

GANDHIAN APPROACH TO ENVIRONMENTAL-ECOLOGICAL SUSTAINABILITY

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Introduction

The term **Environment** describes the sum total of physical and biotic conditions influencing the responses of organisms, while **Ecology** studies humans, animals and plants in their relations to each other and to their environment. The term **Sustainability** is best understood through a correlated definition of **Sustainable Development** as “meeting the needs of the present generation without compromising the needs of the future generation” [vide World Commission for Environment and Development’s study on ‘Our Common Future’ (1987), known as Brundtland Report].

Thus, environment, ecology and sustainability are inter-related concepts and issues concerning these arise primarily in the context of the present urge of the human race for unending growth/ development as measured in purely economic terms, as this approach misses on environmental-ecological costs, particularly long-term costs, treating these as externalities or uncertainties. Hence, the ‘modern’ pursuit of **Growth** or **Development** tends to be inherently unsustainable. Such a narrow vision, is leading fast towards depletion of natural resources—both non-renewable and renewable, rising levels of pollution and environmental degradation, decline of biodiversity, ‘the tragedy of global commons (e.g. oceans, atmosphere)’, climate change and global warming.

Mahatma Gandhi had postulated the finite character of earth's resource base long before the 'Green' movement came up. His whole philosophy of a need-based, ethical and equitable economy and of conservation and avoidance of any wasteful action, is a charter for an environmentally, materially and socially sustainable system. Here it is proposed to present a broad view of the Gandhian vision of environmental-ecological sustainability under two parts: it starts with an introductory ‘Gandhian Thesis of Environmental-Ecological Sustainability’ (part A), followed by a presentation of various ‘Gandhian Ecological Perspectives’ (part B), which indicate the very wide range of relevant fields and concerns that Gandhiji pursued. The paper ends with a brief ‘Summing Up’.

A. Gandhian Thesis of Environmental-Ecological Sustainability

Gandhiji held a holistic view of human existence in its environmental contexts. As he said, all life is one. He was also very conscious of the inherently limited nature of natural resources and, hence, insisted that humankind adjusts its needs accordingly. He always went to the heart of the matter and following of his oft-quoted statements would sum up the modern ecological debate:

- ‘Earth provides enough to satisfy every man's needs but not for every man's greed.’¹
- ‘ - - it is the fundamental law of Nature, without exception, that Nature produces enough for our wants from day to day, and if only everybody took enough for himself and nothing more, there would be no pauperism in this world, there would be no man dying of starvation in this world. But so long as we have got this inequality, so long we are thieving.’²
- ‘Nature provides for the needs of every living creature from moment to moment, and - - voluntarily or involuntarily, knowingly or unknowingly, we violate this great law every moment of our lives. - - - Our endeavour, therefore is to save mankind from the calamity of widespread starvation on the one hand

and, on the other, destruction of food-grains by the American millionaires though a false understanding of economic laws.³

- 'Simplicity is the essence of universality.'⁴

Needs, Wants and Greed

His aphoristic statement that 'Earth provides enough to satisfy every man's needs but not for every man's greed', constitutes the ethical determinant of his ecological vision in respect of human needs, wants and greed. He went to the root of the issue: 'Nature - - - has implanted in its creation the instinct for food it also produces enough food to satisfy that instinct - - not - - a jot more. - - But man, blinded by his selfish greed, grabs and consumes more than his requirements in defiance of Nature's principle, in defiance of the elementary and immutable moralities of non-stealing and non-possession of other's property and thus brings down no end of misery upon himself and his fellow-creatures.'⁵

In '*Hind Swaraj*' (1909), he co-related 'wants' with his view of 'What is True Civilization?' thus: 'We notice that the mind is a restless bird; the more it gets the more it wants, and still remains unsatisfied. - - Our ancestors, therefore, set a limit to our indulgences. They saw that happiness was largely a mental condition.'⁶ And, similarly: 'Our civilization, our culture, our swaraj depend not upon multiplying our wants—self-indulgence—but upon restricting our wants—self-denial.'⁷

Acquisitive instincts have to be controlled consciously, otherwise human beings fall from their pursuit of high thinking: 'Man's avarice reaches up to the highest heavens and down to the lowest regions of the earth. Hence, it should be controlled.'⁸ Further, 'Man falls from the pursuit of the ideal of plain living and high thinking the moment he wants to multiply his daily wants. - - Man's happiness lies in contentment. - - - To be free or to be a slave lies in his own hands. And what is true of the individual is true for society.'⁹

Sustainable Growth, or 'The Economy of Permanence'

Gandhiji wanted growth as otherwise how would poverty be removed. As he insisted: "Material resources" is after all a comparative term. - - In my own way I have tried—more than perhaps any other man—to increase the level of material resources of the average man in India.'¹⁰ But his concept of growth seeks balance between economic and moral development, between rural and urban sectors (economic decentralization), between man and environment, technological balance, and distributional balance.¹¹

In his 'Foreword to "*The Economy of Permanence*"' (1945), written by J.C. Kumarappa, his co-worker, Gandhiji had written: 'This doctor of our village industries shows that only through them we shall arrive at the economy of permanence - - - - This is "Plain living and high thinking."' According to Kumarappa, in nature various processes cooperate to produce continuity and human self-interest demands that economic growth observes the natural limits while seeking sustenance. He classifies five types of economies in Nature as well as in human behaviour: predatory, parasitic, enterprising, gregation, and service. Gandhian view has the economy of service as its ideal and eschews parasitism or predation on others or on nature.¹²

