CHAPTER-II

ENVIRONMENTAL PROBLEMS

2.1 Environment:

The term environment means surroundings. It comes from the French word 'environner' which means to surround. It brings within its sphere the totality of all the external circumstances and influences that affect life on this planet. The term environment is a composite term, for the conditions in which organisms live and thus consists of air, water, sunlight, soil which is the basic needs of all living beings and plant life, to carry on their life. According to Encyclopedia Britannica, "Environment**,** the complex of physical, chemical, and biotic factors that act upon an organism or an ecological community and ultimately determine its form and survival."[1] Thus the term 'environment' means the entire range of external influence acting on a organism, both the physical and biological, and other organisms i.e., forces of nature surrounding an individual.

In other words, environment may be defined as:

a) the circumstances or conditions that surrounds an organism or a group of organisms.

b) the sum of all social, economic, physical, biological factors which constitutes the surroundings of man, who is creator and moulder of his environment.

c) social or cultural condition that affect an individual or community.

2.2. Environmental Problems:

Human-nature relationship creates the environment of an area. All beings of nature, either they are plants, animals or humans are reliant on nature for their survival and endurance. As long as the human and nature relationship remain in balance, problems do not arise. When all the environmental segments such as atmosphere, hydrosphere, lithosphere and biosphere maintain balance among themselves, then there are no environmental problems. But as a matter of fact the diverse activity of human beings have resulted the acute condition of deterioration of environment today.

Nature poses a perimeter but man tries to cross it. It is a fact that animals acclimatizes with the environment. But man tries to transform environment according to his wants. Environmental problems start with the growing of more human wants.

In earlier days, limited wants of man did not disturb the harmony with nature and as a result pollution was low. But in subsequent years population has increased largely. With the acceleration of science and technology, the environmental degradation too started. To make life more comfortable and luxurious, man destroys forests, pollutes air and water recklessly, spoil nature ruthlessly. Today the air we breathe and the water we drink are not pure and safe at all.

Environment problem may be classified in different ways such as:

i. Tectonic problems (earthquakes, volcanic eruption, tsunami etc.).

ii. Wind related problems (cyclones, storms etc.).

iii. Deforestation related problems (soil erosion, landslide etc.).

iv. Pollution problems (a) land pollution,(b) water pollution,(c) air pollution etc.).

2.2.i Tectonic problems:

Earthquake, volcanic eruption and tsunami as a form of natural disaster are mainly associated with the crust of the earth. Amongst natural disasters, earthquake is one of the most dangerous of all. Earthquake takes place when a shaking occurs in the deep underground level of lithosphere. The damages mainly caused by earthquake are collapse of buildings, roads, bridges, and sloping down of hills etc. Earthquake also causes landslide in the form of ground failure and avalanche. Volcanic eruption generally releases lava, rocks, dust and other gaseous particles. The hot materials released are cast out in the atmosphere by volcano. Sometimes volcanic eruption causes acid rain. Seismic wave or tidal wave is called tsunami. It is a series of water waves occur due to large quantity of displacement of water volumes. Tsunami generally takes place in large lakes or oceans. The disturbances like earthquake, volcanic eruption, landslide and water explosions etc. below or above water level have the capacity to generate tsunami. Japan experiences maximum number and most severe form of tsunami.

Professor Bill McGuire of University College London told Reuters, at the first major conference of scientists researching the changing climate effects on geological hazards that, “Climate change does not just affect the atmosphere and the oceans but the earth crust as well. The whole earth is an interactive system.”[2] Scientists express the opinion that the earth may experience more frequent

earthquake, tsunami and volcano eruption with the increasing global warming of the earth.

2.2.ii Wind related problems:

Cyclone and storm are the major wind related problems. The word 'cyclone' means numerous types of storms. Cyclone may occur in different times in different places. Generally cyclone either occurs over land or they may occur over water. The occurrence of cyclone over land and water has a common feature that they are revolving storms rotating roughly over the low force axis. Likewise, storms are accompanied by powerful and frequently damaging winds with thunder and lightning. Storm produces heavy rainfall and causes flood. Sometimes storms also make heavy snowfall or snowstorm.

