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## ENVIRONMENTAL CHALLENGES IN INDUSTRIAL AREA; A CASE STUDY OF GURUGRAM DISTRICT

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### INTRODUCTION:

The development of industries is important for the economic growth of any countries thus almost all the countries in the world making sincere efforts to promote industrialization. Industrialization as well as urbanization, triggered the process of development, but also have significant ecological, environmental and socio economic consequences. While the country strives for higher economic growth and development through industrialization, however less attention is paid to the environmental problems created by industrial activities. With rapid industrialization, industrial wastes have also been growing in volume.

### CONCEPT OF STUDY:

In this paper it is clearly sound that the industrial area of gurugram district is suffering a large volume of environmental challenges. Urbanization and industrialization has given birth to a great number of environmental problems that need urgent attention. Gurugram is witnessing "explosive urbanization" and its critical resources like water, the environment, land and biodiversity are being stretched to the limit to accommodate this growth, raising the possibility of the city turning into a "living hell" is possible in near future. During the Industrial Revolution of the twentieth century's, pollution became a major problem with the introduction of the steam engine and a series of technological advances that led to the production of goods shifting from homes and small factories to large industrial factories. The invention of more productive processes to manufacture cotton textiles contributed greatly to the number of mills located in gurugram, and later in the NCR region.

An industry is a collection of companies that operate in a related set of goods or services, which are eventually sold to purchasers. In any country, numerous industries work together to produce the necessary goods and services needed and desired for its people. By convention, industries are divided into three groups:

- *Primary industries* are involved in the collection, utilizing, and harvesting of resources directly produced by physical processes (e.g., mining and smelting).
- *Secondary industries* deal with manufacturing as they take raw materials, convert them in various ways, and produce tangible goods (e.g., automobile factories).
- *Tertiary industries* produce services for individuals and groups (e.g., advertising).

These three groups are distinctive regarding the amount of pollution produced in their operations. Some sectors (such as tourism) have a close relationship with the environment, whereas others have adopted a particularly proactive environmental response (such as the automobile industry with regard to recycling old cars) and still others continue to have a noticeable detrimental impact on the environment (such as the automobile industry with regard to exhaust emissions). Since the largest impact from pollution (and associated waste products) is produced within the secondary industries, this sector will be the topic of discussion in this article. Most economists commonly refer to the secondary industries (the manufacturing sector) as "industry," whereas the primary industries are usually referred to as the agricultural and mining sector and the tertiary industries as the service sector.

Many of the largest polluters come from the chemical, pesticide, oil refining, petrochemical, metal smelting, iron and steel, and food processing industries. All are major users of energy that produce large amounts of waste products and pollution. Other industries have less potential impact but are still considered highly problematic when it comes to pollution. These industries include the textile, leather tanning, paint, plastics, pharmaceutical, and paper and pulp industries. Industries that are often outside the traditional manufacturing sector—but nevertheless contribute to environmental degradation—include the construction industry, to name but one example.

**STUDY AREA:**

Gurugram District falls in the southern most region of the state of Haryana. Its headquarters is at Gurugram. It lies in between the 27° 27' 20" and 28° 32' 25" latitude, and 76° 39' 39" and 77° 20' 50" longitude. Being in the vicinity of Delhi, Gurugram falls under National Capital Region. Gurugram a satellite town in the National Capital Region (NCR) and referred to as a 'Millennium City', is one of Haryana's largest urban centers. It has experienced phenomenal growth – from a small population of 870,539 in 2001 to 1,514,085 in 2011. The current population of Gurugram is estimated to be close to 2.5 million and is expected to grow to 4.3 million by 2020. As the industrial and financial centre of Haryana, this city has witnessed the third largest increase in per capita incomes in India (after Chandigarh and Mumbai). Almost 45-48 per cent of Haryana's revenue accrues from Gurugram by way of excise duty, sales tax, stamp duty and registration. This is the hub of the prolific and massive real estate development that is happening in the state today.

**RESEARCH WORK:-****INDUSTRIAL WASTE PRESSURE:**

Solid waste is generated wherever there is human activity and is characterized by a several different streams, each with different characteristics and components. These include industrial waste, dry waste, and organic waste. The Environmental Protection Ministry's policy is aimed at "zero waste" generation - which could only be reached through a very considerable increase over the next decade in the amount of waste that is recycled and recovered, leaving little or no waste to be buried in landfills. In this way the industrial waste pressure is being developed day by day in gurugram district.

**PRESSURE DUE TO INAPPROPRIATE LAND USE:**

Gurugram is a developing industrial area. A number of industries is being established day by day because the district gurugram is used like a economic capital in NCR area. These all industries are making environment crisis in this city. A large amount of roads, highways, district roads, are built every day and disappear in the city, but the issue is that our environmental status is falling down day by day. We cut down a no of plants in the name of development. On the other hand a large no of vehicles use in industrial cluster, this is really a harmful progress in the district. All faculty, employee, worker, suppliers vendors, merchants, use a large amount of transport and give their contribution for environment degradation.

