

SENSITIZING GENNEXT FOR SUSTAINABLE DEVELOPMENT THROUGH EDUCATION WITH SPECIAL REFERENCE TO INDIAN PRIMARY AND SECONDARY EDUCATION

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ABSTRACT

The entire literate world is now waking up to the reality of Sustainable development, Environment Conservation and its implications. This awakening is slowly seeping through all strata of society, be it business corporations, academia, or even social and community life. These ideas need to be sown at grass root levels for them to take root and flower in society. Schools in India at Kindergarten, Primary and Secondary levels are taking a lot of effort to ensure that the concepts of sustainable development are made effective in society. The authors have tried to study the assortment of programs at varied levels of schooling to understand how they have impacted the young minds and also how the schools have taken serious efforts to thus sensitize society and communities as a result. Although, such programs are given much credence at school levels, they do not translate into career options for the students. Especially in a Tier II city like Nagpur, in Central India, these activities do not add up in the student's psyche as a full time profession. A break in thought occurs at matriculate levels where the student concentrates only on professional courses like engineering or medical sciences. The exposure towards such diverse streams is very limited. The authors have also tried to unravel the conundrum regarding the awareness of such career options.

KEYWORDS: *Sustainable Development, Education, Professional courses.*

INTRODUCTION

Research Paper:

We shall require a substantially new manner of thinking if mankind is to survive. ~Albert Einstein

When renowned scientist, Einstein uttered these words, he couldn't have been more prophetic. It surely seems as if he was talking about the topic *du jour*, of Environmental Conservation and Sustainable development through collaborative efforts with NGOs, Activists, Governmental Agencies, and stakeholders of modern society. The appalling rise in air, water and soil pollution, the degradation of human health and rise in human population, Deforestation, extinction of plant

and animal species are causes of concern for all. It is not just policymakers but also the common man who is gravely affected by these issues.

Planet Earth, evidently is going through extremely tough times. She seems on the verge of a breakdown owing to despair. But it surely seems that all is not lost and there is light at the end of the tunnel. The message that our planet earth is in grave danger, if steps to save her are not taken immediately, is doing the rounds in all strata of society.

Policymakers all over the world are trying to formulate and pass decrees for environmental rights and against their violation. Trading of Carbon credits, Green technology, are slowly gathering momentum as focus shifts on such imperative environmental concerns and issues.

At a macro level, such measures will bring about certain compulsions and mandates for all to follow. But a change can be effected only if its need is felt from within. Each stakeholder and citizen of society should feel the need to commit to the environment. When this happens, Sustainable Development can be an achievable dream.

As each citizen of society is a stakeholder, he or she needs to be sensitized to this ominous need for conservation. This can be affected only if; the correct habits are imbibed in them from childhood. This in turn can happen if such habits are imbibed by a child's first figure of authority outside her family, which is the teacher. The school is an ecosystem in which, a child's value system is fortified and validated. The teacher, for any child becomes the torchbearer of such values. Hence, when a child learns in a healthy, ethical ecosystem; the chances of his evolving into an ethical stakeholder of society increase.

Our children may save us if they are taught to care properly for the planet; but if not, it may be back to the Ice Age or the caves from where we first emerged. Then we'll have to view the universe above from a cold, dark place. No more jet skis, nuclear weapons, plastic crap, broken pay phones, drugs, cars, waffle irons, or television. Come to think of it, that might not be a bad idea. ~Jimmy Buffet, Mother Earth News, March-April 1990

This paper studies the various programs that are being conducted at all levels; i.e., Kindergarten, Primary, Middle and High school in and around Nagpur, India. Nagpur is the 13th largest two city in India with a population of approximately 242000. It is regarded as a tier II city, with a semi urban status.

Any school in Nagpur follows either of the two Boards of Education at Secondary Level; which are CBSE or the Central Board of Secondary Education and the Maharashtra or State Board. Both these boards have made the study of Environment as a separate subject in their curricula.

