

THE RATIONAL PATTERN OF DEVELOPMENT ECOLOGY IS PERMANENT ECONOMY

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Abstract: Nature provides us in abundance, but it takes back in equal measure when exploited recklessly. It must be ensured that the demand on the environment from which we derive our sustenance, does not exceed its carrying capacity for the present as well as future generations. Development without considering an optimum utilization of natural resources can only be a short-term achievement. In the long-run, it would add to the process that would advance only at the cost of enormous human suffering, increased poverty and oppression. The environmental consequence of the so called economic development at the cost of ecological destruction tend to offset many benefits that would accrue to country's individuals and societies on account of the higher or increased incomes. This paper is conceptual and providing suggestion for improving the nature as well as society. Also paper attempts to give a concrete solution to save the planet that is on the brink of extinction due to reckless and shameless ecological degradation in the name of development, but rather affluence.

Key words: Environment, Ecological, Development, Nature

JEL Classification: F14, L6, C22.

INTRODUCTION

From all that we observe, study, write, discuss, experience and capture from discussions with enlightened minds, both our conscious and subconscious mind continues to absorb and filter the relevant knowledge especially in the field of one's interest and that widens the mental horizon to provide concrete meaningful solutions to the problem faced by Nations. And hence is able to give meaningful concrete and relevant suggestions to stem the tribulations.

These would appear in the form of cost on the health of our human resources, their longevity and on quality of life on account of deterioration in the environmental quality, to state a few. Moreover, ecological destruction, which affects the productivity of the factors of production, in turn undermines our future attainments and productivity. By equating development with affluence we are

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digging our own graves and heading towards the collapse of ecological system thereby leading to the doom of the civilization.

In 1924, the father of our nation, Mahatma Gandhi, drew our attention to this aspect and asked us to maintain a healthy balance between economic growth and ecological environment emphasizing that ecology and economy have common roots, which need to be nursed by proper education. Noted environmentalist, Mr. S.L Bahuguna of the Chipko-Movement-fame a living legend and voice in for ecological concerns the world over minces no words in stating that the question is no longer one of striking a balance between economic development and ecological degradation but one of survival or extinction. Moreover, true development is always based on a judicious balance between immediate and long-term requirements. Development can hardly be sustained when the natural resources of soil, water and vegetation, the basic economic capital of a country, are depleted recklessly and shamelessly raped. An identical view has been expressed by Jayanta Bandyopadhyay (1988). He wrote that “the resource demand of development has led to the narrowing down of the natural resource base for the survival of the economically poor and powerless, either by direct transfer of resource away from basic needs, or by destruction of the essential ecological processes that ensure renewability of the life supporting natural resources”.

Macerice F. Strong, Secretary General of UNCED 1992, remarked in 1989: “We have been literally living off the Earth’s capital, and that capital is being seriously depleted. We cannot continue to run our planet this way any more than we could run a business for long by running down and living off its capital. Indeed our Earth, if it were an incorporated entity would be headed for bankruptcy if we continue on our present course.”

Richard St. Barbe-Baker said the same thing in a more telling way: “This generation may either be the last to exist in any semblance of civilized world, or it will be the last to have the vision, the bearing the greatness to say: ‘I will have nothing to do with this destruction of life; I will play no part in this devastation of land; I am determined to live and work for peaceful construction, for I am morally responsible for the world of today and the generations of tomorrow.’ “

Man has no choice today but to move towards a sustainable environment by preserving its natural wealth, thereby moving towards a secure future. An unbroken link with Nature and life has to be re-established. Development must aim at improving the environment for living; providing food, water, sanitation and shelter; turning deserts green and country-area habitable. Higher standards of living must be achieved without alienating people from their heritage, and without despoiling Nature of its beauty, freshness and purity, so essential for survival.

We need to start changing our behavior. We need to change direction, and we need to change it now. We have to start somewhere to come to the right path the ecological path. Still it is not too late for a beginning. We need to ask ourselves and we need to act before it is too late.