Long before the reports by the Club of Rome and world environment conferences, Gandhiji had pronounced the impossibility of India attaining the consumption status of the West, and had warned the

West: 'So be not lifted off your feet, do not be drawn away from the simplicity of your ancestors. A time is coming when those who are in the mad rush today of multiplying their wants vainly thinking that they add to the real substance, real knowledge of the world, will retrace their steps and say: "What have we done?"'¹³

It was in this context that Ramchandra Guha, the historian, in The Parisar Annual Lecture (Pune, 1993) entitled 'Mahatma Gandhi and the Environmental Movement', stated: '[I]n the last few decades, we have attempted precisely to "make India like England and America". Without the access to resources and markets enjoyed by those two nations when they began to industrialize, India has had perforce to rely on the exploitation of its own people and environment. - - - it has deprived rural and tribal communities of their traditional rights of access and use.'

Gandhi's growth model would uplift the masses but not strip the earth bare of its resources nor cause havoc with pollution and waste: 'God never creates more than what is strictly needed for the moment, with the result that if anybody appropriates more than he really needs, he reduces his neighbour to destitution. We may utilize the gifts of Nature just as we choose, but in her books the debits are always equal to the credits.'¹⁴

Gandhian development paradigm is participatory and sustainable. Nonviolence is the very basis of non-exploitation of others and of nature. He advocated use of less capital-and-resource intensive production. He respected all life and regarded human beings as trustees of all creation. The authors of 'Beyond the Limits' (1992) express conclusions which echo the Gandhian perspective: 'Human use of many essential resources and generation of many kinds of pollutants have already surpassed rates that are physically sustainable. - - The transition to a sustainable society requires a careful balance between long-term and short-term goals and an emphasis on sufficiency, equity, and quality of life rather than on quantity of output.'¹⁵

Deep Ecology

His thinking has contributed much to the development of the recent concept of 'Deep Ecology', an eco-centric identification with all creation. According to Arne Naess, the propagator of 'Deep Ecology': 'Gandhi's utopia is one of the few that shows ecological balance, and today his rejection of the Western world's material abundance and waste is accepted by progressives of ecological movement.'¹⁶ Gandhiji had also postulated human equality as a prerequisite to human respect for all creation: 'The moment we have restored real living equality between man and man, we shall be able to establish equality between man and the whole creation.'¹⁷

B. Gandhian Ecological Perspectives

Ecological ethic is inherent in Gandhian thought. His criticism of 'modern' civilization and its growth-at-any-cost paradigm and propagation of an alternative, sustainable and egalitarian social order pervades his whole philosophy. He believed that all creation was one and an organic interdependent system, and that all living beings could only exist along with their supportive abiotic or physical surroundings.

Even when Paris was flooded, he wanted people to remember that Nature imposes its own limits on what they can do: 'Nature works unceasingly according to her own laws, but man violates them constantly. - - And yet every extraordinary occurrence startles us and sets us thinking. - - The river at Paris

rose in such a heavy flood - -. - - - Nature has given a warning that even the whole of Paris may be destroyed. - - - Of course - - Engineers, in their conceit, will have more grandiose plans - - -; such is the obsession of present-day civilization.¹ Years later, he expressed similar views about floods in Gujarat: 'Nature is perfect, and her laws too are perfect. But we do not know these laws and, therefore, when they surprise us by their working we describe them as Nature's wrath. She has just shown such wrath against Gujarat.'²

Gandhiji had espoused numerous ecological concerns covering a wide range of vital areas throughout his public life. Examples of his views relating to some of the important areas consistently pursued by him are presented below. His scientific approach and deep ecological concerns are obvious in each case.

1. Ecology of Sustainable Agriculture

He gave a vivid picture of how a farmer leads a life in consonance with nature: 'He must be able to test the nature of his soil, must watch changes of weather - - and be generally familiar with the movements of the stars, the sun and the moon. - - - He can make certain deductions from the voice and speed of birds - -. Thus, the farmer knows enough of astronomy, geography and geology to serve his needs. - - residing as he does in the vast open spaces of this earth, he naturally becomes aware of the greatness of God.'³

He insisted that all kinds of common wastes should be reused and recycled into manure for agriculture, for which he also set down scientific procedures: 'A beginning can be made at once by converting night-soil into manure by the shallow trenching system. - - Every pint of water whether from bathing and ablutions or from the kitchen should be turned into the backyard vegetable beds. Not a drop of water should be allowed to be wasted. - - - The cumulative result, then, if the practise is on a nation-wide scale, will be colossal.'⁴

Similarly for cowdung: 'To make full and good use of cowdung is to use it as manure. Agricultural experts opine that, if we misuse cowdung for fuel, the fields suffer in fertility. - - no such farmers in India foolish enough to burn cowdung and buy chemical manure. Moreover, farmers believe that the value of chemical manure when compared with cowdung manure is much less.'⁵

