

## Energy Conservation-Ecological Perspectives

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*Present paper deals with energy conservation-ecological perspectives. Various ecological/sociological factors have been discussed. It is recognized that "poverty alleviation and pollution" go together. The principle of "conversion of waste into resources" has been emphasized.*

### Introduction

Energy Conservation has been of importance and is more so with the resources becoming scarcer and scarcer and material balances putting strain on the environment as to adversely affect its sustainability with the ever increasing demand on it for supporting increased pace of economic activities. The situation is worse for the developing economies where a substantial component of the population continues to live below the poverty line. Overuse of the scarce resources is causing excessive release of pollutants into the environment which is responsible further for strain on the sustainability of environment. Industrial activities, therefore, need a relook in case such sustainability is not to be permitted to further slide down and in the process, make the planet increasingly hostile to the very existence of the humans. Major macro-scale anticipated ecological disasters have necessarily their base in the micro-scale environmental conditions which need a pro-active policy to mitigate probable consequences providing still for the economic growth parameters for the needed upliftment of the economic status of the population.

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It is well known that over the years, there has been an increasing gulf between the "haves" and the "have-nots", and despite this having been recognized as a "threat" to the social structure of humanity in case such a gap is not bridged, steps taken are grossly inadequate. Its recognition in Agenda 21" of the Conference on Human Environment at Rio in 1996 does not appear to provide for the needed support base not only for the developing economies in the areas of technology upgradations but also in physical contributions to check the deteriorating environmental scenario of the world. The so-called impending ecological disasters are being exploited to benefit the developed economies at heavy costs to the developing ones, The lip service to the environment needs to be replaced by some positive actions with the needed support for the developing economies for technologies as will be more eco-friendly. Funds, without strings which generally benefit the developed economies, need to become available to the developing economies so that the eco-friendly technology transfer is effective in efforts towards better status of the environment in the future.

### Ecological/Sociological Disasters

Ecological factors are being subjected to ever increasing stress as a result of intensified economic activities that are carried out without internalizing environmental concerns. It has been recognized that no country or issue can be resolved without global intervention not only because the issues cease to have relevance on the micro scale only but because of the issues acquiring concerns not only from the environmental angle but can have serious sociological implications as well. It has been recognized that "poverty anywhere is dangerous for the whole society" needs to be recognized and implication projected to prevent social upheavals of global importance. It has also been recognized that poverty alleviation programmes have inherent implications of pollution and

such pollution can have impacts on the basic elements of environment in the primary stages itself or the impacts can be delayed, may be, with more serious results where impacts can be complicated by interventions of other factors/elements in their complex interactions. The aspects of the carcinogenicity/mutagenicity/teratogenicity on the humans needs to be addressed in case such consequences have high probabilities given that over 600 chemicals are being synthesized every year for use in diverse areas sometimes as replacements for the known carcinogens. It being recognized that “poverty alleviation and pollution” go together and that pollution is nothing but wasteful use of resources and their derivatives/end products, it needs to be emphasized that these “by-products” are addressed in a manner that: Such by-products are reduced from release into the environment as to affect the elements of the environment or Such by-products are used elsewhere as raw materials so that the net effect is complete elimination of such by-products. The principle of “Conversion of waste into resources“ needs to be given due place in area of internalization of environment in every aspects of human enterprise, not necessarily only in respect of the industrial activities. And the lip service to such a principle/philosophy needs to be brought to a stop.

We are talking of the impending “ecological disasters” but are, at the same time acting in counter directions and through these, are helping to accelerate the process of such disasters. Examples of such impending disasters recognized are:

Increased/enhanced health hazards of the pollutants released into the environment, widening and developing of the effects, Environmental complexities introduced by the fast-track developments in alternatives/substitutes to earlier known toxic materials, Practically uncontrolled deforestation, Increased vulnerability of the environment to sustain activities of a complex combination as to compound the impacts rather than those that are counteracting in their characteristics and finally The widening gulf between the principles and practices with the intervention of slow managerial processes that are more of problem- avoidance rather than problem solving in the results.