Cyclone and storm has now become a common phenomenon almost every corner of the world. Every year many people lost their lives because of cyclone and storms. Due to global warming sea level is rising and glaciers are continuously melting. The rise of temperature invites higher storm surges which will make coastal flooding and more storm damages along coastal areas.

> "Two factors that contribute to more intense tropical cyclones-ocean heat content and water vapor, have both increased over the past several decades. This is primarily due to human activities such as the burning of fossil fuels and the clearing of forests, which have significantly elevated carbon dioxide (co_2) levels in the atmosphere (o_2) and other heat trapping gases act like an insulating blanket that warms land and increase evaporation."[3]

2.2.iii Deforestation related problems:

Diversified human activities have resulted in the loss of green cover throughout the world. Deforestation mainly causes soil erosion and landslide. Deforestation is the considerable cause for ecological imbalance in the present world. Reckless deforestation hampers food production and even sustenance of all living beings. It also leads to soil erosion, floods and silting up of rivers and ultimately desertification. The hilly area mostly faces the erosion of soil in agricultural lands. "The helpless people of Malpa region in U.P. have experienced the worst type of natural calamity due to flood, heavy rain, soil erosion and landslides created by human meddling with natural balance in the name of development."[4]

2.2.iv Pollution problems:

Any variation in the physical, chemical or biological characteristics of air, water and soil that may damagingly influence the life or generate a probable health vulnerability of any living being can be termed as pollution. Nature is an interplay of air, water and soil and a change in the components of any one of them leads to pollution of land, air, water.

2.2.iv.a) Land pollution:

Land pollution is primarily the pollution of soil with substances that are damaging to living being. Land is polluted by different types of wastes that are generated from many sources such as- agriculture, industries, domestic and urban waste etc.

Modern agricultural activity to some extent is dependent on the use of fertilizers and pesticides. The use of synthetic fertilizers and pesticides spoils the topsoil and at the same time kills number of microorganisms which helps to keep

nutrient cycling vibrant. The repeated use of pesticides and fertilizers makes the soil lifeless zones. Pesticide and synthetic fertilizers playing an hazardous role in the ecosystem. Industrial waste consists of industrial effluents, scraps of metal, glass products, waste from factories and various chemical etc. that effect soil badly. Domestic waste includes kitchen garbage, tin, tin cans, plastic and plastic bags, ashes etc. Urban waste mainly consists of municipal sewage, domestic waste and hospital effluents. All these waste when they interact amongst each other a toxin is formed that pollutes land, air and water significantly. Besides these many disposable items like machinery, automobiles, electronic gadgets, broken tiles, wires, marbles, granite and many more has emerged as a major threat to land pollution.

2.2..iv.b) Air pollution:

Almost all living being of the biosphere cannot sustain their life without air. So air is important and indispensable because we cannot survive a moment without air. But the air we breathe today is not pure; it is polluted throughout the world. Air pollution may be defined as:

> "the presence of substances or energy in the atmosphere, in such quantities and of such duration that may harm human, plant or animal life, or damage man-made structures and materials, or changes in the weather and climate, or interfere with the normal enjoyment of life or property or other human activities."[5]

Air Pollutants which are produced from different sources can be classified as–combustion, transport emissions, industrial pollutants, use of solvents and radioactive pollutants. Combustion process etc. releases different types of air

pollutants such as sulphur dioxide, carbon monoxide, carbon dioxide etc. wood, coal, cow dung, kerosene oil are considered as the simplest form of fuels for combustion in domestic use. Most of the developing countries of the world use these materials as fuels for domestic purpose. Transport emission or vehicular pollution is one of the main air pollutants in India and other parts of the world.[6]