During his last days, he practically wrote a thesis on 'Compost Manure': 'Manure may be described as of two kinds: chemical and organic. - - Organic manure is made from human and animal excreta mixed or not mixed with grass, leaves and other such things. - - Manure formed from such mixture is called "compost" - -. - - It keeps the soil ever fertile. - - It is said that chemical fertilizers destroy the humus of the soil as also bacteria and makes it necessary to keep the soil fallow after every few years of cultivation. Moreover organic manure prevents the breeding of pests. - - - a Conference - - in Delhi - - - has suggested the method of mixing human and animal excreta, garbage, rags and factory waste, in rural and urban areas. - - We will be then able to save golden manure worth crores of rupees - - -.'⁶

Under the title, 'How to Increase Yields?' he wrote: 'If we use farmyard manure or compost it is not necessary to keep the fields fallow. - - - such manure can be produced in every village. But these things cannot be done mechanically. Let us - - provide right education to the farmers by carrying on original experiments, and thus benefit them.'⁷

2. Ecology of Forests

After a visit to Kutch and Kathiawad, he wrote how religious attitude towards trees made ecological sense: ‘- - tree plantation - - in some parts of India it is a religious necessity. Such a place is undoubtedly Cutch. - - - Rainfall can be almost regulated by deforestation or afforestation. - - The most pleasant function therefore that I was required to perform in Cutch was the planting of these trees and inauguration of a tree planting and protection society. - - -He [a forest officer] believes that with judicious plantation Cutch can be turned into a land flowing with milk and honey - - the parts which the wind ruins - - into sand heaps can be turned into gardens - -. - - - It is wicked waste to destroy a single tree in a place like Cutch for firewood. - - - - - The conservation of forests, systematic plantation of trees, irrigation and many other things cannot be properly done without a common policy. - - - In Cutch, Kathiawar, Rajputana, Sind and such other places a study of practical botany should be compulsory in all schools.’⁸

Writing on the same subject, he added: ‘Johannesburg was a similar region. - - people had to pay twelve annas for a single bucket of water - - owners of gold mines converted the region into a relatively green belt and increased the amount of rainfall by enthusiastically bringing over saplings from far off places - - other such instances also where the amount of rainfall has been reduced by deforestation and where it has been increased by afforestation.’⁹ He reiterated the role of trees thus in his ‘Speech at Prayer Meeting’ (25.7.1947): ‘The foliage in a forest attracts precipitation from clouds like milk from the udder of a cow. It is a law of nature that where there are no trees there is no rainfall and the land soon becomes a desert.’¹⁰

3. Ecology of Health, Nutrition and Hygiene

How Gandhiji worked tirelessly for ‘Prohibition’ against consumption of alcohol, is well-known. However, it is not so well-known that he worked similarly against consumption of tobacco also. An example of his observations in this regard is given here: ‘As to tobacco, it is positively injurious to the system and an expensive luxury - -. - - absolutely necessary to [abstain from] tobacco which “whether chewed or smoked or snuffed has no nutritive property but is an acrid poison, absorbed into the blood and resting upon the brain and nerves, first exciting and then dulling their sensibility and finally stupefying and paralysing. Thus hatefully does Count Tolstoy, than whom “few men have been more given to wine and cigarettes”, speak of both: “People drink and smoke - - simply and solely in order to drown the warning voice of conscience.”’¹¹

His critique of industrialism was based also on grounds of occupational health hazards: ‘Formerly, men worked in the open air only as much as they liked. Now thousands of workmen meet together and for the sake of maintenance work in factories or mines. - - They are obliged to work, at the risk of their lives, at most dangerous occupations - -. - - - There are now diseases of which people never dreamt before - -.’¹²

Here is an example of how he dealt with the issue of nutrition in a series of articles he wrote on ‘General Knowledge About Health’ (1913): ‘Air, water and food constitute our nourishment. - - - air is the principal form of nourishment. - - Water comes next in importance - -. Food occupies the third and last place. - - - Cattle do not eat for the satisfaction of the palate, nor do they eat like gluttons. They eat - - just enough to satisfy that hunger. - - - Among the animals which are not domesticated, there is no starvation; - - - if we make our stomach our God - - we must surely be inferior to them. - - the root cause of the many evil things that we do - - is our failure to restrain the craving of our palate. - - - *A man’s gentlemanliness is supposed to consist in the richness of his meals.* - - - At a wedding we give feasts to

minister to the pleasures of the palate - -. Some give dinners at funerals, too. On festival days, there must be sweets. - - - Unless we press the invited guest to overeat, we are considered to be extremely stingy. On every holiday, we feel bound to prepare special dishes. - - - a great fault has been transformed by us into an essential social obligation. - - - - It appears to be a universal law that the food needed by living creatures - - is provided by Nature from day to day. - - - - it means that, whatever we eat after our hunger has been satisfied is stolen food.’¹³

He advocated self-restraint against self-indulgence: ‘Physicians will not be able to remove the ailment. The cause of the illness is self-indulgence, its cure restraint.’¹⁴

He spoke about large-scale deaths in India due to common epidemics thus: ‘In 1914, cholera, fevers and plague together claimed 4,639,663 victims - -. - - - the way lies - - through - - preventive methods. - - - - a small but earnest band of volunteers is at the present moment engaged in doing such work in Champaran. - - give medical aid to the sick and they give practical lessons in hygiene to the village folk by cleaning their wells and roads and showing them how to treat human excreta. - - This Conference may usefully appoint a community of doctors who would - - draw up a course of instructions for the guidance of workers and of the people at large.’¹⁵ A little earlier he had issued such detailed and meticulous instructions for prevention and for treatment of plague in the area, which would do credit even to a Government agency.¹⁶

