

CHAPTER-III

POSSIBLE REMEDIAL STEPS SUGGESTED BY WESTERN THINKERS AND NOTED ENVIRONMENTAL ACTIVISTS

Environment as a whole is the concern of both living and non-living. In matters of environmental discourse, the prime concern mostly and even scrupulously points to one of the important stakeholders along with other stakeholders i.e. human being who have an inconceivable role to play in that discourse and is literally termed as 'environmentalist'. An environmentalist may be said to be one who thinks and tells about the natural environment and also holds views regarding the sustainable use of the natural resources available; may it be renewable or non-renewable. Moreover, an environmentalist tries to bring a shift either in the individual attitude/behavior or tries to advocate policies by which the natural environment can be conserved, protected and preserved. Thus, an environmentalist can be described as one who advocates the sustainable management of resources, and the protection (and restoration when necessary) of the natural environment through changes in public policy and individual behavior. From the above, it seems that apart from policies and sustainable management, the attitude/behavior of the individual human being has a pivotal role to play in the environment. The environmental movement basically centers round ecology, health and human rights.¹

The beginning of 19th century witnessed the interest of the natural environmentalism in the form of romanticism of nature as found in the writings of great poet William Wordsworth and Coleridge. The traces of environmental

concern in the west is mainly noticed in the late 19th century which was prompted by the Amenity Movement in England in the 1870's, and is basically a reaction against industrialization, urbanization, aggravation of air and water pollution. The romantic ideal of modern environmentalism by and large got its shape in the hands of few intellectuals of the West like John Ruskin, William Morris, George Bernard Shaw and Edward Carpenter etc. who vehemently reacted against modern consumerism, pollution and various other activities performed by human beings which were appears to be harmful to the natural world. Thus an early 'Back-to-Nature' movement was an initiation by these nature lovers in the form holistic approach of environment. The movement that these thinkers initiated was mainly a reaction against massive urbanization, industrialization, poor sanitary condition, intolerable pollution and poor housing condition of the people etc.²

Among the above mentioned eminent thinkers, John Ruskin, an influential thinker of environmentalism who articulated the ideal of environmental protection and conservation holds that,

“People should return to a small piece of English ground, beautiful peaceful and fruitful. We have no steam engines upon it...we will have plenty of flowers and vegetables...we will have music and poetry, the children will learn to dance to it and sing it.”³

Such was the attitude of nature lovers and romanticist like William Wordsworth, William Blake and romantic environmentalist like John Ruskin who were instead of being sunk in all the riches and facilities of modernity yet advocated the protection and preservation of the beauties and bounties of nature for the sake of nature and natural resources.⁴

The late 19th century witnessed the environmental movement in America where the concerns of environment mainly centre round the protection and preservation of nature and natural resources of the West with thinkers like John Muir and Henry David Thoreau and others. Thoreau believes basically in the friendly relationship of man with nature and advanced his views by staying close to nature and living a simple life. In his famous book 'Walden' which is published in the year 1854, where Thoreau appeals that people should become ultimately close to nature. The recognition and the growth of environmental ideas as well as environmental movements in the West find its popularity mainly in the 20th century.⁵ Many thinkers believe that modern environmentalism which is often termed as 'modern green movements' has started with the publication of the book 'Silent Spring' by Rachel Carson in 1962 in America, but it can be mentioned here that far before the publication of Silent Spring, environmentalism or even environmental thought was started in America, Africa, India and even many countries of the world though not in the same form.

Thus it is a matter of fact that whether romanticism of nature or the ideal of romanticism, environmental thought or green movements slowly and gradually turned basically into today's modern environmental movement or not is still a matter of debate. But it can very well be asserted that the today's environmental movements and environmental activists derive more or less their inspiration of preservation, protection and conservation of nature and its resources from the late 18th and early 19th century nature lover, environmental thinkers or from advocates of romanticism.⁶ A few environmental thinkers and noted environmental activists who have their own views and suggestions regarding environmental pollution,

preservation, protection and conservation of nature and natural resources shall be the matter of focus in the descending paragraphs. It is very difficult to discuss the views and suggestions offered by each and every environmental thinkers and noted environmental activists but for our purpose the following a few environmental thinkers and noted environmental activists are considered for detailed discussion: Aldo Leopold, Rachel Carson, Arne Naess, Vandana Shiva, E.F.Schumacher, Lester R. Brown, Chico Mendes, Wangari Maathai and Gaylord Nelson.

3.1 Aldo Leopold

Aldo Leopold, an American ecologist who discussed his views on land ethics in his famous book 'A Sand County Almanac', which was published in the year 1949. In this book Leopold put forward his view that man should have moral responsibility for environment and it is immoral to harm or destroy natural environment. This monumental book is considered as a one of the most influential book of the early 20th century on conservation ethics.

The book 'A Sand County Almanac' put much stress on conservation of land or 'Land Ethic' because Leopold believes that a 'new ethics' is of urgent necessity, an ethic which focuses on man's intimate relationship with land, plants and animals as it breed or develop on it. Leopold considered human being as an integral part of the wider community which he describes as 'biotic community' in his idea of 'Land Ethic'. By 'biotic community' Leopold means the diverse community that comprises not only the living organisms but also the constituent of greater ecological structure which includes air, water, soil, i.e. jointly called the Land. Leopold summarized the base of his Land Ethic in the following words: "A

thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise.”⁷

It is a fact that Leopold emphasizes the non-anthropocentric aspects of environment as opposed to anthropocentric ethic which generally believes that moral responsibility is primarily a matter of the interest of man. Non-anthropocentric ethic considers land as a community and not as a commodity. It holds that human being as a community belongs to land and not that the land as a commodity belongs to man. Leopold here put an anti-Christian attitude to nature as Christianity believes that nature and its objects are subject to constant exploitation. This can be marked as a radical shift in the notion of nature. Land still today is taken as the most common form of property. As a form of property land has much economic value, it entails more privileges than obligation. Thus, Leopold believes that it is an urgent requirement to develop a ethics to land which has an evolutionary prospect and can be considered as the ecological inevitability.⁸

