

**A. Pushparajan**  
*Kamaraj Univ., Madurai*

## **ECO-HARMONY AND ECONOMIC EQUITY : A VINDICATION OF GANDHIAN ECONOMICS**

### **Introduction**

It is an obvious fact that the world economy has become dangerously lopsided. The North, including the Eastern Europe, constitutes just one fourth of the world's population. And yet it consumes 80 percent of the world's resources. In sharp contrast to it, the South, including China, accounts for the three fourths of the world's population. But it has to content itself with the remaining 20 percent of the world's resources.

No doubt, there has emerged a new awareness among the different nations about the economic inequity. However, any programme for an equitable economic development of the world as a whole cannot be dealt with piecemeal if that world order is to be based on economic equity. The first part of this paper tries to establish this contention by analyzing the existing situation regarding economic equity.

Further, it is also the contention of this paper that the whole approach of the modern economy has failed to contribute to eco-harmony, which is vital to the sustenance of any economy, and that, therefore it cannot bring about economic equity. This will be explained in Part two.

In the light of the conclusions of the first two parts, it will have been established that the modern Western economics which has been accepted all over the world for the past 200 years calls for an alternative. The third and final part tries to establish that Gandhi's ideas of economics, if taken seriously, can provide us with a new framework of economics that is both eco-friendly and economically equitable.

### **I**

#### **The Present Situation Regarding Economic Equity**

The situation prevalent in the international level as well as in the intra-national boundaries of any country does not promote economic

equity. This contention will be established in this Part, by taking three points into consideration. The first two deal with international situation while the last with the regional imbalance within India.

### **1. The Economic Disparity Between Nations**

Ever since the countries of Asia, Africa and Latin America awoke to their political and constitutional freedom, they have been trying to tackle the more important problems of hunger, poverty, unemployment, squalor and disease. But they have not achieved any phenomenal success at all. The main reason is their economic dependence on the West. Though they had won political independence yet they found themselves still bound by categories of thought and action-plans of their erstwhile colonialists especially in relation to economic development.

By 'Economic development' in the Western model, it was taken to mean modern technological development. The West had begun this process some two centuries ago. As such, therefore, it was nearly impossible for the new nations to catch up with the 'progress' already made by the Western countries. It is no wonder that the already industrially developed nations, largely situated in the northern hemisphere, were in a sense stimulated further to consolidate their know hows. Thus the decades that followed the Second World War were marked by a big spurt of technological inventions leading to vast industrial growth and economic affluence in the North, including the former USSR. In sharp contrast to the big spurt of technological inventions in those countries, the new nations were just learning the know how of the new technology. Yet during the decades of the sixties and the seventies they did make some modest economic progress. Late starters as they were, they could never compete with the West. As a result the world economy could not but be unequitable.

Out of concern to rectify this situation of economic disparity there arose many political attempts to bridge the gap. A landmark in this direction was the idea of "New International Economic Order,"<sup>1</sup> first mooted in 1964, in the Second Non Aligned Movement Summit at Cairo. Then the Algiers Non-Alligned Summit gave concrete shape

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1. Rf. A. Gangal, *New International Economic Order*, Chanakya Publications, Delhi, 1985. pp 6-15.

to the idea by putting forward many reformative measures concerning the South-South cooperation and North-South interaction. Finally the Sixth Special Session of the UN General Assembly adopted the "Declaration on the Establishment of a New International Economic Order" for the first time on 1 May, 1974.

To mark the beginning of the New International Economic order, the third World countries demanded from the North a comprehensive deal on a wide range of commodities at the important Conference on International Economic Cooperation (CIEC) held in Paris in 1975. The prospect of a united South controlling the principal commodities and demanding favourable terms of trade in international commerce was not at all pleasing to the North.<sup>2</sup> It was no wonder then that the countries of the North in collusion with the IMF and the World Bank decided not only to dismantle the controls from the South but also bring back the economics of the South under the subjugation of the North.

Organizations like International Monetary Fund (IMF) and International Bank for Reconstruction and Development (IBRD or simply World Bank) were meant to encourage the developing countries to follow the "accelerated economic development". The IMF helped them to deal with the problems of international balance of payment and grant of short term loans, while the World Bank provided them with long term loans for developmental purposes. The countries of the South had already become indebted to the countries of the North and the IMF and the World Bank. Now, the world bank imposed "the structural adjustment loan" on the countries in need of loans and aid. Accordingly, the Third world countries were to abide by the following changes.<sup>3</sup>

1. Elimination of barriers to imports
2. Removal of restrictions on foreign investments
3. Elimination of subsidies for local industries

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2. Koilpillai J. Charles, "The New Economic Policy Or The Recolonisation of India," in Dashrath Singh, *Swadeshi and Concept of Majority Souvenir*, XVI Annual Conference of the Indian Society of Gandhian Studies, Jain Vishva Bharati Institute, Ladnun, 1993, p. 43.

3. *Ibid.*, p. 44.