REVIEW OF LITERATURE

J.T. Houghton (1995) remarked that there has been a welter of scientific uncertainty about positive and negative feedbacks that may accentuate or diminish human perturbations of the global heat balance. And also very little research has been conducted on the possible impacts of climate change on different countries and regions. However, over the last few years a consensus has developed among the experts: assuming no major changes in the trend of human emission of green house gases, it is likely to see a global warming between one and three and one-half degrees Celsius by 2100, with a best estimate of two degrees warming. Simon Ball and Stuart Bell (1996) stressed that the issue of 'the environment' is a big issue in political terms. It is big in terms of the size of the problems faced and the solution required; global warming, the destruction of the ozone layer, acid rain; deforestation, overpopulation and toxic waste are all global issues which require an appropriately global response. They viewed it big in terms of the range of problems and issues air pollution, water pollution, noise pollution, waste disposal, radioactivity, pesticides, countryside protection the list is virtually endless. The issues range 'from the street corner to the stratosphere'.

Finally, it is big in terms of the knowledge and skills required to understand a particular issue. Law is only one element in what is a major cross-disciplinary topic, and lawyers need some understanding of the scientific, political and economic processes involved in environmental degradation. Barry Buzan (1997) emphasised that it is not surprising to know that a strong feeling is growing that environmental security is a national security concern. Although many scholars viewed that environmental security is part of the economic agenda, the concept of national security has been tacked on to environmental debates, because it has a mobilization potential. M. Shamsul Haque (1999) remarked the growing significance of environmental security in major international forums.

Some of them included the UN Conference on Human Environment (1972), Ottawa Conference on Conservation and Development (1986), United Nations Conference on Environment and Development (1992), World Summit for Social Development (1995) and UN Symposium on the Global Environment in the 21st century. These conferences and symposia eventually resulted in various international conventions and protocols for environmental protection or security, such as the Vienna Convention for the Protection of the Ozone Layer, the Convention on Biological Diversity, the Framework Convention on Climate Change, the convention to combat desertification and the Kyoto protocol. AL

Howatson (2000) suggested that for the determination of an appropriate policy instrument to achieve an environmental objective, a matrix containing environmental, economic, technical and socio-political aspect should be picked, examined and then finally applied to the environmental problem in hand.

A combination of two instruments, in some cases, can prove to be more useful. He also emphasized inviting all stakeholders' participation in the decision-making process. B.R. Jindal, Paramjit S. Jaswal and Usha Gupta (2001) remarked that lush green forests are a symbol of natural beauty and calmness. There is hardly any person who does not appreciate this aspect of forests. They have great aesthetic value. The forests figure not only in art and literature but some forest plants are of great importance in social customs and rituals. Many people in India worship certain trees. Mango and Neem leaves are considered auspicious for many occasions. Reserve forests are now centers for enlightenment and recreation. Danielle Knight (2002) emphasized that it is not only the country's own economic activities that have been responsible for causing environmental problems, but the activities of other nations are also a major contributory factor to the creation of environmental hazards in India. It has been reported that large quantities of scrap electronics are being exported from the United States to China, Pakistan and India where such waste is causing environmental and health problems. Long back in 1989, a United Nations treaty-called the Basel Convention was signed to ban the export of hazardous waste from industrialized nations to developing countries, but it is not being fully enforced. It was noted that the United States is the only industrialized nation that has not ratified the Basel Convention.

Richard B. Howarth (2003) suggested the use of emission taxes. Relating the link between climate change and world economy, he concluded through his study that taxing the greenhouse gas emissions equal to the cost that 'emission' would impose on the future society would catalyze the welfare gains generated through climate change mitigation measures. Thus, imposition of an emission tax could prove to be an important instrument to check the increasing emission level. Jürgen G. Backhaus (2004) emphasized the judicious use of natural resources as an important prerequisite for sustainable growth not only in the developed but in the third world, too. To a large extent, the use of natural resources is determined by the tax structure operating in a country. Designing an appropriate tax structure that stimulates the judicious or optimal use of natural resources, could prove an important step towards sustainable growth. He concluded that the solution to the environmental problems rests with a simple administrative infrastructure and the help of international developmental agencies including big MNC's to play a role in solving the problem. *India Together* (2006), as quoted: "The US National Environmental Policy Act (NEPA) in 1970 was one of the first laws ever written that established the broad national framework for protecting the environment.