Ecology, which is taken as the science of the interrelationship and interdependence holds between organisms and the environment, according to Leopold can be traced as the basis of land ethic. Leopold holds that nature is valuable not because of its fiscal value but because it contains within it an inherent value of its own. Leopold vehemently opposes the belief that nature must be conserved because it has economic value. According to Leopold, there are many constituting communities in the biosphere which do not have economic values but extends considerable contributions to the biotic society. Leopold criticizes the basic fault of conservation system, as it is valued in economic terms.⁹

Leopold explained his Land Ethic thus:

“The land ethic simply enlarges the boundaries of the community to include soils, waters, plants and animals, or collectively the land.”¹⁰ Moreover, Leopold expresses his views on the use of land in the following few lines,

"This sounds simple: do we not already sing our love for and obligation to the land of the free and the home of the brave? Yes, but just what and whom do we love? Certainly not the soil, which we are sending helter-skelter down river. Certainly not the waters, which we assume have no function except to turn turbines, float barges, and carry off sewage. Certainly not the plants, of which we exterminate whole communities without batting an eye. Certainly not the animals, of which we have already extirpated many of the largest and most beautiful species. A land ethic of course cannot prevent the alteration, management, and use of these 'resources,' but it does affirm their right to continued existence, and, at least in spots, their continued existence in a natural state. In short, a land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such."¹¹

It appears that land ethic though can't make an alteration in the use of resources and its management but one thing it affirms i.e. the undisturbed existence of resources in any areas. As for instance, the destruction of any forest is undesirable from the economic perspective because any amount of economy can't bring back the forest or may establish the link with the earlier period that the forest embodies. This does not mean that the argument attempts to show that there seems to be no reason for cutting any virgin forests, but on the other hand it means that

any such reason must take into account the value of the forests that belongs to a particular area.¹² Thus Leopold, through his land ethic suggests that an innate nature of subsiding and neglecting attitude towards nature and its resources which has non-economic values should be ceased off and an attitude of reverence and responsibility towards nature and natural resources have to enhance a more vibrant ecology of the world as a whole.

3.2 Rachel Carson

Rachel Carson, an American biologist and conservationist, exercised profound influence towards environmental concern of the 20th century. Her works include the three books which mainly discuss impacts of synthetic chemicals and pesticides in the environment. Among the three books namely, 'The Sea Around US' and 'The Edge of the Sea' unfolds and explores the hidden thrills of the ocean and aquatic life.

But her third book i.e. 'Silent Spring', published in 1962, is considered to be the monumental work where her interests turned to conservation of the ecosystems following a letter to her from one of her friends mentioning the death of innumerable birds. This book focuses on some environmental problems which she believed were due to synthetic chemicals, pesticides and spraying of DDT in America. In her book 'Silent Spring' she raises the questions regarding the spraying of DDT and use of synthetic chemicals and pesticides in the world especially in America without fully understanding the ill effects of DDT, synthetic chemicals and pesticides in environment, human health and the ecosystems as a whole. The book came out with the view that the use of DDT, synthetic chemicals and other pesticides may cause cancer to human beings and their large scale use in

agricultural activity become a threat to man, wildlife particularly to bird and the various other members of the ecosystems.¹³ Moreover,

“Arsenic-contaminated environments have also caused sickness and death among horses, cows, goats, pigs, deer, fishes and bees; despite this record arsenical sprays and dusts are widely used.”¹⁴ Besides Carson points out that “One of the most sinister features of DDT and related chemicals is the way they are passed on from one organism to another through all the links of the food chains.”¹⁵

Carson expresses her views regarding the use of pesticides largely which causes so fierce effects on nature.

“Where do pesticides fit into the picture of environmental disease? We have seen that they now contaminate soil, water, and food, that they have the power to make our streams fishless and our gardens and woodlands silent and birdless. Man, however much he may like to pretend the contrary, is a part of nature. Can he escape a pollution that is now so thoroughly distributed throughout our world?”¹⁶

After the publication of the book ‘Silent Spring’ it immediately received tremendous support from the people of America yet the book had to face severe criticism from chemical industries, critics, policy framers and lobbyists. But the book succeeded and came out with flying colours and as a result, number of environmental conservation and protection pressure groups grew in America. The formation of pressure groups for conservation and protection of environment ultimately paves the way for various environmental movements in different corners of the world. Even green political parties were formed on environmental perspective in various countries of the world.¹⁷

Many critics repeatedly asserted that Carson was calling for the elimination of all pesticides. Yet Carson had made it clear she was not advocating the banning or complete withdrawal of helpful pesticides, but was instead encouraging responsible and carefully managed use with an awareness of the chemicals' impact on the entire ecosystem.¹⁸

In fact, Rachel Carson wrap up her discussion on DDT in her book *Silent Spring* not by urging a total ban, but with advice to spray DDT as little as feasible to limit the expansion of resistance. It can pointed out here that Linda Lear who wrote afterword on Rachel Carson's book *Silent Spring* remarks that:

“The corporate response to Carson's *Silent Spring* was initially cautious. The agricultural chemical industry and its allies in government treated the book simply as an annoying public relations problem. The chemical lobby had threatened to sue the *New Yorker*, Carson's publisher, and supportive conservation organizations to stop publication of the book. When the effort failed, the industry spent over a quarter of a million dollars in a publicity campaign designed to denigrate Carson's science. They tried to persuade the public that pesticides were beneficial, harmless and vital to future of US agriculture, and that the Rachel Carson's misguided conclusions would return civilization to the Dark Ages.”¹⁹

Thus the legacy of the book 'Silent Spring' was to create a far more awareness regarding environmental issues and grow interests in people to think how by the careless use of DDT, synthetic chemicals and pesticides people affect the environment. And as a consequence a new era began in environmental concern and interests grew in people regarding the problem of air pollution, water pollution and oil spills etc. Further the book 'silent Spring' appears to close with a

remarkable approach/suggestion i.e. call for a biotic measure to pest control as an alternative to synthetic chemical and pesticides.

