“Curriculum restructuring In the Educational Institutions”: A Strategy to defy Environmental Crisis

Kapil Choudhary, Hindustan Institute of Management & Computer Studies, India
Garima Tiwari, Anand Engineering College, India

“NATURE HAS ENOUGH FOR EVERYMAN’S NEED BUT NOT EVERYMAN’S GREED”

-MAHATMA GANDHI

ABSTRACT

Now that contentious debate of Copenhagen is behind us, attention must shift to massive task that lies ahead - pulling the planet back from the brink of catastrophic climate change. With a bare minimum of international agreement to back them, the doers - scientists, engineers, business people, civil society, educationists and you and I - have to get down to do what must be done. In the current scenario of global warming we will have to deal with climate change and for this there should be flexibility in the day to day operation mechanism by providing the moral and ethical education to change people’s attitude. Today educational institutes should lay emphasis over the issue because we have always been emphasizing that how to maximize the utilization of available resources by creating minimum wastage. The only hope of salvaging this grave situation is by making the young aware that they need to proactively begin to protect the environment they will inherit because it is need for the hour to propose the environmental education with the essential elements of moral philosophy. The objective behind research relating to ‘Curriculum Restructuring in the educational Institutions’: A Strategy to Defy Environmental Crisis’ is to provide an idea through which we can utilize our resources in a way that it can be nourished and nurtured rather than just exploited. The research is based on education industry to design a proper curriculum for upcoming youth so that we all can contribute to care for the environment.

The research was conducted with the help of a schedule to elicit free and frank responses from the respondents. Language proficiency: Hindi & English. Sample frame: Agra region. Sample size n = 40. Respondents: Eminent faculties, Academia Consultants, Principals, Directors HoD’s. Data sources: Primary & Secondary, Type of research: Descriptive, Type of sampling: Convenient sampling This paper focuses on the education system which can help in enabling environmental nourishment and enrichment, utilization of resources in a way that it can be further used in future in same or different forms instead of depleting it(environment) in totality. It deals with providing a thought that resolves the problem and also clears all myths and provides detailed information regarding this concern. The main aim is to aid learners in becoming environmentally knowledgeable and, above all, skilled and dedicated human beings who are wiping to work, individually and collectively, towards achieving and/or maintaining a dynamic equilibrium between the quality of life and quality of the environment.

Key words: Climate change, Curriculum redesign, Environmental crisis, Education Industry, Quality of life, Nurture environment.

1. Introduction
The climate is changing. The earth is warming up, and there is now overwhelming scientific consensus that it is happening, and human-induced. With global warming on the increase and species and their habitats on the decrease, chances for ecosystems to adapt naturally are diminishing. Many are agreed that climate change may be one of the greatest threats facing the planet. Recent years show increasing temperatures in various regions, and/or increasing extremities in weather patterns.

2. Theoretical background of the study
UNDERSTANDING ENVIRONMENTAL CRISIS!!!!!!!
This section explores some of the effects of climate change. It also attempts to provide insights into what governments, companies, international institutions, and other organizations are attempting to do about this issue, as well as the challenges they face.

The major effects are as follows:

- Rapid changes in global temperature
It noted that the levels of carbon dioxide for example, were currently at their highest levels in the past 450,000 years.
(Source: NOAA) This graph, based on the comparison of atmospheric samples contained in ice cores and more recent direct measurements, provides evidence that atmospheric CO₂ has increased since the Industrial Revolution. NASA, accessed October 27, 2009

➤ Extreme Weather Patterns
- Longer spells of dry heat or intense rain (depending on where you are in the world);
- Scientists have pointed out that Northern Europe could be severely affected with colder weather if climate change continues, as the arctic begins to melt and send freshers waters further south. It would effectively cut off the Gulf Stream that brings warmth from the Gulf of Mexico, keeping countries such as Britain warmer than expected;
- In South Asia, the Himalayan glaciers could retreat causing water scarcity in the long run. Source: Global temperature, 1800-2006, 1751–2006, ProcessTrends.com, accessed October 27, 2009

➤ Women face brunt of climate change impacts
Women—particularly those in poor countries—will be affected differently than men. They are among the most vulnerable to climate change, partly because in many countries they make up the larger share of the agricultural work force and partly because they tend to have access to fewer income-earning opportunities. This cycle of deprivation, poverty and inequality undermines the social capital needed to deal effectively with climate change. Source: Facing a changing world: women, population and climate, State of the World’s Population 2009, UNFPA, November 18, 2009

Opportunity areas for redesign
Awareness is the only key to educate people about the crisis and to do so we are targeting the youth of India. The proposed fields to be included in the curriculum are

- Air Quality Index
  The Air Quality Index (AQI) (also known as the Air Pollution Index (API) or Pollutant Standard Index (PSI) is a number used by government agencies to characterize the quality of the air at a given location. As the AQI increases, an increasingly large percentage of the population is likely to experience increasingly severe adverse health effects. Air quality index values are divided into ranges, and each range is assigned a descriptor and a color code. Standardized public health advisories are associated with each AQI range.

- Ecosystems & Biodiversity
  The term ecosystem refers to the combined physical and biological components of an environment. An ecosystem is generally an area within the natural environment in which physical (abiotic) factors of the environment, such as rocks and soil, function together along with interdependent (biotic) organisms, such as plants and animals, within the same habitat to create a stable system. Biodiversity is the variation of life forms within a given ecosystem, biome, or on the entire Earth. Biodiversity is often used as a measure of the health of biological systems. It is found on Earth today consists of many millions of distinct biological species. The year 2010 has been declared as the International Year of Biodiversity.