NEPA's basic policy was to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment. This Act also made the public participation mandatory in the environmental decision making process." *The Tribune* (January 4, 2007) under the news head 'PM wants sustainable development,' stated that the developing world cannot afford to ape the west in terms of its "environmentally wasteful lifestyle," Prime Minister Manmohan Singh said while inaugurating the 94th Indian Science Congress in the Temple town of Tamil Nadu. "As incomes and consumption levels of the poor rise, we must find ways to meet the growing demand for goods and services in an environmentally sustainable manner", he said. Singh also stressed that the developed industrial countries should alter their consumption patterns so that "so few do not draw upon so much of Earth's resources". "The developing world cannot accept a freeze in global equity," he said. Singh said the "wisdom of our forefathers" has much to offer in pursuing an environmentally friendly and sustainable development path.

He said new environment-friendly technologies must be made available to all so that the Earth is saved. Singh urged the scientists to engage in exploring the links between greenhouse gas emissions and climate change. "You must also examine its impacts on our monsoons. There is urgent need to upgrade our weather for forecasting systems for better crop prediction", he said. *The Tribune* (June 30, 2008) under 'Wind energy sector gets a boost,' stated that the Centre announced generation-based incentive to promote grid interactive wind energy generation plants in the country. With this new incentive, the Ministry of New and Renewable Energy hopes to give a boost to the wind sector, promote higher efficiency in wind power generation and encourage independent power producers in the sector. Investors, apart from getting the tariff as determined by the respective state regulatory commission, will get an incentive of Rs. 0.50 per unit of electricity for a period of 10 years provided they do not claim the benefit of accelerated depreciation. Grid interactive wind power generation plants of minimum installed capacity of 5 MW will be eligible for the incentive, which would be available only for projects commissioned, that are synchronized to the grid and certified by the concerned utility.

It will be for projects installed at wind-potential sites validated by the Centre for Wind Energy Technology (C-WET) and for those independent producers whose capacities are commissioned for sale of power to the grid. Grid connected renewable power has been a major focus for the ministry and by the end of the 10th Plan period, the installed capacity of renewable power will be about 12,400 MW, constituting about 8.8 per cent of the installed capacity. Wind power has made significant contribution to this achievement by installed capacity of 8,760 MW. These activities have been largely limited to Tamil Nadu, Gujarat, Maharashtra, Andhra Pradesh, Karnataka and Rajasthan. *Hindustan Times* (July 1, 2008) under

the news item 'PM unveils climate plan, says India for clean technology' stated that a week before Prime Minister Manmohan Singh is slated to attend the G-8 summit on climate change in Japan, he unveiled a climate change action plan reiterating India's commitment for a sustainable development using clean technologies without setting any target for green house gas reduction.

The National Action Plan on climate Change stated that India's per capita greenhouse gas emissions will "at no point exceed that of the developed countries". The plan will be implemented through eight missions, which represent multi-pronged, long-term and integrated strategies for achieving key goals in the context of climate change. The eight missions focus on increasing the share of solar energy in the total energy mix; implementation of energy efficiency measures; launching sustainable habitats; effective water resource management; safeguarding Himalayan glacier and mountain eco-systems, enhancing eco-system services; making agriculture more resilient to climate change and setting up a Strategic Knowledge Mission for research in the area. "The government would pool its scientific, technical and managerial talents with sufficient financial resources to develop solar energy as a source of abundant energy to power the economy and transform the lives of people", the PM said.

As per action plan, carbon sinks called green India will be launched to enhance eco-system services. "Forests play an indispensable role in the preservation of ecological balance and maintenance of bio-diversity. Green India mission will be taken up on degraded forest land through direct action by communities, organized through joint forest management committees", says the action plan. The Prime Minister said success in this endeavor would change the face of India. "In pursuing this and other ambitious goals, I believe we have the greatest assets in the wisdom, creativity and enterprise of our people. The plan intends to go beyond government to draw upon these assets", he said. Graham and Booth (2010) marked the beginning of the United Nations' declared 'Decade of Education for Sustainable Development'. This is a joint UNESCO and UNEP initiative to implement sustainability education globally. Also in 2005, the International Initiative for Sustainable Built Environments (SBE) launched an education initiative aimed at mainstreaming sustainable building education (Graham, 2006). The motivation for these efforts related directly to the United Nation's agenda on Education for Sustainable Development. This agenda maintains that the primary purpose of all modes of education should be to empower people to contribute to sustainable development. "Education for Sustainable Development involves learning how to make decisions that balance and integrate the long term future of the economy, the natural environment and the well-being of all communities, near and far, now and in the future." (Australian National Commission for UNESCO, 2005).

