

**MODERNIZATION AND ENVIRONMENT :
A GANDHIAN PERSPECTIVE**

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CERTIFICATE

Certified that the present dissertation "MODERNIZATION AND ENVIRONMENT: A GANDHIAN PRESPECTIVE" being submitted by **Ansar Ali** is worthy of consideration for the award of M.Phil degree of Jawaharlal Nehru University. This is his own work and has not been published or presented for the award of any degree of this University or any other University in India.

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PREFACE

The problem of environmental degradation has assumed great importance in recent years. Not only the environmentalist but people from all walks of the life have shown great concern for the protection of environment. For the first time in the history of mankind the global consciousness to save the environment has emerged.

The attraction of modernization and growth centred development has led to the environmental crisis. The earth's resources have been exploited on such an unlimited scale that the very purpose of development has been lost. Instead of bringing prosperity and happiness to mankind, it has led to the depletion of earth's resources, greenhouse effect, depletion of ozone layer, acid rain, water and air pollution and so many other problems.

Gandhi always stressed that development which is against moral values and ethics is no development at all. He wanted that development and environment should go side by side and one should not be carried out at the cost of other. It is from this Gandhian perspective that I have sought to analyse the environmental and ecological problems of the contemporary world.

This work is divided into five chapters.

Chapter I is composed of introduction, theoretical aspects and major environmental concerns.

Chapter II deals with the problems of modern society. It tries to highlight the various problems which are being faced by modern society and Gandhi's alternative to these problems.

Chapter III analyses the impact of modernization on environment. It deals with different environmental problems.

Chapter IV concern's with Gandhi's world view and Environment. Gandhi's principle of the oneness of universe has been the basis of this chapter.

Chapter V concludes the study with the warning that if proper care is not taken of the environment, the very survival of mankind may be threatened in the near future.

I owe a deep debt of gratitude to my guide Professor S.C. Gangal who guided me in selecting this subject of great concern and later cooperated and constantly encouraged me to complete the work. His rare insights on the subject have all through been a source of light to me. Without his valuable guidance and effective supervision, this work would hardly have materialised.

I am indebted to other members of the Centre's faculty who kindly extended their cooperation or guidance whenever I sought it.

I feel grateful to my parents who encouraged me in higher studies and were always the source of moral inspiration. I thank all my friends who encouraged me during the course of preparation of this work. I especially want to thank Mr. Lakhvinder Singh Minhas, my very close friend in campus, for rendering me great help during the course of my work. He was always there to help me whenever I faced any problem of theoretical or practical nature. In the end I want to thank the staff members of J.N.U., Teen Murti, the Centre for Science and Environment and Gandhi Peace Foundation libraries in Delhi who had helped me a lot in providing access to research material. Finally I wish to express my gratitude to M/s. A.P.Comuters who gave the final shape to my dissertation.

Finally, I acknowledge, my responsibility for all possible errors and omissions.

10 July 1992

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CHAPTER ONE

INTRODUCTION

The contemporary global crisis does not merely relate to the environment but it is the culmination of the many unresolved crisis of our world.

The land we walk on, the air we breathe in, and the water we drink are slowly being poisoned every minute in the process of our struggle for better living. Human activities around the globe are responsible for environmental degradation and destruction of eco-systems.

"People constitute an environmental problem, not because of their existence but because of what they do, and the parts of the environment they use or damage. Generally, in affluent countries the rich do most damage but the poor do quite a lot too, because of the nature of the society in which they live and the extent to which they are victims of the cycle of consumption and alienation."¹

Now, the environment issue became a matter of great concern for mankind, it has not remained the preserve only of environmentalists any longer. The rate at which our

1. John Young, Sustaining the Earth, (Cambridge;1990), p.107.

environment has degraded over the years has become a matter of great concern for humankind as a whole. "It is widely accepted at present that these are grave conservation and environmental problems which have complex socio-economic and political causes."²

Greenhouse effect, depletion of ozone layer, extinction of flora and fauna, water and air pollution, rise of sea level etc. do not have any boundary, they affect the whole mankind.

Environment problem is not a new phenomenon but earlier civilizations were also affected by it. And yet we seem to condemn ourselves to repeat such history on an even grander scale. For never before has human society had such an unprecedented and so disastrous effect on its environment as ours. Thus, ecological crisis poses a radical question to a human society for sustaining the earth. Now environment saving is an urgent task not only for our survival but also for the future generation.

We are exploiting the earth resources on an unlimited scale, digging the earth for mineral resources and metals, we skin her alive by felling trees and kill the rivers and land area by building huge dams. Modern science and

2. David C. Pitt, the Future of the Environment, (London; 1988), p.204.

technology are believed to be mainly responsible for these reckless activities. It separated man from nature and made nature as a commodity. "The dream of modern science is to tame nature as if it is the horse and man is the rider of this horse which has begun to recoil at us."³ "The major result of scientific and technological development embedded as it is within an unequal global society that it has given few people more and more power to exploit resources from further and further away."⁴

Environmental damage has been done in the name of modernization, there is a dilemma in front of us, environment or modernization. If there is no modernization how will be the 6,000 billion mouths on our planet be fed in the coming years? If there is no proper environment ethic how would these men and women keep fit? In India, for example, there is a struggle going on between dam supporters and those who are opposed to it.

"The process of modernization affects nature in two ways:

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3. M.L. Handa, Manifesto for a Peaceful World Order : A Gandhian Perspective, (New Delhi; 1983), p-37.
 4. Anil Agarwal, "The Politics of Environment", Gandhi Marg (New Delhi), Vol.8, No.3, June 1986, p.142.

- (i) It is extremely destructive to the environment in search for cheap biomass based raw materials and with search for cheap opportunities for waste disposal.
- (ii) In physical terms, the tendency is to reduce the diversity in nature and transform it into a nature that is full of high yielding mono-culture. The driving force for this transformation arises out of the commodification of nature."⁵

Modernization without a concern for the environment can only be modernization for the short term gain, but in the long run it can only be anti-modernization and it can go on only at the cost of enormous human suffering, increased poverty and oppression. We are rapidly approaching that point.

The first United Nations Conference on environment was held in 1972 at Stockholm and the second has just ended in Brazil at Rio. During these 20 years, the world has undergone monumental changes which could have profound effect on the lives of the state's and individual in the decades ahead.

5. David C. Pitt, The Future of Environment, (London; 1988) p.104-105.

Virtually, no environmental problem addressed in 1972 has yet been solved. Today, there is not one single area of this planet, no matter how remote that is untouched by pollution. Key issues deliberated at Stockholm - desertification, marine and freshwater pollution, the destruction of habitats and loss of wildlife - have moved from bad to worse. These issues were confined with in a select group of community but today all these problems have become fully global.

It is for the first time that world community realized the potential danger to natural environment and resources of the earth, if we continued to carry on without concern.

G.H. Bruntland, Norwegian Prime Minister who heads the World Commission on Environment and Development is of the view that even if rapid disarmament proves impossible, the states should not put aside ecological programmes. Otherwise, she warns, the danger of environmental pollution will become a great threat as that of the East-West confrontation.

The developing World has taken a clear stand that the earth ecological crisis cannot be treated in isolation from issues of debt, trade, unemployment and inequity.

Basically, there were four major issues which were debated and negotiated at the Rio Conference.

The first major issue concerns the green house gas emissions, the industrialized world wants a reduction in 20 per cent in the emission of carbon dioxide and methane gases by the year 2025 A.D. in order to achieve it they wanted a major shift from use of coal and wood for energy in the developing world. The developing nations were opposed to this proposal as it would affect their developmental activities without safer, cleaner and alternative resources. Secondly, developing nations pointed out that it is the rich countries which consumes more than 50 per cent of all the energy used in the world.

Second issue was the preservation of forest resources. The north wanted a convention ratified and would limit the felling of trees especially in the tropical countries, because these forests are rich in bio-diversity.

The countries of the South are against this convention as they fear that it could put limitation on their sovereignty on their own resources and exploitation of their biological resources in the form of gene^s banks by the multinational corporation.

Third issue was degradation. The developing world feels that the degradation is due to industrial process and would like that the industrial world to pay for the cleaner process.

At Rio developed world agreed to give 0.7 per cent from their G.N.P. as proposed by Indian Prime Minister, but from when, it was not fixed. But overall it was a success for developing world.

Fourth major issue was aid, South wanted a firm commitment on aid for environmental issues which are necessary. But the countries of the North did not want any mandatory contribution instead cooperative fund of one billion dollars to be managed by the World Bank and United Nations Development Programmes. The countries of the South insisted on a new institution for channeling aid for improving the environment which is more open and transparent in its transactions.

At the Earth Summit, Agenda 21 - a charter for ecologically wise development into the 21st century has been adopted. More than 150 nations signed the two key documents - the convention on bio-diversity and climate change.

Approaches to Environmental Problem

I. Social - Scientific Approach

This approach held that, technology, industrialization, population growth have been responsible for ecological problems. Blame can also be put on the institutional mechanisms that contemporary societies employ to make choices and to solve problems.

II. Club of Rome's Approach

The first systematic attempt to influence world view comes from the Club of Rome, through a series of report and world models. It demands a state of global equilibrium to save the planet from doom.

According to this approach, this is possible only through a change in human values, moral resources and in commitment of the people. Focus should be on changing the values of the people rather than the economic system.

III. Ecological School

Population growth especially in the third world countries is responsible for the environmental problem. This school also focuses on the change in human

attitudes, especially in those areas which relate to reproductive behaviour and economic growth. This change will be towards the development of ecological psyche or ecological conscience.

IV. Outer Limit Approach

The concept of outer limit is used in a global context to suggest the fragility of major planetary life support system and processes. It became an important concept when it is applied to global bio-physical conditions essential to survival and well beings of human being.

V. Eco-development Approach

It is one of the by-products of the Stockholm Conference. It focuses on the satisfaction of basic needs and an environmentally sound production system. Its emphasis is on self-reliance and the recognition of the linkages between ecological balance and international power structure.

VI. Eco-Societal Approach

A re-distributive principle in development and the

improvement of environmental quality for the masses is the guiding principles of the Eco-Societal approach.

A similar approach with emphasis on the satisfaction of basic needs is the Quality of Life approach. It involves three dimensions:-

- (i) maintenance of eco-system balance,
- (ii) satisfaction of basic social needs for human development,
- (iii) satisfaction of basic physical needs.

Every human action has made an impact on the environment whether it is large or small, negative or positive, direct or indirect or reversible or irreversible.

VII. Neo-Classical Approach

It treated environment in two ways:

- (i) polluter must pay for the damage which has been done by him,
- ii) Environment regarded as a commodity for which like any other commodities, the consumer was expected to pay a price.

CHAPTER II

MODERN SOCIETY AND ITS PROBLEMS

"The concept of modernization is the response of western social science to the many challenges faced by the Third World in the decades immediately following the Second World War".¹ Developing world was suffering from many problem like illiteracy economic reconstruction, poverty, technical changes and, capital scarcity.

At the same time researchers of the Western countries recognised the need to come out with formulations that would not offend the sensitivities of the emerging nations and would offer them, at the same time attractive paradigms to shape and order their development programmes and strategies. Modernisation was one such formulation.

