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Impact of Industrialization on the Global Environment

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Abstract: *Today millions of people are without basic needs of cloth, shelter, health, education and employment. This is not due to over population alone but also due to environmental consequences. The loss of forests, fertility of soil, productivity and energy crisis have created many problems. The pollution created by industries, technology etc. and over-consumption by the affluent society lead to the rapid depletion of basic natural resources. Many human problems are also due to mismanagement of environment which is created by man himself.*

In the recent years everyone has started thinking over the problem of over-population and its consequences, which is primarily concerned with the environmental pollution and every effort should be made to focus public attention to save mankind from self-destruction and steps should be taken at national and international levels so that the consequences may not become worse.

The environmental science is concerned with the study of all the systems of air, land, water, energy and life that surround us. Environmental problems are so diverse and diffused that virtually every activity of civilization interacts with the environment. The addition of extraneous materials or energy in a particular environment in concentrations greater than the normal renders the environment partially or wholly un-favourable for human life

Keywords: pollution

I. INTRODUCTION

Industrialization has brought economic prosperity; additionally it has resulted in more population, urbanization, obvious stress on the basic life supporting systems while pushing the environmental impacts closer to the threshold limits of tolerance. With booming industrial growth and relatively low land mass, environmental sustainability is now becoming a significant deciding factor in industrial development process. Accumulating evidences constantly indicate that the transition of the existing industries into eco-industrial network through successful implementation of green approaches provides a viable solution to preserve the natural resources of the region while concurrently enhances the regional economy on a sustainable basis. It calls for an appropriate planning and integrated framework in harmony with the environment, after careful assessment of past and prevailing conditions. The empirical knowledge on affected area helps understanding the local context and developing further course of action based on ground realities. With this aim, a study was conducted on the current industrial pollution and environmental setting of Maharashtra. A causal chain

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analysis indicated severe impacts of industrialization on local environment while highlighting its immediate and root causes. The findings form a base for suggesting sustainable solutions to curb rampant pollution in Maharashtra region and similar scenarios found across the world.

Negative impacts of industrial policy:-

Public sector monopolies gradually turned out to be a 'dead social weight'. By incurring heavy losses, public sector enterprise led to insufficient use of resources.

Protection of domestic industries stimulated its growth. But, it failed to achieve international standards of product quality.

Saving foreign exchange through import substitution proved to be an inefficient policy instrument.

Investors face problems to enter in emerging market countries when there are lots of barriers. These barriers can include tax laws, foreign investment restrictions, legal issues and accounting regulations that can make it difficult or impossible to gain access to the nation.

The economic liberalization process begins by relaxing these obstacles and relinquishing some control over the direction of the economy to the private sector. This often involves some form of deregulation and a privatization of corporations.

Major goals of economic liberalization are the free flow of capital between countries and the effectual allocation of resources and competitive advantages. This is generally done by decreasing protectionist strategies such as tariffs, trade laws and other trade barriers.

One of the main effects of this improved flow of capital into the country is that it makes it inexpensive for companies to access capital from investors. A lower cost of capital enables companies to undertake lucrative projects that they may not have been able to with a higher cost of capital pre-liberalization, leading to higher growth rates.

Impacts on water - A detailed analysis of the environmental impacts of industrialization revealed that industries set up before the 1990s included mostly textiles, sugars and distilleries that were water intensive and had a higher pollution potential, exerting enormous pressure on the environment. The indiscriminate discharge of industrial effluent along with municipal solid waste disposal is the principal source for surface water contamination.

Impacts on air - The air quality is equally affected by industrialization. By the end of the eighteenth century, Maharashtra received 499 tons of suspended particulate matter (SPM), 2.88 tons of sulphur dioxide (SO2) and 1.99 tons of nitrogen dioxides (NOx) per year. At the end of the nineteenth century, several air pollution potential facilities such as M.S. ingots, Ferro alloys, and calcium carbide were established and the pollutant level increased nearly tenfold for SPM and NOx and fifteen fold for SO2.

Impacts on ecosystem - This uncontrolled industrialization brought changes in community and habitat structure Forest cover of Maharashtra has become very less, posing a threat to current ecosystem With this sudden boom in industries, the pattern of resource utilization in the form of energy, water usage etc. increased drastically leading to the inevitable resource disturbance and imbalance. Today, the land bears no resemblance to its past, except in a few pockets of the region.

Impacts on flora and fauna - Due to the changing climate of industrialization and in the absence of forest cover in most of the areas of Maharashtra , several endangered and threatened plant species such as Derris ovalifolia, Mallotusphilippensis, Atlantiamonophylla, Pamburusmissicnsis Glyccsmispentaphylla, Lepisanthustetraphylla, Diosypyrosebnum,GloriosasuperbaGymnemasylvestre,Combretumovalifolium,Derrisscanden and varieties of mangroves found in this region are under great threat. The peri-urban estuaries where mangroves are located, receive a large quantity of untreated sewage and solid wastes that degrade the habitat and threaten the flora and fauna.

Recommendations for sustainable solutions

Strategic planning is necessary to address the environmental impacts of economic development to an acceptable level. In this scenario of degrading environment and pressure for constant industrialization, eco-industrial network development provides viable solutions to move towards sustainable industrialization. However, it will require a supportive infrastructure base to make it happen. Industry will need a perfect combination of incentives, regulations,

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management mechanisms, information and other infrastructure facilities to provide the conditions in which industrial symbiosis (IS) can thrive.

II. CONCLUSION

New industrialization and urbanization have been very important causes for putting pressure on natural resources and also causing various degrees of environmental degradation. Maharashtra, the main Indian industrial base has been experiencing similar kind of situation since many decades. There is urgent need of initiatives that ensure that industrialization is sustainable both in terms of taking measures to prevent damage to the environment and also promoting more environmentally friendly industries. A transition of the industries into eco-industrial network has emerged as a dynamic approach to preserve the natural resources of the region. Forging strong linkages between industry and related services can accelerate this transition to a diversified, high income economy while providing a safer environment. Situational analysis of Maharashtra region pointed out existence of significant potential for industrial clusters development and inter-organisational interfaces for by-product and local resources. Key lessons learnt from Maharashtra may act as a good basis for the development of a strategic action for the areas with similar environmental problems.

The achievement of eco-industrial network depends on the in-depth study of each industrial characteristics and driving factors. It demands a strong determination and complete dedication of major stakeholders, especially participating companies. It is important to make the participating companies understand that eco-industrial network will undoubtedly provide them with opportunities to gain environmental and socio-economic benefits in a long term and will greatly increase the sustainability of the system. However, we need to address a number of concerns about implementation, dissemination and uptake of new management approaches to move industries in the direction of more sustainable practices and make them ready for the acceptance of recycled products and materials. Such solutions cannot be imposed from outside and need a holistic approach that is widely understood, or at least accommodated by local industrial systems.

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