He also wrote about high child mortality in India: ‘In New Zealand, 51 children out of one thousand die in a year. In Bombay 320 and in the United Provinces 352. - - these figures, they make us shudder. - - but the causes are such as can be remedied - -. - - -: (1) Climate, (2) diet, (3) child-marriage and ill-matched unions, (4) self-indulgence, (5) ignorance about sanitation and, now, (6) excessively high prices.’¹⁷

All along he insisted on everyone taking relatively more nutritive forms of each food item, for example: ‘We eat mill-ground flour - -. - - We will not use our hand-ground flour - -. - - For whole meal is the proper meal. Mill-ground flour is vitamin-less flour - -. - - We will eat rice, polished of its substance, and eat less nutritious sugar and pay more for it than nutritious *gur*. We have suffered the village oilman to be driven to extinction and we eat adulterated oils. - - - I implore you to - - live more rational lives and learn how to turn waste into wealth.’¹⁸

Plague is a result of unhygienic and unhealthy living: ‘In villages - - - you have so infringed Nature’s rules that plague - - appearing again and again if you do not make your houses and surroundings inhospitable to them. - - - you certainly can produce conditions where rats and fleas can never flourish. - - - - Nature has endowed us with enough capacity for the resistance of disease. It is we who, careless of her laws, have ruined that capacity. We have to regain it by healthy and hygienic ways of living and eating.’¹⁹

Explaining the linkages of health, medicine and education, he wrote: ‘They [villagers] live close to nature and yet do not know the laws of natural living. Those who know those laws do not follow them. - - - The man who eats in order to live, who lives in friendship with the five basic substances, namely, earth, water, ether, sun and air, who is a servant of God - -, can never fall ill. And if he does, he will - - - be content to use such medicinal herbs and remedies as the grounds and fields of his village yield. - - - Doctors say that 99 per cent of all diseases are caused by insanitation, by eating things not fit to eat and by lack of proper nutrition. - - - Today pure water, pure earth and pure air are not available. - - If we pay attention to these and take proper nourishment we shall have done the work of ages.’²⁰

He had for long propagated use of ‘nature-cure’ as may be seen from following assertions of his:

- 'The nature cure man teaches him [the patient] the right way of living in his home which would not only cure him of his particular ailment but also save him from falling ill in future. The ordinary doctor or *vaidya* is interested mostly in the study of disease. The nature curist is interested more in the study of health.'²¹
- 'The writing of Kuhne, Just and Father Kneip are simple, popular and useful for all. It is our duty to read them.'²²

Finally, 'You have to keep healthy. The body is the abode of God, it is the real temple. Temples made of stone are temples only in name.'²³

4. Ecology of Sanitation, Cleanliness and Non-pollution

He gave highest importance to sanitation, cleanliness and avoidance of environmental degradation. He abhorred dirt and filth and raised sanitation to the level of a high principle. To him, cleanliness itself was Godliness: 'I would amend the saying "cleanliness is next to godliness" and say "cleanliness is godliness". But only if cleanliness is both internal and external can we call it an attribute of God.'²⁴

As early as 1907, he wrote about the situation in South Africa thus: 'The phrase "lack of cleanliness" covers both the general appearance of the house and one's personal appearance. - - - The backyard is full of slush and dirt. - - we are content that our shops should look like hovels. All this must change.'²⁵ In the same strain he tried his best to cultivate sanitary habits among Indians there: '- - we spit any and everywhere and allow the lavatories to remain dirty. - - - many diseases spread through lavatories. - - One should spread dry dust or ashes into the bucket every time after use, wash the wooden planks with a disinfectant liquid and wipe them clean.'²⁶ And, 'It is not enough that we do not commit such offences ourselves; it is our duty to persuade our neighbours, our acquaintances and others whom we can influence to eschew such faults.'²⁷

Emphasis on sanitation was apparent in Tolstoy Farm, the ashram he set up in South Africa for the satyagrahis; '- - one could not find refuse or dirt anywhere - -. All rubbish was buried in trenches - -. - - All waste water was collected - - to water the trees. Leavings of food and vegetable refuse were utilized as manure. A square pit - - was sunk near the house to receive the night-soil, which was fully covered with the excavated earth - - no smell - - no flies - - converted into invaluable manure for the Farm. - - - Leaving night-soil, cleaning the nose or spitting on the road is a sin against God as well as humanity - -.'²⁸

After his return to India, he continued with his deep concerns for sanitation, such as: 'After seeing the village, I make bold to state that it is a model of cleanliness - - much cleaner than some of the busiest and the most central parts of Madras. - - - - The streets of Kashi, the most sacred place for the Hindus, are dirty. - - - What is true of Kashi Viswanath is true in the majority of cases in our holy temples.'²⁹

He commented similarly about sanitation at railway stations and in trains: 'Station - - officials should be directed to have the carriages and closets swept and cleaned at every - - principal station. Station closets ought to be kept scrupulously clean, earth and disinfectants should be used every time closets are used. - - - - There should be bathing facilities at all principal stations. - - - cleanliness of - - vendors should be ensured before the granting of licences. Third-class refreshment rooms - - should be kept scrupulously clean.'³⁰