The above state of affairs has been responsible for worsening of the situations making the subject of “environmental problems” more a fashion to talk about rather than a subject to be incorporated as an every day priority in the gamut of decision-making in all the economic activities and “implementation” and not “debate” be given due consideration in case the disastrous situations are to be prevented.

### **Prevention – Better Than Cure**

In the hierarchy of pollution management it has been recognized that the prevention is best solution but such prevention is not always the best or the most cost-effective choice requiring, therefore, other alternatives, down the line, to ensure that the economic activities are carried out in an environmentally acceptable manner. Every pollutant or waste generated amounts to loss of energy somewhere within the total system. The best choice should, therefore, be with underlying objectives of waste reduction or its utilization as a parallel activity. That is recognized but not addressed will be clear from some of the instances one comes across in daily life particularly in the context of country’s capital, which was gained the notoriety of being one of the ten most polluted places of the world.

### **Leaf Litter In Urban Areas**

Delhi has been stated to generate anywhere between 40 and 200 tonnes of leaf litter a day which is burnt, even if surreptitiously within the urban areas. A substantial component of such leaf litter is in respect of eucalyptus burning of which results in increase in volatile hydrocarbons in the atmosphere, a known hazard when subjected to chemical/physical reactions with other oxidants to result in formation of smog. This being despite a thermal power plant, based on such and other urban waste as the source of heat, being available but not even commissioned for the reason that “classified waste” is not available. And such “classification” at what cost to the tax payer in terms of maintenance of such a plant with no commensurate benefits.

## Biological Waste

A lot is said about non-conventional sources of energy and persons of the status of Delhi's Mayor says that parts of Delhi "look like public lavatories". One needs to point out to such persons that that is an understatement and that many parts of Delhi "smell" like such lavatories. One needs to travel by open vehicle/train to know the spots. No effort worth the name has been made, even with the involvement of other authorities like railways/PWD etc. for conversion of such biological waste into energy. The lead taken by Sulabh International needs to be recognized and areas can be lit by such energy as was done, for the first time in the country, in Patna where entire Baily road has been lit through power generated by such human waste.

## Poly Bags

This is an area, which probably gives to the country the rare distinction of being the first in the world to ban poly bags on the plea that these transmit infectious, and may even cause contagious diseases too. No evidence is put forward and the decisions are unilateral and without analyzing the ecological consequences of such decisions. The only substitute that one gets in mind is paper but at what cost to the green cover which dwindling at a very fast pace and without any check.

Disputing the remotely sensed data, for the dwindling green cover, is no justification for such decisions. It is further, pretty well known that the poly bags, when burnt in the open, release extremely toxic substances and one feels that "rag pickers" are doing a service to the society by reducing such open burning and at the same time utilizing these as a resource for reprocessing. If the reason behind such a ban, besides the transmission of disease as claimed, is the choked sewers one cannot hold the bags responsible for bad sewers and absence manhole covers. It also needs to be highlighted that the rag pickers, by earning some food through the job, have to complete for their food with the street pigs. Has any decision-maker "seen" or "heard" about the fate of such rag pickers.

## Forest Cover

It needs to be recognized that energy generated by an eco-system is more than that generated by a mere tree cover without other biotic components playing an active part. But here again no effort worth the name has been made over the decades. Extensive backlogs of wastelands generated, of the different uses to which these were put and these including those that were earlier in forest use, exist and increasing. Even whatever forest cover is available it is, to large extent, in a degraded shape. Ecological structure has gone astray because of perturbations of the ecological niche that was available in the areas. National Wastelands Development Board (NWDB), constituted under the Ministry of Environment and Forests had, later, given place to National Mission, under the Ministry of Urban Development, but there does not appear to be much change as a result of which check on the downslide of the ecological structure of such forest areas. As a result of such a situation impacts are very adverse as resulting from:

