Chapter 12

Green Manufacturing: The Need of the Hour for Developing Nations – A Case Study

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ABSTRACT

The manufacturing sector has greater responsibility for conducting and operating its business. The primary objective of every unit is to maximize profits. The manufacturing sector is the key driver of energy consumption and if an automobile consumes high fuel or if the resources are under-utilized, it is definitely the fault of the manufacturer. If we seriously need a solution to these problems, we need to change the way we design, manufacture, and sell the products. The manufacturing sector must use energy and resources efficiently. ‘Green Manufacturing’ or sustainable industrial activity is the need of the hour and the Government of India requires the manufacturing sector to play a bigger role in the country’s economy. This paper focuses on the initiative taken by the industries to make the environment eco-friendly. The paper further will emphasize upon a case study of Hero MotoCop.

MEANING AND IMPORTANCE OF ‘GREEN’

The term Green here refers to the ecological sustainability and encompasses elements like energy usage, efficiency and waste management and recycling. Green initiative aims to minimize the impact of human activities on the environment.

There are various factors which call for concerns for Green. They are:

1. **Rising emissions**: Greenhouse gas emissions have been increased rapidly in the recent past and are continuously accelerating. It is revealed by the scientists that it will increase by double by 2050. This means that there would be an exceptional negative change in the global eco-system, sea-level, crop production and relative activities.

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2. **Fast depletion of scarce natural resources:** With growing population, the need for industrialization will increase and also the consumption of natural resources will rise. This will result in the imbalance between the demand and supply of products, rise in the price of goods and services. This problem could be solved by optimal utilization of natural resources and their alternate uses.

3. **Growing waste generation and pollution:** Rapid industrialization and urbanization has led to increase in industrial waste and chemical compositions. This results in environment pollution which can be dangerous to health of human beings.

4. **Growing Technological waste:** Another problem which is encountered by the nation is e-waste. With growing demand of technologies and gadgets, the problem of e-waste has emerged which again is a major source of environment pollution.

The above factors have persuaded the manufacturers to adopt Green manufacturing. A number of companies have started adopting Green initiatives as an integral part of their operations. These initiatives are driven by five factors:

- Rising energy and input costs
- Growing consumer pull for Green products
- Increasing regulatory pressures as policy makers introduce new and stricter environmental and waste management laws.
- Technological advances which open up new attractive business opportunities
- The need to enhance competitive differentiation, particularly for first movers or those who are able to break the compromise between short–term higher costs and numerous benefits (example: brand premium, new customer segments). (Bhattacharya, Jain & Choudhary 2011)

**Why Green Manufacturing?**

The manufacturing companies produce goods which are not eco-friendly. So, they should focus on three major areas:

1. **Green energy:** Green energy basically includes the renewable energy sources like biomass, wind, solar, CNG etc. The manufacturing units should use these green energy sources to produce goods which are not only eco-friendly but also benefits the society as a whole.

2. **Green products:** Green products are the products which can be recycled, low in carbon, organic and are natural. These products are gaining popularity but are little costly. However, if the consumers demand these products and if these products are marketed well, the cost of developing these products will gradually decrease.

3. **Green processes in business operations:** The third and the last area on which the manufacturing units should focus is the business operations. This includes the use of appropriate technology which may increase the efficiency and decrease the cost.

**Green Manufacturing: The Need of the Hour for Developing Nations**

Green manufacturing has the potential to achieve sustainable development and eradicate poverty on an unprecedented scale. A green manufacturing economy substitute’s clean energy and low carbon tech-