Third world countries were attracted by this concept because :-

1. They wanted rapid growth to remove poverty, ignorance, disease and attainment of western level of affluence,
2. Later it was realized that these goals could not be attained in the short run, so some mid term objectives,

1. S.C.Dube, Modernization and Development, (New Delhi; 1988), p.15.

better social service for example, were visualized as achievable targets within specified time. This modernization paradigm promised that this could be done. For third world countries modernization was necessary, desirable and possible,

3. Elite and masses of these countries attracted by its concept.

The aspect of modernization

In the presence of modernization certain aspects emerge these are :

- i. predominance of universalities,
- ii. specific and achievement norms,
- iii. a high degree of mobility,
- iv. developed occupational system relatively insulated from other social structures,
- v. a class system based generally on achievement,
- vi. economic specialization,
- vii. political securalisation, urbanisation, differentiated political structure,
- viii. weakening of political control of traditional elites, spread of political participation and widespread communications networks.

"Three more characteristic of modernization can be identified,

- i. It is a painful process and built on the considerable exploitation of certain segments of the society and has involved a degree of ruthlessness,
- ii. Modernization is a multipath process,
- iii. Neither can be visualized as continuous and unending".²

It is a complex process in which there is a interaction between social factor on the one hand and economic political, cultural, technological and the other factors on the other.

"Sociologically, modernization is a process of poliferation in which basic elements of all social systems, the roles and institutions are subject to a steady increase. Modernisation in this aspect is characterised by increasing formalisation of institutional arrangements. Again this increased formalisation occurring with in a modernising society is related to the increase in its structural complexity. As complexity grows, traditional practices cease to be employed as guides to action."³

2. Ibid., p.17.

3. Rajeshwar Pandey, Gandhi and Modernisation, (Meerut; 1979), p.45.

Sociologically, the character of a modern society is rational in cognitive aspects, universalistic in membership aspects, functionally specific in substantive definitional aspects, neutral in effective aspects, individualistic in goal orientation aspect and hierarchical in stratification aspects.

Barriers to modernization in the III World countries:

- As modernization focuses in capital intensive technology bound to create unemployment and consumer great deal of energy mostly from non-renewable sources,
- There is a gap between promise and performance, Ruler's false commitments are the barriers,
- The modern ideals of democracy secularism, equality and socialism were projected but at the same time both the elite and the masses continued to practised old customs and Parochial tendencies were and are prevailing due to illiteracy at a large scale in these counties,
- Modernization lays emphasis on the ever increasing use of science and technology through complex organisations,

- The more advantaged sections of society have easier access to both and are in a position to manipulate the organisations in such a way that the maximum benefits accrue to them. The less advantages are likely to suffer continued neglect,
- Objectives of modernization have not been related to the paramount consideration of social justice.

Gandhi's View

Gandhi was against the tendencies of modernization such as urbanization, mechanization, militarism, centralisation, mass production, consumerism and industrialisation.

As regards modernization values such as efficiency, rationality, planning for development, productivity and cooperativeness, mobility, high participation etc., Gandhi accepts most of them but he would always subordinate them to the moral or the highest goal of life.

"He examines modernization from the point of view of the ideals of what he calls Truth, non-violence, moral well-being of man, harmony, have embodying itself in a life dedicated to the service of the society and temperance and detachment as qualities of an integrated personality."⁴

4. Ibid., p.2.

CENTRALISATION

"Science and technology have give rise to mighty forces which in turn, usher a potent, pervasive and all engulfing tendency to centralization."⁵

It has threatened the very concept of democracy, justice, freedom, equality and human rights every where in the world. Modern states are soulless machine. The entire society tends to be totalitarian leaving no room for free and integrated personalities.

All over the world, states are based on centralisation element, increasing their military expenditure. "No country can really prepared for modern war unless it is governed by an excessively centralised ruling elite with huge bureaucracy to obey and implement its commands".⁶

Centralisation cannot be sustained and defended without adequate force. Big industries or huge factories are equally vulnerable in case there is no centralised machinery to guard them. These provided easy targets of attack by the foreign invaders in case of war. Centralisation gives rise to the exploitation of people and curtailment of their rights and liberties.

5. Ibid., p.101.

6. Ibid., p.106.

Centralized planning from top to the bottom level is not correct as schumacher says, "we need the freedom of lots and lots of small autonomous unit."⁷

Centralized planning does not think about real problem's of the people but decisions are taken without knowing people's environment and local conditions.

Evil of centralization

"A centralized society is an inevitable first fruit of industrialisation and urbanisation. It is a mass society which give rise to problems which are aggravated rather than solved by the tendency of centralisation."⁸

The force of attraction in mass society is less, force of attraction is just proportionate to the number of people, more the number less the force of attraction and less the number more the force of attraction, this resulted in alienation.

WHY DECENTRALISATION AT GLOBAL LEVEL

1. In the developing countries, the experience of the development decades have shown that planned

7. E.F. Schumacher, Small is Beautiful, ((New Delhi; 1973), p.59.

8. Rajeshwar Pandey, Gandhi and Modernisation, (Meerut; 1979), p.121.

economic development which was imposed from above did not benefited the majority of people,

Development decade were short lived and were followed by a prolonged phase of recession and decline in growth rate, high degree of concentration of power in fewer hands and entrenchment of acute poverty,

Though developing countries are in search for new strategies therefore a model must be evolved which ensure development and planning originating from below,

2. There is the problem of the degeneration of most political systems. For example U.S.S.R or some countries even in developed world became authoritarian or totalitarian political systems,
3. In many developed countries there is strong view about decentralizing power for the accepted that representative democracy alone may lead too much concentration of power in the hands of an oligarchy of political party or parties. Therefore there is debate going on about participatory democracy and people's democracy or democracy from below,

4. Experience of communist system shows that there were party elite who were the ruler, for examples are U.S.S.R and Romania.

Peace, freedom and equality can only prevail when there is decentralization both at economic and political levels and the people really governs themselves that is when the ideals of Swaraj and swadeshi are realised. In Gandhi's concept of decentralisation the emphasis is on small scale technique of production carried to every home and family in the village.

For several year's towns were the exploiters of the villages but now they will not do that. Village and town will cooperate with each other. In such a society where balanced and harmonious relationship between agriculture and industry is established production will be regulated by the needs of the village.

Villages will be self-sufficient in the basic needs of day to day life. As Gandhi rightly put it, "my idea of village Swaraj is that complete republic independent of its neighbours for its own vital needs and yet independent for many others in which dependence is a necessity. Thus every village's first concern will be to grow its own food, and cotton. It should have a reserve for its cattle then if

there is more land available it will grow useful money crops. This excluding ganja, tobacco, opium and the like."⁹

"Centralisation is based on force and violence but non-violence cannot be built upon factory civilisation but it can on self-contained villages."¹⁰ Voluntary cooperation which is the condition of the dignified and peaceful living is possible only in a decentralised order consisted of groups settled in villages. True freedom can only be possible when people will live in villages not in towns, in huts, not in places.

Adoption of the simple village life where alone truth and non-violence can prevail postulates abandonment of mechanisms of centralised production and governance. Man can achieve his fullest personality development in a society which is based on small groups. These groups will bound together by the golden thread of mutual cooperation and interdependence.

"An infra-structure marked by the greatest measures of decentralisation alone can pave the way for the building of a true democracy. For freedom postulates opportunities for the exercise of individual initiative, these opportunities

9. Harijan 26 July, 1942.

10. Harijan 4 November, 1939.

demand local autonomy and autonomy involves abandonment of centralisation".¹¹

Gandhi also wanted to establish rural based economy, not urban oriented. His emphasis was on spinning wheel and the allied industries aimed at ending the exploitation of the villages by the cities and abolishing of inequalities.

A decentralised society, in time of war can be better saved from aggression. This society has man and woman habituated to working in self-governing groups and guilds naturally cannot be a war machine. Decentralised society cannot be manipulated so swiftly and certainly as a totalitarian under a dictator. Self government all round says Huxly, "is not compatible with military efficiency".¹²

In order to create a non-violent, non-exploitative and non-competitive social order he said, "life will not be a pyramid with a apex sustained by the bottom. But it will be an oceanic circle whose center will be the individual, always ready to perish for the village, the latter ready to perish for the circle of the villages till at last the whole becomes one life composed of individuals, never aggressive

11. Rajeshwar Pandey, Gandhi and Modernisation, (Meerut; 1979), p.129.

12. Ibid., p.116.

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in their arrogance but ever humble, sharing the majesty of the oceanic circle of which they are integral units. Therefore, the outermost circumference will not wield power to crush the inner circle but will give strength to all within and will drive its own strength from it."¹³

Gandhi made the village basic unit of administration and man at the center. Village will be the one institution in which distance between human freedom and social obligation became the narrowest. As Gandhi said", In it the individual emerges as the architect of his own government in which people are the roots and state is the fruit".¹⁴

MILITARISM

Since world war II the question of national security has dominated the policies and economy of every country. Governments have been able to evoke national security to justify the maintenance of increasingly large standing armed forces, the deployment of ever newer weapon systems, frequent intervention in the affairs of weaker nations and even the systematic violation of human rights at home.

13. Harijan 28 July, 1946.

14. Young India 2 February, 1928.

"Third world countries expenditure is more than six fold and its share of world military spending has risen to 6 percent of the total in 1965 to 18 percent by the mid eighties".¹⁵

"According to an estimate, the military share's in GNP of different countries like Israel has 25.8 percent, Saudi Arabia has 24.4 percent, Syria has 22.8% percent, Libya has 17.8 percent, Egypt's share is 16.8% U.S.A. has 6.6%. India has 3.8% and Japan has 2 percent. But the global average on military expenditure is 6.1 percent."¹⁶

Expenditure on military led to reduction in the amount spent on social service items such as health, education, public distribution system and poverty removal especially in third world countries. "Four days global military expenditure can finance an action plan for 5 year's to save the world's tropical forests".¹⁷

Militarism has its causes in the war instinct of man, it has its basis in human greed and ambition. Armament race is another factor with egotism and fear. According to

15. Holiday (Dacca) 23 June, 1989.

16. Ibid.

17. Ibid.

Gandhi, "the most potent cause of tension both international and national level is exploitation. Personal ambition and Ideological fanaticism are subsidiary to it."¹⁸

The real breeding ground of war is in the heart and consciousness of man, and it is there that final battle for peace has to be fought. For this its (war) psychological causes must be removed namely greed, cowardice, fear, lust for power and alienation. Highest forces of man must persist replacing of lower one. As Gandhi said correctly, "when things around us seem to go wrong, the cause for it must be sought within ourselves we shall then not need to look for someone outside us to vent our ire upon. As we are so our environment becomes."¹⁹

Gandhi recognised the complexity and the many-sidedness of the problems. No detail can be overlooked and no department of life can be left out of the sweep of reform and re-generation when building for peace. There is no use of peace which increases the existing inequalities and does not attack on unjust order and institution." He wanted peace that resulted from the realisation of justice and ensured

18. Pyarelal, "Gandhian Analysis of the Causes of International Tension and War", (ed) K.P. Mishra and S.C. Gangal, Gandhi and Contemporary World, (New Delhi; 1981), p.104.

19. Ibid., p.109.

equality and independence of all. But the independence is bound to correspond to the extent of non-violence assimilated by the nations concerned. Gandhi therefore further insisted that the participating units in a world organisation for peace should have banished violence from their internal polity."²⁰

A country who is peaceful at home would also be peaceful with its neighbours. There must be harmony among various regions and classes. To have international peace, the economy of the participating units must be free from exploitation and non-violence in every, shape and form - whether by rich of the poor or masses by the classes, village by the town and of the underdeveloped by the developed countries. There is interdependence among all participating units on basis of mutual benefit.