Industrial pollution refers to the pollutant which is emitted into the air by industries throughout the globe. The increase in maximum industries is mainly responsible for air pollution. Industrial and vehicular pollution are the major source of air pollution compared to other various sources. "Industries and automobiles are by far the main contributors to air pollution across the world."[7]

Industries like cement, iron, fertilizers, petrochemicals, steel etc. mostly emits pollutant materials into the air. It is because of these pollutant materials environment is facing the threat of acid rain. The use of paints, spray, polish, solvents of various kinds contains hydrocarbons which are harmful for health. Likewise the use of pesticides for agriculture also causes air pollution to a greater extent. Nuclear testing or nuclear researches is also more dangerous as these activities discharge their wastes mostly into the air which is harmful for living organisms. The above analysis highlights that the problem of air pollution is increasing along with the expansion of automobiles and industrial activities.[8]

Air pollution is affecting almost each and everyone at local, regional, national and global levels. Visibility, amount of precipitation, sunshine intensity is its local and regional manifestations. Its global or national effects such as rise of temperature, climate change, melting of ice caps, increase in carbon dioxide, ozone layer depletion, greenhouse effects etc. Further air pollution directly or indirectly

has immense effects on human health, on animals and plants, on temperature and other effects also. Air pollution causes illness to human health like respiratory disorder, asthma, bronchitis, emphysema, lung cancer etc. The damages that air pollution causes to animals is almost similar to that of damages done to human beings.[9]

The people of major cities with their surroundings in India is facing acute hazard to health due to air pollution. The rates of respiratory illness have been recorded mostly in children and older ones. As compared to W.H.O standard of SPM i.e.150mg/m3 the major cities of India like Mumbai, Kolkata, Delhi and Chennai the SPM level is 360mg/m3. Besides SPM, air pollution due to exhaust and emission is posing threat to human health.[10]

2.2.iv.c) Water pollution:

Water, perhaps next to air is indispensable for support of life on the earth. Water is the major constituent of the hydrosphere which covers 4/5 of the earth's surface. It is one of the important natural resources. We cannot survive without water. But the growth of industry, urbanization and diverse man-made activities has resulted in the pollution of water bodies like streams, ponds, lakes, rivers, sea, oceans etc.

The major sources of water pollution includes sewage and other wastes, agricultural discharges, industrial effluents and wastes from chemical industries, thermal plants and oil pollution etc. Water mostly becomes polluted by the variety of pollutants.

Water pollution starts with domestic usage such as cleaning, bathing, washing. But this type of water pollution is controlled by nature herself. Besides

domestic waste, garbage of multifarious type is considered as the other forms of waste. When domestic waste and other waste materials are mixed up it turns into municipal waste or sewage. Today municipal waste or sewage is one of the major sources of water pollution. This sewage usually run through a drain to a lake, river, or open water body and the result is pollution of water.

Agricultural discharge mainly includes the use of chemicals as fertilizers, insecticides, pesticides, sediments and wastes of farm animals. Modern agricultural activities mostly depend on the use of synthetic chemicals. The use of chemicals as fertilizers for agricultural activity in the long run damages the capacity of the top soil on the one hand and on the other hand creates water pollution. Water pollution is also caused by the use of large extent of pesticides and insecticides in agricultural activity. Pesticides and insecticides when concentrate in water they become toxic to both man and animals. Wastes of farm animals mostly pollute water and produces bad odour in the water and as a result water become unsafe for drinking.

Industrial effluents are the major cause of water pollution in local, regional and global level. Industries like pulp and paper industries, petro-chemicals industries, food processing industries, metal industries, textile industries etc. are the major contributors to water pollution throughout the world. Besides these, the industries which pollute water are nuclear plants, glass industry, soap and detergent industry, oil refinery, explosive factories etc.

