

Green Packaging and 3R'S: An Initiative to Attain Sustainable Development

G. Hesil Jerda¹ and S. Sahayaselvi²

¹Research Scholar, Research Department of Commerce, Holy Cross College (Autonomous), Nagercoil. Manonmaniam Sundaranar University, Abishekapatti, Tirunelveli, Tamilnadu, India.
²Assistant Professor and Research Supervisor, Holy Cross College (Autonomous), Nagercoil.

ABSTRACT

Rapidly growing population and acceleration in economic development create too much of wastes through consumption and production activities by utilizing the finished products and raw materials respectively. Waste can be minimized when human brain is creative and human intention is eco-centric. The 3'R' i.e. 'Reduce' 'Reuse' and 'Recycle' are the means to wholeness of sustainable development through green packaging. This paper focuses on the problems faced by the society at large especially where the eco-system is in danger zone. Hence this paper could be of help to the consumers to avoid non green packages and go in for green packaging and contribute to save the eco-system. The present study is based on secondary data which gives a clear cut idea about the negative impacts of non green packages that affects the environment, 3 R concepts that reduces waste generation which helps in attaining sustainable development.

Key words: green packaging, reduce, reuse and recycle, sustainable development.

INTRODUCTION

Rapidly growing population and acceleration in economic development create too much of wastes through consumption and production activities by utilizing the finished products and raw materials respectively. Waste can be minimized when human brain is creative and human intention is eco-centric. The 3 'R' is the wholeness of sustainable development through green packaging. That is REDUCE, REUSE and RECYCLE. Green packaging is the need of the present environment. It reduces the carbon footprint and also reduces the waste which is generated through plastic packages. Green packaging can be reused and recycled therefore it induces sustainable development. Today's consumers are more aware of green concepts, and health aspects due to the ecological dangers around them. Green packaging is one of the green marketing tools which play an important role in reducing the destructive effects towards the environment.

STATEMENT OF THE PROBLEM

Thirty years ago, the composition of solid waste generated by the Indian farmers was characterized by one-fifth non-biodegradable and four-fifths biodegradable waste. At present, this ratio is about to reverse, a mere 40 per cent is biodegradable while 60 per cent is non-biodegradable. Many households do not recycle their waste, instead tend to dispose it outside their homes or on the streets. These solid wastes are generated mainly due to waste packages, packages that are not environmentally friendly and are mostly of plastics made from polyethylene. After the consumption of products, packages become waste, it is thrown out and becomes litter. These packages bring havoc to the environment and to the living creatures. Most of the species which consume these waste

packages end up soon. It is prone to be a threat to the society and the living creatures. To do away with environmental pollution, green packages could be a better choice.

REVIEW OF LITERATURE

Green packaging is to enable packaging of lightweight, recyclable, re-use, biodegradable materials, and to prevent the use of non-ecological materials (Guirong Zhang and Zongjian Zhao). Sustainability was once the concern of only a few, it is now a significant issue to the general public due to higher levels of awareness through developments in media and technology and negative changes in the environment (Jesse van den Elzen;2016 Sustainability perspective on packaging is to reduce the environmental impact or eco-burden of the packaging, using life cycle assessment to evaluate different design alternatives (Renee Wever and Joost Vogtlande).

OBJECTIVES

The main objective of the study is to find out the environmental threats through packages and 3R the initiative of green packaging which induces sustainable development. The specific objectives are

- To find the negative impact of non green packages that affects the environment.
- To analyse the 3 R concepts that reduces waste generation.
- To find the ways and means to attain sustainable development, through green packaging.

METHODOLOGY

The present study is based on secondary data. Data was collected from research articles in journals and books, and e- sources.

NEGATIVE IMPACTS OF NON-DEGRADABLE PACKAGES

One of the biggest threats to environment is plastic packages. Plastic bags pollute the land and water, since they are lightweight, and they travel long distances by wind and water. Besides, these material bags are made from non-renewable resources. Plastic bags are made of polypropylene, a material derived from petroleum and natural gas. Both of them are non-renewable fossil fuel-based resources, which contribute to global climate change.