3.3 Arne Naess

Arne Naess, a Norwegian philosopher was an influential environmental thinker of the 20th century. He first coined the term ‘deep ecology’ and his thought played an important role in the formation of many environmental movements of the world.²⁰ Naess admitted that he was considerably influenced by Rachel Carson’s book ‘Silent Spring’ in articulating his vision of ‘deep ecology’.²¹ Moreover, Naess also admitted that he was also inspired by Gandhi’s concept of non-violence and combined his vision of ‘deep ecology’ with Gandhi’s concept of non-violence.²² Naess points out that,

“The “shallow” currently more influential approach to environmentalism identified with treating the symptoms of the ecological crisis, such as pollution and resource degradation. This reform-oriented approach is grounded on technological optimism, economic growth, and scientific management, not in ultimate premise that plumb the relationship between people and nature. It thus ultimately fails to address the philosophical, social, and political roots of the ecocultural crisis.”²³

Thus Naess vision of deep ecology indirectly pointed out that the Western environmental thinkers and environmental groups were more or less succeeded in bringing awareness in people regarding the environmental issues in the post-world-war period but Naess thought that they were unsuccessful in their attempt to realize the basic misconception regarding environmental issues. He believed that the basic misconception was underlying in their approach to cultural and philosophical

background to these problems. Naess believed that the environmental crisis that the world is confronting today is because of the attitude of the modern western societies which fails to acknowledge certain unspoken basic philosophical presuppositions. The unspoken basic philosophical presupposition was what Naess thought was the unacknowledged utilitarian and pragmatist attitude of the West.

Naess criticizes the Western concept of utilitarianism and pragmatism that put much importance to business and profit motive of the people and government which results in the exploitation of nature and its resources. He in his vision of 'deep ecology' distinguishes between deep and shallow ecology.

“The “shallow ecology movement”, as Naess (1973) calls it, is the

“fight against pollution and resource depletion”, the central objective of which is “the health and affluence of people in the developed countries.” The “deep ecology movement”, in contrast, endorses “biospheric egalitarianism”, the view that all living things are alike in having value in their own right, independent of their usefulness to others. The deep ecologist respects this intrinsic value, taking care, for example, when walking on the mountainside not to cause unnecessary damage to the plants.”²⁴

Further Naess argues that,

“The ecology approach calls for expanding our sphere of concern to all living beings---charismatic or dull, gargantuan or tiny, sentient or not. It acknowledges that every living being has value in itself and views the flourishing of nature and culture as fundamentally intertwined---as part of one reality. This wide-identification is characterized by the perception that all

life is interdependent; common goals bind all living beings to the life process.”²⁵

Naess believes that a perfect understanding of nature would be an urgent necessity that would give birth to a holistic approach and remit a point of view that will appreciate the value of ecological diversity. A point of view which will make understandable that every living being or creature and non-living thing is dependent on another living being or creature and non-living thing for its existence in the complex web of nature and their interrelationships.²⁶ Further it can be asserted that ‘deep ecology’ denies the limited and piecemeal shallow approach to environmental problems. It believes that it is possible to overcome environmental problems by a comprehensive religious and philosophical world view. It advocates a non-anthropocentric moral attitude and holds that human beings are indispensable part of the whole ecosystems. Moreover, deep ecologist believes in the preservation of the whole ecosystems not for the benefit of human beings but rather for its own sake. It criticizes the anthropocentric moral attitude that human beings are better and superior creature and are in-charge of nature and its resources.²⁷

Deep ecological thinkers like Bill Devall and George Sessions in an article on ‘Deep Ecology’ points to a form of ‘bio-centric egalitarianism’. They explain the concept of bio-centric egalitarianism thus:

“The intuition of bio-centric equality is that all things in the biosphere have an equal right to live and blossom and to reach their own individual forms of unfolding and self-realization within the larger self-realization. This basic intuition is that all organisms and entities in the

ecosphere, as a part of the interrelated whole, are equal in intrinsic worth.”²⁸

If we penetrate deep into this intuition we find that it suggests that human being should live without putting maximum impact on the resources and other species on the earth. Arne Naess and George Sessions being involved in the ecological movement set out ten principles for Deep Ecology Ethic of which they consider the following three principles as most important in a paper published in the year 1984. The principles are:

“i. The well-being and flourishing of human and non-human life on earth has value in themselves (Synonymous: intrinsic value, inherent value). These values are independent of the usefulness of the non-human world for human purposes.

ii. Richness and diversity of life forms contribute to the realization of these values and are also values in themselves.

iii. Humans have the right to reduce the richness and diversity except to satisfy their vital needs.”²⁹

According to Bill Devall and George Sessions the natural world must be respected for its own sake. They hold that the natural world should not be taken as an instrument which satisfies human pleasure as thought by utilitarianism. Besides, Bill Devall and George Sessions pointed out that humanity should carry out an extensive reassessment of its position in the environment.³⁰

3.4 Vandana Shiva

Vandana Shiva an Indian writer, scholar and environmental activists. She is widely known for her green movements i.e. Chipko Movements and also against genetic

crops in India and abroad. She has within her credit a number of books which mainly concerned with the bad effects of pesticide, genocide and other various environmental issues which are threatening to the existence of the biosphere as a whole.