> "Industrial effluents discharged into water bodies contain toxic chemicals, hazardous compounds, phenols, aldehydes, ketones, amines, cyanides, metallic wastes plastic zers, toxic acids corrosive alkalies, oils, greases,

> dyes, biocides, suspended solids and thermal pollutants from numerous industries. The effluents that is discharged from the industries such as that of pharmaceuticals, breweries, tanneries, dyeing, textiles, paper, plastic, chemicals, metallurgical, fertilizers etc. are some of the most important agents of water pollution."[11]

It has been found that many rivers of India like Ganga, Damodor, Yamuna, Kaveri, Godavari, Brahmaputra, Hoogly, Chambal, Mahanadi etc. and various other small rivers have been categorized as the top 100 most polluted rivers of the world. Even rivers like Barak of Cachar district is now facing the threat of water pollution because of municipal sewage and other discharges. The ratio at which water is polluted in the world seems that the biosphere in very near future will face the acute crisis of water.

The use of water is common to all living organisms, and thus its pollution has diversified impact. It can be mentioned here that massive pollution of water is perhaps one of the main cause of diseases in human and aquatic life. Water borne diseases are mostly due to polluted water. Diseases eg. flurosis, cholera, typhoid, infantile diarrhea, dysentery, infectious hepatitis, polio, giardiasis, amoebic dysentery, jaundice etc. are caused by polluted drinking water. Moreover, diseases like guineaworn, schistosomiasis and various other diseases are also the result of polluted drinking water. Besides, human being the most sufferer of water pollution are aquatic life as aquatic life mostly depend on water bodies and any impact on the ecosystem have adverse affect on their life.

> "There are many cases on record of the destruction of marine life by polluted water. Mass killing of fish was among the earliest and most dramatic result of indiscriminate pollution of water. Another type of fish

> killer is pollution from municipal sewage. Industrial, thermal and radioactive pollutions are also threats to marine life. Because of water pollution a large number of ducks also die every year. For example, 1,40,000 ducks died out of botulism in California during 1970. Occasional deaths of animals have also been reported by drinking of polluted water. If water pollution is more severe, the process of photosynthesis is also obstructed, which affects the growth of aquatic vegetation."[12]

Again on the basis of geographical extent, the environmental problems may be divided into three types. These are:

(a) Local problems,

(b) Regional problems and

(c) Global problems.

2.3.(a) Local problems:

Local problems primarily encompass within the locality. Some problems remain confined to small areas. For instance, the land pollution caused by small industry, water scarcity problem caused by a shrinking wetland in winter, bank erosion caused by a river at a particular site.

2.3.(b) Regional problems:

Regional problems saturate within a region. Some problem may occur covering a particular region, such as the problem of desertification in Sahel, a region on the south of Sahara, flood problem of the Brahmaputra and the Barak valley of Assam etc.

2.3.(c) Global problems:

Global problems are widespread. In general, the environmental problem occurs covering the entire world. As for instance, the problem of global warming is an example of global problem.

But we have to keep in mind that the environmental problems do not have any permanent geographical boundary. The local problems are also connected with regional problems and this again turns into global problems.

The entire problems of environmental hazards and degradation are deeply rooted in the scientific, technological and industrial development. Industrialization has no doubt provided us with material pleasure and prosperity but it has done irreparable loss to mankind as a whole. It is because of massive industrialization, various industrialization related global problem is sprouting now, such as detection of depletion of ozone layer, acid rain, global warming & climate change, greenhouse effect, desert formation (deforestation) etc. which altogether adversely affecting the earth.

2.4.i. Depletion of ozone layer:

> "Ozone is a form of oxygen with three atoms, instead of the normal two, and forms a fragile shield scattered in the stratosphere absorbing the sun's ultraviolet radiation, away from the earth's surface. It forms simply a three millimeter thick layer, but if it disappears or thins, all terrestrial life would be annihilated."[13]

The ozone layer plays a very important role in protecting the earth from harmful ultraviolet radiation. An increase in the depletion of ozone layer is due to

an increase in the CFC'S at global atmosphere level. The maximum use of conditioners, refrigerators, solvents, insulation etc. has contributed to the thinning of ozone depletion at global level.