Similarly, he stressed the importance of sanitation in towns in his speech at Virudhunagar: 'If you can but keep your closets absolutely clean, if you can ensure a healthy and pure supply of water and the purest and precious free air and a supply of pure milk for your babies, you are in a position to conserve the health of those who are committed to your care. - - There is a very fine Latin proverb which says that healthy mind is possible only in a healthy body. - - sanitation is itself a first-class primary education for men, women and children.'³¹ He also defined 'scavenging' as the primary function of a municipality: 'A municipality is nothing if it is not a premier scavenging department - - - scavenging not merely by way of looking after the physical sanitation of a city, but also of the internal sanitation of its citizens.'³²

He related sanitation to fitness for Swaraj itself and to economic well-being: 'If we leave our courtyard stinking, then there is every chance of a foul stench arising from our swaraj. - - - that there is an economic loss in preserving this filth - - should be understood by the wealthy citizens of Ahmedabad. - - diseases spread fast owing to uncleanness and lead to loss of manpower. - - - If all the students of Ahmedabad - - - work for cleaning up the city's filth, and - - the teachers set out with brooms and buckets, they can change the appearance of Ahmedabad - - and the students will readily receive practical and real education.'³³

He described in detail the state of insanitation in Indian villages and of places of pilgrimage thus: 'Mr. Curtis who toured India in 1918 - - - - said that - - Indian villages seemed to be raised on dunghills! - - - If we approach any village, the first thing we encounter is a dunghill - - little difference between the approach and what is within the village. - - At any time, children may be found defecating on the streets - -. As for making water, even adults will be found doing it anywhere. - - - - -

' - - a good deal of filth to be found even in our places of pilgrimage. - - I have seen thousands of men and women dirtying the banks of the Ganga at Hardwar. - - - - Is it surprising then that cholera, typhoid and other infectious diseases follow as a result of this? - - almost 75 per cent of diseases are caused by our insanitary habits. - - 'Hence the primary duty of a village worker is to educate villagers in sanitary habits - - - - - They should collect all faeces in their baskets - - and cover up those spots; wherever - - people have urinated, they should collect the wet earth - - - and throw over it clean earth - -. If there is any other filth lying around, they should - - - remove it - -. Where to dump the excreta - - is a question both of cleanliness and economics. - - - If put in the fields, it becomes fine manure and increases the yield. - -Garbage is of two types. The first - - - such as peels and skins of vegetables, grain, grass, etc. The other type includes bits of wood, stones, sheets of iron or tin, etc. - - the first type should be kept in fields or at places where manure from it can be collected, and the second - - buried at places where pot-holes, etc., need to be filled in.'³⁴

His concern for non-pollution made him go into details of how drinking water can remain clean in villages using wells and ponds: 'Many of the villages have only one pond, where the cattle drink and people bathe or wash, cleanse utensils and wash clothes, and people fetch the water for drinking and cooking from the same pond. - - poisonous germs are born in such water and diseases like cholera result from drinking it. - - The village pond should be enclosed so that no cattle can approach it. - - Never should utensils be cleansed or clothes washed in a pond from which drinking water is drawn. - - - - - In some villages - - it is possible to have, more than one pond. At such a place the pond for drinking water should be set apart for the purpose. In the third category of villages there are wells. - - the place should have an enclosure built around it and no mud should form there. From time to time the well water should be cleaned to remove the dross at the bottom.'³⁵

He took personal interest about sanitation in Sabarmati Ashram: 'Everyone in the Ashram has in turn to do sanitary service - - - - carried on lines suggested by Dr. Poore. Night-soil is buried in shallow trenches and is thus converted into manure in only a few days. Dr. Poore says that the soil is living up to a depth of twelve inches. Millions of bacteria are there to clean up dirt. Sunlight and air penetrate the ground to that depth. Therefore night-soil buried in the upper layer readily combines with the earth.'³⁶

At Bombay, he drew pointed attention to the insanitation of the *chawls* around: 'In several places, the drain pipes were choked - - the drains overhead were leaking - - - - Flush latrines were worse than useless under such conditions. - - The arrangement for collection and disposal of refuse were most unsatisfactory. The open refuse tins emitted a foul smell. - - - if the municipality failed in its duty, it was the right of the people to demand redress even by offering satyagraha.'³⁷

Similarly, he found the sanitary conditions in Panchgani to be awful: 'In a climate like theirs there should never be any epidemics. Yet they had the plague only the year before - - - - The insanitation, the filth and the stench of the public latrines and urinals of the railway stations and in the dharmashalas were simply awful. - - - The first and foremost of course was sanitation and night-soil disposal. - - - Scavenging was a fine art. Not only must the cleaning be perfect, but the manner of doing it and the instruments used, must be clean and not revolting to one's sanitary sense.'³⁸ And, he warned: '[I]f the present insanitary conditions continue, Panchgani will cease to exist as a health resort. - - the same is true of Mahabaleshwar too.'³⁹

He went meticulously into all aspects of sanitation work, such as: 'I would advocate bye-laws requiring authorized receptacles, brooms, etc., which would avoid physical handling of dirt and would also prescribe simple working costume. Inspectors or overseers will be trained for the humane and sanitary work instead of being expected to exact work anyhow.'⁴⁰ As he said: 'The first service is latrine-cleaning.'⁴¹

5. Ecology of Waste Management

Despite his preoccupation with national and social concerns during his long public life, along with his deep concern for health and hygiene, and sanitation and cleanliness, he would not accept any wastage— even of a scrap of paper, a drop of water, a grain of food, a minute of time, or any other resource.