Shiva in her book 'Staying Alive' asserts that the Western patriarchal model of development and production which she often described as mal development is putting threat to both ecology as well as women. She points out that so far as "The second law of thermodynamics predicts that resource intensive and resource wasteful economic development must become a threat to the survival of the human species in the long run."³¹ She thinks that in the ecological perspective the clash that we see in the industrialized countries of the west are very much inherent in their conflict between long term survival options and short term over-production and over-consumption.³²

Vandana Shiva vehemently criticizes the use of pesticide, chemical fertilizers and hybridized seeds in agricultural production. She argues that the green revolution or scientific agricultural model of the west in actual practice is a patriarchal anti-nature model which threatens the essential links between forestry, animal husbandry and agriculture though considered to be the sustainable development today.³³ In contrast to this she believes that,

"The feminine principle of food production is based on the intimate links between trees, animals and crops, and on the the work of women in maintaining these links. Women's work in agriculture has traditionally been work in integrating forestry and animal husbandry with farming. Agriculture modeled on nature and based on women's participation with nature has been self-

producing and sustainable because the internally recycled resources provide the necessary inputs for seeds, soil moisture, soil nutrients and pest control.”³⁴

According to Shiva the introduction of scientific agriculture or green revolution has adversely affected the whole of the ecosystem which she often termed as non-sustainable.³⁵ In her opinion the non-sustainable agricultural method

“Has depleted the soil of its organic matter and nutrients, and has introduced hazards of toxicity in their place, besides of course introducing the nitrate pollution of water systems through chemical fertilizers, and the pesticide pollution of entire ecosystems. These are ecological imbalances created by the nutrient demands of the high-yielding varieties.”³⁶

Moreover Vandana Shiva also points out that the food which is produced today by using hybridized seeds has often become a threat to our life. As she remarks, “The new seeds of this kind of agriculture are highly vulnerable to pests, and require a heavy use of pesticides to ensure ‘pest control’ and ‘plant protection.’”³⁷ So she remarks that whatever is claimed in the name of green revolution in the field of food production appears to be false. Further it seems that, “Pesticides, far from controlling pests, are actually prescriptions for fostering them, and because they create new mutants and increase vulnerability to old ones, they expose plants to ever new hazards.”³⁸

Thus Shiva believes that in all cases of coercion against natural food chain system women have pivotal and creative role to play. Shiva believes that women are the best experts as well as controller of food security and health care of nature as a whole. She points that the women as well as nature both work to produce food

in sustainable manner but today both are destroyed by the modern knowledge and developmental activity. Thus it appears that the man is in constant violation of the natural laws and practices and as a result the web of life is in constant disturbance as the modern man is engaged in making more profits without caring for the nature's viability.³⁹ As a consequence,

“While integration at the ecological level is being destroyed, at the corporate level it is being perpetuated. Nature and women, as maintainers of soil fertility, protectors of plants and managers of pest control and as reproducers of genetic wealth in all its diversity, are being displaced by a handful of multi-rational agri-business corporations run by a handful of western males who control fertilizer production, pesticide production and the seed industry, and hence control the food chain.”⁴⁰

Vandana Shiva as an environmental activist played an important role in the ‘Chipko Movement’. She was an active member along with other members in the ‘Chipko Movement’. The ‘Chipko Movement’ is considered as one of the most successful environmental activism struggle in environmental movement history of the world. Vandana Shiva as an active member of this movement was also physically involved in the movement, which prohibits industrial forestry in rural India. Thus the activists involved in the ‘Chipko Movement’ saved the trees of the Himalayan region literally by hugging the trees. The far reaching consequence of the ‘Chipko Movement’ was that the govt. of India banned the logging of trees in Himalayan region for 15yrs as moratorium in 1981.⁴¹

Shiva's work includes an embracing focus on both principles of feminism and principles of ecology. Vandana Shiva, as an ecofeminist in fact argues that

these two views are mostly interrelated and interconnected. She believes that the environmental degradation and injustice that had made its alarming position in the world because of the world view which is also similar to the world view that causes a culture of male-domination, exploitation and inequality for women. Shiva argues that the women's bondage and even environmental degradation can't be overcome unless there is a simultaneous movement and struggle for preservation and liberation of every life on this earth from the dominance of patriarchal or anthropocentric, capitalist world view.⁴²

Thus Shiva suggests that it is through the revival of feminine principle and by transcending the patriarchal foundations of maldevelopment we can bring a transformation in our present system of coercion and destruction of both ecology and women.⁴³ As she observes that,

“It allows a redefinition of growth and productivity as categories linked to the production, not the destruction, of life. It is thus simultaneously an ecological and a feminist political project which legitimizes the way of knowing and being that create wealth by enhancing life and diversity, and which delegitimizes the knowledge and practice of a culture of death as the basis for capital accumulation.”⁴⁴

Vandana Shiva in her article ‘Empowering Woman’ mentions that a sustainable approach to agriculture is of urgent call of the time. She believes that it can be achieved through put back to our earlier system of farming in India that is more centered on engaging women in the production process. She advocates against the prevalent ‘patriarchal logic of exclusion’ which is putting threat to nature as well as woman. She claims that a woman-focused system would change

the current patriarchal approach of nature and woman in an extremely positive manner. She believes that ecological destruction and industrial catastrophes threaten daily life, women and nature and the maintenance of these problems have become the responsibility of women.⁴⁵

3.5 E.F. Schumacher

E.F. Schumacher was a reputed economist of the late 20th century. His thought mostly opposes the Western edifice of consumerism and materialism.⁴⁶ The ideas for which his thought propelled a marvelous momentum in the contemporary world economic thought was his concept of human-scale, decentralized and appropriate technologies. His famous book *Small is Beautiful: a study of economics as if people mattered*, mostly focuses on small scale management which is often expressed by the catchword such as intermediate size and intermediate technology.⁴⁷

In 1973 the publication of ‘*Small Is Beautiful*’ a collection of essays, brought Schumacher ideas to a wider audience. One of his main arguments in *Small is Beautiful* is that we cannot consider the problem of technological production solved if it requires that we recklessly erode our finite natural capital and deprive future generations of its benefits.⁴⁸