4. Devaluation of the national currency
5. Reduction of spending for social welfare
6. The gearing of production for exports rather than for domestic consumption
7. Drastic reduction of government regulation of the economy
8. Privatisation of state enterprises

The ultimate objective of the North's strategy was to make the countries of the South subservient to the North, and open up the South for the products and capital of the North.<sup>4</sup>

## **2. The Discriminatory Measures in Dunkel Draft of the New GATT**

The idea of a General Agreement on Tariffs and Trade (GATT) was mooted already in 1948 in order to tackle problems arising out of international trade. But in the course of time, developed nations found that the original GATT must be replaced by new agreement, because the former stood in the way of protecting their interests. After prolonged discussions and deliberations, first USA and Europe agreed on GATT, sealing the prospect of freezing international trade arrangements along the lines of the Dunkel Draft.

Seven years of tough negotiations at Uruguay have been just concluded now (Dec. 15 1993) when the Delegations from 117 countries have approved by consensus a New GATT. This World Trade Treaty is supposed to aim at opening up international markets and spurring global economic growth into the 21st century.<sup>5</sup> But people have come to realize the pernicious consequences of the new GATT. Especially its proposals on patents are clearly discriminatory against those countries which are late starters in industrialization and adoption of scientific technology. They clearly aim of barring developing countries from sprawling their own process technologies.<sup>6</sup> If at all there were to be any leeway left in the new GATT for initiative in the developing countries, the IMF will prevent them from seizing it. For, the very strategy on the IMF is to require the Third World countries to prefer imports to domestic manufacture.

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4. *Ibid.*

5. *Indian Express*, 17.12.1993, news column, p. 12.

6. *Indian Express*, 16.12.1993 "Editorial", p.8.

Just for illustration it may be in order to give a brief analysis of the Clause 27-3-a of the Dunkel Draft. As per the proposal of this clause, "only humans and animals are excluded from diagnostic patentability".<sup>7</sup> In other words, any diagnostic, therapeutic and surgical method would be patentable if used on plants. This is a pernicious discrimination against the agricultural industry in the developing countries. For, it is common for farmers and traders of agricultural produce in India to take advice from extension workers and scientists. At present they pay no royalty for using the diagnostic or therapeutic methods for the treatment of plants. If some of these are likely to be patented according to Dunkel proposals their royalty will be payable by our farmers.

There has already been a row raised over neem tree.<sup>8</sup> A multinational company, W.R. Grace, has a joint venture with P.J. Margo, in Karnatak. According to the present law in US only a synthetic form of a plant product can be patented, not the plant itself. But this company though does not manufacture synthetic azadirachtin, yet it holds patent for the process of extracting the chemical in the form of a stable emulsion or solution. There is a custom among villagers in India to smash the neem seeds, soak them in cold water over-night, scoop the emulsion off the top and throw it on the crops. What the company Grace does is to process it so as to give the emulsion a shelf life and make it transportable. Now under the new GATT, these products like neem seeds can be taken off from community groups and be given to large corporations.

Even there has arisen a scramble for new genes for biotechnology. In Costa Rica an agreement has been signed between Institute of Biodiversity and the US pharmaceuticals giant company by name Merck.<sup>9</sup> The only programme INBIO is to make an inventory of wild plants, insects and micro-organism and supply extra from them for Merck's drug-screening programmes. In return, it is to receive over \$ 1.35

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7. The clause 27-3- a states: "Parties may exclude from patentability diagnostic, therapeutic and surgical methods for the treatment of humans or animals"- as quoted by K.L. Mehra, "Major Andmaly in Dunkel Draft", *Indian Express*, 8.12.1993, p. 13.

8. See, *Indian Express*, News column "Foreign" 15.10.1993. p. 12.

9. T.N. Khoshoo, "Stopping the great gene robbery", in *Indian Express*, 30.10.1993.

millions as well as royalties on the commercial products which may emanate from this work.

It is to be emphasised that under the Intellectual Property Rights (IPR) the transformed micro-organisms, plants and animals can be patented and turned into exclusive private property of these pharmaceuticals giants.<sup>10</sup> Some countries may have a rich bio-diversity, yet, just because they are less developed from the view-point of industrialization and do not have a proper biotech-base, they will have to fall into the clutches of the multinationals. Dunkel proposals on patenting of seeds, plants and genes of the micro organisms gives the developed countries ample opportunities to do it. This is indeed a "pharmaceutical colonialism" and 'gene-drug' imperialism.

How, then, could there be economic equity in the world? Costa Rica is only a small country with 51,000 square km. And its bio-diversity is not as rich as it is in India. It has over 84,500 species of plants and animals which is more than the biological wealth of the USA and Canada. But just because they are advanced in biotechnology they are keen on making a genetic study on bio-diversity of the less developed countries and yet keep the latter under their neo-imperialistic designs. Accordingly the Dunkel proposals have been drafted.

### **3. The Myth of Self-Sufficiency**

The modern economic process of the West has resulted in economic inequity not only at the international level, but also within the national boundaries too. Just to cite an illustration one may recall what happened in India. In the name of "Green Revolution", a whole package of technological practices was adopted: using of high yielding varieties (HYV) of seeds, application of chemical fertilizers and pesticides.<sup>11</sup> The one aim was to get self-sufficiency in food-production.