Mario Molina and Sherwood Roland two scientists from California hold the view that chlorofluorocarbons (CFCs) as possible culprits for the thinning of the ozone layer. Generally in the environment most of the chemicals when released either break down or become dissipated. But the chlorofluorocarbons (CFCs) chemical stability remains as it is and as a result, chlorofluorocarbons (CFCs) damage the ozone layer through the release of chlorine.[14]

The increase in ozone layer depletion will allow more ultraviolet rays from the sun to reach the earth surface. This increase in ultraviolet radiation will increase cancer, eye damage and adversely affects a number of ecological and biological systems .Even genetic material and DNA are damaged by UV-B radiation and it also causes skin cancer.[15]

2.4.ii. Acid rain:

Pollution of air, is present in almost every manner through industrialization. Acid rain is the impact of pollution which is brought about by large scale industrialization. Industrial activities releases into air different types of acid mists/ fumes of sulphuric, nitric, hydrochloric acid etc. It has been found that the combustion of coal and other fossil fuels releases into air the maximum amount of sulphur dioxides which is mainly responsible for acid rain. Along with this the petroleum products used in our transportation also emits heavy quantity of sulphur dioxides. Acid rain in general appears to be normal rain, but it is mostly acidified

by the occurrence of certain amount of air pollutants. When acid rain reaches on the surface of the earth it causes devastating effects on the overall environment.

Acid rain directly puts threat to our vegetation. Due to acidification the surface and underground water resources get affected. Acid rain is also hazardous to human health as well as property and structures.

2.4.iii Global warming and climate change:

An increase in the average temperature of the earth (global warming) with adverse effect can be considered as the problem of climate change. The depletion of natural resources due to severe industrial growth shows that there is a tremendous change in the environment of the earth. The major change in environment is due to the deposition of green house gases in the atmosphere. The green house effect mainly occurs because of a number of gases such as carbon dioxide, nitrous oxide, chlorofluorocarbon, hydro-chlorofluorocarbon, methane and perfluoro methane. These gases are released into the air by burning fossil fuels such as coal, oil etc. by many industries, automobiles and thermal power plants.

To sustain life on earth a moderate temperature is always helpful. But as the green house gases are expanding in size and volume it is posing a threat to our environment. Due to the growth of industrial activity, the emission and accumulation of green house gases has now resulted in the continuous rise of temperature of the earth. Due to global warming the climate condition is changing all over the world. Various unwarranted incidence like floods, draughts, terrible storms, increase in the number of hot days, disease and havocs etc. has become a common phenomenon on the earth's surface.

2.4.iv Green house effect:

The radiation of the sun cannot pass the blanket of gases and return back into the space that is formed by water vapor, methane and carbon dioxide. The gas blanket acts like a glass panels of a green house. It permits the sunlight to enter through but obstructs the heat from re-rediated in outer space. As a result the surface of the earth becomes warm. This is known as the green house effect. In order to maintain earth's temperature at a normal habitable level the green house effect is primarily needed.

The blanket of green house becomes thicker day by day due to unfortunate developmental activities performed by human race which is resulting in more greenhouse effect. Particularly the latter half of the 20^{th} century witnessed maximum amount of carbon emission from fossil fuel burning. The global climate system is being disturbed by the increase in the concentration of green house gases. Because of the enhancement of greenhouse effect there is global warming all over the world.[16] The green house gas is mainly responsible for global warming and subsequently the rise of temperature of the earth.