However, the concept of sustainable development, commonly described as a synthesis of economic growth within the capabilities of the natural environment,

lacks a common value system or ethical framework that can assist in answering questions such as what should we sustain? For how long? And for whom? Sustainability education is therefore promoted as a new paradigm that establishes a clear ethical framework for determining whose interests should be served by sustainable development. Iltus (2011) found that child friendly schools can only be effective if they are an integral part of the community. No school can or should operate in isolation from the community where it resides. While this principle is widely accepted, it is even more relevant within the framework of CCEE. Most adults should see the value in cooperating with schools on environmental issues. After all, the effects of climate change threaten the security and livelihoods of adults as well as children. In that sense, parents and other adults' participation in the school life must extend beyond children's education to the society. The school carries the primary responsibility for facilitating this relationship, however, and should proactively develop and strengthen its links with the community. Setting up an effective parent-teacher association structure, for instance, remains one of the most effective ways of ensuring community participation. Children's community outreach may sound simple, but in fact requires significant planning and adjustments to the standard school curricula.

Transferring the experience of the community to the school extends beyond inviting speakers to organizing class outings and visits, talking to individuals and, most importantly, encouraging children's research and action projects within the community. Unfortunately, most schools and teachers are not equipped to deal with such complexities. In many cases, strict school curricula do not allow for such flexibility. Therefore, it is important to find opportunities to link conventional learning with community experience and knowledge systems. Laura L. (2012) concluded as trusted community institutions, libraries are ideal locations for green technology demonstrations. Combining such projects with public education programs strategically positions them to become community models for sustainability. To take advantage of this positioning, library directors, staff, and board members need to think past a one-time building project and aim to start a community conversation. For librarians to become true sustainability leaders, they must rethink their operations to ensure that their actions match their message. They must identify, nurture, and support champions who will continue to improve, innovate, and integrate new green technologies and practices. Finally, they must inform and educate the public about their practices and explain how they apply throughout the community. Library leaders need go beyond telling their patrons about the green features of the building to show them how these technologies and practices can be used to improve the environmental quality of their homes, workplaces, and community.

According to Vaughter, Wright, McKenzie, and Lidstone (2013), comparative investigations into institutional sustainability in PSE are not as abundant as case

studies of individual institutions. A number of comparative studies have been carried out on the sub-national, national and international levels since the declaration of the DESD in 2003. This review has illustrated three of the dominant themes emerging from this published literature: research comparing sustainability curricula across institutions (both within specific disciplines of study and across disciplines); research comparing campus operations policies and practice across multiple institutions; and research on how to best measure or audit approaches and outputs in sustainability in PSE. While it is our intent to disentangle the many narrative threads of research into sustainability in PSE institutions, it must be acknowledged that some of these categories overlap to some degree, particularly operational initiatives for sustainability and the analysis of sustainability audits. This overview has also illuminated gaps in the research within each of these emergent themes in the literature. For comparative studies investigating sustainability in PSE curricula, there has been an emphasis on integration of sustainability into science and engineering, with little attention paid to curricula in the humanities and social sciences. Within comparative literature on sustainability in campus operations, a number of studies examine where the impetus for operations policies comes from, but little work has been done in comparing how effective these policies are in affecting outputs and how that may vary among different PSE institutions.

There is also a gap in the research literature critically comparing how PSE institutions' sustainability operations policies link to the larger community. Finally, in terms of existing comparative research on sustainability audits, the majority of studies examines operational outputs of institutions and do not focus on the evaluation of other dimensions of institutional sustainability, such as education, research, governance or community engagement. While multi-dimensional assessment tools, such as AASHE's STARS and the CSAF, exist, these type of tools are self-reporting and tend to not be the focus of much of the literature in comparison to those studies focusing on auditing sustainability in institutional operations. Additionally, the comparative audits of PSE sustainability with other fields are undertaken only in relation to corporations that use sustainability criteria to measure their performance, with little exploration in relation to other fields outside of business.