An important aspect of adoption of Green Revolution Technology was that the whole process could be carried out only in those areas

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10. *Ibid.*

11. Pandurang Hegde, "The Myth Behind Food Self-Sufficiency", *Deccan Herald* 18.10.93, p. 7.

which enjoy perennial water facility. Thus it got concentrated in few areas where irrigation was copiously available, such as Punjab and Haryana while food production deteriorated in other states like Madhya Pradesh, Maharashtra, Rajasthan, Tamilnadu and Kerala. Thus a regional imbalance was created.

Worse still is the imbalance created in the growing of the varieties of food crops. In the beginning of this century, there were more than 3000 plant species of food crops. The adoption of modern technology and manufacture of hybrid seeds has forced the farmers to abandon the traditional varieties. There are just 20 species which are being grown today.<sup>12</sup> The rest is all on the verge of extinction.

Even with regard to the so called high yielding variety, the farmers today realize that to get the yield one needs to increase the input of fertilizers every year. Similarly the use of pesticides also has increased these days. Intensive cultivation throughout the year gives pests all round the year. It has become essential to spray pesticides at regular intervals. Thus today's farmer depends upon industrial inputs like fertilizers, pesticides and agricultural machinery. The prices of these industrial inputs have increased without any consequent increase in the prices of foodgrains. In the initial stages farmers were given government subsidy for these industrial inputs. Now, that the Government is obliged to stop the subsidies as per the prescriptions of the World Bank, the farmers are deeply entrenched in the agro-chemical trap.<sup>13</sup>

The big landowners in collaboration with trade and industry may reap the benefit of free market in agricultural commodities. They are able to force the government to change the laws so that industries can own large tracts of land. But this will drive out the subsistence of small farmer in the countryside. The labour intensive small farmer will be replaced by labour saving machines that grow crops for export market.

Another startling truth is that for the last 10 years farm productivity has come to a standstill. The constant application of chemical fertilisers

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12. *Ibid.*

13. *Ibid.*

has eventually made the soil sterile. Extensive use of pesticide has poisoned the soil and disturbed the surrounding ecology. It has led to extinction of friendly insects that help in crop protection. Even the pests have become immune to certain pesticides making it essential to spray more hazardous pesticides. The net result is that the Multinational Companies which own the fertilizer and pesticide industry increase their profits enormously while the third World countries become more and more dependent upon them economically.

Before the introduction of Green revolution technology India imported food grains. But now it imports agro-chemicals on which thousands of crores of valuable foreign currency exchange is spent every year. The Prime Minister of India, P.V. Narashimha Rao, has stated: "India ought to have multilateral agreements because the country had to import fertilizer machinery and other things which are essential".<sup>14</sup> So whatever be the tall claims made with regard to self-sufficiency of food-grains production, the truth is that the economic dependency of India on the western countries is sought to be maintained in some form or other.

In fine, then, the Third World countries are made economically dependent upon the developed countries either directly or indirectly. The economic inequity cannot be rectified by merely some trade agreements. Trade is essentially aimed at exploiting markets and is pursued by corporate and multinational interests. As such, therefore, it favours only the rich who wield newer and newer technology. The less industrialized countries are bound to suffer from any trade agreements. Especially an agreement like the new GATT will only be a coercive instrument to promote the Euro-American interests of the unipolar World rather than a means of establishing economic equity.

## II

### Counting the Vital Cost of Economy

The foregoing account has hopefully established that whatever be the treaty arrangements made at the international plane, yet

14. *Indian Express*, 18.12.93, p. 9.

there would remain economic inequity in the world, because it is inherent in the very nature of modern economy which is based on heavy technology.

What needs to be considered now is a more serious drawback of the modern economy: viz. that its basic approach has been towards distortion of ecological balance and destruction of the environmental fabric of life. This may be proved by analysing (a) the origin and nature of the modern economic theory (b) its mode of functioning (c) the consequences of the industrial technology as well as (d) those of agricultural technology.

### 1. Origin and Nature of Modern Economics

-The existing theory of Free-Market Economy was started with Industrial Revolution. It is through the new technologies developed during Industrial Revolution that the Western European countries could increase their production more and more with less and less costs. This was a great boon to those countries to maximize their profit.<sup>15</sup> For, as the argument runs, the lower is the cost, the greater will be the demand. The greater is the demand, the greater will be the profit. Therefore, the lower is the cost, the greater will be the profit.

Thus after the Industrial Revolution the western European countries found that they had a technology to maximize profit. Since during the same period, they happened to be colonialists, they exploited their colonies to their own advantage. They made the colonies rich markets for the goods manufactured out of raw materials cheaply available from those very colonies.

Experts in Economics, then, evolved theories in relation to production, distribution, international trade etc.- all with a view to promoting free market economy and rationalizing the new trade potential between manufacturing industries (in their own countries) and those industries that produced the raw materials in their colonies. In all

15. K. Rajaratnam, "Economic Implications of Environmental Rights and Privileges". in *Ecology and Development* ed., Daniel D. Chetti, UELCI/Gurukul & BTE/SSc, 1991 pp. 3-5.

these theories only the visible and immediately handled factors of land, labour, capital and organization were considered as cost factors. Least did one realize that the new technology, both in its process as well as in its consequences, was detrimental to the vital costs to environment. Much less did people realize that the market economy would slowly eat up the very vital of the world economy, namely the ecological equilibrium, the base for life itself.