**WATER RESOURCE AND ITS AVAILABILITY:**

The sources of effluent - treated or untreated wastewater that is discharged into surface waters - are many and varied. Effluent can come from industrial outlets, treatment plants, and sewers. Industrial effluents are a big fraction of the waste in the gurugram district. Untreated wastewater can cause environmental woes including: pollution of groundwater reservoirs, damage of transport and wastewater treatment systems, and degradation of treated wastewater and sludge such that it would disqualify them from being used for agricultural purposes.

It is essential of rationalizing the use of groundwater. Factors like community wastes, industrial effluents and chemical fertilizers and pesticides have polluted our surface water and affected quality of the groundwater.

It is essential to restore the water quality of our rivers and other water body as lakes is an important challenge. It so finding our suitable strategies for consecration of water, provision of safe drinking water and keeping water bodies clean which are difficult challenges is essential.

### **AIR POLLUTION:**

Industry is a major cause of air pollution, since the operation of factories results in the emission of pollutants, including organic solvents, respirable particles, sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>). These pollutants can both harm public health and damage the environment by contributing to global phenomena such as climate change, the greenhouse effect, ozone hole and increasing desertification.

And in the gurugram district this kind of pollution is increasing very fast. Each and every people want to get more and more money at any cost, they established there own industrial business more fast and they really forget the important thing this is known as environment.

### **COMMON INDUSTRIAL POLLUTERS:**

Many of the largest polluters come from the chemical, pesticide, oil refining, petrochemical, metal smelting, iron and steel, and food processing industries. All are major users of energy that produce large amounts of waste products and pollution. Other industries have less potential impact but are still considered highly problematic when it comes to pollution. These industries include the textile, leather tanning, paint, plastics, pharmaceutical, and paper and pulp industries. Industries that are often outside the traditional manufacturing sector—but nevertheless contribute to environmental degradation—include the construction industry, to name but one example.

According to the document, exploding urbanization had led to a five-time increase in the population of Gurugram since 2001. The city, in fact, has registered the third largest increase in per capita income in India after Chandigarh and Mumbai. Almost 45% of Haryana's revenue comes from Gurugram through State taxes.

This unprecedented growth, however, made enormous demands on resources including water, energy, land, mobility and biodiversity, besides generating mountains of waste. If not addressed soon, the document warned, Gurugram can turn into a living hell.

### **TEAM PLAN AND MANAGEMENT**

The importance for promoting cleaner and resource efficient pathways to production, and the de-coupling of economic growth from environmental degradation, cannot be emphasized strongly enough. We cannot deny that one side effect of industrialization is its considerable environmental footprint. There is no country that has yet fully resolved the issues of waste management, water purification and pollution. However, experience shows that environmentally sound interventions in manufacturing industries can be highly effective and significantly reduce environmental degradation. In this context, the drive for innovation and process optimization, the core of any industrial upgrading effort, is an important means to develop the necessary solutions to realize cleaner production, efficient resource management and reductions in waste and pollution. We have the technological capabilities for cleaner industrial production today. "Green industry" can be promoted to deliver environmental goods and services. These industries by themselves are a sustainable source for further structural diversification, jobs, income and prosperity. Moreover, committing to sustainable production patterns makes business sense as it reduces wastage of costly resources, and contributes to increased competitiveness. There is also an imperative to increase energy efficiency in industrial production. Since energy inputs represent an important cost of production for industries, clean energy and energy efficiency have progressively become core determinants of economic competitiveness and sustained growth. Demanding to choose between industrial growth and sustainability is therefore the wrong approach. It is the transformation in production processes and business models – going hand-in-hand with

the right choice of technologies – that will present the solutions to the daunting environmental challenges of our times.

## INDUSTRY AS POLLUTER

Damages to the environment as a result of industrial processes decrease in raw materials, land deterioration, extinction of species, damage to human health and climate change make it clear that industrial development as it is practiced today is not sustainable. Future development and the ability of future generations to supply their own needs are being undermined by the misuse or contamination of land, water, air, marine and natural resources.

The central concept behind sustainable development is to enable the biosphere to supply "environmental services" to the population by means of renewable processes, without investment in non-renewable materials. In the natural environment, nutrients are transferred from organism to organism and materials and energy are circulated and transferred. Industrial ecology seeks to replicate this state by minimizing waste and maximizing the cycling of materials and energy. Reuse and recycling are becoming more prevalent both within the framework of industrial processes and as industries in their own right.

The following developments are expected to have a positive impact on industry in the future:

- ❖ Increased industrial responsibility for "clean" production processes and for environment-friendly products.
- ❖ Comprehensive supervision and treatment of all industrial plants, not only individual plants.
- ❖ Increased investments in pollution prevention and waste treatment in the first stage.
- ❖ Introduction of changes in production processes and in material use in the second stage.
- ❖ Growing opposition by the government and the public to increased environmental risks.
- ❖ Increased influence of powerful environmental bodies (such as Green Peace) on industrial decision making.
- ❖ Increased insurance costs to cover environmental damages.

## CONCLUSION:

The effluents and waste discharged from the industries should be controlled and may be utilized for the products like manure and other products useful to the society. There is need for public awareness by issuing regular journals, articles, holding of seminars and conferences.

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