High cost of production

It is said that the production of plastic material are very energy intensive. In order to produce nine plastic bags, it takes the equivalent energy to drive a car one kilometer (more than 0.5 miles). Using these resources to make plastic bags is not advisable since the life of plastic bag is just

about 12 minutes. Plastic bags are not easy to recycle. According to various estimates, the actual recycling rate for plastic bags is about 5- 6 percent.

Threat to marine life

Since plastic bags are not recyclable, they end up in the oceans. While they reach, they break up into tiny little pieces and are consumed by living creatures. It is estimated that 46,000-1,000,000 plastic fragments are floating in every square mile of the world's oceans. Due to their size, they are often mistaken for food by animals, birds, and marine life like fish, whales and sea turtles. These plastics by congesting their digestive system create to health issues such as infections or even death by suffocation. Many animals also get entangled or trapped.

Harmful to human health

Toxic chemicals from plastic bags can damage blood and tissues. Frequent exposures to such harmful contents can lead to cancers, birth defects, impaired immunity, hormone changes, endocrine disruption and other serious ailments. Plastic shopping bags on land are one of the most common types of litter. Build ups of huge quantities of plastic bags are well known to block local drainage systems, especially in developing countries. For example, the floods in Bangladesh 20 years ago were partially attributed to blockages in drainage systems from plastic shopping bags. Plastic shopping bags also pose health risks to human population over the years as they leach toxins into water supplies.

Plastic bags also are difficult to recycle. While the recyclable symbol of three arrows in a circle is on many plastic shopping bags in the US, which is often used as a marketing trick. There are no regulations about how that symbol is used, and every city and county in America has different regulations about what can be recycled. Many plastic bags that are collected by recycling companies cannot really be recycled. Most of these bags actually end up in landfills and sit there for hundreds of years.

REDUCE, REUSE AND RECYCLE

The concept of 3R places a significant role to contribute in the measures taken to protect the eco-system through sustainable development. Designers can develop packages by following the principles of the waste hierarchy: reduce, reuse and recycle. As environmental impacts must be considered across the whole lifecycle of a product, it is important not to reduce packaging to the extent that it results in damage to the product.

Reduce

Reduce the use of plastic packages is one way to improve the sustainability of packaging is to use less of it - reducing size, thickness and weight as much as possible. Over the last 30 years the packaging industry has made great strides in reducing the weight of its products.

Glass containers and metal cans are around a third lighter than in 1980. Reducing packaging cuts down on the use of materials and it also takes less energy to manufacture and transport lighter and smaller goods. As well as being better for the environment, this cuts a cost which provides a strong incentive for companies to minimize packaging. Buy products in Bulk. Larger, economy size products or ones in concentrated form use less packaging and usually cost less. Avoid over packaged goods, especially ones packed with several materials such as foil, paper and plastic. They are difficult to recycle. Avoid disposable goods, such as paper plates and cups. Throwaways contribute to the problem, and cost more because they must be replaced again and again.

Reducing packaging does not always lead to the most sustainable option. For example, toothpaste tubes often come in a cardboard box. This may seem like unnecessary packaging, but it helps to protect the tube inside on its journey to the store. The box is readily recyclable, and without it, the tube would need to be thickened and might need more transit packaging.

Reuse

A good way to make packaging more sustainable is to reuse it in its original form. For example, some specialist retailers refill shampoo bottles if customers bring them back to their store. However it takes energy to transport and water to clean used packaging. Reusable packaging must also be sturdier than for single use. There can be safety and contamination issues associated with reusable packaging. A full lifecycle analysis is required for each product to determine whether reusing packaging is beneficial.

- Reuse products for the same purpose. Save paper and plastic bags.
- Reuse product in different ways.
- Reuse grocery bags or bring own cloth bags for shopping.

