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# Are the non-renewable resource utilization and waste management practices employed in Indian automobile sector sustainable?

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## Abstract

Growth in automobile sector is considered as an indicator of good economy. Post liberalization, India has opened doors for various businesses and automobile sector in particular, benefited due to foreign investment on Indian soil. The industry has grown into leaps and bounds. According to Nomura analysts, global automobile demand will continue to rise despite marked disparities between regions. While there is a huge increase in the production and servicing aspects, automobile sector today is facing several challenges on environmental front. This sector emanates hazardous organic and inorganic wastes on grand scale and managing them is a matter of great concern. The present study, through secondary data, analyzes the different strategies adopted for waste management in the Indian automobile sector. The study reveals that automobile industry in India is gradually moving towards to zero waste generation zone, but has to go long way. The authors conclude that it is not only the legal framework which will help in attaining sustainability but the organization's value and culture will impacts the most in waste management practices.

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## 1. Introduction

The base mode of transport is the vehicle. The need of the faster and greener transport has pushed the

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AutoIndustry to produce more. The tremendous growth in this sector is evidential of the higher production and higher use of resources (KPMG 2011). The Auto industry in India has seen the exponential growth in recent decades. Post liberalisation, many automobile manufacturers have opened the manufacturing facilities in India. The stable economic conditions and favourable governance helped Auto Industry to flourish in India (SIAM 2011). Politics plays a great role with the introduction of new legislations, pressuring manufacturers to spend more money on R&D and operational improvements (Bissinger & Castellano, 2007).

The expansion of companies into foreign markets continues, and this is particularly true in the automotive industry. Long ago, however, automobile manufacturers stopped focusing exclusively on exports. Instead of merely exporting vehicles and selling them in foreign markets, companies began carrying out a wide range of value activities abroad. These activities are located in or near promising target markets.

AutoIndustry in India, although is fragmented into large scale to small scale vendors. Most of the energy and resource intensive process is manufacturing process (KPMG 2011). The Industry utilises natural resources like minerals, water, air in exhaustive manner. As the industry is utilising the natural resources the local governmental and global laws are applicable to auto industry to handle the waste generated through the manufacturing process. The waste after conventional treatment results into sludge, ash or cake which contains residual contaminants mostly consisting of heavy metals / inorganic concentrates.

In India the hazardous waste ends up in waste moulds or a landfill. In India, about 4.4 million tonnes/ annum of Hazardous Waste, this ends up for disposal. Unless this is scientifically disposed, it could cause serious hazard to human health. The end disposal techniques have to be tailor-designed to the waste characteristics. However, increasing attention is being given to land filling of very difficult waste in recent years within the waste management hierarchy (Sosnowski et al., 2003).

### 1.1. Indian Regulation

Ministry of Environment & Forests (MoEF) is the regulation authority governing the handling and management of hazardous waste in India. It has issued and published specific rules to regulate the management and handling of different types of Hazardous wastes, namely: Hazardous Wastes (Management, Handling and Trans boundary Movement) Rules, 2008. This rule supersedes the earlier rule of Hazardous Wastes (Management & Handling) Rules, 1989 with various other succeeding amendments in 2003, ---upto 2008

The Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008, as amended, requires that the State Pollution Control Board (SPCB)/ Pollution Control Committee (PCC) to grant authorization to the operator of a facility based on technical capability. In order to facilitate implementation of the Rules, the Ministry of Environment and Forests (MoEF) and the Central Pollution Control Board (CPCB) have published several *supporting documents* for related solid waste (not exactly fitting into the description of Hazardous Solid waste) as in the case of Fly ash Utilization Notifications S.O No.2623 (E) dated 06 Nov.2008 of MoEF.

## 2. Literature Review

### 2.1 Overview of Indian Automobile Industry

The automobiles sector is majorly classified in – two-wheelers (mopeds, scooters, motorcycles, electric two-wheelers), passenger vehicles (passenger cars, utility vehicles, multi-purpose vehicles), commercial vehicles (light and medium-heavy vehicles), and three wheelers (passenger carriers and good carriers). Since the delicensing of the sector in 1991 and the subsequent opening up of 100 percent FDI through automatic route, Indian automobile sector has come a long way. Today, almost every global auto major has set up facilities in the country.

The world standings for the Indian automobile sector, as per the Confederation of Indian Industry, are as follows:

1. Largest three-wheeler market
2. Second largest two-wheeler market
3. Tenth largest passenger car market
4. Fourth largest tractor market
5. Fifth largest commercial vehicle market
6. Fifth largest bus and truck segment

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