fauna but has also served as a source of motivation for a new generation of conservation personnel. He has been a strong impetus for public awareness of the value of conservation of wildlife through his writings and documentaries, which have, in turn, raised respect and appreciation for India's natural heritage.

Valmik Thapar's life and work show the dedication and enthusiasm needed to make an impact in wildlife protection. His books, films, and hands-on involvement in conservation projects have helped safeguard India's animals. His impact as one of India's leading wildlife advocates will keep motivating and shaping future work to save nature.

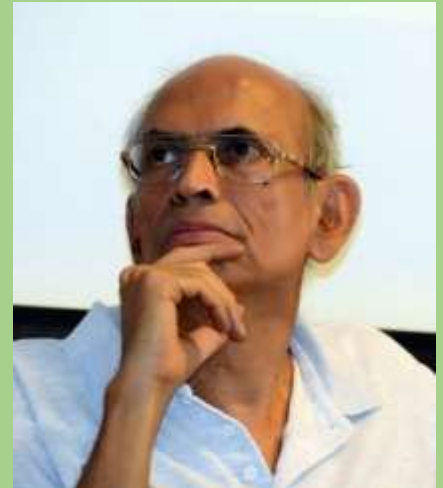
*"A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people" — Franklin D. Roosevelt*

# ECOLOGY AND SOCIETY: THE CONTRIBUTIONS OF MADHAV GADGIL

Trisha Mondal

**M**adhav Gadgil is an Indian ecologist and conservationist who have been at the forefront of shaping environmental policies and practices in India. His contributions to ecological research, particularly in the Western Ghats region, have been instrumental in bringing forth the critical need for biodiversity conservation and sustainable development.

He was born on May 24, 1942, in Pune, Maharashtra. His father Dhananjay Ramchandra Gadgil was a Cambridge scholar and also the author of the Gadgil formula. Mahadev completed his graduation in biology from Pune in the year 1963 and also took his Master's degree. Then, he joined Harvard University for his research works and PhD in 1969. He worked as a research fellow in IBM with scholarship, and also lectured. In 1971, he came back to India and worked as a scientific officer at Agharkar Research institute, Pune for 2 years.



Gadgil's most important contribution to environmental conservation is probably through his chairmanship of the Western Ghats Ecology Expert Panel, popularly known as the Gadgil Committee. The panel was given the mandate to evaluate the ecological condition of the Western Ghats, one of the world's eight "hottest hotspots" of biological diversity. The committee's landmark report, published in 2011, provided a comprehensive framework for sustainable development in the region. Gadgil stressed the need for a participatory approach that would involve local communities in decision-making processes regarding the environment. This approach aimed to balance developmental needs with ecological preservation, ensuring that economic progress does not come at the expense of natural ecosystems. The Gadgil Committee report has divided the Western Ghats into three zones based on ecological sensitivity and recommended stringent measures for highly sensitive areas. It recommended banning mining, deforestation, and large-scale industrial activities, which were regarded as the most serious threats to the biodiversity of the region. The report has been welcomed by environmentalists but opposed by political and industrial stakeholders due to its stringent recommendations. Despite the controversy, this report remains one of the most seminal documents on the subject of sustainable development in India and reflects Gadgil's firm commitment to environmental ethics.

An author of many scientific publications and books, Gadgil has played a key role in influencing environmental policy formulation in India. His authored and co-authored works, such as **"This Fissured Land"** and **"Ecology and Equity,"** with historian Ramachandra Guha detail the complex interlinks that exist between ecology, culture, and economy. These works put forth the need for resources to be equitably distributed and developmental planning to take ecological components into consideration. The vision of Gadgil goes even further to make the people aware of their environment. He has been very actively engaged in public outreach, using his expertise to educate and inspire people about the importance of environmental conservation. In bridging the gap between science and society, Gadgil has empowered communities to be active participants in preserving their natural surroundings.

In his early 80s now, Gadgil plans to keep pushing for the conservation of India's most fragile ecosystems. "I have the satisfaction that as a scientist, empathetic to the people, I have been able to do various things which have helped in changing the direction of what is happening," Gadgil says. "I'm a durable optimist – and hopeful that this progress will continue to gather pace..... technological advances and the increase in publicly available scientific information will inspire more communities to fight for their rights".