It can be said that Schumacher was very much influenced by the thought of M.K.Gandhi and J.C.Kumarappa known as Gandhian economist. The Gandhian concept of economy of permanence and appropriate technology which J.C.Kumarappa mostly pointed out has put a thumbnail in the thought process of Schumacher. In a Gandhi memorial lecture Schumacher described Mahatma

Gandhi as the greatest ‘People’s Economist’ where economic thinking was compatible with spirituality as opposed to materialism. The alternative world view that Schumacher emphasize in his book was essentially Gandhian in character. According to Schumacher, many of the present crises both social as well as environmental are rooted in the ‘ideology of gigantism’. The economic thought that he proposes is holistic and spiritual in nature and hence environment friendly. In one of the article of his book ‘Small is Beautiful’ he throws light on the Buddhist economics which he describes as holistic economics. Once he was questioned regarding Buddhism and what it has to do with economics. He answered that Buddhism and economics are to be perpetuated in an inward and purported fashion in order to bring a holistic approach in our concern of the social and environmental crisis resolve. He argues that just as economics without Buddhism is like sex without love so also ideology of gigantism without a small scale and local production is and will be a ensnare for the future of the humanity as a whole. That is why Schumacher tried to evolve a small scale and local based economics.⁴⁹ Moreover, Schumacher also worked as an environmental activist and formed Intermediate Technology Development Group which

“pursued development within people’s cultural context, rather than looking at the non-industrialized world as “underdeveloped”. Technology was envisioned to be environment-friendly, non-polluting, and non-exploitative of people or nature. Therefore, it is also known as appropriate technology”⁵⁰

Schumacher attempts to popularize the Gandhian ideas and points towards an alternative development by advocating his notion of intermediate technology. He vehemently criticizes the western idea of development and is more concerned

with framing ethical economics that encompass ecological awareness.⁵¹ This is more clear from his assertion that,

“As Gandhi said, the poor of the world cannot be helped by mass production, only by production by masses. The system of mass production, based on sophisticated, highly capital-intensive, high-energy-input dependent, and human labour-saving technology, presupposes that you are already rich, for a great deal of capital investment is needed to establish one single workplace. The system of production by the masses mobilizes the priceless resources that are possessed by all human beings, their clever brains and skillful hands, and support them with first class tools. The technology of mass production is inherently violent, ecologically damaging, self-defeating in terms of non-renewable resources, and stultifying for the human person. The technology of production by the masses, making the use of the best modern knowledge and experience, is conducive to decentralization, compatible with the laws of ecology, gentle in its use of scarce resources, and designed to serve the human person instead of making him the servant of machines. I have named it intermediate technology to signify that it is vastly superior to the primitive technology of bygone ages but at the same time much simpler, cheaper, and freer than the super-technology of the rich.”⁵²

It appears that, so far the view of Schumacher regarding the production system is concerned he mention that the ‘logic of production’ can never be the sole aim of life as well as society, rather it may be considered as small and subservient part of life and society. Thus he points out that it is very much essential to bring the logic of production under control. Schumacher believes that unless the

production system is brought under control the destructive forces of the universe continues to flourish.⁵³ He thus remarks,

“Nor can the fight against pollution be successful if the patterns of production and consumption continue to be of a scale, a complexity and a degree of violence which, as is becoming more and more apparent, do not fit into the laws of the universe, to which man is just as much as subject of creation. Equally the chance of mitigating the rate of resource depletion or of bringing harmony into the relationships between those in possession of wealth and power and those without is non-existent as long as there is no idea anywhere of enough being good and more-than-enough being of evil.”⁵⁴

Thus Schumacher through his book ‘Small Is Beautiful’ tried to portray that the destructive forces of today’s world can’t be controlled by making a progress in the direction of wealth, education and research.⁵⁵ But he believes that,

“To fight pollution, to preserve wildlife, to discover new sources of energy, and to arrive at more effective agreements of peaceful co-existence. Needless to say, wealth, education, research, and many other things are needed for any civilization, but what is most needed today is the revision of the ends which these means are meant to serve. And this implies, above all else, the development of a life-style which accords to material things their proper, legitimate place, which is secondary and not primary.”⁵⁶

3.6 Laster Russel Brown

Laster Russel Brown an American environmental analyst, is also the founder of the Worldwatch Institute and Earth Policy Institute. These institute works for the environmental issue resolve and are also known for its non-profiting venture which

Brown himself claims. Brown is mostly described by many as one of the great pioneer environmentalists.⁵⁷

In his book 'World On The Edge' Laster Russel Brown holds that the biggest threat to global stability is the potential for food crises in poor countries. He also expresses his fear that the food crises in the poor countries may be one that could 'bring down civilization'.⁵⁸ He further observes that,

“Meanwhile, our massive burning of fossil fuels, we are overloading the atmosphere with carbon dioxide (CO₂), pushing the earth’s temperature ever higher. This in turn generates more frequent and more extreme climate events, including crop-withering heat waves, more intense droughts, more severe floods, and more destructive storms.”⁵⁹

Brown also holds that all these symptoms are nothing but the signs that our civilization is at crossroad. In his opinion in recent decades humankind has exceeded the level that those systems can sustain.⁶⁰ Thus,

“The authors concluded that the humanity’s collective demand first surpassed the earth’s regenerative capacity around 1980. By 1999, global demands on the earth’s natural systems exceeded sustainable yields by 20 percent. Ongoing calculations show it at 50 percent in 2007. Stated otherwise, it would take 1.5 Earths to sustain our current consumption. Environmentally, the world is in overshoot mode. If we use environmental indicators to evaluate our situation, then the global decline of the economy’s natural support systems—the environmental decline that will lead to economic decline and social collapse—is well under way.”⁶¹

