

Socio-economical impacts on environment: An architects' perspective

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Abstract

It has been observed that India is gradually becoming a country of significant industrial development. Factories have grown on the landscape like weeds. Trees have been felled, fields have been up-ended, and the rivers have been progressively blackened. The sky has been choked with smoke and ash, and the people too, spend their days coughing and itching, their eyes turned forever towards the ground. Villages grow into towns, towns into cities and people have begun to live on the earth rather than within it. Pollution control, environmental doom, eco-friendly developments have never been implemented in spite of the omnipresence of the words "pollution" and "socio-economics". How societies progress, stagnate, or regress because of their local or regional or global economy is generally analysed by socio-economics. The pattern of consumption, the distribution of incomes and wealth, the way in which people behave, and the overall quality of life is affected by socio-economics. The introduction of contaminants into the natural environment that causes adverse change has been defined as pollution. The form of chemical substances or energy, such as noise, heat or light can be taken as pollution. It has been a stupefying revelation that 4% of particulate emissions, water pollution incidents, noise and soil pollution are mainly because of the constructional works going on around the globe. Increasing energy-efficient design, construction, and building performance throughout our communities are key elements of the value proposition offered by architects. So, given the current conditions, the unique opportunity to re-create their buildings as active solutions to combating poor air quality and climate change resides in every architect's bag. This research aims to develop guidelines for the architects to do so.

Keywords: Socio Economics, sustainable Development, Green Architecture

INTRODUCTION

Earth has enough for everyone's needs but not for everyone's greed. Since the onset of civilisation mankind has exploited natural resources ceaselessly. The result is obvious and omnipresent. The biggest obstacle that lies on the road of development is development itself. Pollution has reached its zenith worldwide. Hence our precarious present socioeconomic condition calls for some action. Natural environment has been of crucial importance for our social and economic life. For generations the biosphere has been overused by mankind as a resource of food supply, an energy source, a medium of recreation, source of medicines and industrial products.

Regeneration has not been able to keep pace with requirement. The five pillars of any country's development today are agriculture and forestry (primary sector), industry (secondary sector) and transport and tourism (tertiary sector). Delving deeper to each of these pillars, pollution takes a central place. A good deed is often personified as a yeoman's work. But this is not necessarily the case. All the heavy machinery like combiners harvesters tractors used in modern farming techniques are a major source of air pollution. Soil

erosion development of wastelands and desertification often follow agricultural lands but ironically agriculture still remains the most funded sector calling for modernisation in every nation. Forestry is just a decent word for atrocities inflicted on the natural wildernesses. Wood gum latex rubbers are just a few perks extorted from forests. Degradation of forests is directly responsible for soil erosion and air pollution. The word industry needs no introduction in the context of pollution as every industry ranging from small scale to conglomerate sector causes all kinds of pollution. The oxygen rich air around us is slowly turning to a sulphuric and phosphoric nightmare. The concentrations of harmful gases have already surpassed their critical ppm in various cities across the world, all thanks to the ever growing industrialisation. Our Bhagirathi itself stands luckless with major parts of the Ganges rendered irreparable. Currently the Ganga is just a sewage dump for all the industries dotting its coast. Deltas and gulfs have been converted to flyovers and bridges disrupting the natural habitats of millions of species. Mankind has often ignored the importance of all midges and mites. A decrease in population of endangered carnivores like tigers automatically increases the herbivores numbers ultimately eating away the natural flora and causing depletion of oxygen content. The duration of travel time from India to America has been reduced to about eighteen hours but the time lapse for sustainable development of these very countries needs more than millennium now. 13 years after 9/11 the Americans have been able to complete the freedom tower but it is impossible to reverse the air pollution caused even in 1300 years. The site was cleared by May 2002 after the attack

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which speaks volumes of the infrastructure hazards.

SUSTAINABLE BUILD

The architectural caucuses can still stretch their legs to help mitigate pollution problems. Constructional sites are unsung heroes in pollution scenario. Due to their indispensable need often the nuisance created in these sites is ignored. Every construction site in some way or the other pollutes the surroundings.

Land pollution in construction sites is voluminous. Dust and debris due to building materials like bricks cement tiles sprawls the areas nearby. Since the onset of civilization mankind has built houses to get shelter. In the ancient times generally huts and shacks housed people. They were mainly made of mud and logs. But with industrialization houses are increasingly becoming concrete. In the erection of concrete houses, land pollution takes place with every step. Firstly the building materials are brought to the construction site. Generally bricks sand and cement are transported in open tempos. Hence they are littered throughout the way and also at the time of unloading. This mars the beauty of the roads and a lot of material is wasted while unloading. Small things can be done to minimize such conditions. All the materials should be transported in covered vehicles. And preferably in sacks and stacks to minimize unloading losses. Also to keep up the quality of land. Deforestation should be checked. Trees must be planted around the construction sites. This checks soil erosion and also the overall quality of land is maintained. Trees which are more tolerant to pollution should be planted in over polluted sites.