His concern for every bit of time being used properly was proverbial: 'Some time elapses in merely thinking about a piece of work before it is actually begun. - - known as stray moments. - - these stray moments - - make no mean part of our life; and not to make a proper use of them is to waste life itself.'⁴² He always insisted on punctuality: 'I - - was ten minutes late. - - I am glad that the prayers were begun according to schedule without waiting for me.'⁴³

He extended his concern for avoidance of any wastage to even cremations and suggested more scientific ways of cremation: 'Day by day the difficulties of disposing of dead bodies are increasing. - - - - Hence Mr. Chhotalal - - suggests that the body should be removed in a vehicle and that the crematorium should be constructed scientifically so that the body will be put into a furnace and be quickly reduced to ashes - -. This will save money and time without hurting religious sentiment - -. - - - Therefore, if - - - vehicles for transport and facilities for cremation are provided - -, this important change will soon become popular and, in times of epidemics, the poor in any case are bound to welcome it gratefully.'⁴⁴

He considered even flower garlands as wasteful: 'I am distressed with these masses of flowers and the useless expenditure incurred on them. I have, therefore, started asking for garlands of hand-spun yarn - -.'⁴⁵ And, also flags and uniforms meant merely 'for demonstrative purposes.'⁴⁶ In 1942, he attended a

Play performed in Sevagram Ashram, in which a map of India was prepared with rice and lentil grains. After the Play, he chided the organizers for wasting foodgrains when many Indians went hungry for want of these, and asked them to recover every grain thus used.⁴⁷

This is how he advised J.C. Kumarappa to study economics of waste: 'You may also take up the whole subject of economic waste that goes on in our midst through preventable disease, through wrong feeding, through the criminal waste of human excreta as manure. - - - Economics treated in this manner can really become fascinating, interesting and instructive for the masses.'⁴⁸

He did not want even a least bit of any useful material to be wasted for want of due repair or maintenance or care. Some of his exhortations in this respect are referred below:

- He got a worn out blanket made new and wore it to the royal palace in England (1931): 'I gave the blanket to her [Janakibehn] and told her how she could make it into a new one. - - I deliberately took it with me, when I visited the Royal Palace in England. - - The worn-out woollen blanket, being thus lined with khadi, become as good as new and gave more warmth than before.'⁴⁹
- He advised every equipment being kept in working order, thus: 'A carpenter will always keep his tools ready for use. A typist will keep his typewriter in good repair and a rider will keep his horse in good stead. Similarly a bicycle should always be kept clean, oiled and ready for use.'⁵⁰

He also took note of the wastage involved in the primitive method of oil-processing: 'I hope that some Assam worker will put an end to the criminal waste - -. If cotton seeds are thrown away, it will pay any young man to collect them.'⁵¹ He also insisted on every bit of paper being utilized: 'Why did the person who copied it write only on one side? That involves wastage of paper and additional postage.'⁵²

His directives for avoiding wastage of the slightest bit of food would be valid today also: 'A campaign against waste can be easily organized in all the cities. - - All saving thus made will be equal to so much food production without effort. - - - It should be considered a sign of bad breeding to leave one's plate with a heap of uneaten things - -.'⁵³

Here are examples of numerous instances when he propagated recycling of organic wastes into manure:

- Based on report issued by Mr. Brayne, Commissioner, Rural Reconstruction, Punjab, he published a bulletin on 'Manure Pits' and wrote thus about it: '- - superficial burial recommended by Poore is more scientific and more remunerative. - - - the excreta are turned into manure in almost a week's time - -. But the chief thing - - is - - the necessity of burying all the refuse for - - promoting the villagers' health and their material condition through the better yield of their crops - -.'⁵⁴
- 'G.I. Fowler states, in his *Wealth and Waste*, that a proper disposal of human excreta would realize Rs. 2 per head per year. - - He - - says that "nitrogen derived from the 2,82,000 residents of Delhi is sufficient to fertilize a minimum of 10,000 and maximum of 95,000 acres." - - Thirty crores of the population of India should mean - - an annual gain of 60 crores of rupees to the country if we would but make a wise use of human excreta.'⁵⁵
- 'Urine is a valuable manure and the less we use it the greater is the harm done.'⁵⁶
- '[To] convert the bones into manure - -. In every village collect the bones in one place, roast them slightly as explained in the *Harijan* [30.11. and 14.12.1934] and then bring it into fine powder. - - - It can be stored indefinitely - -. How to convert the flesh into manure is more difficult - -. - - The guts can be converted into nets. - - no part of a carcass which cannot be utilized - -.'⁵⁷

6. Ecology of Respect for All Creation

Ontologically, Gandhiji believed in oneness of all existence. Non-violence meant love for all forms of life, and hence compassion and concern for lower animals, as an essential part of human ethics.