It has been found that all most all major civilization of the world in past collapsed due to environmental mess. For example, the Mayan was ruined because of deforestation and soil erosion, the Sumerian collapsed because of rising salt concentrations in the soil. It has been seen that economic as well as social collapse most of the times preceded by a period of environmental decline, may it be single or multiple environmental trends.⁶² As Brown remarks, “environmental trends are the lead indicators telling us what lies ahead for the economy and ultimately for society itself.”⁶³

Thus it may be asserted that though we live in highly urbanized and technologically superior society still we can't deny the fact that our life depends on earth's natural support systems. It can further be said that if we continue the state of affairs as usual the civilization collapse is simply a matter of whether and when. Today we see that our economic system is mostly collapsing our natural support system and is continually pressing us to the path of collapse and decline, and as a result it appears that we are very much in the edge of destruction.⁶⁴ Thus, the former president of Rockefeller Foundation remarks, “The death of our civilization is no longer a theory or an academic possibility; it is the road we're on.”⁶⁵

As Brown points out that, “Since it is the destruction of the economy's natural supports and disruption of the climate system that are driving the world toward the edge, these are the trends that must be reversed”⁶⁶ Thus, the Earth Policy Institute holds that we must immediately make a shift in our business as usual and should follow some extraordinary measures which the institute calls plan B. This plan consists of four components, i.e. cut in global carbon emission,

stabilization of world population by 2040, the eradication of poverty, and the refurbishment of forests, soils, aquifers, and fisheries.⁶⁷ Moreover,

“Two of the components of plan B—stabilizing population and eradicating poverty—go hand in hand, reinforcing each other. This involves ensuring at least a primary school education for all children—girls as well as boys. It also means providing at least rudimentary village-level health so that parents can be more confident that their children will survive to adulthood. And women everywhere need access to reproductive health care and family planning services.”⁶⁸

Besides, these Brown holds that the fourth component that is the restoration of earth’s natural eco systems and preserving world’s natural resources will certainly help humankind to come out of the brink situation of environmental catastrophe. Brown also observes that it is high time to put a ban on deforestation worldwide and at the same time every nation should plant billion of trees to sequester carbon.⁶⁹ Further, he added, “We need a worldwide effort to conserve soil, similar to the U.S. response to the Dust Bowl of the 1930s.”⁷⁰ It may be pointed out here that,

“The Earth Policy Institute estimates that stabilizing population, eradicating poverty, and restoring the economy’s natural support systems would cost less than \$200 billion of additional expenditures a year—a mere one eighth of current world military spending. In effect, the plan B budget encompassing the measures needed to prevent civilizational collapse is the new security budget.”⁷¹

Furthermore, Brown remarks interestingly,

“The choice is ours—yours and mine. We can stay with business as usual and preside over an economy that continues to destroy its natural support systems until it destroys itself, or we can be the generation that changes direction, moving the world onto a path of sustained progress. The choice will be made by our generation, but it will affect life on earth for all generations to come.”⁷²

Moreover, Brown observes in his famous book, ‘The Great Transition: Shifting from Fossil Fuels to Solar and Wind Energy’, which is published in the year 2015 where he claims the transition of global economy from fossil fuels and nuclear energy to clean power from solar, wind and geothermal energy that can make a recourse to civilization.⁷³

3.7 Chico Mendes

Francis Alves Mendes Filho, a native of Brazil also known as Chico Mendes was a noted environmentalist. Chico Mendes as an environmentalist worked for the preservation of rain forests particularly the Amazon rainforest and also devoted his life for the rights of peasants and indigenous people of Brazil. Chico Mendes at an early age worked as a rubber trapper. As a rubber trapper, school was prohibited to rubber workers. The rubber plantation owners and land owners did not want rubber trappers, workers to read, write and learn, simply because of the fact that these workers could not understand and realize that they were being deprived and exploited. Until the age of 18 Chico Mendes did not read and write, because of rubber trapping and also because of the denial of education by rubber planters and land owners.⁷⁴ In order to save the Amazon forest, the rubber trappers and social workers formed union in their localities where they meet and discuss issues related to deforestation. Later on, the union workers, rubber trappers and leaders met in

Brasilia with the government counterpart where they place their demand. As Chico Mendes asserts,

“We demand a development policy for Amazonia that meets the interests of the rubber trappers and respects our rights. We do not accept an Amazon development policy that favours large enterprises which exploit and massacre rural workers and destroy nature. We are not opposed to technology provided that it is at our service and does not ignore our wisdom, our experience, our interests and our rights.”⁷⁵

It has been seen that the important thing of this meeting is that it provide an opportunity to form a nationwide organization which look after the interests of the rubber trappers and at the same time the organization become able to develop alternatives which strengthen the resistance movement in the fight against deforestation.⁷⁶ The first meeting of this new union was held in 1985, in the capital Brasilia, rubber tappers from all over the country came. The discussion in this meeting expanded from the threats to their own livelihoods to the larger issues of deforestation, road paving, and cattle ranching. Hence, the struggle caught the attention of international environmentalists who saw Chico’s resistance movement as a fight against deforestation.⁷⁷ Thus Chico Mendes remarked,

“We know it was important to stop the deforestation that is threatening the Amazon and all human life on the planet.”⁷⁸ Thus, in one occasion Chico Mendes even goes to the extent arguing that, “Our fight is fight for all the peoples of the forest.”⁷⁹

In order to stop massive deforestation Chico Mendes, rubber trappers, and labourers planned to create forest reserves and accordingly they asked the

government to create forest reserve so that people could use forest without creating any damage to it.⁸⁰ The workers involved in rubber trapping thus evolved an effective method they named ‘empate’ and by that method they blocked the path of the rubber reserves and thus prevent the destruction of forest.⁸¹ As Chico Mendes holds, “When we organize an empate, the main argument we use in that the law is being flouted by the landowners and our empate is only trying to make sure the law is respected.”⁸²