The modus operandi of this subject is also specified with a high thrust on practical implications by Ministry of Environment and Forests, Government of India.

Besides these specifications, some schools have even come up with their own innovative methods to create awareness about sustainable development.

Kindergarten Level:

A case in point is Mother's Pet Kindergarten, which was the pilot venture of Centre Point School and its group of educational Institutions. Mrs. Gauri Kanoria, the Vice Principal of Mother's Pet Kindergarten, Sadar, had a lot to share when it came to the programs initiated by their school and its other branches.

She specified that to teach toddlers and pre-schoolers (4- 6 year olds) such a complex topic like environmental awareness is a daunting task. Hence they break down the concept in such a manner that it is easily understood and identified with by the children. The following activities are taken up by this particular Kindergarten to sensitize the tender minds:

- They teach the toddlers the concept of germination through actual sowing of seed, wherein each child gets a plant to herself, to care for and grow.
- They have various activities in which they take the children to visit the vegetable patch that they have in their premises. This patch is cultivated with the help of manure that is made out of compost. They have their own compost pit, where all biodegradable waste is deposited.
- The children are taught the concept of separating garbage from the very beginning. At any given time, they have made available three bins, one for plastic, the other for vegetable and biodegradable waste and one for glass etc. The toddlers are taught the importance of sorting the waste and are also shown how vegetable waste is reused as compost.
- The children are engaged through stories about how paper can be recycled and plastic cannot. They are also given various simple storybooks which deal with the concept of recycling, like “Pepper learns about Recycling” by Sterling Publishers. The children are also told stories about Diwali and the infamous firecracker factories in Sivakasi. This makes them aware about child labour and also the ill effects of noise and air pollution.
- They also organize various competitions where the children are asked to prepare greeting cards from waste. They also hold Parent – child competitions to propagate the concept. The cards are sold to parents and the money is utilized for charity to lesser developed schools.
- They take part in the annual event, “Hirwai”, which means greenery that is organized by an NGO with the Forest Department for tree plantation and Green Awareness.
- They also had an awareness project on Fuel Conservation. In this, Kindergarten children conceptualized and painted an entire “Carpool” themed poster and highlighted its advantages. (Example slide attached as Annexure 1).

Primary School Level (Ages 7 – 10 yrs):

Although children at this level of schooling do not have environmental studies as a separate subject, they are given insights regarding such issues using a variety of means. Mrs. Archana Kinkhede, a primary and secondary school teacher in a Government aided school in Nagpur has given the following points to ponder.

- Each class is taken on field trips to nearby parks or for nature trail excursions. They are taught the touch and feel of different flowers and leaves.
- Each child has to prepare small charts and projects on the ecosystem and energy sources. They are taught the importance of renewable and non renewable energy sources through simple films, graphics and illustrations.
- They have specially planned nature games that are played in their outdoor games periods.
- They are taught simple principles of gardening and rain water harvesting. In their school, they have a special pond that has been created by harvesting rainwater. They have also developed a system to use waste and sewage water for fertilizing and cultivating their landscaped garden.

- They are made to participate in tree plantation drives and art competitions on environmental themes.

Middle School and High School Level (Ages 10 – 16 yrs):

The activist is not the man who says the river is dirty. The activist is the man who cleans up the river. ~Ross Perot

At these levels, the children are better suited to understand the gravity and ramifications of sustainable development. This is also when the students can take a more active part in the conceptualization and implementation of such programs. From the eighth grade, a separate subject of Environmental studies is introduced in the curriculum for both, CBSE as well as State Board. But the routine academic curriculum is further supplemented by various activities as follows:

- **Eco clubs:**

All schools have established eco clubs in their premises under the aegis of Department of Environment, which has provided a token grant of Rs. 10000/- to each school or college with an Eco Club for undertaking various eco-friendly activities. Eco Clubs been instrumental in playing an important role in creating environmental awareness amongst the budding environmentalists. These clubs have motivated the students to keep their surroundings green and clean. They have promoted ethos of conservation of water by minimizing the use of water. They have also bought about a few lifestyle changes by promoting minimal waste generation, separation of waste and disposing the waste to the nearest storage point and stop the indiscriminate burning of waste which causes respiratory diseases. They have also sensitized the students to minimize the use of plastic bags, not to throw them in public places as they choke drains and sewers, cause water logging and provide breeding ground for mosquitoes.