## **2. Reckless Use of Energy-Resources**

The whole process of modern mechanization depended excessively upon the use of non-renewable resources like coal, lignite, steel natural gas, oil and petrol. Since all these items constituted finite resources, once they were excavated and used, they are consumed once for all. They can never be replenished in the near future. It has already been calculated when coal and oil will be exhausted very soon. If the consumption is going to be at the same speed, oil may exhaust from the womb of the earth by the year 2050, and coal by 2100. So a responsible use of these resources is an absolute necessity. But the modern technology entirely depends upon these resources.

Even in the case of other natural resources like forests, the modern economy has involved an over-exploitative use. Starting of a heavy industrialization project meant destruction of numerous forests – besides the purposive felling of trees for exports. Moreover, a developmental project like construction of hydro-electric dam involved submerging of fertile forests, uprooting not only human habitat but also the rich bio-diversity. It has been calculated that during the last 200 years 19% of the earth's forest cover has already been destroyed. The forest area of the whole earth is 33%. It means that we are left with only 14% of the forests now.<sup>16</sup> The implication is that frequent droughts, greater warming of the earth, rise of sea level, endangering life at the coastal areas are sure to happen and they have already begun!!

## **3. The Impact of Industrial Wastes on the Environment**

The process of large scale production results in a lot of industrial waste, effluents and emissions, causing pollution of air, water and

<sup>16</sup>. Stene Elseworth, *A Dictionary of the Environment*, Paladin Graftin Books, London, Glasagon Collins, 1990 pp. 121-147.

land. For the purpose of illustration the consequences of the pollution for the atmosphere may be recounted here: the excessive wastes from the industrialization-process has affected the atmosphere beyond repair.<sup>17</sup> Over the last 100 years, it is estimated that 1.25 million tons of flint, 1.4 tons of arsenic, 6 million tons of antimony, 1 million tons of cobalt and about 0.8 million tons of nickel – all poisonous substances – have entered the atmosphere. Through the burning of fossil fuel during the last hundred years, more than 240 million tonnes of oxygen was exhausted and about 360 million tonnes of carbon-di-oxide was discharged into the atmosphere.<sup>18</sup> This has led to a higher carbon-di-oxide content and oxygen deficiency in the atmosphere.

It is worth observing the impact of industrial wastes on ocean too. There is a common belief that ocean has "infinite capacity" to absorb any waste thrown into it. It is also true, to a large extent. But today, even that infinite capacity of ocean is curtailed by the industrial wastes. Especially, the sewage from heavily industrialized cities has become the commonest form of pollutant of the sea.<sup>19</sup> Mixing of sewage in the sea is indeed good, if it is within certain limits. The nitrates and phosphates in sewage fertilize sea water, leading to increased growth of microscopic plant life in the sea. This in turn serves as the food for minute animals which end up as food for fish and large sea animals. However, over-abundance of nutrients gives rise to a phenomenon called eutrophication, leading to prolific breeding of the minute plants near the sea surface. This algal boom prevents the sunlight from reaching down, reducing or even eliminating the process of photosynthesis. Thus they use up more oxygen. When they die in large numbers and get decomposed by bacteria, further depletion of oxygen takes place. Fish and other sea animals, therefore, die in great numbers.

#### 4. The Results of Agricultural Technology

In the name of agricultural technology the Western countries made use of chemicals in the form of pesticides and fertilizers. But the consequences of such a process have' been so toxic that at

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17. R.D. Lodha, *Environmental Essays*, Ashish Publishing House, New Delhi, 1991, p. 8.

18. *Ibid.*

19. B.F. Chhappgar, "Marine Pollution", *The Hindu Survey of the Environment 1993*, Annual, Madras, p. 62-63.

present their government have banned the use of Benzene Hexa Chloride (BHC) and Dichloro - diphenyl - tri Chloro - ethane (DDT) on vegetables, fruits, oilseeds and cereals. But farmers of the Third World countries who find these cheaper and easier to handle use them on vegetables and other crops. These chemicals are dangerous because they get deposited inside the human body as they are fat soluble, and when they reach a certain concentration in the body, they can play havoc with health and even doctors may not be able to detect the precise reason for the ill health of a person. When these chemicals join the sewage, there is a serious trouble too. For, when such a sewage joins the sea fish that is growing in the sea water with just 0.1 part of DDT per billion parts water will have 57 mg DDT per kg body weight. This increases to 800 mg per kilogram in sea gulls which feed on these fish.<sup>20</sup>

DDT has reached even remote places like the Arctic Circle and the Antarctica where there are no farmers to use it in those remote areas. Yet Polarbears, Seals and Penguins have DDT in large concentrations in their bodies. Dr. David B. Wingate had been struggling to breed a sea-feeding bird called Cahow in large numbers in order to save them from extinction.<sup>21</sup> However, he eventually began to lose hope in his attempt. For, the chicks were not hatching any longer in the same proportion as they had been formerly. He even found that they were hatching less and less. Out of anxiety and curiosity Wingate took embryo-chicks out of the eggs and dissected them. To his surprise he found that the tissues of the embryo were filled with DDT, Then he found out the reason for their extinction. It must be emphasised that this Cahow is a sea-feeding bird and never feeds anywhere near land. That means the DDT has been carried to the Atlantic ocean, polluting the whole sea.

