A STUDY ON WASTE DISPOSAL MANAGEMENT IN GARMENT INDUSTRY

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ABSTRACT

The need for effective apparel waste management is motivated by the increasing cost and decreasing availability of landfill space and the dwindling of natural resources. The aim of this study was to identify the current solid waste disposal and recycling practices of the apparel industry in South Africa and to determine their attitude and willingness towards recycling, their perception of the feasibility thereof, barriers to recycling and marketing strategies that would be appropriate for products made from recycled materials.

The most important barriers to recycling are lack of equipment and technology, lack of material to recycle and lack of consumer awareness. It is concluded that consumer awareness and knowledge regarding recycled apparel products should be developed in order to ensure a market and that apparel manufacturers should be encouraged to recycle more extensively, in order to ensure that resources will not be exhausted unnecessarily and the environment will be preserved optimally.

KEYWORDS: Clothing, Recycled Materials, Textiles, Garment Industry

INTRODUCTION

This the human control of the collection, treatment and disposal of different wastes. This is in order to reduce the negative impacts waste has on environment and society. Waste is directly linked to the human development, both technologically and socially. Waste management is a distinct practice from resource recovery which focuses on delaying the rate of consumption of natural resources. All waste materials, whether they are solid, liquid, gaseous or radioactive fall within the remit of waste management or radioactive fall within the remit of waste management.

Waste management practices can differ for developed and developing nations, for urban and rural areas, and for residential and industrial producers. Management of non-hazardous waste residential and institutional waste in metropolitan areas is usually the responsibility of local government authorities, while management for non-hazardous commercial and industrial waste is usually the responsibility of the generator subject to local, national or international authorities.
CONCEPT OF WASTE MANAGEMENT

VARIOUS STAGES OF WASTAGE MANAGEMENT IN GARMENT INDUSTRY

Fabric Store

Fabric storehouse is the actual area where the fabric for production is receive or dispatched for processing. Beside storage the fabric store department is also responsible for the inspection of the goods receive by it. The fabric which is sourced from outside into the fabric store should be inspected for the defects.

Wastes in the Cutting Room

Wastes in the cutting room can come from several sources including marker utilization, cutting waste and roll remnants.

Bundling Room

The inspection is not 100%, some defective pieces go undetected and reach the stage of production.

Production Floor

The loaders load the lines with the bundles which pass on the line according to the operation. The operator may find the piece defective at any stage and dispose it off there and then only.

Dyeing and Washing

The wastages happen when either the pieces are lost or misplaced during the transportation.

Printing/Embroidery

The printing on the garment does not match the standard while in the case of embroidery, it may not be on the correct place on the garment or the number of threads used is less and desired effect is not obtained.

Finishing

This may include measurement/fit defect, trims defect or pressing.

MAIN CAUSES OF WASTAGE IN GARMENT INDUSTRY

- Motion
- Delay/Waiting
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- Conveyance (moving thing around)
- Correction
- Over processing
- Inventory
- Overproduction
- Knowledge disconnection underutilization of resources

IMPROVEMENT WASTE MANAGEMENT OF GARMENT INDUSTRY

Reuse is today mainly limited by economic conditions with low cost of virgin textile and fast changing fashion. There are however opportunities in that second hand may be a fashion in itself and that the informal second hand market is to a large extent working without any specific policy instruments.

![Figure 2](image1)

Figure 2

Much of the textiles collected by charity organizations are not of a sufficient quality to be sold and reused on the market. This is to some extent solved by exports to less demanding markets outside but also leads to incineration.

![Figure 3](image2)

Figure 3

Economic & Social

The labour cost of repairing a garment is often higher than the purchase of a new garment. The extreme case is when it is actually cheaper to buy a new garment rather than to have it professionally cleaned.

Technical, Legal: Design both for Reuse and Recycling

Design of new textiles can be differentiated depending on what the textile should be used for. If it is a short lived garment either due to fashion or its inherent nature it should preferably be made of a standardized material which is suitable for recycling. If it is a high quality garment which will be used for many years a more complex fabric may be used in technical.
MEASURES TO CONTROL COST LOST IN WASTAGE

- Finish in time Minimum
- Changes in original design
- Least make break/rework
- Keep check on Labor and Material costs
- Avoid rework due to bad quality
- Optimize usage of materials
- Enhance labor productivity through skill training
- Efficient Management Information System (MIS) for timely decision making.

USE OF GARMENT WASTE

The unusable parts and extremely shredded clothes are recycled into waste cotton. Mattress, pillows, cushions, seat stuffing and padding in cars, public buses and rickshaws are usually done with these recycled clothes and processed cotton. Even bandages are being reproduced with leftover white cotton fabrics. While buttons, zippers, elastic fastener, hangers and plastic bags are resold to mini garment accessory sellers. Buttons, zipper, elastics fasteners are mostly purchased by local tailors, said an accessory seller.

ENVIRONMENTAL AND ECONOMIC BENEFITS OF GARMENT RECYCLING

- Reduces the need for landfill space.
- Textiles present particular problems in landfill as synthetic (man-made fibres) products will not decompose, while woollen garments do decompose and produce methane, which contributes to global warming.
- Reduces pressure on virgin resources.
- Aids the balance of payments as we import fewer materials for our needs. Results in less pollution and energy savings, as fibers do not be transported from abroad.
- Benefits of reclaiming fiber Savings on energy consumption when processing, as items do not need to be re-dyed or scoured.
- Less effluent, as unlike raw wool, it does not have to be thoroughly washed using large volumes of water. Reduction of demand for dyes and fixing agents and the problems caused by their use and manufacture.

CONCLUSIONS

Garment waste is not a large waste stream by weight or volume but has a significant environmental impact connected to the production of garments. When this project started very little was known both about actual consumption and of the connected environmental impact. Since then, a number of studies, workshops and seminars have been performed and the knowledge in this area is increasing rapidly.
Industrial recycling needs to be large scale and the textile flows are according to the recycling companies too small for an efficient recycling process. More research is needed to find optimal recycling methods.

REFERENCES