He rejected the practice of sacrificing animals as a religious custom: 'The Hindu religion aptly finds expression in the two aphorisms—"Harmlessness is the best form of religion" and "There is no force higher than Truth", and these principles are incompatible with the cruel practice of animal sacrifice.'⁵⁸ Hence, he felt deeply for the animals being sacrificed at the Kali temple, Kolkata: 'On the way [to temple] I saw a stream of sheep going to be sacrificed to Kali. - - - the more helpless a creature, the more entitled it is to protection by man from the cruelty of man. - - - It is my constant prayer that - - some great spirit, - - will deliver us from this heinous sin, save the lives of the innocent creatures, and purify the temple.'⁵⁹

He was equally opposed to hunting of animals: 'For the Hindus, hunting is a matter that touches their sacred religion. My impression is that even Islam forbids hunting for mere enjoyment. - - - Hence, hunting can never be for pleasure.'⁶⁰

While replying to a correspondent's doubt about his reluctance to kill snakes in normal course, he explained thus why we should not take life as far as possible: 'No doubt destruction in some form or other of some life is inevitable. - - - And it is possible for man whilst in the body to hope to attain that state [of highest bliss], only if he confines himself to the least possible destruction, which is caused in his taking of vegetable life. The freer he is, consciously and deliberately, from the necessity of living upon the destruction of other life, the nearer he is to Truth and God. - - - We have no right to destroy life that we cannot create. - - - We shall never know the laws of Nature by destruction.'⁶¹

He quoted Lord Buddha's teachings to propagate respect for all creation and took the argument to lead to vegetarianism: 'Gautama taught the world to treat even the lowest creatures as equal to oneself. - - - It is an arrogant assumption to say that human beings are lords and masters of the lower creation. On the contrary, being endowed with greater things in life, they are trustees of the lower animal kingdom. - - - you are not true to the spirit of the Master's teachings so long as you do not regard all animal creation as sacred, as you cannot do so, so long as you do not abstain from meat - - - - If animals could not be sacrificed to the gods above, how could they be sacrificed to the epicure in us?'⁶²

His intrinsic sense of oneness with plants and trees is expressed thus: 'Give my love to the flower plants and trees. Here, too, [in Yervada jail] I see their brothers and sisters. Shouldn't I be satisfied with that?'⁶³

Here are examples of his numerous comments for compassion and against cruelty to lower animals:

- 'I felt that it was cruel to strike bullocks with a goad. - - The scriptures of both the religions lay down that we should not inflict cruelty on even the meanest of creatures. - - it will make me happy to see that the sticks are no longer spiked. If I do not find that you have done so, I shall prefer going on foot rather than in the bullock-cart.'⁶⁴
- 'The Bombay slaughter-house is in Bandra. I feel a stab in the heart whenever I pass it.'⁶⁵
- He was equally against killing of animals for medical experiments: 'I abhor vivisection - -. I detest the unpardonable slaughter of innocent life in the name of science and humanity so-called, and all the scientific discoveries stained with innocent blood I count as of no consequence.'⁶⁶

- 'In Calcutta, thousands of innocent lambs and goats are slaughtered in the name of religion. - - - this cruel act is being performed day after day. - - - Again, in Calcutta, cows and buffaloes are milked after blowing. This process of blowing is so cruel that I cannot even describe it.'⁶⁷
- Regarding the practice of branding animals: 'Does the pain caused by branding compensate for the benefit it confers upon the owner and the animal? If it confers none on the animal, naturally, branding must be taboo.'⁶⁸

He dealt with the issue of 'non-killing' in all its aspects and said that there could also be occasions when 'Taking life may be a duty': 'We do destroy as much life as we think is necessary for sustaining the body. Thus for food we take life, vegetable or other, and for health we destroy mosquitoes and the like - - - - The physician who prescribes bitter medicine causes you pain but does no *himsa*. The surgeon who, from fear of causing pain to his patient, hesitates to amputate a rotten limb is guilty of *himsa*. He who refrains from killing a murderer who is about to kill his ward (when he cannot prevent him otherwise) - - practices no *ahimsa* but *himsa* - - - - [*Ahimsa*] is uttermost selflessness. - - - - A progressive *ahimsaist* will, therefore, commit *himsa* - - only when it is unavoidable, and after full and mature deliberation and having exhausted all remedies to avoid it.'⁶⁹

Cow Protection

He treated cow protection, an essential part of practice of Hinduism, as the key to respect for all creation: 'I myself respect the cow - - look upon her with affectionate reverence. The cow is the protector of India because, being an agricultural country, she is dependent on the cow. The cow is a most useful animal in hundreds of ways.'⁷⁰

He reverted to the subject of protection of cow (and its progeny) frequently, such as: 'Hindu society has been inflicting terrible cruelty on the cow and her progeny. - - My heart bleeds when I see thousands of bullocks with no blood and flesh on them, - - and made to carry excessive burdens - - - - besides, - - slaughter-houses in all the big cities of India. Thousands of cows and bullocks are slaughtered in these.

- - - Once we admit that we are also guilty of violence, the working of our *gaushalas* will change. We shall not reserve them merely for decrepit cows but maintain there well-nourished cows and bullocks as well. We shall endeavour to improve the breed of cattle and will also be able to produce pure milk, ghee, etc. - - - - The *gaushalas* of my conception will become self-supporting in future. - - - We shall find good use for the valuable manure they yield by way of excrement and urine.'⁷¹

While explaining what all Hinduism stood for, he wrote in such an elegant language about cow-protection: 'The cow to me means the entire sub-human world. - - - The cow was in India the best companion. She was the giver of plenty. Not only did she give milk, but she also made agriculture possible. The cow is a poem of pity. - - She is the mother to millions of Indian mankind. Protection of the cow means protection of the whole dumb creation of God. - - - Cow-protection is the gift of Hinduism to the world.'⁷² However, his approach was always scientific and practical 'Nothing would please me better than to dot India with model dairies and model tanneries after my conviction; but unfortunately I have not been able to convert even the existing cow societies to my view.'⁷³