## 5. "Toxic Terrorism"

Still another consequence of the industrialized economy of the western model is the accumulation of toxic wastes it created. The Synthetic materials which are not bio-degradable, are simply thrown

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20. *Ibid.*

21. As cited in A. Pushparajan, *Search for Peace: The Gandhian Techniques*, India Peace Centre, Nagpur: No date, p. 56.

after use. But they become a big nuisance. Just in a year's period (1969) North America threw away 54 billion tin cans, 32 billion glass containers, 4 million tons of plastics and more than 1 million television sets.<sup>22</sup> Around 10 million automobiles were junked each year. These wastes were first buried in the Land or sea or lakes. Eventually they began to oxidise and poison the atmosphere.

The Industrial wastes got accumulated so much in America that the US government entered in transnational trade in wastes also. The transportation was done so swiftly that, by 1983 cargo of toxic waste in the early eighties "crossed a national frontier more than once every five minutes, 24 hours a day, 365 days a year" within Western Europe and North America.<sup>23</sup> And the less developed countries in Africa and Asia and Latin America all earned hard currency by allowing to dump poisonous substances within their national boundaries.

The rising public awareness about the health hazards of these wastes product and their anti - dumping lawa in their own territories have driven the world's wealthiest countries to export these wastes to poorer countries. More than 3 million tons of wastes were shipped from the industrialized world to the less developed nations, between 1986 to 1988. In the eyes of the third world countries the amount of money to be earned by import of these wastes was so large that they could not refuse to enter this trade, despite the health hazards and environment risks.<sup>24</sup> The West African nations of Guinea-Bissau, for example, hoped to make \$ 120 million a year by agreeing to store industrial wastes for the simple reason that the amount was more than the total annual budget. It was only public protests that finally forced the Government to back out.

Worse still, wastes such as mercury residues, lead acid batteries, and other refuse metals were transported to the Third World countries for the purpose of re-processing and recycling. Thereby, some valuable materials were extracted from those "wastes" by low-paid laborers

22. As quoted from Lynn White Junior's essay *Eco-Spirituality And Environmental Ethics for the Church in India*", in *Towards an Ecological World View*, Ed. Bennet Benjamin, The NDAC and the NCCI Nagpur, No date, p. 20.

23. Jagjit Singh, "The Threat of growing waste" in *Indian Express*, 20.12.1993, p. 8.

24. *Ibid.*

of the Third World countries and in the work-places where safety rules and enforcement are far less stringent than those in the First World. By these industries not only the health of the workers but also that of the people living near these factories is threatened on account of the choking fumes and lead-dust.<sup>25</sup> In addition to it, a large part of vegetation is killed by the ash, emitted by the factories of this sort.

## 6. The Fundamental Mistake of the Modern Economic Theory

From all the considerations, made above, it follows that the modern economy based on massive industrialization has manipulated nature, people and nations, to serve the economic interests of the already developed nations. But the most basic mistake of the modern Economy is its false assumption that our environment has inexhaustible source of supplies to be exploited and that it has infinite capacity to adjust to the ecological stresses. The environmental degradation caused by massive pollution of air, water and land, has reached to such acute level that threatens the very life of the earth. So nature has clearly warned us that if the present rate of pollution of air, water and land persisted the biological rhythm on the earth would be irreversibly upset. It cannot ultimately avoid being destroyed. Fast depletion of non-renewable resources, the problem of Green House effect and global warming, and the menace of acid rains, depletion of ozone layer<sup>26</sup> are all problems that have a catastrophic effect on the 'ecosphere', the base of any economic enterprise.

The effects of the market - economy on Environment over the past 200 years were slow and remote. Therefore people did not realize it. But today the damage of environment has become clear-cut and visibly manifest. Even the destruction of the Environment is felt to be immediate. This cost of environment then has to be taken as part of the cost of production. It is no wonder that the challenges of protecting the environment are all seen today as economic problems.<sup>27</sup> Cleaning up the pollution in the earth is an economic problem, especially for the poor countries that are polluted by the rich countries

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25. *Ibid.*

26. For a brief but lucid explanation of these problems, see A. Pushparajan, *Ecological World-View for a Just Society*, ISPCK, Delhi, pp. 44-47.

27. K. Rajaratnam, *op.cit* 15.

but do not have resources to clean up the pollution. The challenge of a sustainable development is itself an economic problem.

### 7. The Possibility of an Environmental Economics ?

The ecological challenges of today have finally driven the otherwise "developed" nations to feel united with the less - developed countries. It is the ecological crises that have made people to finally realize that Environment - issue is a vital factor of a sound Economics. This people have come to realize only because they have seen face to face how the free market economy over the last two hundred years has destroyed the life - giving resources and has brought humankind to the brink of disaster. The very framework of the modern economy has betrayed its own nature that it is detrimental to the vital cost of economics and beckons us to keep "Environmental Economics" as guidelines for the cost structure of planning and development.