Organize awareness programmes such as Quiz, essay, painting competitions, rallies, nukkad natak (street plays etc. regarding various environmental issues and educate children about re-use of waste material & preparation of products out of waste.

- **Tree Plantation:**

Each year, Tree Plantation drive is undertaken by the School Authorities as an initiative to spread environmental awareness. Before the start of each plantation activity, students are briefed about the significance of native trees, how to plant them and post plantation care. Children show great enthusiasm in planting these trees which they understand would recharge ground water, prevent soil erosion and prevent siltation of their river. They are also told that this activity would help revive air, land and water quality as well as maintain the ecological balance, prevent soil erosion, provide medicines, provide habitat for faunal species, providing nutrients to the soil etc. At the end of the activity, each student is presented with a certificate which acts as a reminder of the ennobling task he/she had performed. The students are asked to conduct follow-up activities to see how the saplings they had planted are and also submit a report on the activity after a period of three weeks. All the findings by the students are documented and sent to the Department of Environment in the form of a report which consists of the following points:

- Tree guards to be provided for roadside plantations.
- Saplings to be watered regularly during times of a dry spell.
- Well-drained deep sandy loams which are best suited for plant growth to be provided.

- Soil or plantation area to be free of construction waste, debris etc.
- Compost manure to be applied during plantation and during the initial growth phase of the plants. Fertilizers should not be added.

Schools and colleges are encouraged to adapt "one child one plant" scheme, where the responsibility of growing the plant lies with the individual student. This becomes an enriching, learning experience for the student as well.

- **Science Exhibitions:**

Mrs. Wilfred, a high school teacher in Binzani Vidyalaya was in charge of the Science project and the Science Exhibition in her school for the past two years. In 2010, CBSE tried to create awareness about sustainable development amongst school children by taking up Environmental Stability as their Science Project work theme.

She had the following points to highlight:

As an initiative to provide a participatory, hands on learning experience to the students, the CBSE has made it compulsory for schools to organize Science Exhibitions at Regional and National Levels. The event is aimed at providing a common platform to schools, teachers and students to give shape to their creative and innovative ideas.

The main theme of the event in 2010 – 2011 include, Science, Technology, Society with a wide array of extremely relevant and topical sub themes like, Climate change-Causes and Consequences, Green Energy, Biology in Human welfare.

These instill awareness in the adolescent minds about the confluence of Man and Nature and also highlight the dependency of humans on the Planet Earth.

- **Science Projects:**

Each High School student is expected to submit Project Reports periodically. The Report is a mini research on any relevant topic on environment and environment protection. The research topic is so chosen that it provides a pertinent base for applying the concepts of the subject to practicalities of the issue.

All topics pertain to environmental sustenance and protection.

Environment related programmes like the National Green Corps of Ministry of Environment and Forests and the school Eco clubs of the state governments have helped in providing learning experiences to deepen the understanding of environmental issues.

- **Creating compost as School Activity:**

As already mentioned at the Kindergarten level, in high school too students are asked to create compost manure as science project from food scraps, plant waste, biomass from gardens, paper waste etc. This helps as a good way to cut down on the amount of trash that goes into a landfill. This compost is used in school gardens which help create rich soil.

- **Associations with Clubs:**

Mrs. Shende, a science teacher in Sindhi Hindi High School, Nagpur has also mentioned the various tie ups that schools have with locally active social groups.