As Gandhi pointed out, "a centralised economy cannot be sustained and defended without adequate force. But simple homes where there is nothing to take away require no policing. The palaces of the rich must have guards to protect them against dacoits."²¹ Non-violence is contradictory to factory civilization, for non-violent you have to be rural minded.

20. Ibid., p.104.

21. Ibid., p.107.

For removal of war, militarism, tension and exploitation his emphasis was on decentralisation self-sufficiency and on non-violence.

"Non-violence in its dynamic condition means conscious suffering. It does not meek submission to the will of the evil doer, but it means putting of one's soul against the will of the tyrant. Working under this law of our being, it is possible for a single individual to defy the whole might of an unjust empire to save his honour, religion his soul and lay the foundation for that empire's fall or its regeneration."²²

A nation that is peaceful at home and achieved internal harmony would not depend on armed forces for its security, but its own non-violence and the friendly and cooperative nature of its neighbours.

In a situation, where a country is invaded, it would be extremely difficult for any aggressor to destroy a widely decentralized economy. In Gandhi's words, "it would take quite a long time to blast out a whole sub-continent, village by village and hamlet by hamlets".²³

22. D.G. Tendulkar, Mahatma, Life of Mohandas Karamchand Gandhi, (Bombay; 1951-54) vol.2, p.5.

23. Pyarelal, "Gandhian Analysis of the Causes of International Tension and War", (ed) K.P. Mishra and S.C. Gangal, Gandhi and Contemporary World, (New Delhi; 1981), p.104.

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He wanted to built a new atmosphere in which forces of peace may flourish. This approach is holistic and Gandhi called it, "internationalism through non-violent nationalism".²⁴

Thus he writes "just as the cult of patriotism teaches us today that the individual has to dies for the family, the family has to die for the village, the village for the district, the district for the province and province for the country, even, so a country has to be free in order that it may die, if necessary, for the benefit of the world. My love, therefore, of nationalism or my idea of nationalism is that my country may die so that the human race may live. There is no room for race-hatred there. Let that be our nationalism".²⁵

Gandhi does not seek to solve the complex problem of world peace by means of any simple method but on the other hand he goes to the root of the problem. and covers all dimensions. Thus he recognises the interdependence of various factor related to militarism war, peace and exploitation and provides a holistic answer to them.

24. K.P.Mishra and S.C.Gangal, Gandhi and Contemporary World, (New Delhi; 1981), p.165.

25. N.K.Bose, Selections From Gandhi, (Ahemdabad;1948), p.43.

When individual and nation will leave violence in any form the emerging world order will be some sort of an international federation in which the various nations will cooperate as free and equal partners. Dispute will be settled peacefully and amicably. Then, the world may live in peace, not the uneasy peace of our day, but peace of more enduring characters.

ALIENATION

Alienation is the result of industrial society and its processes. Man of today, is solonely in crowd that no one listens to him and he listens to no one. "Self alienation is this society consists in the fact that the anything whose original purpose is to be useful is not made and exchanged for anyone's actual need but appears on the commodity market as an object with an autonomous commodity value independent of its utility."²⁶

Worker's in capitalist society are alienated from his production, environment, fellow being, nature and from his being. The worker became a commodity which can be sold and bought in this condition labour has no power over him, he just became a slave ultimately, lost its creativity in the

26. Rajeshwar Pandey, Gandhi and Modernisation, (Meerut; 1979), p.47.

production and this production system is based on unit. "Our approach to life today becomes increasingly mechanical, our main aim is to produce things, and in the process of this idolatry of things we transformed ourselves into commodities".²⁷

To Gandhi man would be an integrated personality if,

- i. He engaged in the dialectical process of truth realisation.
- ii. An integrated personality is one who by his actions and beliefs changes one's very nature by attaching himself indissolubly to truth,
- iii. An integrated man is who listens to his own inner voice,
- iv. An integrated man is who is respected and does not show hatred against those whom he struggles non-violently by the exploiters.

State also creates alienation in modern society. It adopts centralised policies, tendencies and programmes in which man's position is at a low level. State is a soulless machine with a concentration of coercive power by which it can limit the freedom of the individual.

27. Erich Fromm, The Heart of Man, (New York; 1964), p.57.

The solution lies in decentralisation at every level, localization of economic and political power, mutual cooperation, inter dependence and self-help.

To him the "solution of concentration of power lies in the small-scale manageable techniques capable of being worked upon by individual producers and the cooperatives in the villagers or the region."²⁸ In such a scheme development of all technological researches, will be village oriented, aiming at perfecting the cottage and village industries. Every village will be able to get such technology, therefore, economic power will be diffused in the villages.

Economic decentralisation will lead to political decentralisation. When these power's are decentralised whole problem of concentration of power is solved.

In the Gandhian scheme, village and city will be mutually benefited from each other. "Agriculture in this set-up will go hand in hand with industry. Such products of the village as enter into the daily consumption of the villagers or are indeed for their cottage crafts will be processed in the village itself, the surplus alone being sent out to the cities in the exchange for services and

28. Nageshwar Prasad, Hind Swaraj: A Fresh Look, (New Delhi; 1986), p.154.

goods on a fair and equitable bases. Cities will serve as emporia for village products instead of the villages being used as a dumping ground for the manufactured goods of the cities. Machine will not be abolished. But these machines will be simple which the people can themselves operate and own individually or collectively."²⁹

Education, Modern education focuses on receiving merely knowledge not on creative work. Educated youths are lack the most alienated element in our society. They have lack job opportunity. But Gandhi emphasis on a new education focusing on both matter and mind.

Bread labour, Another method for elimination of alienation, intends to improve the rural small-scale industries and agriculture by adding ethical dimensions which emphasizes to make it voluntary. Work will be performed for others through body work. It implies that production should be weighted heavily on favour of value in use and less for value in exchange and there should be no place for value in threat.

Another method is trusteeship, it tends to build an egalitarian society. It imposes an obligation on man to use his resources for the benefit of all.

29. Pyarelal, Mahatma Gandhi: The Last Phase, (Ahemdabad; 1958), p.585.

URBANISATION

Modern society, in whatever part of the world is gradually transforming into a urban society. In other words, the world is in the middle of urban revolution. Since 1950 the number of people living in cities has almost tripled.

To urbanise means to convert rural areas into a city, migration of rural people to urban areas in search of employment and shifting of people to urban areas for better living. The pace of urban growth in the third world countries is alarming. In fact, it is now undergoing a rapid explosion on a scale unknown to developed countries during their main periods of rapid urban growth.

"At the global level in 1945 there there were only 29 people out of 100 lived in cities but in 1985 it was 45 people and it is estimated that in 1985, the urban population of developed world was 838 millions whereas developing countries population was 1.14 billion people".³⁰

There are considerable variations within and between the various parts of the third world countries with respect and the level of urbanisation.

30. Dr. Nafis Sadik, Safe Guarding the Furture, (UN Population Fund), (New York; 1991), p.12.

"In latin America, by 2000 A.D. there will be 75 percent people in urban sector as compared to 1950 it was only 41.1 percent".³¹

"In Asia urban population was below 15 percent in 1950, but it is likely to reach 37 percent by the year 2000 A.D".³²

"In Africa urban population grew at very snail pace. It is likely to reach 42 percent by the year 2000 A.D.."³³

Urbanisation in Third world countries largely dependent on advanced industrial countries for capital, high technology and export market and many big cities of third world countries have been transformed by their governments in such a manner to facilitate the entry of multinational corporations and their factories. This has been done by adopting following ways :-

1. Administration of these cities made suitable on the line of municipal corporation. Such features are very common where industrialisation by western firm has been most rapid,
2. Governments are spending on heavily modernization of the cities. They build up five star hotel,

31. Ibid., p.12

32. Ibid., p.12

33. Ibid., p.12

conference rooms and mass transit system as a visible symbols of progress,

3. These governments wherever possible repressed the activities of informal sectors.

"Cities rise on the ruins of the villages and maintain themselves by a continuous exploitation of the resources of surrounding area which spells a life of dependence and dejection for the population inhabiting around."³⁴

These cities produce little or none of their food, fuel or water they use immense quantities of energy and raw materials, use more luxury and consumer goods. "Based on global average, it has been calculated very roughly that a city of 1 million inhabitants consumes every day about 625,000 metric tons of water, 2,000 metric tons of food and 9,500 metric tons of fuel, while at the same time generating 500,000 metric tons of waste water 2,000 metric tons of solid wastes and 950 metric tons of air pollutants. But there are great difference between city and city in different part of the world. New York city for example produces three times as much waste per person per day as Calcutta".³⁵

34. Rajeshwar Pandey, Gandhi and Modernisation, (Meerut; 1979), p.131.

35. Dr. Nafis Sadik, Safe Guarding the Furture, (UN Population Fund), (New York; 1991), p.13.

Cities also eat up arable land, generates high level of air pollutants as in Mexico city where the air was recently declared unfit to breath. Big cities export their pollution by air, water, and land to surrounding areas. Cities also consumes very large part of the national development budgets.

In cities there are many problems and consequences of urbanisation like unemployment, problem of transport, housing, education air and water pollution and urban poverty.

"Gandhi's attitude towards cities is determined by his supreme concern for the dignity and destiny of the individual".³⁶ He rejected urbanisation and favoured a simple and rural civilisation. His serious concern was for deliverance of the villages from the shackles of urban exploitation. He wanted to maintain a friendly relationship between city and village on cooperative basis. Gandhi wanted a mixed pattern of industrial growth a broad-based net work of production units in the villages with a few key industries in the urban areas, preferably under common ownership or state ownership. He regarded the latter as a necessary evil but he looked the former for supplying most

36. Rajeshwar Pandey, Gandhi and Modernisation, (Meerut; 1979), p.133.

of the wants of the people, whether in towns or cities. Revival of villages is not possible without reviving the of traditional skill spinning wheel.

He sought to improve the technology of cottage industries but in such a manner so as not to cause any dislocation of the existing pattern in the villages. He stood for decentralization of production through small and medium size units located in rural areas using locally available resources and potential and local skills.

A ideal Indian village wrote, Gandhi, "will be so constructed as to tend itself to perfect sanitation. It will have cottages with sufficient light and ventilation built of a material obtainable with in a radius of five miles of it.... the villages lanes and streets will be free of dust. It will have wells according to its needs and acessible to all. It will have houses of worship for all also primary and secondary schools in which craft education, will be the central fact.. It will produce its own grain vegetables and fruit and its own khadi. This is roughly my idea of a model village."³⁷

In summing up, Gandhi preferred for the village in the realisation of truth, love and goodness as the highest ends

37. Sheo Kumar Lal, Gandhiji and Village, (New Delhi;1981), p.62.

of life. These ideals may flourish in the villages where as the town provide a foreign milieu for their materialism.

INDUSTRIALISATION

The process of industrialisation had started in England in later half of the 18th century and spread to all other European countries and now in developing countries.

The industrial system is based on:-

1. Manipulation and exploitation of natural resources,
2. Heavy machinery,
3. Mass production.

"Gandhi saw de-humanisation of man in this system and called it mine day's wonder and a soulless pregnancy of greed."³⁸ The ideas of freedom, democracy and justice of human dignity and worth of personality are reduced to naught.

There is the fact that mass production requires a large scale application of developed technologies which creates unemployment in many numbers. Thus very few people would be there to consume produced goods because technological cost will raise the price of production.