2.4.v. Desertification (Desert formation):

Desertification can be termed as the degraded condition of land and ecosystem which is brought by intense human intervention and climate variation. It can take place due to natural calamity or due to human activity. When from a particular piece of land plants are removed, the soil receives the sunlight directly and it becomes dry then the wind easily blew the topsoil of the land and as a result the land loss its fertility. If the topsoil of the land once removed it cannot grow

vegetation further and the land turns out to be barren and ultimately become a desert land. The extreme utilization of forest resources leads to deforestation. Developmental activity and large scale industrialization have caused deforestation to a maximum extent. The destruction of forest resources results in the loss of green cover of the earth. Deforestation also disturbs the normal rainfall, rise in temperature and loss of natural habitat. Intense deforestation ultimately leads to desertification. Desert formation and desertification adversely affect the climate condition of the world as a whole.

In addition to the environmental problems as described in the foregoing paragraphs, the use and through attitude of the developed economics poses a great threat to our environment. The maximum use of finished product by developed nation of the world is putting intense pressure on the biosphere. The developed nation of the world is making an extravagant utilization of non-renewable resources i.e. coal, oil and metal etc. Besides these the disposal of industrial wastes as well as bio non-degradable waste like plastic and synthetic containers, discarded wares, construction materials etc. are polluting the environment in a uncontrolled manner.

The crisis of the present world which we are now confronting was long before envisioned by Gandhi, though not in the eloquent form of environmental problems. The experiences that Gandhi had in his formative days in England and South Africa helped him to formulate a strong resolution against modern civilization. He was remarkably influenced by the modern civilization but was totally discouraged by that model. What made him worried was that the western (modern) civilization has led to the extreme inequality and the dehumanization

brought by machine. These machines have reduced man to the status of being idle and at the same time it kills the very inner self or spirit of man. Moreover, the most frustrating objective of modern civilization, according to Gandhi, is its zeal of multiplying wants and self-indulgence to an ad infinitum. Shambhu Prasad says that, "Gandhi's critique of science emanates from his dissatisfaction with the divorce of science and progress from morality…."[17] Gandhi believes in a balance order of society, science and spirituality to be beckoned on self-denial and self restraint. In his little book entitled 'Hind Swaraj' he criticizes modern civilization by stating that,

> "I whole heartedly detest this mad desire to destroy distance and time, to increase animal appetites and go to the ends of the earth in search of their satisfaction. If modern civilization stands for all this, and I have understood it to do so, I call it satanic."[18]

According to him, modern civilization has no doubt worked more on the line of bodily comfort based on greed, but it has not added a single line to the extent of moral progress of human race. If one penetrates deep into the numerous pages of his writings one might come with the belief that he wanted to elevate poverty and mold an economics of permanence but not at the cost of forgetting nature's viability. Gandhi was very much dissatisfied with the soullessness of modern civilization and therefore, he asserts that, "This civilization is such that one has only to be patient and it will be self-destroyed."[19]

The world is a cosmos, it is not a chaos. The entire world pervades to its fuller expression only when all things and beings of the world are in harmony and in conformity with one another. All things and beings of the world whether huge or

tiny, living or non-living have its purpose, space and worth in the cosmos. Perfect and meaningful existence is possible only in harmony and conformity with nature.

Mahatma Gandhi's true belief of religious faith and practices of ancient tradition helps him in framing his ideas of the essential unity of everything of the universe. He believed that "the universe was structured and informed by the cosmic spirit that all men, all life and indeed all creation were one."[20] His belief in the essential unity of everything makes him to assert that there is a primordial relation between man and nature. Gandhi believes in the advaita (non-duality). "According to Gandhi, the unity of life is such that 'if one man gains spirituality, the world gains with him and if one man fails, the whole world fails to that extent'."[21] Being an Advaitin, he believes that the external world is an expression of God and man is one of the meanest creations of God. He says, "God manifests himself in innumerable forms in this universe and every such manifestation commands my reverence."[22] Gandhi didn't fervor a mechanized living which makes the soul of man a mere drudgery. Therefore he urged people to return back to village (nature). Gandhi believes that human soul gets its full expression under nature, where man can discipline his soul and make a progress towards leading a moral and religious life in accordance with nature. "I believe", says Gandhi, "in the absolute oneness of God and therefore humanity."[23] The relationship of man with nature and animal's life is therefore mostly exaggerated by the fact that an essential unity underlies in everything that exists.