- i. Migration of biotic species thereby affecting the ecological niche and hence its productivity,
- ii. Such migration of species, as are parasitic in nature, causing other problems of ecological changes in the neighboring eco-systems,
- iii. Large-scale destruction of wild-life, despite all the "Projects" funded by national and international agencies for its protection, causing further degradation of the forest cover through encroachments by domestic animals. Blaming the tribals for such a state of affairs is uncalled for since such degradation, by no stretch of imagination, be attributed to them,
- iv. Lack of zero-based assessment of plantation jobs for conservation, and not greening and population assessment of wild animals. Mono culture plantation is more a rule rather than an exception and "skinning" of wild animals in captivity cannot be explained for the factor of "tribals",

## Conservation Needs

It has been stated everywhere that every unit of energy saved is energy generated but does one's heart go into such statements, which is the responsibility of everyone to act. It is apparent that the environmental philosophy *NIMBY* holds well even in the area of conservation of energy, you can talk about it and others to act upon it and you wish to be the exception. Mere slogans will not serve the purpose, some of this need to be translated into action. In the ecological parlance a narrow view will not serve the purpose and every aspect of an activity needs to be examined not only in respect of its primary impacts but all those down the line need to be examined if the planet has to continue to be conducive to the survival of the human race.

In the context of our country it appears that the decision makers are interested only in populist words and phrases and the voluminous ATRs but not in actions. The philosophy of conversion of wastes into resources needs to be brought home to them. There has, further, to be limit to "judicial activism". which has been decried by some, but governmental inaction has made it necessary for such activism to come to the rescue of the common man and the taxpayer. But even well meaning judicial orders can be thwarted by the decision-makers through ATRs and Committees. Stopping of mining activities in Doon Valley or Haryana is no solution, and same applies to exploitation of the hydro-potential of the "Silent Valley", when operations can be carried out in an environmentally acceptable manner. There are instances where ecological productivity has been obtained, in case of mining by opencast mining of coal, in ice capped mountains where conservation needs to be planned and implemented within weeks and not years and in areas agricultural productivity has been restored, and in some circumstances improved upon, compared with the pre-mining levels. What one needs is not only framing of "rules", "Environmental Management Plans" and "Disaster management Plans" but their implementation in words and spirits but in case "framers" of such "rules" have to be the first violators then it is better not to talk about environment and its conservation. The decision makers can learn lessons from "examples" of such conservationists who have done tremendous service to the cause without framing any "rules" but through their will they have shown results. Examples of some such "greening" jobs need to be seen in remote areas where our Armed Forces have established greenery where our "Arid Zone Research Institution" has miserably failed. One has to go to some barren areas of Rajasthan providing for an oasis in the otherwise arid region. "Rajinder Singhs" need to be encouraged and not proceeded against and likewise "Sansar Chands" need to be proceeded against and not accorded the "privilege" of bail when caught in possession of hundreds of skins of rare animals.

In the electrical parlance one is given to understand that the "transmission losses" are very high. And such losses cannot be explained by any stretch of technical imagination or is it that we are just not interested in finding out the causes. One need to read between the lines of a bill board in a board room which asks the question "are you all here for solution to a problem or you are part of it?" which is the only explanation that one can possibly give for transmission losses to the extent of 56% in some of the localities not very far away from this place.

## Suggestions

It is felt that the issues need to be resolved dispassionately and impersonally and the decision makers must part with their populist approaches and stop treating these and other issues with a mere lip service and stop the committee system where the actions are sought to be diluted. Zero-based analysis, against the statistical analysis that suits some desired ends without regard to their technical acceptability, must form the base for the decision makers to start from and thereafter take actions for getting decisions translated on the ground. The long-term, against the short-term, benefits be assessed with their costs for the best interests of the man-in-the-street and the nation as a whole. Irrationality in the decision making process, which has become a trend and a fashion, must give place to technical evaluations and counting the votes in practically every sphere of public life must come to a stop.

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