38. Rajeshwar Pandey, Gandhi and Modernisation, (Meerut; 1979), p.38.

The industrial society has resulted in a number evils, it has led to the breakdown of the family, and labourers do not get real award for which they deserved. The labourers lack creative work which hinders self-reliance and self-confidence and makes industrial labour the easy target of an advertising industry. The spiritual and moral vacuum created by the hardening of the distinction between work and leisure is therefore, filled by consumerism. "The result is that the production of more consumer goods per head of population is a necessary condition of the survival of the industrial process."³⁹

On economic ground industrialisation has following objections:

1. Modern large scale industry ignored the fact that natural resources are limited and ignored the basic norm,
2. The basic principle of economy that non-renewable assets and resources should be conserved continues to be ignored,
3. Work is so commercialised for wages and products that the dignity of labour and relevance is almost lost,

39. John Young, Sustaining the Earth, (Cambridge;1990), p.103.

4. In the medium and long run the needs of transportation add their own costs and complications such as scarcity of food, environmental pollution and rise in price of the goods,
5. "Goods are manufactured for the upper class, the result is that there is small class of select people which wears several men's clothes, eat several men's dinners. Occupies several family houses and lives several man's lives."⁴⁰

Gandhi insists on putting restrictions on production of those goods which the middle class and upper classes consumed unless the basic needs of all the people were fully met. He condemned all those economic system which deprived the masses of their basic needs.

"Gandhi is opposed to industrialisation if it does not satisfy the basic needs of the people but engages itself in the production of waste and luxury in the name of progress, he is opposed to it if it throws people out of employment in its pursuit of saving labour and it emphasises on the material goods as superior to moral and spiritual."⁴¹

40. Rajeshwar Pandey, Gandhi and Modernisation, (Meerut; 1979), p.43.

41. Ibid., p.47.

He also opposed it on his conviction that the ideals of limitation of wants, moral and simple living bread labour and self-sufficiency cannot not be realized in the industrialised cities but in the villages, industrialisation contradicts the law of being and therefore of truth and non-violence.

Gandhi feared that, "industrialisation on a large scale will necessarily lead to passive or active exploitation of the villages as the problem of competition and marketing came in. There we have to concentrate on the village being self contained manufacturing mainly for use. Provided this character of the village industry is maintained there would be no objection to villages using even the modern machines and tools they can afford to use. Only there should not be used as a means of exploitation."⁴²

Gandhi was opposed to the large scale or mass production, but suggested the production by the masses, "there is difference between mass production which required a massive injection of capital to create one workplace and production by the masses which creates many work places with very little capital."⁴³

42. Harijan 29 August, 1929.

43. John Young, Sustaining the Earth, (Cambridge;1990), p.100.

"Gandhi was socialist enough to insist that all such heavy industries employing large numbers of people be nationalised or state controlled and worked for benefit of the people under the most attractive and ideal conditions not for profit but for the benefit of humanity".⁴⁴

Gandhi saw evils inherent in industrialisation and no amount of socialisation can eradicate them. He therefore said, "My machinery must be of the elementary type which I can put in the homes of the millions."⁴⁵

Thus he favoured spinning wheel (charkha) which is the help of the poor, support of the helpless and real saviour of the general masses in India. It will enhance immense moral and ethical power in common people. Charkha not only saves them from evil effects of big industries (long hours of work, unhealthy surrounding and low wages etc.) but also helps them to improve their morals.

Gandhi disliked western type of industrialisation for its over emphasis on mass-mechanisation. He was not against machinery as such but only such machinery that would displace human labour. He wanted cottage machine to give job to the millions on decentralised basis. He suggested that if

44. Young India 13 November, 1924.

45. Harijan 2 November, 1934.

India is to evolve along non violent lines, it will have to decentralise so many things.

Gandhi proposed extensive use of small sector in the field of consumer good and appealed to the people to be rural minded.

Covering the strategic importance of crafts and village industries, Prof. Gunnar Myrdal says, "but because of the low level of industrialisation from which these countries begin and the rapid population increase, modern industries if it grows at an extremely rapid rate cannot absorb more than a small fraction of the natural increment in the labour force for decades a head. This situation arises both because the direct expansionary impact of modern industrial growth on employment is likely to be slight in the early phases and because the risk of back wash on traditional manufacturing is substantial".⁴⁶

He also emphasizes that, "agriculture and traditional practices will have to bear the burden of the rapidly increasing labour force and suggests that the Gandhian position could be given an intelligent rationale even in a modern context."⁴⁷

46. Gunnar Myrdal, Asian Drama, (London;1968), p.1202.

47. Ibid., p.1214.

He further warns, "to accept the idea that agriculture and crafts - and often small scale enterprises as well - must remain technologically backwards and to confine planning efforts to building up enclaves of modern large scale industry is to invite failure on a grand scale. There was an element of rationality in Gandhi's social and economic gospel and programmes for promotion of cottage industry as they have evolved in the post war era have come more and more to represent purposeful and realistic planning for developing."⁴⁸

Gandhi favoured friendly and cordial relationship between worker and capitalist and wanted to established an egalitarian society for this he proposed trusteeship formula. Means of production should rest with society in which no one will suffer from food and clothes. It may be achieved only through peaceful means. He was against forcible dispossession of capitalist. He believed that equitable distribution is possible through trusteeship.

Stressing on the importane of new economics Schumacer has pointed out, "that the new economics of which we stand in need would be based on the recognition that economic progress s healthy only up to a point, that the complication of life is permissible only up to a point, that the pursuit

48. Ibid., p.1240.

of efficiency or productivity is good only up to a point, that the use of non-renewable resources is wise only up to a point, that specialisation is compatible with human integrity only upto a point and so on so forth."⁴⁹

TECHNOLOGY

For economic growth we need capital land and labour but technology is also an important factor. Developed countries experiences showed that during this century they achieved economic development mainly through technology. Developing countries also want speedy development but they lack capital and land, hence depended on western technology. They can attain technological progress through (i) research and development indigenously, (ii) import/transfer of technology from developed countries.

Poor countries face a number of limitations in developing their own technology such as problem of brain drain and research and development. So they tended to depend heavily on technology developed in the rich countries.

"These countries have now realized that what has come in the name of technology transfer is designed to: -

- i. Exploit resources of these countries,

49. S.S. Sharma, "Relevance of Gandhian Economics", National Herald, (New Delhi) 2 January, 1989.

- ii. Create a dualism by isolating the sector's depending on western technology from those dependent on and emerging from endowment of natural resources,
- ii. Widen the already wide technological gap,
- iv. Stunt the very process of growth by creating a new consumer oriented industry and a class which consumes valuable resources,
- v. Created an atmosphere of technological imperialism which demoralizes developing countries and makes them acceptance of the superiority of western civilisation."⁵⁰

Developing countries are also facing difficulties in having to borrow expensive and sophisticated technology from developed countries, is the problem of finance. So they have to obtain technology through so called aid and this brings in turn all problems and complications of the economics and politics of aid.

Another problem arises from lack of sufficiently trained personnel to operate these technologies and to effect repairs or occasional modifications this leads to depending on developed countries.

50. J.D. Sethi, Gandhi Today, (New Delhi; 1978), p.129-130.

The technology of the West is highly sophisticated capital and energy intensive and labour saving. It is also highly skill intensive and urban oriented because it tends to encourage concentration of activities in urban areas. This technology requires for sufficient operation an elaborate support structure of market, training, raw materials, power supplies and highly qualified labour. This type of technology to poor countries has often led to unhealthy repercussions on their economics.

This technology is also not in harmony with the needs and resources of poor countries. "It produces mass migration into cities, mass unemployment, alienation, stress and social breakdown right down to the level of family".⁵¹ Again, "machinery at present is used to save labour for the interests of few but Gandhi wanted to save time and labour not for a fraction of mankind but for all".⁵²

Being labour-saving and capital intensive, they cannot create jobs on anything like the scale required in heavily populated developing countries. Moreover, it produces goods generally not for the poor people. As Schumacher rightly says, "modern technology has deprived man of the kind of

51. E.F. Schumacher, Small is Beautiful, (New Delhi; 1973), p.64.

52. Rajeshwar Pandey, Gandhi and Modernisation, (Meerut; 1979), p.76.

work that he enjoys most creative useful work with hand and brains and given him plenty of work of fragmented kind most of which he does not enjoy at all".⁵³ Further Lewis Mumford characterised, "machine as far from being a sign of human power and order (instead) is the often an indication of ineptitude and social paralysis".⁵⁴

So, we need simple, cheap, and small technology enough to harmonize with local human and material resources. Here comes the relevance of Gandhi who also talked about this type of technology. He was not against the eradication of all machine but limitation on it because in his opinion man was the supreme consideration. All machine is to be judged and measured through happiness they brings to man.

There is always a strong support for the adoption of any large or small innovation whose benefit can be extended to the masses. Above all Gandhi made it clear that all heavy machine and industries must be in state controlled or in the public sector.

Gandhi's view of technology outside the scope of economic equality, social justice and its impact on man's

53. E.F. Schumacher, Small is Beautiful, (New Delhi; 1973), p.140.

54. Lewis Mumford, Techniques and Civilization, (London; 1955), p.426.

value system simply does not exist. He was of the view that technology should cope with the economic and social conditions prevailing in the developing countries.

Gandhi said, "I am not against the machine when I know that body is a most delicate piece of machinery? The spinning wheel itself is a machine"⁵⁵ but his objection was the craze for machinery in the name of labour saving creating unemployment.

Gandhi was against the technology of mass production which is according to Schumacher, "is inherently violent, ecologically damaging, self-defeating in terms of non-renewable resources and stultifying for the human person. On the other hand, technology based on production by the masses 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 making him the servant of machines".⁵⁶ A machinery which does not exploit the masses does not create unemployment but which helps the individual and adds to his efficiency and which a man can handle at will without being its slave, that machine must be necessary.

55. Young India 13 November, 1924.

56. E.F. Schumacher, Small is Beautiful, (New Delhi; 1973), p.143.

Schumacher's model, 'intermediate technology

He is favoured simple, free and cheap technology one can call it self help technology or democratic technology or peoples technology.

"For this technology men are more easily trained and its supervision, control and organisation is simpler and there is farless vulnerability to unforeseen difficulties"⁵⁷ Again he says "this technology is best and most suited for labour surplus societies"⁵⁸

The advantages of intermediate technologies can be summed up as under:-

- i. they are employment-intensive or depended more upon locally available skills and their diffusions likely to be very fast as they are not likely to require a very refined infrastructure,
- ii. they are less energy intensive and environment friendly,
- iii. they largely use local men and more appropriate to local endowments,
- iv. they involve low capital cost.

57. Ibid., p.168.

58 Ibid., p.174.

CHAPTER III

ENVIRONMENTAL IMPACT AND MODERNIZATION

Environment performs three basic function in relation to man:

- (i) It provides landscapes, facilities for recreation and a variety of living beings which makes human life so qualitatively rich,
- (ii) It is a source of natural resources like agricultural, mineral and forestry which are used in human consumption directly or indirectly,
- (iii) Environment acts as a sink for assimilating wastes produced by human civilization.

Human actions impose four types of stress on the environment:

- (i) Exploitative

Cropping of plants, extraction of minerals and hunting of animals,

- (ii) Waste

It is produced by production and consumption activities,

(iii) Destructive

Which are the physical changes brought by such activities, like forest clearance, construction of a highway, urbanisation, building a dam and building nuclear power station,

(iv) Chemical and Industrial stress which mainly result from technological development and modernization process.