While the analysis of this literature has allowed for a perfunctory understanding of dominant themes within the comparative research on sustainability initiatives within PSE institutions, it is by no means an all-encompassing work. Because this review has drawn heavily on literature from educational research (six of the eight most cited journals discussing the topic were exclusively education journals, while the other two publish extensively on education), a meaningful step forward would be to take to heart many of the critiques of sustainability in post-secondary education within the literature and expand the review to draw on more

interdisciplinary research for further understanding. Compelling research on sustainability within PSE institutions may very well be occurring outside of the academic literature on education, especially as sustainability itself is a growing field in and of itself, as evidenced by the increasing number of journals devoted to the topic. The fact that so much of the research on sustainability in PSE curricula focuses on the disciplines of engineering and material sciences suggests that engineering journals may be a good place to start. Finally, as within any discipline, what is occurring within the field is not always observed nor written about by those within the ivory tower, even or especially when the topic is the ivory tower.

Therefore, it is important to caution that a paucity of evidence in the literature may not necessarily be indicative of what is being practiced on the ground. Academic literature gives crucial insights into the field of sustainability in PSE institutions, but it is not the whole story. However, this work can serve as a foundation for future studies and we believe offers a lay of the land for those engaged in research on furthering sustainability through post-secondary education. The finding of Goldman, Yavetz, and Pe'er (2014) have implications for all teacher education programs, the environment affiliated disciplines and non-environment affiliated disciplines. With regards to the 'environmental' programs, results point to the necessity (without compromising the disciplinary goals of these programs) to reorient the curriculum from the traditional scientific approach to include:

A comprehensive perspective that addresses the complexity and inter-relationships among the biophysical, economic, social and political dimensions of sustainability issues; and Provides learning experiences, beyond science context, that foster the knowhow (knowledge, skills and commitment), as well as environmental citizenship skills, so that these will be reflected in the graduates' competence as environmental educators. Such reorientation requires that the wider goals of EE, those that go beyond the cognitive knowledge level, be explicitly incorporated within the curricular goals of the programs, infiltrating down to the courses and academic staff. It cannot be assumed that such reorientation towards education for sustainability will occur on its own. With respect to all other programs, principles of EE need to be incorporated in at least one component, disciplinary or teaching and pedagogy, of all training programs. Following are some suggestions. One approach is a mandatory course on EE for all students as part of their basic education courses. Alternatively, would be a component within the pedagogical framework. The latter approach has a number of advantages: It takes advantage of a component common all programs; In view of the interdisciplinary nature of EE, it can both contribute and benefit from the integrative nature of pedagogy studies; The pedagogical component provides a built-in framework for addressing practical aspects of the pedagogies for teaching environmental dilemmas in the classroom as well as the internship for hands-on experience.

A joint initiative of The Ministry for Environmental Protection and Ministry of Education, reflecting these ideas, was commenced in the academic year of 2012. Pant (2014) found that the problem of environment abuse is a serious one and need to be addressed at the local ,national and international levels .To achieve a good quality of life on earth for all living beings ,it is essential to spread awareness about and educate humankind in sustainable development and environmental problems. It is agreed, that teachers are potential change agents and are capable of generating a workforce of enlightened, skilled and motivated learners. They can empower the citizens with the ability attitude and values to protect the environment using formal and non formal channels of education. It is essential that teachers themselves need to be trained and equipped with the requisite knowledge skills and values to effect such a change. Universities and schools have to play an important role to translate the objectives and recommendations of the various commissions and committees into practice for achieving environmental literacy and awareness among learners. Technological interventions and mass media should be employed to create environmental awareness among the teaching community. A convergence of the conventional and open and distance learning systems should be employed to meet this challenge. There is a need to train teachers in additional competencies regarding environment education. The teacher training curricula should integrate environment education with the methodology component of all disciplines, since environment is a part of all areas of study .Instead of burdening the existing teacher training curriculum with an extra subject on Environment Education, some weight age could be assigned in the practical component of the content cum methodology courses of all disciplines, for environment education. Appropriate training strategies need to be devised considering the constraints in which the teacher training system operates especially in developing countries. Non formal channels of education like t. v., radio, press and satellite technology can be effectively utilized for capacity building of environment educators.

United Nations Conference on Environment (2005-2014) concluded that the 1st European Youth Eco-Parliament and the Baltic Sea Project have served a pilot function for sustainable development and continue to serve as a source of inspiration for others. They impressively show how pan-European projects can raise the environmental awareness of children and young people, whilst at the same time offering them the opportunity to consider various economic, social and cultural aspects in neighboring countries. The youngsters learn to exchange views, to understand each other, to take responsibility for local and national proposals for action, and to work collectively on proposals for a common purpose.

