



## TEXTILE INDUSTRY AND IT'S WASTE MANAGEMENT

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### **Abstract:**

Textile industry has a long history of being cautious with its resources; a large proportion of unnecessary waste is still produced each year. Commercially, textile waste generation is influenced by the production of textile goods, higher the production, greater the amount of waste, due to consumer demand which is influenced on the production of household textile waste. Consumers react to changes in fashion both in clothing and household interior designs, so seasonal changes in fashion mean that clothes can become outdated very quickly which encourages the replacement and disposal of outdated, yet good quality garments. Now the management of waste is an alarming problem, hence objectives of this study is to prevent the generation of waste, promote reuse of waste, promote biological recovery of waste and ensure the treatment and disposal of waste does not cause any harmful impacts. Waste increases operating costs so waste minimization techniques often considered the best tool for pollution control at source and to improve not only productive but enhance compliance status from environmental angle. Textile recycling also resulted to better economics since it provided job opportunities for peoples that could be created with these recycled textiles. Also textile recycling teaches everyone to reuse, reduce and recycle these products instead of throwing them away which cause pollution and more damage to the air around us, so it is the time to think and make up our mind to use recycle products to reduce the environmental pollution. Therefore, there was a need to develop the interest of people towards reuse.

**Keywords:** *textile, management, consumers, recycle, pollution*

### **Introduction:**

Textile industry has a long history of being cautious with its resources, a large proportion of unnecessary waste is still produced each year. Commercially, textile waste generation is influenced by the production of textile goods, higher the production which greater the amount of waste. This is in turn a function of consumer demand which is influenced on the production of household textile waste. Consumers react to changes in fashion both in clothing and household interior designs so seasonal changes in fashion mean that clothes can become outdated very quickly which





encourages the replacement and disposal of outdated, yet good quality garments. As the production of textiles increases with consumer spending, so does waste production from both the manufacturing and household sectors.

The management of waste is an alarming problem. However, agreed by everyone to protect the environment is to 'reduce, re-use, repair or recycle' and actual disposal of textile waste should be a last resort.

### **What is textile waste?**

Like all wastes, textile waste originates from the community via a number of streams including the fiber, textile and clothing manufacturing industry, consumers, the commercial and service industries.

#### **1. Objectives :**

1. Prevent the generation of waste.
2. Promote reuse of waste.
3. Promote biological recovery of waste and recycling of materials.
4. Ensure that the treatment and disposal of waste does not cause any harmful impacts.

#### **2. Classification of Wastes :**

a) **Dangerous nature packaging wastes:** This kind of wastes coming from the exhaustion of the chemical auxiliary having dyes, laboratory chemical reactive etc.

b). **Non dangerous packaging wastes:** Coming from the packaging of raw textile material of different nature (fibres, yarns, fabrics, pieces paper packaging wastes.

c). **Non dangerous wastes:** Textile wastes ( raw material and fibres, yarn, woven, knitted, cut-offs, fly fibre and threads, selvages, defective items),mud for water treatment.

d). **Dangerous wastes:** Grease and oil impregnated rags, used oils, textile wastes with chemicals, solvent wastes, chemical wastes, dyes, print pastes.

Textile manufacturers undertake a range of waste-generating activities such as washing/drying, warp preparation, weaving, dyeing, printing, finishing, quality and process control.





4. **Benefits of Reducing Waste:**

1. Reducing the cost of purchasing.
2. Increasing profitability.
3. Reducing environmental impacts by reducing use of raw materials and producing less waste.
4. Improving your public image and employee satisfaction through promoting an environmentally safer workplace.

5. **Waste Management :**

In general, there are four ways of handling the waste. They are:

1. Source Reduction.
2. Landfills.
3. Burning.
4. Recycling.

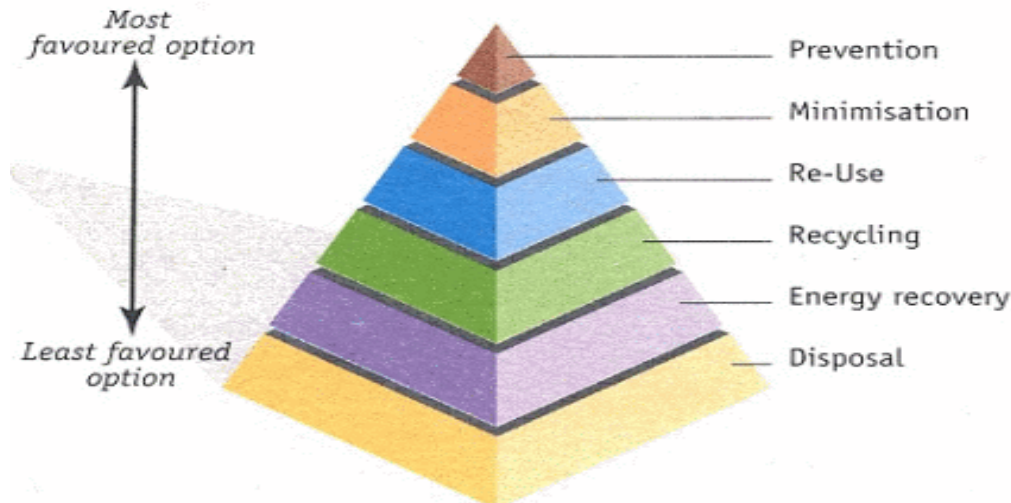
1. **Source Reduction:** Reduction is generally the first step that should be considered in an integrated waste management system i.e. avoiding waste generation, internal reuse of waste, reuse in other products etc.

2. **Land Fills:** Textile waste in landfill contributes to the formation of leak, as it decomposes which has the potential to pollute both surface and groundwater sources. The decomposition of organic fibres and yarn such as wool produces large amounts of ammonia as well as methane.

3. **Burning:** Textile waste e.g. short, loose fibers can also be reincorporated into a fuel.

4. **Recycling:** Recycling is a key concept of modern waste management. Recycling is the reprocessing of waste materials into new or reusable products. In many applications, especially where metals, glass or polymers (including synthetic textile materials) are involved, the recycling process can only slow down damage to the earth. The second best is when it can be used in another article which usually requires less demanding properties, i.e. car seat cover fabric being recycled into backing material. The least expensive and least adverse effect on the environment is when a component can be recycled into its original product, i.e. so called 'closed loop' recycling.





## 6. Things to improve waste management practices :

1. Employee training and awareness is required to successfully implement actions and introduction of new equipment or processes, such as better segregation of wastes into fibre types, colours and processes that maximize recycling opportunities and 'waste' value.
2. Results are more likely to be achieved and maintained if you have a written plan and clear targets agreed by all areas of management.
3. Monitoring waste generation and disposal against raw material purchases is important for environmental compliance, stock control and to measure improvements.
4. The costs savings and payback periods for waste reduction options.
5. Waste avoidance generally delivers the best financial and environmental outcomes.

## 7. Advantages of Recycling :

- a) Recycling system uses 20 percent less energy and reduces environmental load through the efficient use of resources and energy.
- b) Promoting the health of the environment through recycling, include petroleum savings, greenhouse gases reduced, energy conserved.
- c) Aids the balance of payments as we import fewer materials for our needs.
- d) Results in less pollution and energy savings.

## 8. Collection of Wastes for Recycling :

Recycling is a great challenge in the design of products that are easy to recycle is seen in the development of eco friendly products. This is why







single-material systems are preferable when it comes to the design of products easy to recycle. With regard to complete re-use, the materials chosen should go well together, so they can be processed together.

Currently, processing makes sense as long as the secondary raw material produced can be well marketed. Recycling is the reprocessing of waste materials into new or reusable products. Ninety-nine percent of used textiles are recyclable.

#### **9. Environmental Impacts :**

Once produced the finished goods have a limited life. By recycling textile wastes, we not only conserve landfill space, reduce the amount of land, water, energy and pesticides that goes into textile production. The method of textile recycling resulted to a recorded study of about 48% used clothing, approximately 20% are made into cleaning materials like rags and the rest of about 26% is used to produce fiber to create new products. These days textile renovation is a good business which collect textiles for reuse.

#### **10. Conclusion :**

Textile recycling also resulted to better economics since it provided job opportunities for peoples that could be created with these recycled textiles. Textile recycling also teaches everyone to reuse, reduce and recycle these products instead of throwing them away. If thrown into incinerators, they cause pollution and more damage to the air around us, so it is the time to think and make up our mind to use recycle products to reduce the environmental pollution. Therefore, there was a need to develop the interest of people towards reuse.

Waste increases operating costs. The waste minimization techniques often considered the best tool for pollution control at source and to improve not only productive but enhance compliance status from environmental angle.

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