Not all types of environmental degradation are caused by human agents. It is also caused by natural agents but human agents are very destructive.

Some of the major environmental problems being faced by modern society are follows :-

Threat of Global Warming

Human activities are causing significant greenhouse gases into atmosphere. Major human made sources of greenhouse gas emissions include the burning of fossil fuels, deforestation to make land available for agriculture and grazing and the burning of wood and charcoal for fuel.

Carbon dioxide is the major contributors for greenhouse effect which caused global warming. It accounts for 2/3 of the greenhouse gas emissions while methane and

chlorofluoro carbons accounted for the rest. Nature has its own mechanism for storing carbon in plants by photosynthesis. Man has increasingly interfered with this mechanism by destroying forests over vast areas of the world. "Now Atmospheric levels of the heat trapping carbon dioxide are now 26 per cent higher than the pre-industrial concentration and continue to climb."¹

The quantity of carbon dioxide has been increased in a century from 280 to 352 parts per million. In 1958 it was 315 parts per million, it is now in mid 1992 352 parts per million and increasing per decade at an alarming rate of 12 per cent. But the bearing capacity of earth to this world wide pollutant element is only 0.7 tonne per year per person.

The burning of a large number of oilwells continuously for almost an year during the recent Gulf war is an event not to be forgotten as far as carbon dioxide gas emissions is concerned.

"For industrial emissions the main culprits are the developed countries. They emitted 80 per cent and 20 per cent by the developing countries. The industrialized

1. State of World 1992: World Watch Institute Report in Employment News, (New Delih) Vol. XVII, No. 10, 6-12 June, 1992.

nations are mainly responsible for forcing the pace of global warming."²

The rise in the level of greenhouse gases especially carbon dioxide would have impact on climate change.

There will be rise in the sea level by the melting of snow in the polar regions. During th last century this was less than 15 centimeters, but at present global warming is increasing 6 c.m. per decade and expected to increase between 30 to 210 c.m. by 2075 A.D.

This would be enough to submerge Maldives and inundate the coastal plane of Bangladesh and Holland and the Nile delta in the Egypt may just vanish.

"Millions of people might have to leave the heavily populated coastal areas where much of the world's agriculture and commerce takes place."³

Scientists estimated that since the beginning of the industrial era, the earth average temperature has increased between 0.5 to 1.5 degree Celsius, but it could be rise by 1⁰ Celsius and by 3⁰ Celsius in 2100 A.D.

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2. Krishna C.Joshi, "Environmental Pollution", Employment News, (New Delhi) Vol.XVII, No.1, 4-10, April 1992.
 3. Joseph G. Morone and J. Woodhouse, Averting the Catastrophe, (Los Angeles; 1988), p.99.

Global warming would effect food supplies. In some areas temperature could rise faster than the global average and summer rainfall would diminish and harvest will fall.

Ozone Depletion

The most dangerous and direct effect of industrial pollution has been on the protective ozone layer in the upper strata of the earth atmosphere. It is a protective shield that surrounds the earth an altitude of 15-30 km. During the past five decades, the ozone layer has been depleted 2 to 3 per cent at the global level. The loss is greatest over the South pole, as much as 50 per cent of which falls within the ozone whole.

"The Molina - Rowland Theory specified five steps for ozone depletion:-

- (i) Within ten year's CFC carried by winds to the atmosphere,
- (ii) In the stratosphere CFC compound is broken down by ultraviolet light into its constituent chemicals including the element chlorine,
- (iii) The released chlorine, reacts chemically with ozone to convert it to atmospheric oxygen which is

less effective than ozone in absorbing ultraviolet radiation,

- (iv) Subsequent chemical reactions allows a single chlorine molecule to continue to interact with tens of thousands of ozone molecules, thus there is a substantial multiplier effect,
- (v) Ozone depletion allows more ultraviolet radiation to reach the earth's surface resulting in an increase in skin cancer."⁴

Chlorofluorocarbons aerosol propellant, refrigerator and air conditioners pose a severe threat to the ozone layer. It has been estimated that America's emission of Chlorofluorocarbon (CFC) is 37 per cent, EEC's (European Economic Community's) contribution is 35 per cent, Japan accounted for 11 per cent and developing countries are responsible for 5 per cent.

Nitric acid also has destructive effect on ozone whole. More than 300 millions tons of atmospheric ozone have stretched out thinly around the planet. Over the six to ten years, the content of ozone over the Atlantic has dropped by

4. Joseph G. Morone and Edward J. Woodhouse, Averting Catastrophe, (Los Angeles; 1986), p.79

tens of per cent as a result the temperature within the ozone hole is 20 degrees lower than outside it.

"Damage to the ozone layer might cause awesome changes in the earth's weather and ecology including damage to wildlife and crops. Each percentage decrease in ozone, the scientists theorized would result in a 2 per cent increase in cancer."⁵

The, depletion might further entail the destruction of plankton in the surface layer of the world oceans. A rise in the ozone content above the standard one-ten millionth affects the lungs and immune systems.

"In southern Canada, ozone layer is thin about 15 per cent as compared to six to eight per cent in 1990. There are ozone depleting chemicals over Northern New England, Eastern Canada, Greenland, British Isles, Scandinavia and Russia."⁶

34 countries held a meeting in Montreal in 1987 to discuss the ozone layer's problem and its expansion and pledged to phase out the CFC by 2000 A.D. India and China signed it in London in 1990.

5. Ibid, p.79.

6. Krishna, C.Joshi, "Environmental Pollution", Employment News, (New Delhi), Vol. XVII, No.1, 4-10 April, 1992.

In this protocol third world countries have given some major concessions. A ten year grace period has been given and they will eventually withdraw CFC by 2010. Developed countries have agreed to set up a \$240 million fund to be operated by the World Bank on the the advice of the United Nations Environment Programme.

Air Pollution

There are five basic air pollutants:

- (i) Sulfur dioxide
- (ii) Suspended particulate matter (dust, smoke)
- (iii) Carbon monoxide
- (iv) Lead
- (v) Nitrogen dioxide

"In greater Athens, the number of death rises sixfold on heavily polluted days. In Hungary, a recent report by the National Institute of Public Health concluded that every 24th disability and every 17th death is caused by air pollution. In Bombay breathing the air is equivalent to smoking 10 cigarettes a day. And in Mexico, the capital declared a hardship post for diplomats because of its unhealthy air."⁷

7. Hillary Frenc, "Cleaning the Air: A Global Agenda", New Frontiers in Educations, (New Delhi), Vol.II, No.2, Jul-Sep 1991, p.329.

"Air pollution particularly acid rain is devastating forests crops and lakes, over wide area of Europe and North America. Though acid rain disposition formed in the atmosphere by chemical reactions involving sulfur dioxide or nitrogen oxides and most commonly called acid rains sulfurdioxide can be chemcially transformed into fine sulfate particles that mix with water in the air liquesfy and become aerosols that are easily breathed deep into the lungs bringing toxic metals and gases along with them."⁸

Acid disposition threatens human health indirectly as well. It can make several dangerous metals like aluminum, cadmium lead and mercury. The metals can then leach from soils and lake sediments into aquifers, streams and reservoirs contaminating water supplies and edible fish.

Both Sulfur dioxide and particulates either or in combination can raise the incidence of respiratory diseases such as coughs and colds, asthma, bronchitis and emphysema.

Air pollution also poses a threat to the forests. Damages in China's South-West forests is being linked by scientists to air pollution and acid rain caused by a heavy reliance on high sulfur coal. In Sichuam's maocaoba pine forest more than 90 per cent of the trees have died.

8. Ibid., p.335.

In Latin America the pollution is attributed to the enormous fires that rage as cattle ranchers and settlers clear land. In Africa it stems from fires that burn for months across thousands of sq.km. of African savanna. Tropical areas are thought to be especially vulnerable to acidification because their soils are low in natural buffering agents.

The effect of air pollution can also be seen on historical buildings and monuments, For example, the Taj Mahal in Agra.

Nuclear Hazards

"The greatest pollutant today is radioactive fallout from nuclear testing or from long term storage and disposal of nuclear wastes."⁹

Nuclear wastes which are highly radioactive will remain active for more than tens of thousands of year's and a leakage in a nuclear power plant can cause a disaster to the people living in its vicinity like the example of Chernobyl.

"There may be subsequent development of cancer, cataracts, severe anemia and leukemia. Radioactive exposure

9. S.C. Gangal, Gandhian Thought and Techniques in the Modern world, (New Delhi; 1988) p.20.

will be harmful to the genetic material which may be transferred from one generation to another. High levels of radioactivity continue to be detected in vegetation, milk, oil, food, water, air and in soil."¹⁰

Today there are around 431 nuclear reactors giving threat to the existence of mankind. The World Watch Institute reports stated that in 1990, accumulated spend fuel from nuclear power plants exceeded 8000 tones twice as much as in 1985 and 20 times of the 1970 amount.

"Cloud of smoke caused by the large scale fires resulting from nuclear explosions can effectively screen the sunlight off completely. Beneath them, total darkness would fall and temperature would drop drastically, called nuclear winter."¹¹

The biggest cause of worry for the future is the storage of long lived radioactive waste unlike other pollutants there is no way of destroying radioactivity. So there is no alternative to permanent storage.

10. Krishna C. Joshi, "Environmental Pollution", Employment News, (New Delhi), Vol.XVII, No.1, 4-10.

11. David C. Pitt, The Future of the Environment, (London; 1988) p.201.

"In nuclear reactors there is the outcome waste after waste continuously. The tainted plants and machinery get old and obsolete and have to be de-commissioned atomic weapons lose their potency and the metals have to be taken out for re-processing the fuel rods in nuclear power stations get choked with the refuse of nuclear reaction and have to be sent for purification and refabrication - all adding waste to the wastes."¹²

Population

One of the greatest contemporary crisis that mankind is facing is the growth of global population on an unprecedented scale. The world population is growing 92 million people every year adding a New Mexico. 90 per cent of this growth will take place in the developing world. In these countries population is expected to doubled in the next 30 years. By the turn of this century world population is expected to grow upto 6.25 billion people, today in 1992 it is 5.47 billion.

Growth will not stop in the next century when world population may reach over ten billion twice its present level.

12. Satyaban Sarkar, "The While Man's Burden", Economic and Political Weekly, (Bombay) Vol.XXV, No.2, January 13, 1990, p.84.

Population growth rates have a distinct impact on the availability and use of common resources. "For the annual rate of food production at the global level was 31 per cent, during fifties and it was 2.7% during the sixties compared with population growth rates of 2.0% per cent and 1.9 per cent respectively."¹³

Food securities is a question facing world population, it was also a problem in the decade of 1980 when population was not reached 5 billion, there were and are large scale death from famine, starvation and disease. In spite of surplus global of food we saw hunger and famine problems. We have more than enough food at global level for global people but its distribution at global, regional, national and at local level is uneven.

In the developing world the problem of food security not only linked with the population growth but also to issues of international economic order of consumption pattern and lifestyle in the west.

Achieving food security for all will mean dealing with issues of equity regarding distribution of energy, land, water and other resources and resolving conflict between North and South on environmental problems.