The intertwining nature of the universe is realized by Gandhi to a maximum extent. Gandhi is not an environmentalist in a real sense, who actively analyses the causes and consequences of different types of environmental

problems. But he is a profounder of a kind of life, culture and society which will never lead to environmental problem.

Gandhi was very much critical about machine and industries in his formative days when he was in England and South Africa. His opposition of industries though appears in 'Hind Swaraj' in 1909 but earlier to that he emulated an attitude in his mind by witnessing the bad condition of labour, the dehumanization brought by machine as well as the exploitation that is caused by mill owners in the west. Though he has not rejected machinery as a whole, what he rejected is the craze for machinery. Gandhi said,

> "How can I be when I know that even the body is a most delicate piece of machine? The spinning wheel is a machine; a little toothpick is a machine. What I object to is the craze for machinery, not machinery as such. The craze is for what they call labour-saving machinery. Men go on 'saving labour' till thousands are without work and thrown on the open streets to die of starvation. I want to save time and labour not for a fraction of mankind but for all. I want the concentration of wealth not in the hands of a few, but in the hands of all. Today machinery merely helps a few to ride on the back of millions. The impetus behind it all is not philanthropy to save labour, but greed. It is against this constitution of things that I am fighting with all my might…. The supreme consideration is man. The machine should not tend to atrophy the limbs of man."[24]

His view against machines seems to have a tripartite form an extreme, a moderate and an ultimate. But each and every view against machinery primarily located against exploitation. Mahatma Gandhi declared that, "This industrial

civilization is a disease because it is all evil."[25] He condemns modern technology like railways, the telegraphs, the telephone and heavy industries. According to him,

> "Machinery is like a snake-hole which may contain from one to hundred snakes. Where there is machinery, there are large cities; where there are large cities, there are tram-cars and railways; and there only does one see electric light."[26]

Industrialization Gandhi fervently believes that leads to the exploitation of the toiling masses to a large extent. It not only exploits man but also resources as a whole. This is clear from his assertion that "The economic imperialism of a single tiny island kingdom (England) is today keeping the world in chains. If an entire nation of 300 million took to similar economic exploitation, it would strip the world bare like locusts."[27]

Gandhi was very much dissatisfied with the menace of machine. He says "The future of industrialism is dark."[28] By observing the pitfall of industries he holds that, "Industrialism is, I am afraid, going to be curse for mankind."[29] As industries promotes to large extent capital formation which in turn results in centralization of economic power, exploitation of man by man, nation by nation and ultimately the exploitation of resources. Large-scale industrialization is the base of centralization of both economic and political power. Being frustrated with the evils of machine Gandhi remarks that, "I cannot recall a single good point in connection with machinery. Books can be written to demonstrate its evils."[30]

Nature works according to her own laws. Though nature feeds on nature herself, yet the extreme exploitation of nature and its resources is now posing threat to the existence of the biosphere. Nature is a conglomeration of a series of

laws and event, but if these series is disrupted and troubled by human intervention it will react adversely. Human beings are busy with making a violation of the laws of nature constantly. The real importance of Gandhi as an environmentalist lies not simply in his vision but in his right understanding of man-nature relationship. Gandhi followed a simple life, which is reflected in his thought and action. He throughout his life speaks with people about health, hygiene and sanitation and even engaged in giving demonstration about them.

Today many conferences on environment at local, regional, national and even international level is taking place all over the world. Environmentalists today give scholarly lectures write research papers and books on environment. Besides these, many environmental movements are in action throughout the globe. Environmental activist frame environmental movements in different parts of the world. But most of the time environmental activist have ill motive and they cash environmental movements for political purposes. But Gandhi is an environmentalist with a difference in a sense that he tried to convey the message to the mass through the life he led.

