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**ACHIEVING PRODUCTION EFFECTIVENESS AND EFFICIENCY  
THROUGH CLEANER PRODUCTION IN THE  
NARROW FABRIC MILL**

**BY**

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## EXECUTIVE SUMMARY

The eighteenth and nineteenth centuries have gone and already the twenty first century has begun. In fact, before the twenty first century began, it has been identified as an with plentiful of resources era and people were using resources as they want. Due to population growth, emerging of new technology in diverse areas and modernization of society, the utilization demand for such unlimited resources have gone up. Now world has identified the trend of depreciation natural resources, the importance of environment, the draw back of destroying and polluting the environment. Although pollution of the environment is one dimension of the threat to the human being, damaging the environment which became a threat to fauna and flora that everybody should be concerned. Therefore the human being are continuously finding ways and means to reduce the depreciation of natural resources and pollution of an environment to face the future requirements.

When considering the concept of Cleaner Production, it has been evolved to attempt to address the depreciation of natural resources, improve the effectiveness and efficiency of the product and services as well as to minimize the harmfulness to the environment due to various human activities. Cleaner Production can be applied to the processes used in any industry, to product themselves to various services provided in the society.

In this research project, a "Cleaner Production Audit" was conducted to find out the possibilities of applying cleaner production solutions to achieve resource efficiency, process effectiveness and environmental friendliness of elastic manufacturing process of Stretchline (Pvt) Ltd. Stretchline (Pvt) Ltd is a one of worlds leading textile product manufacturer and their main product is woven and knitted elastics. In addition, they are manufacturing elastomeric covered yarn for various textiles products.

Before carrying out the CP assessment, background of the textile manufacturing industries were studied. Recent past most of the studies were focused on a dyeing and finishing department ( coloration ) in the textile industries. In fact, this research has focused on solid waste generation and other auxiliary waste streams in narrow fabric weaving mill. When considering the focused weaving department in the factory, it is a one of the major department which contribute more than 65% of the monthly revenue.

Having identified major problems related to waste generation in weaving department, the literature survey was carried out to get a better knowledge of the concept of Cleaner Production and its activities as well as the textile industry. This study was mainly focused on elastic and yarn waste and apart from that auxiliary inputs waste was also identified and addressed during the research project.

In the process analysis, all the process steps were analyzed with their inputs and outputs. Process steps for auxiliary inputs and outputs were also identified separately. Root causes for each waste stream were recognized and CP solutions were suggested. In addition, suggested CP solutions have been categorized according to technical, environmental and economical viability.

All the CP options were grouped into three stages according to the gain and ease of implementation. And also these options were separated into three cost categories which are low cost category, medium cost category and high cost category. Under each category expected saving, pay back period of the investment and waste percentage to total production were calculated. Finally, three waste percentages under each category were compared with the industry bench mark to see the competitive position in the narrow fabric weaving mill after implementing CP program.