It is not without significance that the term "ecology" and "economy" are both related to each other even etymologically.<sup>28</sup> They both are derived from the Greek word *OIKOS*, meaning "house". Ecology indeed refers to the one earthly habitat which all human beings share with plants and animals and microbes too. More specifically it refers to the mutual relations between organisms and their geo-physical, chemical and biological environment. The term 'Economics' derived from the same root-word, refers to "management of the whole cosmos" considered as one house. So it is supposed to inculcate in human beings the knack of living harmoniously within the necessary limits that the goods of the earth set for us, the art of common survival or sustenance wherein all of creation and its immense wealth is celebrated in balance and harmony. If ecology refers to the creation which is self - maintaining, well integrated and interacting, economics refers to a careful management of the system. It is the failure to maintain this system that is precisely the central mistake of the modern economics. It is at this critical juncture that one looks for alternative economics. Whether it is really available is the question that remains to be probed now.

28. Arvind P. Nirmal "Ecology, Ecumenics and Economics in Relation: A New Theological Paradigm," in Daniel D. Chetti, *op. cit.* p.18.

### III

#### **An Alternative Economics (Gandhian?)**

The conclusions of both the previous parts of this paper have jointly established one truth viz. that modern economics has failed not only to provide the world with economic equity but also to take note of the sustenance of the ecological system as a vital factor of a sound economics. This urges us now to look for an alternative economics which is both equitable as well as eco-friendly. This is precisely what Gandhi's economics stands for. This part of the paper tries to establish it.

Gandhi was not a professional economist or ecologist. He had never spoken or written on economics or ecology as such. However, Gandhi had not only proffered some insights into the very same problems we are facing today, but also suggested some solutions in the same way that experts are suggesting today. Compiling the profound thoughts of Gandhi on the subject it is possible to construct a system of Gandhian "environmental economics". But it is beyond the scope of a paper of this type to elaborate the Gandhian economic system. It is nevertheless possible to recall to mind some of his "fore-sightful" economic thoughts and indicate their relevance.

It will be a big surprise to note that his ideas are comparable to those that have been suggested by experts today. The most authentic treatise that brings to focus the relation between Environment and Economics is the Report of the UN World Conference on Environment<sup>29</sup> Not only does it enumerate the problems the modern economics have wrought on environment but also it suggests some concrete measures to overcome them. The following may be called as the most important of its suggestions:<sup>30</sup>

1. The Atmosphere
2. The Waters
3. The Soils

29. The Report is published under the title *Our Common Future*, by WCED, World Commission of Environment and Development, 1987.

30. The original text is reproduced by K. Rajaratnam, in Daniel D. Chetti *op.cit.* pp.11-12.

#### 4. The Living Beings

#### 5. Conservation of Plant life

It recommends the humans to build up a living relation with Nature as a whole, and use of nature resources with restraint.

Corresponding to each of the points, made above, we may now recount what Gandhi has to say in order to see the depth and the relevance of Gandhian economics.

##### 1. On the Air

Man can live without food for several weeks, without water for some time, but without air, he cannot live for more than a few minutes. God has, therefore made air universally available. Shortages of food or water there may be at times but of air never . . . Anyone who fouls the air by spitting about carelessly, throwing refuse and rubbish or otherwise dirtying the ground, sins against man and nature.<sup>31</sup>

##### 2. On the Waters

Next to air, Gandhi said water is a necessity of life. We cannot live without it for more than a few days, just as without air we cannot live more than a few minutes. Therefore as in the case of air, nature has provided us with ample amount of water. Man cannot live on barren land where there is no water. Vast tracts of desert land lie utterly uninhabited. No wonder Gandhi had developed great respect for the rivers. He viewed them as parts of one organism. Referring to the great rivers like Ganga and Jamuna, Gandhi said:

They remind us of the sacrifices we must make for the sake of the land we are living in. They remind us of the process of purification that we must continuously go through as the rivers themselves are going through from moment to moment.<sup>32</sup>

Gandhi was therefore right in lamenting over the fact that people failed to recognize the rivers as living organisms and that, instead of respecting them, they were polluting them. As early as in 1926, Gandhi expressed his anguish in the following words:

31. *Collected Works of Mahatma Gandhi (CWMG)*, Information Broadcasting Publication Division, Government of India, Vol. 83, pp. 315-316.