RECOMMENDATIONS

Most of the work to save the ecological environment remains on paper only. In spite of numerous regulations passed in various world level conferences, summits

and meets, hardly any implementation worth the numbers takes place. It must be ensured that the various regulations being passed are effectively implemented. Advanced countries, though most polluting, are not taking the desired responsibility. Rather they are playing a blame game and mostly the developing countries are blamed one way or the other. Uniform laws, at the world level must be made to punish the defaulting countries, either developed or developing. The “polluter pays principle” must be strictly adhered to.

Technological development must continue and improve, but it is high time that it be made relevant to the country’s priorities. That it concentrates on selected, high-technology areas, not dependent on scarce natural resources. As revealed by Prime Minister Manmohan Singh in the climate change action plan on June 30, 2008 focus would be on increasing share of solar energy in the total energy mix; implementation of energy efficiency measures; launching sustainable habitats; effective water resource management; safeguarding Himalayan glacier and mountain eco-system, enhancing eco-system services; making agriculture more resilient to climate change and setting up a Strategic Knowledge Mission for research in the area. More such action plan together with their effective implementation could help solve the problem.

‘Put breaks on development activity’, it may sound strange but that’s the way. Myanmar has shown this way to the world by intentionally putting brakes on mad race for economic development. This country in this regard is a role model for the world. This moral needs to be followed in India also.

Major industries contributing largely to global warming through the release of harmful chlorofluorocarbon (CFC) gases, for instance, refrigeration and air conditioner industries must immediately be put at halt or at least be discouraged by imposing large taxes on its products and other inputs required for producing it.

Environmental objectives given by the policy makers tend to be too broad and vague. The objectives desire to focus attention on a specific, simple, clear and feasible ways of solving environmental problems to make the implementation of ways easier to promote sustainable development.

Environmental information is one of the strategic issues requiring adequate disclosure in annual reports of the company, however, companies have not even managed a separate section to disclose this information in their annual reports, it is suggested that environmental information should be given due consideration along with other strategic issues. Chairman’s letter in the annual reports should include information regarding existence of environmental policy/ programs in the company, environmental management system, environmental objectives and commitment towards environmental improvement. Impact of measures undertaken by the company for environmental protection should be quantified to the extent possible.

It would be naïve to assume that without mass public participation it would be possible to bring about social transformation. The masses should be awakened regarding the urgency to pay heed to environmental concerns. The government should give extensive publicity for greening the brown through print media and electronic media. Universities should play an active role locally, nationally and internationally in enhancing knowledge and action competence regarding sustainable development through research and education in co-operation with surrounding society. Besides other things the universities must introduce a comprehensive subject on Ecological Environment for students of M.Com, MBA and even BBA or B.Com. This is necessary to provide knowledge to the budding managers about the environmental hazards that the economic activity causes.

'Genuine' Non-Government Organizations (NGOs) should be encouraged in the task of a forestation, reforestation, water and air pollution control measures. To ensure that the NGOs are genuine their accounts should be checked, intelligence reports be taken and their accountability be ensured. Moreover, there needs to be transparency on the part of these NGO's work on environmental concerns for effective results.

Nobel prize should go greener and be awarded to environmentalists as was being awarded to Wangari Maathai, a Kenyan environmentalist was awarded Nobel Prize in the year 2004 for planting 30 million tree plantings across Africa. The voices of the environmentalists need to be heard and given emphasis. Print, electronic media should play an active role to create environmental awareness amongst the masses. More movies and programs should be targeted on environmental themes in such a way that they leave a lasting imprint on the mind of the masses especially the children because they represent the future. For this catch them young policy need to be implemented. Since it is true that charity begins at home, there should be a separate T.V. channel for children to create environmental consciousness among the children at the tender age.

President Kalama's recommendations to plant at least ten times the number of trees being cut to build a helipad for his visit and Norwegian Prime Minister Kjell Magne Bondevik's resignation to King Harold followed by the vote in the Parliament against his anti-pollution proposals must act as an inspiring force for other politicians, bureaucrats and other citizens of the country. It must be ensured that the grants received from World Bank, Monetary Funds for environmental betterment are not misused or embezzled. There must be a monitoring authority to check this and at the same time any such embezzlement should be severely dealt with.