Finally, Chico Mendes died by a single shot in front of his home on 22nd December 1988 by ranching interests. Shortly before his assassination, he wrote a letter in which he said:

"My dream is to see this entire forest conserved because we know it can guarantee the future of all the people who live in it...If a messenger from heaven came down and guaranteed that my death would help to strengthen the struggle, it could even be worth it. But experience teaches us the opposite... I want to live."⁸³

Further it has been mentioned by Tony Gross who wrote an epilogue on the book ‘Fight For The Forest’ that “The issues of environment, poverty and human rights have never received serious attention in the mainstream media.”⁸⁴ He further observes that, it is immediately after the death of Chico Mendes, people and media perceptions towards tradition, lifestyle and culture appears as a concern. Thus,

“A revaluing of rural culture, of ‘traditional’ ways of life, a questioning of middle-class urban lifestyles and consumption patterns as valid aspirations for the poor in a country Brazil’s size with its natural resource base are prerequisites for that elusive concept of the 1990s— ‘sustainable development’.”⁸⁵

But he asserts that it is difficult to say whether it is because of the hosting of UN Conference on Environment and Development that the country has gradually made a shift in its way i.e. political, economic and cultural affairs but he is sure that

‘this occurred in part because of local level activities carried out by unknown and unsung activists who refer to their efforts as *trabalho de formiga*—the labour of ants. One of these ants became known and sung about—abroad and then at home—because he came to symbolize the spirit of the time and lost his life in the process’.⁸⁶

3.8 Wangari Maathai

Wangari Muta also known as Wangari Muta Maathai was an influential environmental and political activist of 20th century. Among her works, the two books such as ‘The Green Belt Movement’ and ‘Replenishing the Earth’ are considered important in environmental perspective.

Wangari Maathai’s main concern in the field of environment centers round ecology, sustainable development, self help, tree plantations and overall development of the environment etc. For her contribution in the field like human rights, women status improvement and environment and other allied issues she has been conferred with Nobel Peace Prize in 2004. Her encouragement to the rural Kenyan women for plantation of trees later on sprouted into the powerful environmental movement in Africa, i.e. The Green Belt Movement.⁸⁷

The Green Belt Movement was founded in Kenya in the year 1977 by Wangari Maathai in order to save environment from deforestation and plantation of trees in Kenya. Maathai was very much shocked with the poor condition of villagers specially women who did not even have firewood for cooking. The

movement started with the motive to plant more than 40 million of trees in order guarantee employment to women and providing fire wood to poor villagers.⁸⁸

As Wangari Maathai believes that,

“To effectively raise people’s consciousness about the environment, it was necessary to assist them to practice ways through which they could still meet their felt needs while simultaneously conserving the environment. To this end, GBM established the tree-planting campaign (or project). With time other projects were initiated to address needs either arising out of the tree-planting campaign or in response to new environmental and/or developmental needs.”⁸⁹

Thus the GBM makes a blue print of their projects they mention as phase 1 which is as follows:

- “1. Tree planting campaigns
2. Food security and water harvesting at the household level
3. Civic education
4. Advocacy
5. Green Belt Safaris
6. Pan-African training workshops”⁹⁰

The GBM projects of phase 1 are generally considered to be the pilot projects but there is exception regarding tree-planting campaigns and Pan-African workshops.

According to a report of United Nation, before the Green Belt Movement the cutting rate of trees in South Africa is 9:100 that is if 9 trees are replanted 100 were cut down. The result of massive cutting of forest gives rise to a number of

problems such as deforestation, soil run off, water pollution, animal nutrition and even shortage of firewood. With Wangari Maathai as the coordinator of the Green Belt Movement the programme was initially carried out by women in the villages of Kenya, who through plantation of million of trees tried to protect and conserve the environment of the locality. The movement which Maathai initiated soon became a sustainability movement in Africa. As a consequence of the Green Belt Movement a direct impact of the movement is the quality of life of women improved substantially. Wangari Maathai believes that the replenish capacity of the earth is just like the replenishing capacity of a woman, and she observes that, “I do not see a distinction between environmentalism and feminism.”⁹¹ As Wangari Maathi argues that,

“Through my experiences and observations, I have come to believe that the physical destruction of the earth extends to us, too. If we live in an environment that's wounded—where the water is polluted, the air is filled with soot and fumes, the food is contaminated with heavy metals and plastic residues, or the soil is practically dust—it hurts us, chipping away at our health and creating injuries at a physical, psychological, and spiritual level. In degrading the environment, therefore, we degrade ourselves.”⁹²

Furthermore, she believes that,

“The reverse is also true. In the process of helping the earth to heal, we help ourselves. If we see the earth bleeding from the loss of topsoil, biodiversity, or drought and desertification, and if we help reclaim or save what is lost—for instance, through regeneration of degraded forests—the planet will help us in our self-healing and indeed survival. When we can eat healthier, non-

adulterated food; when we breathe clean air and drink clean water; when the soil can produce an abundance of vegetables or grains, our own sicknesses and unhealthy lifestyles become healed. The same values we employ in the service of the earth's replenishment work on us, too. We can love ourselves as we love the earth; feel grateful for who we are, even as we are grateful for the earth's bounty; better ourselves, even as we use that self-empowerment to improve the earth; offer service to ourselves, even as we practice volunteerism for the earth.”⁹³

Finally, “The Green Belt Movement has succeeded in raising public awareness of the need to protect the environment. The message of environmental conservation has not only reached millions of people in Kenya but has also extended to other parts of Africa and beyond.”⁹⁴

3.9 Gaylord Nelson

Gaylord Nelson is an environmental activist and politician from Wisconsin, America. He was an American senator and also served as the Governor. Gaylord Nelson was the founder of the Earth Day and is also known as the ‘Father of the Earth Day’. The Earth Day basically created a wave of environmental activism. Though Gaylord Nelson was known for his work in the field of environment, but he was also a strong advocate of civil rights and civil liberties of the downtrodden people of America.