32. M.K. Gandhi, *Key to Health*, Navajivan Publishing House, Ahmedabad, 1948, p.5.

In the modern rush, the chief use we have for our rivers is to empty our gutters in them and to navigate our cargo vessels, and in the process make them dirtier still.<sup>33</sup>

### 3. On the Soil

Recounting the beneficial qualities of the earth, Gandhi said:

The ground is coated with mud to destroy odours, earth is sprinkled over refuse, dirty hands are cleaned with earth the private parts can also be wiped clean with earth. Yogies coat their bodies with mud . . . We filter water through sand or earth in order to purify it. Finally, dead bodies buried in earth will not pollute the air.<sup>34</sup>

Therefore Gandhi advocated a proper enrichment of earth: It has long been recognized that adequate and systematic recuperation of organic matter in Indian soils must be part of any successful scheme for intensive agriculture.<sup>35</sup>

When Gandhi talked about organic matter he did not talk only about the costly way of dumping green leaves, but he was for practical ways of dumping daily wastes too: The daily waste, judiciously composed, returns to the millions of rupees and increasing manifold, the total yield of grains and pulses.<sup>36</sup>

Still another practical way of replenishing soil, according to Gandhi was burial of dead animals:

Except the skin and fat of the carcass, every other product returns and can be returned to earth as manure, which revitalises it. The carcasses of small animals are straight away buried and become valuable as manure. Of the carcasses without skin and fat are returned to soil, there is no loss economically, but instead, in an agricultural country like ours, it seems such

33. *Young India*, September 26, 1929, p. 395. Republished by Navajivan Trust, Ahmedabad, Vol XI.

34. *Ibid.* p. 446.

35. *CWMG*, vol. 12. p. 79-80

36. *Harijan*, Vol. III August 17, 1935. p. 213.

a burial of the carcass would be a valuable gain in replenishing the soil.<sup>37</sup>

Gandhi was deeply worried about the impact of these chemical fertilizers on the soil. Pyarelal reports that Gandhi warned them that trading in soil fertility for the sake of quick returns would prove to be disastrous short-sighted policy. It would result in virtual depletion of the soil. Good earth called for the sweat of one's brow to yield the bread of life<sup>38</sup>.

No wonder that J.C. Kumarappa, one of his close associates emphasised our obligation to replenish the soil:

We must replace what we take from the soil. The harvesting of crops leads to the impoverishment of the soil which should be replenished by cattle dung and by ploughing in of grasses. But chemical fertilizers affect the soil in much the same way as drugs affect the human body. They produce temporary exhilaration, and then there is relapse. Bumper crops are obtained but they cause new diseases and deficiencies in the soil . . . Chemical sprays affect the crops adversely and shorten considerably the life of the soil itself.<sup>39</sup>

#### 4. Living Beings

It is unique of Gandhi's perception of the realization of purity and integrity which demands to maintain relationship with other creatures:

I do believe that all God's creatures have the right to live as much as we have. Instead of prescribing the killing of the so called injurious fellow-creatures of ours as a duty, if men of knowledge have devoted their gift to discovering ways of dealing with them otherwise than by killing them, we would be living endowed with reason and the power of chooding between good evil, right and wrong, violence and non-violence, truth and untruth. I prefer to be called a

37. *Ibid.* p. 484.

38. *Harijan*, vol. I, Ap. 8, 1933. p.6.

39. *Ibid.* vol X, August 25, 1946, p. 281.

coward or a fool or worse, to denying for the sake of being considered a wise man what I believe to be a fundamental truth of life.<sup>40</sup>

Even with regard to infectious animals, Gandhi said:

Rats and fleas spread infection and the experts say that these have got to be exterminated. But rats and fleas are messengers of God. God speaks to us through them. In villages where nature has blessed you with the finest climate and healthiest soil, as I can see with my own eyes, you have so infringed nature's rules that plague seems to have come to stay. You may destroy some rats and fleas, but they have a knack of appearing again and again, if you do not make your houses and the surroundings inhospitable to them.<sup>41</sup>

## 5. On Conservation of Plant Life

Trees are living beings just like ourselves. They live and breathe, they feed and drink as we do, and like us they need sleep. It is wretched thing to go and tear the leaves off a tree at night when it is resting!<sup>42</sup>

When somebody plucked more leaves than necessary Gandhi lamented at it:

Why have you brought such a huge quantity? Only a few leaves were necessary. Surely you heard what I said at the meeting yesterday about the poor flowers and how deeply it pains me that people should pluck those masses of delicate blossoms to fling in my face and hang round my neck. Was not it thoughtless to send some one out like that to worry and pain a tree at such a late hour when it had folded its leaves in sleep? We should feel a more living bond between ourselves and the rest of animate creation.<sup>43</sup>

40. *Harijan* Vol. X Ap. 14, 1947, p. 279.

41. *Harijan*, Vol. IV, January 9, 1937, p. 382.

42. D.G. Tendulkar, *Mahatma* The Publication Division Ministry of Information and Broadcasting, Government of India, 1951. vol. IV, p. 30.

43. *Young India*, vol. XI, Dec. 5, 1929, p. 395.

In the light of such an expectation of Gandhi, it will be clear why Gandhi appreciated the practice of Tree worship.