He studied an agricultural expert's report about management of *goshalas* and quoted extensively from it: 'It is estimated - - at present 3,000 *goshalas* in the country with a population of over six lakh head of cattle. - - - Better feeding, management, organization, etc., would mean an increase in production of - - say, 3,000 maunds of milk per day.' And, in order 'to achieve this end immediately', he suggested a detailed plan.'⁷⁴

Vegetarianism

He advocated vegetarianism as a scientific and ecological principle which humankind must follow: ‘- - our body structure most closely resembles that of fruit-eating animals - - - The teeth and the stomach of predacious beasts, such as the lion and the tiger, differ in structure from ours. We do not have claws as they have. We have, moreover, something in common with non-carnivorous beasts—the ox, for instance. We do not, however, possess intestines like theirs - -, for digesting large quantities of grass. From this, many scientists conclude that man is not by nature carnivorous nor is he formed so as to be able to eat every kind of vegetable food. - - - and as animals maintain health by eating sun-ripened fruit, so should we. - - cooking removes certain essential properties of vegetable foods and reduces their nutritional value.’⁷⁵

Before leaving for London for studies, he had given a solemn vow to his mother not to touch meat and had to search for vegetarian food in London. This led him to develop an ideological conviction in vegetarianism as seen, for example, by following passages from his ‘*An Autobiography*’:

- ‘I once hit on a vegetarian restaurant in Farrington Street. - - - I noticed books for sale - - - among them Salt’s *Plea for Vegetarianism*. - - - From the date of reading this book, I may claim to have become a vegetarian by choice.’^{76a}
- ‘My faith in vegetarianism grew on from day to day. - - I went in for all books available on vegetarianism - -. One of these, Howard William’s *The Ethics of Diet* - - - tries to make out, that all philosophers and prophets from Pythagoras and Jesus down to those of the present age were vegetarians. Dr. Anna Kingsford’s *The Perfect Way in Diet* - -. Dr. Allinson’s writings - - - dietetic experiments came to take an important place in my life.’^{76b}
- ‘- - the writers on vegetarianism had examined the question - - -. Ethically they had arrived at the conclusion that man’s supremacy over the lower animals meant - - that the higher should protect the lower - -. - - that man eats not for enjoyment but to live. - - - a Vegetarian Society in England - - I - - joined the Society and very shortly found myself on the Executive Committee.’^{76c}

Finally, he made out a most inspiring case for vegetarianism in a letter to the press in South Africa, thus: ‘But for - - this “self-indulgent” age, - - - we should all be vegetarians. For, - - - the most eminent physiologists declare that fruit is the natural food of man, and when we have the example of Buddha, Pythagoras, Plato, Porphyry, Ray, Daniel, Wesley, Howard, Shelley, Sir Isaac Pitman, Edison, Sir W. B. Richardson, and a host of other eminent men as vegetarians? - - - since meat-eating is not only unnecessary but harmful to the system, indulgence in it is immoral and sinful, because it involves the infliction of unnecessary pain on and cruelty towards harmless animals. Lastly, vegetarian economists - - assert that vegetarian foods are the cheapest diet - - -.’⁷⁷

Summing Up

It is apparent from the foregoing that the Gandhian thought and action was permeated with concerns today deeply related to the concepts of environmentalism, ecology, and sustainability. He was an environmentalist/ecologist par excellence well before these concerns had become prominent. His thesis that ‘Earth provides enough to satisfy every man’s needs but not every man’s greed’, sums up the ecological debate. His approach towards all ecological issues was ethically and socially determined.

He wanted limitation of wants and avoidance of greed by human society ('Excessive greed for anything is the root of all evil.'¹) while it pursued satisfaction of its genuine needs. He emphasized cultivation of self-control, austerity and simple living as a way of life. He wanted to change the very perception of human needs and thus enable the society to conserve natural resources. His prescription for sustainable growth and what his disciple, J.C. Kumarappa, termed as 'Economy of Permanence', are even more relevant today than in his time. His concepts of decentralized economy, respect for labour, voluntary control on consumption, social equity and concern for the weakest in society present a true manifesto for sustainable growth.

His ecological perspectives cover a very wide spectrum of all-round development, particularly in areas of agriculture, forestry and rural uplift, health, nutrition and hygiene, sanitation, cleanliness and non-pollution, and not only for conservation and avoiding wastage of even a grain of food, a scrap of paper or the least bit of any other useful material but also ensuring recycling of wastes, particularly human and animal wastes. His inherent respect for all creation, particularly for all life and biodiversity, his crusade against animal sacrifice and for cow-protection and vegetarianism deserve all-round emulation.

In brief, Gandhian agenda constitutes an all-encompassing charter for a truly environmentally/ecologically sustainable social order.

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Abbreviations:

CW – *Collected Works of Mahatma Gandhi* (1958-94; 100 vols.; New Delhi: Publications Division).

Each reference here includes a volume number and page number(s).

H – *Harijan* (1933-56), English-language weekly.

NJ – *Navajivan* (1919-31), Gujarati weekly.

YI – *Young India* (1919-32), English-language weekly.

IO – *Indian Opinion* (1903 onwards), multi-lingual journal founded in South Africa.

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Summing Up

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