Long before the environmental problem made its appearance on the surface of the earth Gandhi foresaw them though not in an articulate form as it is now. In his writings we have a glimpse of its concern. In a speech at Ahmedabad on 1st January 1918, Mahatma Gandhi explained the importance of purity of air, water and food-

> "Air, water and grains are the three chief kinds of food. Air is free to all, but, if it is polluted, it harms our health. Doctors say that bad air is more harmful than bad water. Inhalation of bad air is harmful by itself and this is the

> reason we need change of air. Next comes water we are generally very careless about it. If we were to be sufficiently careful about air, water and food, the plague could never make its appearance among us."[31]

Mahatma Gandhi emphasized the importance of pure air and pointed out the gifts bestowed by nature to mankind on 31st August 1942.

> "The atmospheric air around us is not always pure, neither is it the same in every country. The choice of the country does not always lie in our hands but the choice of a suitable house in a suitable locality does rest with us to some extent. The general rule should be to live in locality which is not too congested and insist upon the house being well-lighted and well-ventilated. . . Nature has provided us with sufficient reserve of vitality. But for that, man would have long ago disappeared from the face of the earth because of his own mistakes and transgressions of the rules of health.
>
> We must see that the air that we breathe in is fresh. It is good to cultivate the habit of sleeping in the open under the stars."[32]

In consonance to this he also speaks on the purity of fresh air in certain other occasions. In a speech at prayer meeting on 24th March 1946 at Uruli Kanchan, Mahatma Gandhi suggested to sleep in the open to get fresh air.

> "The most essential of these is air. Man can live without food for several weeks, without water for some time, but without air he cannot live for more than a few minutes. God has, therefore made air universally available. Shortages of food or water there may be at times but of air never. In spite of it we foolishly deprive ourselves of God's blessings of fresh and pure air by sleeping within doors with doors and windows shut. One may Shut doors

and windows, if he is afraid of thieves at night. But should one shut oneself up?

"To get fresh air, one must sleep in the open. But it is no good sleeping in the open only to breathe dust and dirt-Iaden air. The place where you sleep must be free from both.

"Anyone who fouls the air by spitting about carelessly, throwing refuse and rubbish or otherwise dirtying the ground, sins against man and nature."[33]

In a letter to a foreign naturopath on 28th May 1947, Mahatma Gandhi affirmed his strong faith in nature cure, that is healing by air, water, earth and light:

"You will be pleased to know that I became a confirmed convert to nature cure when I read Kuhne's New Science of Healing and Just's Return to Nature over forty years ago. I must, confess that I have not been able fully to follow the meaning of 'return to nature' not because of want of will but because of my ignorance. I am now trying to evolve a system of nature cure suited to the millions of India's poor I try to confine myself to the propagation of such cure as is derivable from the use of earth, water, light, air and the great void. This naturally leads man to know that the sovereign cure of all ills is the recitation from the heart of the name of God whom some millions here know by the name of Rama and the other millions by the name of Allah. Such recitation from the heart carries with it the obligation to recognize and follow the laws which nature has ordained for man. This train of reasoning leads one to the conclusion that prevention is better than cure. Therefore, one is irresistibly driven to inculcating the laws of hygiene, i.e., of cleanliness of the mind, of the body and one's surroundings."[34]

From the above analysis it seems that Gandhi speaks and thinks of nature and its creatures in terms of mutual self-respect being bounded by an inner bond underlying amongst everything. As modern western civilization purportedly drastic because the ills in every frontage such as social, economic, political, cultural and even environmental problems are more or less the gifts of big machine economics tag with unlimited wants being divorced from morality. Thus a re-orientation of our thoughts regarding our traditional value systems might have to be relocated with a deep understanding and insight to which Mahatma Gandhi throughout his whole life has practiced, admired and beckoned.

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