It symbolises true reference for the entire vegetable kingdom, which with its endless panorama of beautiful shapes and forms, declares to us as it were with a million tongues the greatness and glory of God.<sup>44</sup>

## 6. A living Relation with Nature as a Whole

In the last moving world today, people are fond of going by motor vehicles. But Gandhi expressed his grief over it: We have no time to stroll down to these rivers, and in silent meditation listen to the message they murmur to us.<sup>45</sup>

Quoting with approval the words of Lord Gorder, Gandhi observed:

Walking and hiking, outdoor games of all sorts – playing them ourselves and not watching others play them – bicycling, swimming, gardening, digging in allotments, things that bring us once more into contact with mother earth, the sun, the wind, and even the rain, all these make for health more readily and more pleasantly than anything we do at the bidding of the drill sergeant or the gymnasium instructor. "Exercise" would not be a bad slogan in this matter.<sup>46</sup>

## 7. Use of Resources with Restraint

In the name of economic development there has been indiscriminate use of natural resources, disregarding the ecological implications of such an approach. Little do the present day people realize that their greed alone is responsible for the present impasse. The Earth provides enough to satisfy every man's need but not every man's greed. Gandhiji said:

I venture to suggest that it is the fundamental law of Nature, without exception, that Nature provides enough for

44. *Ibid.* p. 395.

45. *Young India*, vol. XI, september 26, 1929, p. 320.

46. *Harijan*, vol. VIII, Sep. 30, 1939, p. 287.

our wants from day to day, and if only everybody took enough for himself and nothing more, there would be no pauperism in this world, there would be no man dying of starvation in this world.<sup>47</sup>

Particularly from the standpoint of economic equity Gandhi gives the following argument:

In India we have got three millions of people who have to be satisfied with one meal a day, and that means consisting of a chapati containing no fat in it and a pinch of salt. You and I have no right to anything that we really have until these three millions are clothed and fed for better. You and I, who ought to know better, must adjust our wants, and even undergo voluntary starvation in order that they may be nursed, fed and clothed.<sup>48</sup>

This argument is applicable to the world situation too:

The starvation of people in several parts of the world is due to many of us seizing very much more than they need. We may utilize the gifts of nature just as we choose, but in her books the debits are always equal to the credits. There is no balance in either column.<sup>49</sup>

Gandhi's optimism was tenable perhaps at that time when the scientific intrusion was rather minimum. But today the intrusion made by massive mechanization in the name of cash crops has been so cruel and so intensive that it is beyond repair. At this juncture it is good to remember Gandhi's preconditions, which he prescribed if this dismal situation were not to happen:

The Production of crops should be controlled keeping two considerations in mind. (1) The locality must try to produce its own food requirements, and raw materials required for primary necessities of life in preference to commercial crops. (2) It

47. R.K. Prabu, *Mohan Mala (A Gandhian Rosary)* Navajivan Publishing House, Ahmedabad, 1949, pp. 20-21.

48. *Speeches and Writings of Mahatma Gandhi* published by G.A. Natesan & Co. Madras 1933, 4th edition. p. 385.

49. M.H. Desai, *Ashram observance in Action*, Navajivan Publishing House, Ahmedabad, 1955, p. 63.

must try to produce raw materials suitable for village industries rather for factories.<sup>50</sup>

To put it differently, then, we make use of mechanization in agriculture provided (1) we aim at fulfilling the primary needs of the villages, rather than commercial purposes, and that (2) we try to produce raw materials for promoting the village industries. Thus a reorientation of technology in terms of village industries was necessary, according, to Gandhi.

We have not cited, nor considered here any of Gandhi's condemnations on massive mechanization as they are all too common. It is along with his critical remarks on massive mechanization that his constructive ideas of re-orientation of technology, promotion of village industries, village-level planning, village-level marketing must be taken into consideration. Over and above, there must be an attempt at achieving self-sufficiency and adopting simplicity of life-style. All these then, would constitute the principal factors of Gandhis economics. Gandhian views, taken seriously, cannot but lead to sustainable development resulting in eco-harmony and economic equity.

### Conclusion

The first two parts of this paper have hopefully brought out the close connection that exists between situation of economic inequity and the so called developmental economics which is eco-destructive. As such, then, it is clear that modern Free Market Economics can neither give economic equity nor help to sustain eco-hormony.

It is at this juncture that humankind is urged to look for an alternative. And, Part 3 establishes the possibility of finding that alternative in Gandhi.

Gandhi was not a professional economist, nor an ecologist. Yet his insights into the problems of economics and ecology have proved to have been eminently scientific and extremely rational.

At that time the world did not give a serious hearing to Gandhi. On the contrary, he was even considered a faddish thinker. His views on economics were taken to be reactionary. He was falsely understood to put the hands of the clock back and to sail against

50. *Harijan*, vol. X May 12, 1945, p. 127.

the wind. However, today there is a growing evidence to prove that "limit to growth" is a must. Survival of humankind and Eco-sustenance is itself at stake.

The fundamental question is whether we can harness modern Science and Technology for giving humankind a comfortable living with dignity? Or, shall we carry on with unsustainable consumption - pattern that has been followed by the richer countries over the past 200 years, and end up with a widespread destruction of the natural resources and termination of eco-harmony?

If the humankind is prepared to develop the appropriate adjustments in its technological approach, and safeguard biological and ecological principles in its approach, in the Gandhian way, we would be creating a comfortable life for all, sharing the fruits of technological changes equitable throughout the world to ward off hunger, disease, unemployment and malnutrition. On the contrary, if we decide to go on with the same pattern of luxurious extravagant life-style that has been tried in the North so far we are sure to dash headlong and eventually face mortality!