Recycle

Using materials with recycled content helps, to cut down the consumption of virgin resources and can reduce the amount of energy used in manufacturing. It also creates a market for waste materials making recycling more viable. It is technically possible to recycle almost all packaging materials, but to be viable recycling must be economically attractive. Recycling also has environmental impacts requiring energy for transport, cleaning and reprocessing. The environmental balance between virgin and recycled materials is complex to assess and depends on many local

- Factors such as the distance travelled by recycled materials. Waste packaging, mainly plastic can be burnt in incinerators to generate energy.
- Buy products from recycled material. Look for the recycling symbol.
- Recycling prevents pollution
- Recycling conserves natural resources
- Recycling helps sustain the environment for future generations.

THE WAYS AND MEANS TO ATTAIN SUSTAINABLE DEVELOPMENT

Reusable bags: This is an alternative to single-use paper or plastic bags, which can be reused many times for shopping. These come in canvas, woven plastic fiber, hemp, cotton and even leather.

Biodegradable plastics: Bio-plastics or organic plastics are a form of plastic derived from renewable organic sources, such as vegetable oil, corn starch and pea starch. The basic characteristic of these plastics is that they are capable of being decomposed by bacteria or other living organisms.

The Ministry of Environment, Forests and Climate Change (MoEF&CC) has banned the manufacture and use of plastic carry bags less than 8 x 12 inches in size and 40 micron in width.

Recently, the government notified the Plastic Waste (Management and Handling) Rules, 2011, to replace the earlier Recycled Plastics Manufacture and Usage Rules, 2003, towards better management of plastic waste. According to the new rules, the minimum thickness of plastic bags has been raised to 40 microns and recycled carry bags made from compostable plastics need to conform to specific Bureau of Indian Standards (BIS) norms. The new rules require the municipal authority to constructively engage with waste pickers, and agencies or groups working in waste management. The district magistrate has been made responsible for the enforcement of the rules, and a committee is responsible for control at manufacturing level.

SUGGESTIONS

- Customers should be more aware of the negative effect of the non green packaging so that they can avoid its usage, which may contribute for waste minimization.
- Customers can try to buy product which has recycling symbols in the packages.
- Manufactures can avoid over packaging for products.
- Manufactures of product packaging can provide a centre to collect the waste packages for recycling purpose.
- The local government should be strict in checking simultaneously that the shops and the supermarkets distributing or using non green packages.

CONCLUSION

Change may not take place unless we commit ourselves. Packaging is the main cause for the accumulation of the waste, if it is reduced, reused and recycled. It will be the better contribution to save the eco-system. Moreover utilization of green packaging supports the eco-system. Hence the customers should commit themselves to buy and use green packaging and to practice the 3R initiative of green packaging in their ordinary living.

REFERENCE

1. Raveesh Agarwal, Mona Chaudhary and Jayveer Singh, (2015) "Waste Management Initiatives in India for Human Well Being" European Scientific Journal Special Edition ISSN;1857-7881.
2. Guirong Zhang and Zongjian Zhao, (2012) "Green Packaging Management of Logistic Enterprises".
3. Hesil Jerda and Sahayaselvi (2018) "A Red Alert to An Eco-System: Non Green Packaging" Literary Findings (International Journal of Multidisciplinary Research), Vol.2, issue-2.
4. Jesse van den Elzen,(2016), "Consumers' Perception Regarding Sustainable Packaging".
5. Anjali Kapoor, (2016) "Packaging Special: A Vision for Eco-Friendly Packaging" Food Marketing & Technology is a monthly magazine published by L.B. Associates Pvt Ltd.
6. Hesil Jerda and Sahayaselvi, (2018) "Green packaging: an emerging need for sustainable development" Review of research, Impact factor : 5.2331(Uif) ugc approved journal no. 48514 issn: 2249-894X, Vol. - 7 | issue - 8.
7. Renee Wever and joost Vogtlande, (2012) "Eco-Efficient Value Creation: An Alternative Perspective on Packaging and Sustainability", http://wileyonlinelibrary.com/onlineopen#onlineopen_terms.