In recognition of his outstanding contribution, Madhav Gadgil has been honored by several awards, such as Padma Shri in 1981, Volvo Environment Prize in 2015, and more recently, 2024 Champion of the Earth – the United Nations' highest environmental honour – in the Lifetime Achievement category. It reflects his work that lasted long and created harmony in the relationship between humans and nature.

# THE ENVIRONMENTAL WISDOM OF RAMACHANDRA GUHA: HISTORY, POLITICS, AND CONSERVATION

Trisha Ghosh

*"India would be an environmental disaster zone even if climate change did not exist. The root causes of our environmental crisis lie in our patterns of resource use, our modes of economic growth, and our forms of governance."*

Ramchandra Guha.

**R**amchandra Guha a renowned historian and environmentalist, has a noticeable contribution in environmental conservation and sustainable development in India. He was born on 29<sup>th</sup> April, 1958, in Dehradun. He started in academic life in Doon School, after that he completed his degree in economics from St. Stephen's college in Delhi, followed by a master's degree in economics from Delhi School of Economics, and a Ph.D. in sociology from Indian Institute of Management Calcutta.

He always emphasized the importance of local community and their indigenous knowledge in environmental conservation. In his book "The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya." (1989) he explained Chipko movement and integral interaction of human and nature. In his book "environmentalism: A Global History" he draws an overview of global environmental movements perspective and find out its roots and evolution overtime. He always talks about growth of social, economic, political and ecological development together to make a sustainable environment, he maintains in his work that countries like India "too poor to be green.", if people don't able to find alternative livelihood, they will over exploitation of natural resources.

He is a teacher at prestigious institutions such as Stanford University, Yale University, and the London School of Economics. His lectures and courses have inspired new generation to engage with environmental issues critically and creatively. He is a trustee of New India Foundation fellowship programme. He was appointed to BCCI's panel of administrators by the supreme court of India in 2017 but he stepped down from there after five months.



His book "The Unquiet Woods: Ecological Change and Peasant Resistance in the Himalaya,"(1989), explores the Chipko movements he highlighted the complex interplay between local communities and their natural environment on conservation of environment.

He got his Padma Bhushan in 2009 for his contribution to literature and education, his noticeable work was based on environmental history, sustainable development, and public discourse. He got Honorary Foreign Membership of the American historical association, in 2019 for his contribution to historical scholarship. He was awarded with "Elizabeth Longford prize", for his book, "Rebels against the raj: western Fighters for in India". His essay "Prehistory of community forestry in India" was awarded the Leopold-Hidy prize of the American society for environmental history in 2001. He won R.K. Narayana prize at the Chennai book fair in 2003. He got sahitya Academy Award for his book 'India after Gandhi' in 2011. He got Fukuoka Asian Culture Prize in 2015. His few notable works are 'India after Gandhi' (2017), 'Gandhi before India' (2013), 'Gandhi: The Years the Changed the world' (2018), etc.

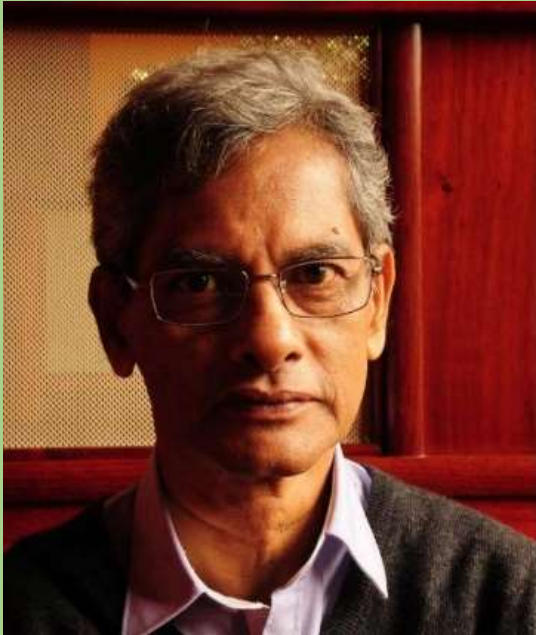
His work for environmental history on sustainable development is noticeable. His multidisciplinary approach has integrated approach of environmental studies history sociology and ecology together to create sustainable future by making environmental policies. His work serves as an intricate connection between human societies and their natural environments, and the urgent need for holistic approaches to environmental conservation for sustainable future. He has highlighted the need for sustainable development and social justice, for creating a balanced approach between ecological conservation and socio economic conditions.