13. Jan Tinbergen, Reshaping the International Order, (London; 1976), p.28.

Poverty is also related to population growth. Today, there are more than 1 billion people who are absolute poor, in this decade 1.5 billion people will be added to this figure"; relating to poverty is the hunger problem. It is estimated that only 15 per cent of hunger in the world resulted from emerging situation such as-flood, drought, natural disaster and war's, rest of the hunger is the result of chronic malnutrition arising out of poverty.

The population-resource equation has four simple components:

- (i) Life style, incomes and social organisation determines level of consumption. For example, 85 per cent of the world income goes to 23 per cent of its people,
- (ii) The technologies in use determines the extent to which human activities damage the environment and the amount of waste associated with any level of consumption,
- (iii) Population, which determines how many person there are is the multiplier that fixes the total impact,
- (iv) Inequality, most land is in large holdings and poor are forced into artificially small or

marginal areas, for example "one billion people spend less than one dollar a day."¹⁴

As a result of population growth, there is problem of resource loss. One of the major crisis of this century is the inability of Governments and International agencies to manage resources in a manner that present needs are met without any compromising the needs of the future generations.

There is uneven distribution of land and population growth compounded this situation further resulted in shrinking land holdings.

For example, "Overall, the developed world has an average of more than half a hectare per person while in developing countries, it has less than one third of a hectare per person. Data from 57 developing countries show that merely 50 per cent of farms are below one hectare in size, in Indonesia 70 per cent are below one hectare."¹⁵

14. State of the World 1992: World Watch Institute Report in Employment News, (New Delhi) Vol. XVII, No.10, 6-12 June 1992.

15. Population and the Environment : The Challenges Ahead, Journal of the United National Population Fund, Populi, Vol.18, No.3, p.42.

Due to long-scale felling of trees by the village communities and contractors "forests are vanishing at a rate of some 17 million hectares per year".¹⁶ It not only created the problem of desertification but also threatened the existence of fauna and flora.

"In tropical rain forests which cover only 7 per cent of the earth's surface but harbour as much as 80 per cent of all species."¹⁷ But as forests are disappearing, there is danger to species who lives in it. Minimum of 140 plant and animal species are condemned to extinction each day.

The following broad generalisation can be made about population growth at global level:-

- (i) In rural areas of the third world countries poor people are being forced to destroy their own resource base,
- (ii) There is uneven and unequal land distribution,
- (iii) Commercial logging is an important cause for tropical deforestation. Demand for raw materials

16. State of the World 1992 : World Watch Institute Report in Employment News, (New Delhi) Vol. XVII, No.10, 6-12 June, 1992.

17. Population and the Environment: The Challenges Ahead, Journal of the United Nations Population Fund *Populi*, Vol.18, No.3, 1991, p.43.

by industrialized world contributes to resource degradation. Developing countries are under pressure to generate foreign exchange to pay off loans and to finance development and modernization,

(iv) Rural poverty and scarcity have contributed to large scale migrations to urban areas.

Modern Agricultural System

Modern agricultural system depends heavily on commercial fertilizers and pesticides, intensive irrigation of marginal lands and cultivation of single cash crops or monoculture. This agriculture is harmful to the soil and environment. They were used as a method to solve agricultural problems but now they itself became a problem to all eco-system via surface run-off, atmosphere and the food chain effecting lives and environment as a whole and human organism in general.

"Soil fertility and earth's recuperative powers are also damaged in the long run by the excessive use of chemical fertilizers and by deep mechanical ploughing which damages the top soil through over exposure. Further the use

of chemical fertilizers and pesticides also causes soil erosion."¹⁸

They also cause loss of structure and natural fertility of the soil. Leaching of fertilizers into water courses can cause eutrophication, the unnatural growth of weeds which we use up oxygen and choke and other forms of life. Nitrates in drinking water endanger consumer especially babies.

The food we eat contains dangerous amounts of pesticides which pose increased risk of cancer neurobehavioural damage, breaking of the digestive system, illness and other health problems.

"Erosion of soil can be seen everywhere with desertification and soil erosion of land goes hand in hand depletion of fresh water resources of the earth. Drought conditions appeared and most of the rain that falls does not penetrate the less porous, eroded dense soil and runs off the surface taking away further top soil with it and causing floods. Some of the harmful chemicals and pesticides find their way into crop grown in the soil which are thus becoming increasing unwholesome for human and animal consumption. The effects of using of chemical fertilizers

18. S.C. Gangal, Gandhian Thought and Techniques in the Modern World, (New Delhi; 1988) p.19.

seen in the decline of crop yield."¹⁹ Farmer's raising a slogan more for more better and using pesticides at large scale for growing more crops especially cash crops. "The total amount of pesticides applied world wide is estimated to be around 2.5 million tons"²⁰ and "in every decade seven per cent of the worlds soil is lost through large scale farming techniques."²¹

This toxicity is not restricted to eliminating the unwanted elements alone, but also ends up destroying a large number of other living organisms and harming man.

Water Pollution

Water is the most abundant yet the most critical of all resources. It is the most likely to impose limits on human development in many parts of the world.

"One per cent of the world's water in the hydrological cycle is available for human consumption, the remainder is stored in oceans, polar ice caps, and under ground. The one per cent is distributed unequally. Africa as a whole receive

19. J.N. Mukherjee, Forward with Nature, (Bombay; 1979), p.16-17.

20. Krishna C. Joshi, "Environmental Pollution", Employment News, (New Delhi), Vol.XVII, No.1, 4-10.

21. Bunker Roy, "North not South is destroying earth, Times of India, (New Delhi), 28 March 1992.

only 12 per cent of the water distributed by the hydrological cycle whereas the United States received over 33 per cent."²²

"Some 70 per cent of the world's population is without safe dependable water and consequences are enormous, water borne diseases are estimated to kill more than twenty five thousand people daily. Many other diseases such as typhoid, cholera, dysentery and hepatitis are spread by contaminated water."²³

In most of the developing countries the resources of water have not yet fully manipulated therefore they are facing shortage of water. In Africa the problem is very serious.

"There are wide differences between rural and urban areas in the developing world in the provision and distribution of potable water and sanitation facilities. The World Health Organization calculates that by 1983 only 39 per cent of the rural population in 92 countries had access to safe drinking water compared to 74 per cent of the urban population."²⁴

22. Jan Tinbergen, Reshaping the International Order, (London; 1976), p.38.

23. Ibid., p.38.

24. Dr. Nafis Sadik, (ed), Safeguarding the Future, UN Population Fund, (New York; 1991), p.17.

Rivers, lakes and seas are coming under the grip of pollution and with an increase in human numbers there is an increase in the discharge of sewage, industrial and harbour wastes and dumping of garbage. Water pollution can also be seen in ground water that affects food production.

"Transboundary water pollution is caused by the fact that there are over 200 rivers or lakes in the world shared by two or more countries, the basins of nine of these notably the Amazon, Lake Chad, Danube, Mekong, Niger, Nile, Rhine, Zambezi and Zaire - are shared by six or more countries. These rivers commonly carry sewage, industrial effluents and agricultural runoffs which includes chemicals fertilizers and pesticides. Moreover the rivers carry and eventually deposits their pollutants into the sea or oceans. The oceans are also polluted by toxic wastes dumped from vessels. They cause large scale contamination of fresh water and other seafood."²⁵

In the recent Gulf war, oil slick not only damaged ecological system but also affected marine and bird life. These slicks consists of non-biodegradable hydrocarbons which could damage eggs and larva of fish crustaceans.

25. S.C. Gangal, "An eco-emergency", Hindustan Times, (New Delhi), 27 May 1992.

Depletion of Resources

If the present trends of the use of non-renewable resources continue due to demands of the modern industrial and consumer society many key mineral resources will be exhausted totally within the next 50 - 60 years.

"According to study done by the United States National Academy of Sciences, the major mineral resources of the world like aluminum tungsten, iron are not to last beyond 2000 years at the present rate of utilisation or consumption."²⁶

And the coal and oil resources may disappear in less than a hundred years. And no safe and viable substitutes have yet been found for this energy source. The crisis of the depleted resources is already a living reality in many poor countries of the world as it is more seriously reflected in mass starvation and degradation of land. There are mineral resources which are also being depleted.

The world faces an energy crisis not only because of the rapid use of exhaustible resources but also because of the depletion of renewable resources. It is yet uncertain whether the energy substitutes such as atomic energy can finally be both safe, economically profitable and capable of being widely used.

26. As Quoted in S.C. Gangal, Gandhian Thought and Techniques in the Modern World, (New Delhi; 1988) p.19.

CHAPTER IV

GANDHI'S WORLD VIEW AND ON ENVIRONMENT

Gandhi's critique of modern civilization is total, he not only rejected the basic premises of modern civilization but also offered a concrete proposal for re-ordering society that promises to do away with the ills associated with modern civilization. The cornerstone of his viewpoint is provided by his conception of the uniqueness of the human beings. He sees the destiny of a man in his ethico-religious quest for self transformation. Self transformation cannot be achieved in isolation but in the society, that is his world view emphasizing inseparable unity, harmony and non-injury. The moral sensibility that lies behind Gandhi's condemnation of modern civilization springs from his world view. It is his world view that gives a concrete shape to his moral perspective and defines its contents. His moral perspective can be understood from his world view.

The world view of Gandhi included the entire totality of economic, political, social and cultural spheres of life. To him, "oneness of all human beings indeed all life is the basic premise not only that to hurt us all but also the positive aspect that whatever good one does is done to us all."¹ Unity of oneness consists in our having a common goal, a common purpose and a common cause. It is promoted by

1. M.G.Gupta, Gandhism Redefined, (Agra;1991), p.142.

cooperating to reach the common goal and by mutual toleration.

His concept may be termed as the unity of existence, he emphasized the unity between man and nature or the connection between man and nature. It is nature itself which evolves and expresses itself as man. It is now at a certain stage of its own evolution. The law's of nature's evolution, therefore cannot be set aside because they are all still in man.

"His world view implies that World is like a human body with its various members. Pain in one member is felt in the whole body"²

Identifying himself with the entire world he declared, the only way to find God is to see him in his creation and to be one with it. This can only be done by service of all.

He said, "I believe in the absolute oneness of God and therefore of humanity. What though we have many bodies? We have but one soul. The rays of the sun are many through refraction. But they have the same source. I cannot therefore, detach myself from the wickedest soul nor may I

2. Ibid, p 86.

be denied identify with the most virtuous".³ Again he said, "I am endeavoring to see God through service of humanity, for I know God is neither in heaven nor down below but in everyone."⁴

Truth is another name for God. It is the very basis of all life and existence. One may deny God but not Truth. It also follows that all creatures are manifestations of truth. Truth is life that persist amidst all decay and death all change and mutation.

More you know about truth or goes nearer to the truth more man realizes that there is no wall between mine and thine and develop love for others. Gandhi's religion is synonymous with truth and righteousness.

Gandhi writes, "True religion and true morality are inseparably bound up with each other. Religion is to morality what water is to the seed that is sown in the soil".⁵ The highest moral law is that we should voluntarily work for the good of mankind.

3. Young India 25 September, 1924.

4. Young India 4 August, 1927.

5. N.K. Bose, Slections from Gandhi, (1948; Ahemdabad) p.223.

Gandhi saw God in man as well as man in God. He believed that man can realise his true nature only when he realised the divinity latent in him and in world. To him, God is life, truth, love, ethics and morality : Goodness is God, for realizing the God we must become good in everythings.