Schools regularly tie up with social groups like the Rotaract Club to leverage a sense of social responsibility amongst the students. Such clubs organize various activities like tree plantation

and clean up drives. One clean up drive of note has been the Ganesh Visarjan Drive. Ganesh Visarjan is an important festival in Maharashtra and Nagpur, when after ten days of festivities, the idol of the elephant God, Ganesh is immersed in water. In this event, volunteers from various schools helped out in immersing the idols in the local water bodies. They separated the offerings from the idols and created awareness in the devotees about keeping the local water bodies clean.

Similarly each year Vanrai – the Forest Department carries out a major Tree Plantation Drive. Also, regular trips to NEERI, National Environmental engineering Research Institute are conducted every year to make the students understand the responsibility of being an environmental scientist.

- **Special Days – Earth Day and Shramdaan**

Earth Day – Awareness Program:

In schools, a number of activities take place on 22nd April every year. It starts with a Guest lecture on issues about the environment to motivate students to safeguard the environment. Skits and songs on Earth theme performed by the students with gusto. Art and craft competitions on Earth day theme are also conducted. A bicycle rally is also organized to promote non polluting modes of transportation.

Shramdaan:

Gandhi Jayanti is celebrated in schools all over India to celebrate the birth of Mohandas Karamchand Gandhi, the Father of the Nation. On this day each student is asked to give “shramdaan” – Donate Labor. Under Shramdaan, students are made aware of cleanliness and hygiene where they have to clean the school premises, plant trees, make people understand the harmful effects of using plastic and promote mental and spiritual wellness.

Every day is Earth Day. ~Author Unknown

The aforementioned programs have surely impacted urban living in a city like Nagpur. The Times of India reported that Air and Noise Pollution Levels had substantially reduced in Nagpur during Diwali 2010 as compared to 2007. Most of the school children had refused to buy and burst crackers as a result of such inputs in school. This GenNext is effectively propagating development which is sustainable as well as forward thinking.

Although schools have been instrumental in sensitizing the generation towards the conservation of Nature and heighten a sense of concern for the environment, this stream as a career choice has not caught on, especially in Nagpur.

Nagpur is a semi urban population which offers a limited exposure to the outside world. Although it is flanked by two of the most rich forest areas, Karmazari and Tadoba, environmentalism has not struck a chord.

After their secondary education, the student population of the city is conveniently divided into aspiring doctors or engineers, and commerce students. The University does offer a Bachelors in Science, but does not offer any subject on Environmental studies at the undergraduate level. There is no professional course on environment Management that is offered at undergraduate or post graduate levels in the university.

The only option for a student to become an environmentalist is either to take up an undergraduate degree in Agriculture or take up a research project with NEERI. The NEERI has a branch in Nagpur, but the criterion for becoming a research scholar is very tough.

Besides this, a student can take up an engineering course in environment or a postgraduate course specializing in Environmental studies like an M.Phil or PhD.

But the end is not as lucrative, the salary for environmentalists is not as attractive and hence it finds very few takers. Nagpur itself has very few career options as it can boast of only a handful local environment companies. There are only eight to ten organizations in Nagpur that consult for pollution control and environmental systems. Such a limited employment space makes this field further unattractive.

An upward trend has been observed in the NGOs lately. A lot of well placed, educated individuals from the city have started or joined local NGOs that work for forest conservation, Tiger conservation projects, animal census projects, rehabilitation and re-skilling of tribal communities and such other germane issues.

Such NGOs are also being backed by corporations and international organizations through funding and environmental literacy drives.

Nagpur was envied as a 'green' city, second only to Bengaluru. It still retains its old title of being the most Green city in India. But the how long can it hold on to this title is the question at hand. Hope reigns, with concern for the environment being the main point on the agenda for the stakeholders and policymakers of society. If the sensitizing of GenNext continues as creatively and effectively, dreams may become reality.

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