Water water everywhere and not a single drop to drink. All the washouts of every construction site goes directly to nearby water bodies. Not only are the existing water bodies contaminated, a lot of water is also wasted. Many constructional activities like concrete mixing, hardening of cement require water sprays. Bigger the construction site more the wastage. Evidently the importance of water in sites cannot be done away but yet some step can be taken to minimize the same. Proper calculated amounts of water must be used in all the activities. Also the waste water should not be dumped in the nearby bodies; rather it can be taken to waste management bodies through a planned outlet.

A small hut on earth is better than a magnificent mansion on moon. The reason is obvious. Human beings need oxygen for survival. But the grave repercussions of the construction of dream houses on the air enveloping it are severely neglected. The concentration of particulate matter in every construction site reaches critical levels. Apart from dust obnoxious gases enter the atmosphere due to paints thinners and varnishes and seldom things are done in this regard. A few naïve steps can work wonders. Low water sprays must be practiced time to time to dampen down the site. All the building materials should be covered to avoid spreading and slacking. Meshes should be placed around dust sources. Too much use of paints should be checked.

It is better to get accustomed to the cracking of machines and jarring of trucks because if a person is living near a construction site these are the new Madonna and Jackson. The most visible problem in construction sites is

sound. Any calm locality can be converted to a screening inferno in the presence of one small construction site. Right from the start when trucks and other heavy vehicles enter the site to the end where small drills and nails are done, there is always some or the other kind of noise audible. Most of the machineries used in various operations do not have silencers and make persistent loud sounds which can even lead to partial loss of hearing to workers exposed for a prolonged time. The residents nearby are the main victims. To check such inconveniences all the machinery should be provided with proper sound controllers and silencers. Modern tools should be used to make the impacts minimum.

GREEN TECHNIQUES

With fast developments coming on the way, a variety of energy efficient and eco-friendly constructional changes are taking place. Plantation is one key shield that can protect the upcoming calamities. In earlier times trees were planted in urban areas for purely aesthetic reasons but now with environmental awareness they are planted for numerous advantages. Trees and shrubs enhance the beauty of a place and also control air pollution. Huge trees act as sound barriers checking noise. Some trees are frost drought and pollution tolerant. Planting such varieties gives triple advantage. *Acacia auriculiformis*, *Ailanthus excelsa*, *Albizia lebbek*, *Bauhinia acumi nat a*, *B. purpurea*, *But ea monosperma*, *Cassia fistula*, *C. marginata*, *C. siamea*, *Casuarina equisetifolia*, *Crataeva religiosa*, *Drypetes roxburghii*, *Ficus benjamina*, *Lagerstroemia duperreana*, *L. flosreginae*, *L. rosea*, *Mimusops elengi*, *Polyalthia longifolia*, *P. longifolia 'Angustifolia'*, *P. longifolia 'Pendula'*, *Peltophorum ferrugineum*, *Tectona grandis*, *Terminalia arjuna*, *T. muelleri*, *Thespesia populnea* etc. are a few of them, specially recommended for plantation along the roads. Central verge of the two way roads in the cities and towns are often found neglected and devoid of any planting. An efficient and economic way to check pollution is to cover these spaces with vegetation. An apparent wasteland can hence be made productive.

So far mankind has considered itself to be an external element in the natural environment. But the fact is that we are also active components of this aura. Often human beings search for artificial alternatives to natural things. For example modern houses are often devoid of huge windows which create an unnecessary necessity of lights and fans. Houses that can see and breathe need to be constructed. Access to fresh air and daylight should be the main concern of a building firm. Solar panels should be installed on roofs for energy saving. Houses should be made of wood and stone as far as possible as these are natural things available in nature which greatly reduce prominent pollution.

It is said that one must take care of the small things and the big things will automatically fall in place. Every house must be looked as a living being. There are innumerable areas where efficient construction and proper handling of machineries and available resources can greatly reduce pollution menaces. For example normal flush wastes 7 to 17 litres of water hence simply checking the overuse of flush can save large amount of water. A central air conditioning rather

than having an air conditioner in every room saves a lot of electricity. Having a proper waste management system helps to reduce reuse and recycle efficiently. With an ever growing demand of buildings and houses it becomes important to find practical ways to reuse the already existing buildings. With growing urbanization, vegetation cover is decreasing exponentially which is a great threat to the sustainability of the planet hence reusing the existing buildings is the logical way out.

Hence plantation reusing the current buildings in an efficient manner and carefully planning future constructions can greatly reduce environmental damage on the constructional front saving the environment and enhancing socioeconomic progress.

CONCLUSION

Having understood development and degradation go hand in hand, human beings are continuously venturing new sustainable development. Everyday ecofriendly technologies are developed. Such techniques always give an edge to

mankind. Social progress is related to society and society is closely interlinked with economy. Economical development is often equalised with money making. What people need to understand is that intelligent economic development is infact quite ecological. It gives present profits and future security. Small constructional changes and a few modified ways can add up to big boons for environment which in long run will surely pay dividends.

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