# DHRUBAJYOTI GHOSH: THE PROTECTOR OF NATURE'S HIDDEN TREASURES

Suchismita Roy

**D**r Ambedkar once said, “Life should be great rather than long.” It appears that the late ecologist Dhrubajyoti Ghosh successfully implemented this ideology in his life. Dhrubajyoti Ghosh, the first Indian recipient of the prestigious Luc Hoffmann award, UN Global 500 laureate, the special advisor on agricultural ecosystems, Commission on Ecosystem Management, and the regional chair for South Asia of the IUCN was mainly credited for his lifelong devotion to the East Kolkata Wetlands. He was born in 1947 in West Bengal during a period of significant social and political transformation. At an early age, he developed a passion for the environment that guided his life and career. Starting as a civil engineer, he transitioned to environmental studies driven by his passion for ecology. With his engineering skills and deep knowledge of nature, he made significant contributions to sustainable development. As a



philosopher, writer, speaker, and teacher, he left a lasting legacy in environmental thought and activism, always addressing critical public issues.

Ghosh's research focused on the vital relationship between natural ecosystems and human activities, notably highlighting the ecological significance of the East Kolkata Wetlands (EKW). He emphasized the wetlands' role in sewage treatment and its integration into local livelihoods through aquaculture and agriculture. Ghosh's advocacy led to the EKW's recognition as a Ramsar Site in 2002. He promoted eco-inclusive development, blending environmental conservation with socio-economic progress, and advocated for using traditional ecological knowledge to support sustainable urban planning. Ghosh also defined 'ecologically handicapped' communities, stressing the need to empower them to manage their environment and highlighting the importance of ecological culture in building a sustainable future.

He passionately advocated for the protection of forests as essential carbon sinks, biodiversity hotspots, and natural barriers against urbanization. Ghosh firmly recognized the necessity of integrating forest conservation into urban planning and policy frameworks, ensuring that the vital ecosystems continue to support wildlife and local communities. His work powerfully highlights the socio-economic value of forests, calling for the incorporation of indigenous knowledge in their sustainable management. He championed an integrated approach to urban and rural ecosystem management, firmly asserting that the health of one system directly impacts the others. His work underscored the critical importance of preserving ecological corridors and maintaining a delicate balance between human activity and nature. Ghosh also highlighted the resilience of traditional ecological practices, demonstrating their invaluable role in shaping effective modern environmental strategies. He passionately advocated for the conservation of vital ecosystems, such as wetlands and forests, which are essential habitats for wildlife. His work powerfully illustrated the dire consequences of habitat destruction on biodiversity and the overall ecological balance. He unequivocally emphasized the need for policies that integrate wildlife protection into urban and rural development strategies. Ghosh confidently asserted the crucial importance of soil conservation, demonstrating a profound understanding of its essential role in agriculture and ecological sustainability. He unequivocally addressed the damaging impacts of industrialization, urbanization, and improper waste disposal on soil health. Ghosh advocated strong practices designed to preserve soil fertility and promote natural regeneration, emphasizing the significance of wetlands and organic waste recycling in maintaining optimal soil quality. In his pivotal work on plant conservation, Ghosh convincingly highlights the urgent necessity of preserving biodiversity for ecological integrity and economic strength. He passionately advocates for the protection of native plant species, recognizing their fundamental role in sustaining vibrant local ecosystems and communities. His research and activism powerfully address the severe threats posed by habitat loss and monoculture practices, calling for the immediate adoption of strategies that prioritize plant diversity and foster ecological balance.

Ghosh's influential works have significantly shaped global environmental discourse. In *Ecosystem Management* (2014), he challenged the 'cognitive apartheid' that prevents recognition of the ecological wisdom of poor, illiterate communities. His book *Ecology and Traditional Wetland Practice* highlights innovative solutions from the East Calcutta Wetlands, while *The Trash Diggers* emphasizes the essential role of waste workers in urban sustainability. His writings advance scientific understanding and promote environmental advocacy with compassion. Ghosh's impact is profound, as he mobilizes communities and inspires global dialogue on ecological conservation and sustainable development, earning recognition as a true guardian of the Earth.

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