At the time when Gaylord Nelson was senator in America he convinced American president John F. Kennedy to take a national speaking tour in order to discuss issues related to conservation.⁹⁵ Along with the foundation of Earth Day, he also formed wilderness society. The Earth Day is observed all most all the

countries of the world on 22nd April every year still 1970 which Gaylord Nelson has founded. The Earth Day works for the teaching in environmental issues.⁹⁶ The American Heritage Magazine called the Earth Day as “one of the most remarkable heritage day in the history of democracy.”⁹⁷ It is because of the considerable initiative undertaken by Gaylord Nelson that various environmental laws for conservation of nature and natural resources were passed in U.S.A when he was a senator.

As an environmental activist Gaylord Nelson argues that,

“The wealth of the nation is its air, water, soil, forests mineral, rivers, lakes, oceans, scenic beauty, wildlife habitats and biodiversity...That’s the whole economy. These biological systems are the sustaining wealth of the world.”⁹⁸

Nelson holds that the population explosion is also a major threat to our environment.⁹⁹ Thus Nelson argues that the stabilization of population of a country is also an important feature of environmentalism.

Experts are also of the opinion that the explosion of population is a major threat to our environment. Further, it has pointed out by the two leading organizations in 1992 namely, U.S. National Academy of Sciences and the Royal Society of London, the status of the planet in the following words:

“If current predictions of population growth prove accurate and patterns of human activity on the planet remain unchanged, science and technology may not be able to prevent either irreversible degradation of the environment or continued poverty for much of the world....The future of our planet is in the balance.

Sustainable development can be achieved, but only if irreversible degradation of the environment can be halted in time. The next 30 years may be crucial.”¹⁰⁰

Moreover, Nelson expresses his fear regarding the use of chemicals and pesticides based on existing scientific research in 1970 and thus mention in the following lines,

“The already massive and still accumulating evidence on pesticides makes it clear that these toxic compounds have become one of the most serious problems of our environment and are threatening even greater worldwide damage. Pesticides have concentrated to the far ends of the Earth. They’re killing fish and wildlife. They have inhibited fish and wildlife reproduction. High pesticide residues have pushed some fish-feeding birds and other animals to the edge of extinction, and now, there is increasing concern and evidence about the threats posed to man.”¹⁰¹

Nelson has long been working to educate people to make aware of the environmental issues which play a crucial role in our level of concern. He believes that there is an interconnection amongst nature, our lives and other creatures of the planet. In 1995 a family study was carried out by Hardwood group named Merck Family Study which attempts to analyse average American’s attitudes regarding consumption, values and the environment highlight the significance of understanding this connection.¹⁰²

“People perceive a connection between the amount we buy and consume and their concern about environmental damage, but their understanding of the link is somewhat vague and general.”¹⁰³ Thus, the researchers reported, “People have not thought deeply about the ecological

implications of their own lifestyles; yet there is an intuitive sense that our propensity for ‘more, more, more’ is unsustainable.”¹⁰⁴

Thus Nelson remarks that in order to lead a sustainable life we must bring a shift in our ways of living. He believes that a sustainable ways can be achieved in the following manner;

- “ . make a transition from our heavy reliance on fossil fuels to a significant reliance on solar energy .
- . move to restore ocean fishes;
- . reduce air and water pollution to a level manageable by nature;
- . preserve our magnificent heritage of public lands;
- . shrink our excessive reliance on pesticides;
- . stop over drafting of groundwater and reduce soil erosion; and
- . preserve wetlands, forests, and biodiversity.”¹⁰⁵

Nelson further argues that environmental issues such as global warming, climate change, pollution of different sorts, acid rain, hazardous pesticides and wastes and population explosion needs a serious global concern. He believes that, “There is, however, an overwhelming case to be made that lack of a pervasive environmental ethic in our culture is our most serious conservation problem”¹⁰⁶

Thus it appears from the foregoing discussion that the views and suggestions offered by the above mentioned noted environmental activists is that, they treated the environmental problems either by symptoms or by piecemeal fragmentation through certain activities, laws and regulations. Besides this, a little reflection even of the above mentioned environmental thinkers can be traced by their love, duty, respect towards nature and natural resources which they variously

termed as conservation, preservation, deep ecology, wilderness and sustainability etc. But almost all thinkers and activist as discussed above has looked upon the problem of environment in a piecemeal fashion, and it is here Gandhi differs as portrayed in earlier chapters. Thus, Gandhi through his farsighted promptness and legacy attempts to address the root of the problem. It is Gandhi's credential obsession that he tried to find out a common pledge for almost all ailing problems of humanity. His overall thought though not in a fragmented fashion but considering its diversified dimension one can easily point out that it has universality and it is through that universality Gandhi tried to address the issues that till today are considered as the background of all ills may it be social, political, cultural or even environmental. His approach to village centeredness though often criticized as village romanticism by the critics, equal distribution of wealth which is often neglected as utopian, need based consumption termed and criticized as impossible, idea of small scale industries which is often criticized today in globalized perspective of the world as impractical and the ideal of gram swaraj which is criticized as unreasonable for a world which is too big, and over and above the ethical luminosity along with the above mentioned priorities as advocated by him seems to be a path breaking remedies of almost all issues that the humanity is confronting today which most of the environmental thinkers and activists fails to attempt. Gandhi's attempt thus, is certainly a step forward to these thinkers and activist simply because he has not tried to remedied the diversified human problems through a piecemeal steps but rather through a unified step where not only human being but also all the living creature may it be sentient as well as non-living thing can protect, preserve, sustain themselves and even find their space to exist and survive in the long run.

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