Alike the recitation of national anthem, every educational institution and business concern should initialize its activities by conducting a short talk on sustainable development so that it becomes a mass movement. China's policy of simple living and high thinking needs to be followed. As regards, bicycles should

be subsidized and advertisements depicting its health benefits and related matters must be repeatedly circulated through both print and electronic media.

Before deciding what policy is to be designed, be it tradable permits, environmental taxes, tax incentives, subsidies or user fee, we must determine which instrument is the most appropriate one to use based on its effectiveness, efficiency, income distributional effect, regional distributional effect, international competitiveness, innovation, flexibility etc.

Governments have been actively dealing with fiscal deficits and debts, yet not enough attention has been paid to dealing with environmental deficits. The federal Budget is the most important environmental policy statement of the year, and if the environment is to be taken seriously, it must be front and centre in the budget. It is better to tax "bads" rather than "goods". Governments have long used selective taxation to discourage use of alcohol and cigarettes, while unprocessed food and children's clothing remain tax free. This tradition must be continued with selective "eco-sin taxes" to discourage a wide range of grey products and lifestyles. At the same time, taxes would be eliminated on green products and lifestyles. People should be able to avoid taxation by choosing green products and lifestyles.

Taxes should be designed to conserve resources and energy. Rather than taxing jobs and profits, taxes should be moved to resource use and energy consumption to reward conservation. The community should benefit from the use of commonly held resources.

Resource taxes should be introduced as early as possible. Resources should be taxed before entering the manufacturing process in order to green all aspects of the manufacturing process from extraction to the finished product. Increasing taxes on resource and energy use will encourage resource and energy efficiency, innovation, reuse, repair, recycling and used material recovery.

The use of auto-related taxes as a preventive measure for global warming must be emphasised. In order to ensure emissions reduction that can meet the new fuel-efficiency standards, it is suggested to take supportive measures on the demand side that encourage consumers to choose fuel-efficient vehicles.

Heavy forestry tax when felling is not compensated by equipment reforestation of the right nature must be followed on lines of countries like Brazil, Columbia and Japan. Landfill tax, a tax on producers who dump their industrial wastes in the landfills, as imposed in many western countries including Great Britain must be adopted in our country too as it would act as a deterrent on dumping industrial and other wastes in landfills. In order to encourage a shift to fuels, which emit less carbon-dioxide when burnt, tax like "carbon-tax" that is a tax on fuel which increases with the relative carbon content of the fuel must be imposed as followed in other countries like Canada.

Policy makers, environmentalists, corporate houses should come forward to impress upon the Ministry of Finance, Government of India to revolutionize its tax system and structure and allow a good space for environmental taxes. Judiciary's role needs to be more strengthened as regards the cases relating to environmental protection and preservation. To avoid the time consuming procedure, fast track courts must be initialized to deal cases relating to ecological concerns. 'Bold' judgments from justices of various states need to be given in order to break the nexus of forest mafia, unscrupulous businessmen, bad politicians and bureaucrats who always tend to influence the decisions which adversely affect their vested interests. The justices should show zero tolerance towards ecological degradation by taking a notice of the various cases relating to environmental protection.

Separate fast track environmental courts must be set up to deal exclusively with the cases related to ecological environment. Before the initialization of any project, its Environmental Impact Assessment should be done and it should be made a mandatory policy. The contents of the Environmental Impact Assessment report should be strictly followed in letter and spirit thereby heavily punishing the defaulting units.

The use of pollution control devices by the industrialists must be practiced. For the better, effective and speedy results, government must give subsidies on the installation of these devices and should also ensure whether Pollution Control Boards are working properly or not. The intelligence reports regarding the same should be taken.

Considering the on-going increase in the number of vehicles in the country, the government needs to strengthen the public transport system of the country so that the masses would prefer to travel via the public transport in spite of using their own private vehicles. As remarked by the Nobel Laureate, Wangari Maathai, human survival is directly proportionate to the amount of carbon-dioxide absorbed by ten trees. So those who have not planted ten trees in their lifetime are breathing off somebody else's trees. Considering this as a basic norm, it must be ensured that every citizen plants at least ten trees in his lifetime.

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