Gandhi's conception of God is very comprehensive. Thus he writes, "God is that indefinable something which we feel but which we do not know. God has innumerable names as many names as there are creatures. So we must not harm to them because they are manifestation of God. He identifies God with love, the dumb poor millions and above all with truth. Truth is sanskrit word Sat which means which is exist. Later on he replaced God is Truth to Truth is God.

Though God, according to Gandhi is unknowable, "it is nevertheless possible to reach out his existence to a limited extent".⁶ There is law which is govern's the whole universe, that is God. It is not proved by the evidence and reason. But to deny God's existence is to deny onself.

Gandhi did recognise the role of non-rational factors in the life of the individual. Faith is one of these

6. Young India 25 September, 1924.

factors, but according to him, faith has its own place. Gandhi's conclusion, "is therefore reason is powerless to know God. He is beyond the reach or grasp of reason. But I need not labour the point. Faith is essential in this matter"⁷ "Faith transcends reason but does not contradict it."⁸

For the realisation of Truth, it is non-violence which is to be performed in all way of life. It is greatest force to brute force. One person who can express Ahimsa in life, exercise a force superior to all the force of brutality. It is the weapon which is more effective than destructive weapons.

"Without ahimsa (Non-violence) it is not possible to seek and find Truth. Ahimsa and Truth are so intertwined, that it is practically impossible to disentangle and sepearte them. They are like the two sides a coin or rather of a smooth metallic disc. Who can say, which is the obverse and which is the reverse? Nevertheless ahimsa is the means; Truth is the end. Means to be means and so ahimsa is our supreme duty."⁹

7. M.K. Gandhi, Hindu Dharma, (Ahemdabad; 1950), p.63.

8. Harijan 6 March, 1937.

9. M.K. Gandhi, From Yavada Mandir, (Ahemdabad; 1935), p.12-13.

Non-violence Focuses on love force which is the basis of our existence otherwise without it we would have been disappeared from the earth.

"The force of love truly comes into play only when it meets with causes of hatred. True non-violence does not ignore or blind itself to causes of hatred, but in spite of the knowledge of their existence, operates upon the person setting those causes in motion. The law of Non-violence-returning food for evil, loving one's enemy involves a knowledge of the blemishes of the enemy".¹⁰ Hence do the scriptures say, 'Forgiveness is an attribute of the brave'.

Closely related to his conception of God, there is this view on soul and man. "The soul is one in all, its possibility is therefore the same for everyone".¹¹

'The soul signifies unity among created being themselves. Hence it is that even if one man rises spiritually, the world is lifted up with him and if one man falls, the whole world falls to that extent'.¹²

All individuals are the children of same God. They are the mixture of good and evil and right and wrong.

10. Young India 29 September, 1927.

11. Young India 5 June, 1924.

12. Young India 4 December, 1924.

According to him, "(in his autobiography 1945, p.615.) the ultimate end of the individual is self-realization, self-realization requires self purification."¹³ The main thrust of self-purification is harmonizing relation with others and change action and thought radically.

Man should join himself with an everlarging network of relationship which requires going beyond self centredness. Man's true destiny is not the conquest of external nature but the conquest of his own self because the suppression of lower self alone vindicates the greatness of the human spirit.

"Integrates oneself with other's extended boundary of the self, not for absorption of everything else to oneself but for giving one self to others. Thus extended self becomes the ground for sociality."¹⁴

It is possible for man to conquer evil by prolonged Sadhana or grace of God. We must adopt morality in every sphere of life. This is to be made by the actualization of the moral laws in human relations. Moral and spiritual

13. S.C. Gangal, Gandhian Thought and Techniques in the Modern World, (New Delhi;1988), p.70.

14. Nageshwar Prasad, Hind Swaraj : A Fresh Look (New Delhi; 1986), p.55.

goodness is acquired by a process of introspective scrutiny, Cultivation of character and the realization of the sense of unity of living beings. Only Seva (service) and Sadhana (grace of God) can lead to the moral evolution of man. Gandhi has supreme faith in the inner mobility and decency of human nature and hence he accepted the superiority of voluntary suffering for the conversion of the antagonists.

His world view can also be seen in his ideas about ends and means. They there are convertible terms. For Gandhi says, "As the means so the end".¹⁵ They are the two sides of the same coin.

"They say, means are after all (just) means; I would say means are after all everything. Violent means will give violent swaraj. There is no well of separation between means and end".¹⁶ Gandhi says, "your reasoning is the same as saying that we cannot get a rose through planting a noxious weed. The means may be linked to a seeds the end to a tree and their is just the same inviolable connection between see and tree. We reap exactly as we sow".¹⁷

15. Young India 17 February, 1924.

16. Young India 17 July 1924.

17. M.K.Gandhi, Hind Swaraj, (Ahemdabad; 1938), p.51-52.

We have control over means not over ends. We must perform only actions governing by ethics. The means ends unity not only provides a direction to our end and to our means, it also puts limitations on the ends. The réalisation of the goal is an exact proportion to that of the means. "If we take care of the means we are bound of reach the end sooner or later".¹⁸

Thus Gandhi's world view projects an organismic vision that promises to mend the "broken totality and seeks to base social relations on respect cooperation and non-exploitation. It is This world view that constitutes the foundation-head of morality."¹⁹

For him moral, ethics and religion are convertible terms. "A moral life without reference to religion is like a house built upon sand. And religion divorced from morality is like sounding brass good only for making a noise and breaking heads."²⁰

18. M.K. Gandhi, From Yavada Mandir, (Ahemdabad; 1935), p.13.

19. Nageshwar Prasad, Hind Swaraj : A Fresh Look, (New Delhi; 1986), p.56.

20. Collected Works of Mahatma Gandhi, (New Delhi), Vol. 62, p.341.

Thus his world view not only stresses on morality, ethics, unity in diversity and oneness of mankind but also gives an outline how to deal with contemporary global problems.

ON ENVIRONMENT

Gandhi was not an ecologist in the sense in which the world is known to him. He did not propounded any theory on environment, but he did much more as revealed from his writings, speeches and daily practices.

His views on nature were influenced by Hindu beliefs and Jain ethics. Explaining the nature of his Hindu beliefs, he writes that all life emanates from one universal source call it Allah, God or parameshwar.

Gandhi warned humanity that it was only through design with nature and its laws of evolutionary growth that we could improve our physical environment and pressure and enhance the quality of life.

A firm believer in the unity of all life he has an abiding love of and admiration for the natural objects. Man's actions do should not harm any living being. There is unity, interconnection and organs bound in every action.

Therefore, whatever we do in respect to the environment it goes from one place to another even crossing international boundary. Environment pollution is not only a local problem but also a global problem.

There is no such dichotomy between man and nature or human and non-human components. God's creation is not vertically structured where all things in the universe are arranged in a rising order of importance and prominence. They are all one what may be called unity of existence, they are neither higher nor lower but share the same plank of oneness.

Drawing inspiration from the religious scriptures, such as the Purans, Vedas and Upanishads, Gandhi believed in the Worship of many kinds of trees and looked upon the destruction and cutting of trees with disfavour. On the other hand the planting of trees was always for him an act of virtue.

"There are certain benefit from treeplanting (i) it improves the climate and whether in respect of temperature, humidity and rainfall (ii) it purifies the atmosphere by catching its load of dust and fumes and by feeding on its carbondioxide content (iii) it improves the soil fertility and top soil structure (iv) it helps to conserve water in

the soil (v) it prevents floods (vi) It absorb excess fertilizers accumulated in the soil from intensive agricultural and thus counteracts the evil effects of the agriculture artificial fertilizers vi) It acts as a reserve for small predators birds, insects, parasite etc. which keep down pests and pollination of crops in adjoining agricultural fields".²¹

Gandhi's approach towards nature seems to have influenced with the karma (action) notion. For him, no relationship subsisted outside Karma relationship and no life could be linked outside of one's action. Karma (action) is the end result of one's action which inevitably has consequences upon others and ultimately upon one's own salvation. The tree and the cow, symbol of plant and animal life respectively played a great role in human salvation.

For the unity of existence, he favoured the practice of non-violence. Non-violence embeded more in the positive value of love than in the negative value of abstinence from harming other living beings.

21. J.N. Mukherjee, Forward with Nature, (Bombay; 1979), p.70-71.

In its positive form non-violence means the largest love and the largest charity. We must use forces of love towards everybody because non-violence and love are something. He said, "non-violence is the law of our species as violence is the law of brutes."²²

The time has come for mankind to adopt non-violence, if earth's resources and animal species are to be preserved, in every sphere of life. That could be possible when we identify ourselves with surroundings. Thus he pointed out, "the fact that there are so many men still live in the world shows that it is based not on force but on the force of the Truth and love."²³

Ashley Montagu also says, "Love is the form of behaviour that contributes to the healthy development of both the lover and loved. By healthy development is meant the increase in the capacity to function as totally harmonic person to who confers creatively enlarging benefits upon all with whom he comes into association. Love, it would seem, is the principal developer of the potentialities for being human it is the chief stimulus to the development of social competence and the only quality in the world social

22. Young India 11 August, 1920.

23. Young India 11 October, 1928.

producing that sense of belongingness and relatedness to the world of humanity that every healthy human being desires and develops"²⁴

Gandhi mentioned harmony, brotherhood and justice as being properties of non-violence. It includes that it is not justifiable to promote the life of one creatures or group at the expense of another. If this happens, the deed is violent. It is not justifiable to sacrifice the life of an animal or plant to promote the life of a man. In order to prevent violence to animals Gandhi would support vegetarian food.

"Gandhi's non-violence is not mere non-injury to others, and the mere observance of a taboo. It is a way of restructuring human relations that seeks to enhance the freedom, manliness and dignity of everyone involved in the interactions initiated by it".²⁵

Gandhi did not favour multiplication of wants but his emphasis was on the voluntary limitation of wants, which he

24. As Quoted in Manmohan Choudhuri, Exploring Gandhi, (New Delhi;1990), p.80.

25. Manmohan Choudhuri, Exploring Gandhi, (New Delhi;1990), p.67.

also sometimes referred to as voluntary poverty. As he truly said, "the mind is restless bird the more it gets the more it want and still remains unsatisfied. The more we indulge our passions, the more unbridled they became".²⁶ His prescription of limitation of wants makes sense in the present awareness about the dangers of the exhaustion of natural resources and pollution and establishing social justice. His concern with recycling materials was almost an obsession. He saved the blank papers at the end of letter for further use and used the reverse of documents written on one side, turned used envelopes inside out for re-use and even insisted that twigs used for brushing teeth should be washed, dried and used as fuel.

Gandhi put freedom as the liberation from wants. As he put it, "the ideal creating on unlimited number of wants and satisfying them seems to be a delusion and a snore. The satisfaction of one's narrow self must meet at a certain point to a dead stop, before it degenerates into physical and intellectual voluptuousness. A man must arrange his physical and cultural circumstances. So that they do not hinder him in his service of humanity on which all his energies should be concentrated".²⁷

26. M.K. Gandhi, Hind Swaraj, (Ahemdabad; 1938), p.61.

27. Harijan 29 August, 1936.

He insisted on balancing satisfaction along many dimensions as against maximizing of concerns on narrowly defined dimension. His stress on simplicity was both a maximum for inner moral growth as well as a principle of civilization. He said, 'simplicity is the essence of universality'.²⁸ Simplicity does not seem to be painful instead a matter of joy and pleasure. It reflects in all sphere's of life i.e. thought action, living etc.