- Conserving Energy Resources
  Energy conservation refers to efforts made to reduce energy consumption in order to preserve resources for the future and reduce environmental pollution. It can be achieved through efficient energy use (when energy use is decreased while achieving a similar outcome), or by reduced consumption of energy services. Energy conservation may result in increase of financial capital, environmental value, national security, personal security, and human comfort. Individuals and organizations that are direct consumers of energy may want to conserve energy in order to reduce energy costs and promote economic security. Industrial and commercial users may want to increase efficiency and thus maximize profit.

- Land Use

'Land use' is also often used to refer to the distinct land use types in zoning. Land use is the human modification of natural environment or wilderness into built environment such as fields, pastures, and settlements. More recent significant effects of land use include urban sprawl, soil erosion, soil degradation, salinization, and desertification. Land-use change together with use of fossil fuels, are the major anthropogenic sources of carbon dioxide, a dominant greenhouse gas. It has also been defined as "the total of arrangements, activities, and inputs that people undertake in a certain land cover type".

- Water Quality
  Water quality is the physical, chemical and biological characteristics of water. The most common standards used to assess water quality relate to drinking water, safety of human contact and for the health of ecosystems. Source: Water runoff, wikipeia
3. The Objective
To aid learners in becoming environmentally knowledgeable and, above all, skilled and dedicated human beings who are willing to work, individually and collectively, toward achieving and/or maintaining a dynamic equilibrium between the quality of life and quality of the environment.

4. Research Methodology
The research was conducted with the help of a schedule to elicit free and frank responses from the respondents.
Language proficiency: Hindi & English.
Sample size $n = 40$.
Respondents: Eminent faculties, Academia Consultants, principals, directors, head of the departments
Data sources: Primary & Secondary
Type of research: Descriptive.
Type of sampling: Convenient sampling.

5. Analysis and interpretation
How Curriculum Redesign Will Help????????
We call this redesign of curriculum- EDUCATION FOR SUSTAINABILITY, which can be only provided by creating awareness among the individuals because
- The only hope of salvaging this grave situation is by making the young aware that they need to proactively begin to protect the environment they will inherit.
- Science and Technology can help in a limited way but cannot deliver it.
- The moral and ethical education for changing people’s attitude.
- To protect children living in polluted regions, environmental education represents a relevant means of prevention.
- It is need for the hour to propose the environmental education with the essential elements of moral philosophy.
- For conceptual change.

6. Findings and recommendations
The identified target learners are from the above mentioned fields’ i.e. MBA, MCA, B.TECH, B.ARCH., LLB, FASHION DESIGN& M.BIO.
The specific topics that should be included in these courses to redesign curriculum are as follows:
- ENVIO-CURRICULUM(MBA)
  - GREEN MARKETING: Green marketing refers to the process of selling products and/or services based on their environmental benefits. Such a product or service may be environmentally friendly in it or produced and/or packaged in an environmentally friendly way.
  - GREEN ECONOMICS: It focuses on the importance of the health of the biosphere to human well-being. It considers such growth to be “uneconomic growth”—material increase that nonetheless lowers overall quality of life.
- ENVIO-CURRICULUM(MCA)
  - E- WASTE: Computer use can lead to environmental benefits with the study complex environmental systems, greater ecological education, or enabling "paper-less" offices. Then at the end of a useful lifetime, computers create disposal challenges posed by hazardous materials present and difficulties in recycling.
  - GREEN HOSTING: It is a recent addition to the field of website hosting which involves a given website hosting company attempting to prove that they are not having any negative impact on the environment in an attempt to attract consumers.
- ENVIO-CURRICULUM(B.TECH)
  - ENVIRONMENTAL ENGINEERING: Environmental engineering involves water and air pollution control, recycling, waste disposal, and public health issues as well as knowledge of environmental engineering law. It also includes studies on the environmental impact of proposed construction projects.
  - GREEN CHEMISTRY: Reduce the use of hazardous materials, maximize energy efficiency during the product’s lifetime, and promote recyclables or biodegradability of defunct products and factory waste.
GREEN BIOTECHNOLOGY: This might produce more environmentally friendly solutions than traditional industrial agriculture. An example of this is the engineering of a plant to express a pesticide, thereby ending the need of external application of pesticides.

GREEN BUILDING: Involves drilling miles-deep wells into underground reservoirs in order to tap steam and hot water that can be used for energy applications & Earthquake friendly.

GREEN POLITICS: The sunflower is an internationally recognized symbol of Green politics in the spirit of nonviolence, Green politics opposes the War on Terrorism and the curtailment of civil rights, focusing instead on nurturing deliberative democracy in war-torn regions and the construction of a civil society with an increased role for women.

ENVIO-CURRICULUM(FASHION DESIGNING)
- Environmentally friendly clothing designs and fabrics to understand the benefits of co2 dry cleaning and h2o “wet” cleaning.
- Eco friendly dressing

Limitations
- Most of the respondents were not clear in their vision.
- Government depts. were not found supportive during the course of study.
- Research was confined up to educational institutions of Agra and Mathura region only; other regions of the country remain untouched.

Conclusion
Effective policy must be implemented to curb consumption by the affluent. We need moral education to instill genuinely environment respecting moral values in the young student society. Conventional educational methodology is no longer adequate for the real needs of tomorrow. Though there are definitional and implementation flaws, environment NGOs and activists need to be given credit and accolades for creating a nation-wide awareness of the crisis of environment deterioration.

Future student generation must acquire knowledge and skills in technologies and keep pace with rapid advances in practically in all areas. The communication perspective opens the door to another kind of tools that environmental educators can use in order to improve the educational practice.

"Minds on experience is also needed with Hands on experience”

References