He was against the possession of commodities for comforts and exploitation on moral and economic grounds, explaining the concept of abargiraha (Non-possession) he wrote, "Perfect fulfilment of the ideal of non-possession requires that man should like the birds have no roof over his head, no clothing and no stock of food for the morrow. Man will indeed need his daily bread but it will be God's business, not his, to provide it. Only the fewest possible, if any at all can reach this ideal. We ordinary seekers may not be repelled by the seeming impossibility. But we must keep the ideal constantly in view and in the light of it, critically examine our possession and try to reduce them. Civilization in the real sense of the term, consists not in the multiplication of wants, but in the deliberate and

28. Harijan 9 April, 1946.

voluntary reduction of wants. This alone promotes real happiness and contentment and increase the capacity for service."²⁹ Every man has an equal right to the necessities of the life whether he is poor or rich or even a bird and beasts. According to Gandhi, "I hate privilege and monopoly. Whatever cannot be shared with the masses is taboo to me."³⁰ Again, he says, "a man is not necessarily happy because he is rich or unhappy because he is poor."³¹ It is no matter of want's satisfaction and satisfaction of the basic needs. He identified basic needs in terms of material and non-material. In material needs he includes those that required to maintain the individual in reasonable physical comfort like food, clothing, housing and medicare and in non-material needs he may include love, and self-realization, but all these needs realized in a society based on decentralization.

In contemporary world where man has ruthlessly destroyed the nature and its natural resources as well, his concept of non-stealing and Control of Palate also becomes significant.

29. M.K. Gandhi, From Yavada Mandir, (Ahemdabad; 1935), p.36-37.

30. Harijan 2 November, 1934.

31. M.K. Gandhi, Hind Swaraj, (Ahemdabad; 1938), p.61.

He adhered the principle of non-stealing. He who appropriates more than what he is needed is really a thief and guilty of theft. So, one must possess things which are not required by anyone.

Control of Palate, we should take extremely simple food. Keep our body and soul in proper working condition. Gandhi recommended certain dictic restrictions fasting and prayer.

Problem of Population

He was against the artificial method for checking population explosion. He wrote, "If it is contended that birth control is necessary for the nation, because of over population. I dispute the proposition. It has never been proved. In my opinion by a better land system, better agriculture and a supplementary industry, this country is capable of supporting twice as many as people there are.³² At another place he wrote, " the remedy is to identify ourselves with the poor villager and to help him make the land yield its plenty, help him produce what we need and confine ourselves to use what he produces, live as he lives

32. Young India 2 April, 1925.

and persuade him to take to more rational ways of diet and living."³³

He wanted to control the population through less injurious methods such as late marriage, control of sense, celibacy and self control through proper education.

Describing the Celibacy, he says, "A full and proper meaning of Brahmacharya is search of Brahma. Brahman pervades everyday and can therefore be searched by divieng into and realising the inner self. This realisation is impossible without complete control of the senses. Brahmacharya thus means control in thought, word and actions, of all the senses at a all times and in all places".³⁴

Regarding the need for celibacy he observed" a large part of the miseries of today can be avoided it we look at the relations between the sexes in a healthy and pure light and regarded ourselves as trustees for the moral welfare of the future generations. Ideally speaking he suggested the Manusmriti ideal of one child i.e. dharmaja or (sacred born)

33. Harijan 5 November, 1935.

34. Young India 5 June, 1924.

per couple."³⁵ He considered artificial method of birth control as sin and advocated self control and abstinence.

Technology with human face

Since technology is projected on increasing consumption of natural resources which are limited, the entire superstructure of the so-called civilization is threatened with destruction. Therefore Gandhi halt to this mad pursuit, as he says, "machinery that is technology is the chief symbol of civilization. It represents a great sin."³⁶

He favoured a technology not based on the speedy exploitation/mad exploitation of resources, inequality and on unjust scale but on harmony benefit of all and with human face.

This technology (small scale technology) is most appropriate to fulfill basic needs. Such a technology may draw on traditional knowledge and techniques. If there is local technology, there is no problem for utilizing the resources available locally (for example solar, wind,

35. S.C. Gangal, Gandhian Thought and Techniques in the Modern World, (New Delhi; 1988), p.24.

36. M.K. Gandhi, Hind Swaraj, (Ahemadabad; 1938), p.94.

biomass, mini hydre) as well as to introduce appropriate technologies which make them best use of human energy potential.

Solar, wind, biomass and mini hydre energy sources are not harmful to environment. Energy produced by these resources is very cheap and are renewable in nature. For the manipulation of these resources properly and effectively we need self-reliant infrastructure at the community level. According to Schumacher, "Today we suffer from an almost universal, idolatry of giantism. It is therefore necessary to insist on the virtues of smallness."³⁷

A technology must fulfill basic human needs such as food, clothing, and housing and should be , based on more renewable resources, on self expression, creativity and equality. Its size must be small and it should lighten the burden of the worker and where population pressure is high, it should not displace human labour.

Gandhi was against the use of chemical fertilizers because it not only leads to mass production but also damages soil fertility and earth's recuperative power. He would favoured natural farming or natural organism in

37. E.F. Schumacher, Small is Beautiful, (New Delhi; 1973), p.60.

agriculture and cooperative farming as opposed to large scale farming.

He was for full and complete land reforms in which the ownership of the land will rest in the hand of the village community representing the state.

As Gandhi said, "I firmly believe too that we shall not derive the full benefits of agriculture until we take to cooperative farming. Does it not stand to reason that it is far better for a hundred families in the village to cultivate their land collectively and divide the income there from than to divide the land any way into a hundred portions? And what you applies to land applies equally to cattle".³⁸

As he said again and again in his ideas about Trusteeship that land belongs to the God and we all are children of the same God, so land also belongs to all of us. So it should be distributed among the tiller's of the soil and simple technology in land should be practiced so that it preserves fertility of the soil as opposed to mechanized farming.

As Schumacher says, "that the management of the land must primarily be oriented towards three goals :-

- i) health,
- ii) beauty,
- iii) permanence and

the fourth the only one accepted by the experts productivity will then be attained almost as a by product. The crude materialist view see's agriculture as essentially directed towards food production at large scale. A wider view sees agriculture as having to fulfill at least three tasks:-

- (i) to keep man in touch with living nature,
- (ii) to humanise and ennoble man's wider habit,
- (iii) to bring forth the foodstuffs and other material's which are needed for a becoming life.³⁹

In short, long before the ideas of sustainable development and eco-development were generated, Gandhi talked about them in a different way and in a comprehensive manner. His idea's on environment are not only relevant to the present human civilization but also the coming generations.

38. Harijan 15 February, 1942.

39. E.F. Schumacher, Small is Beautiful, (New Delhi; 1973). p.103-104.

CHAPTER V

CONCLUSION

Increasing deforestation, desertification, Soil erosion, oil spillages, river contamination, danger of nuclear fallout and warfare, greenhouse effect are many of the apocalyptic threats to our environment constantly. If the present trends in Industrialisation, resource - depletion and living pattern with great disparity continue unchanged, the limits to growth in this planet will be reached sometime within the next fifty or sixty years. The environment problem is further aggravated by the world population explosion, it is growing at the rate of 92 million people every year. By the turn of this century world population is expected to grow up to 6.25 billion people. This demographic change will have great impact on human civilization like urbanisation, problem of shelter, unemployment, water availability, transportation and food security.

This means that humans are consuming resources faster than the earth can replenish and dumping wastes faster than the earth can assimilate.

As G.H. Brundtland says correctly, "We have to foot the

bill for our over-use of nature resources. We made the waste - basket full and we have to pay for the consequences of emptying it".

The model for development adopted by modern society is not harmonious and friendly with nature and environment. This model created much gap between society. It is well known that " the richest 20 per cent of the world enjoy 82.7 per cent of the income and the poorest 20 per cent have only 1.4 per cent of the global income". This situation seriously threatens the minimal well-being of the deprived two-thirds of the world. With a sixth of the people of the world living in the affluent countries consuming a major part of ;the non-renewable resources. On the other hand, enough is not left to fulfil even the basic needs of other five sixths of the world population.

The model of the development that the North adopted and which is being followed by the developing countries insatiable grabbing of the world resources and ever increasing consumption of energy, is not only resulting in the frightening depletion of natural resources but is directly vitiating the environment and leading mankind towards its very extinction.

For lowering the pollution rate North world had developed technologies and third world countries demanding

it for solving their environment, ^{problems.} But its cost is very high and is unaffordable for the Third world countries. It is better for them to develop their own technologies suited to their environment, local needs and resources. It is the North who is largely responsible for environment degradation such as acid rain, water pollution in the ocean's, nuclear fallout, green house effect and carbon dioxide emission. But the South suffers equally (or even more) under its foul impact.

For environmental protection, the current level of commitments and programmes are not commensurate with the size and gravity of the problem. We have to adopt a holistic approach. An easing of environmental, resource and development challenges depends not on one time solutions, but rather on the initiation of appropriate processes of multi-dimensional change. Environmental choices must be guided by a vision of a desirable human society and the quality of the natural environment needed to support that vision.

It is man-made environment. So man himself is responsible for this crisis and for removing it, Man must radically change his narrow self to enlarging self caring other people including creatures which have sentiments. Gandhi sees everything in its totality. Everything that

exists is part of a universe. All living beings depend on one another for their existence, well being and development. Therefore, man has to order his life with the natural laws of life and the living planet. He must recognise the unity of existence and interconnectedness of all forms of life. Viewed in such a framework, development gets transformed into eco-development wherein ecology sustains development and development sustains ecology.

Sustainable eco-development calls for a strategy of conservation of natural resources. Conservation does not mean only the preservation of the flora and fauna but also, and more importantly, the rational management of natural resources, so that they may yield the fullest sustainable benefit to the present generation while enriching or at least maintaining their potential to meet the needs of the future generations.

The most pressing need is for the emergence, clarification and adoption of a new ecological world view that can create a sustainable culture capable for treating the Earth with gentleness and respect as Gandhi sees it. He favoured a world order which is based on non-exploitation, economic equality and free from war and based on peace, nonviolence and truth. His humanism is based on the service of humanity that is, everyone should contribute for the well

being of all.

It is thus, the moral responsibility for every nation to cooperate at every level for resolving the contemporary global crises, including that of the environment. While dealing with environmental issue they must link together poverty, population growth and other global issues for resolving the problem. Everything effects everything else. So problems should be seen in their totality, or from a holistic angle characteristic of the Gandhian world-view.

As Gandhi writes correctly, "I believe in the essential unity of man and for the matter of all that lives. Therefore I believe that if one man gains spiritually, the whole world gains with him and if one man falls the whole world falls to that extent."¹

He believed in the oneness of humanity and therefore believed in the fundamental strategy of improving society through self-excellence and self-purification. It is also the simplest strategy for doing good to humankind. In his humanism, sacrifice consists in doing one's best for the mankind. A life lost in possessing worldly goods has practically no meaning for him.

1. Young India 4 December, 1924.

"The world, and each one of us in it individually, is in need of a new frame of reference for our lives. Each one of us will have to evolve such a frame for himself and use it for understanding and acting in the world. This is an urgent and insistent need. The survival of human civilization demands it, we can no longer wait for somebody to come along and tell us what to do. And if we have to "learn from Gandhi in this we have to make effort to do it".²

2. Manmohan Choudhuri, Exploring Gandhi, (New Delhi; 1990), p.4.

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