

DEVELOPMENT OF PACKAGING

Ever since man began to realize the need to store or keep food, packaging became an essential and important necessity in all of our daily lives. From a simple banana leaf used to wrap food or a woven basket made from tree bark, packaging comes in many forms and has developed into the paper, plastic, metal and glass packaging we see today.

BENEFITS OF PLASTIC PACKAGING

Plastic is probably the most common form of packaging being used today because of its unique benefits unmatched by other forms of packaging. The benefits of plastic packaging are as follows:

- Has many forms and a variety of appearances
- Is light in weight
- Resistant to extreme temperatures (Hot and cold)
- Easily transported
- Is water resistant
- Is to a certain extent impermeable to air and other gases
- Easily recycled using minimum energy and chemicals to do so



ENVIRONMENTAL IMPACT

Due to its unmatched utility, it is no wonder why plastic packaging is so popular. However, due to the fact that it is extremely popular, plastic packaging is often raised as the main cause of environmental deterioration. This may be true but what most intellectuals or environmental activists often fail to realize is that all other types of packaging have a worse detrimental impact on the environment.

LIFE CYCLE ASSESSMENT

The Life Cycle Assessment (LCA) considers the impact on the environment from the all stages of raw-material sourcing to the production process, transportation and delivery, until reaching the end users hands and being disposed of (Cradle to Grave). What this LCA shows is that Plastic Packaging actually has less impact on the environment when compared to other forms of packaging.

COMPARISON BETWEEN A PLASTIC AND PAPER CUP



Process	Paper Cup	Plastic Cup
Raw Material /Sourcing	<ul style="list-style-type: none"> - Uses forest products (Trees) - Uses Petroleum - Uses high level of Chemicals 	<ul style="list-style-type: none"> - Per tonnage produced, plastic cups use less petroleum than Paper Cups - Uses less Chemicals
Production process	<ul style="list-style-type: none"> - Requires a lot of energy - Uses a lot of water and chemicals 	<ul style="list-style-type: none"> - Requires less energy - Requires less water and chemicals
Transportation	<ul style="list-style-type: none"> - Product weight per packaging volume is high thus increasing transportation costs 	<ul style="list-style-type: none"> - As weight per packaging volume is less, transportation costs is lower
Usage, Reuse and Recycling	<ul style="list-style-type: none"> - Difficult for multiple use, reuse, and recycling - Not worth recycling and reusing as it requires a lot of energy and costs a lot to reuse and recycle 	<ul style="list-style-type: none"> - Easy for multiple use, reuse and recycling - Requires less energy to reuse and recycle
Disposing and Degradability	<ul style="list-style-type: none"> - Breaks down easily - Requires a lot of energy to transport disposals - Low capability of conversion to heat energy 	<ul style="list-style-type: none"> - Slower to breakdown - Requires less energy to transport disposals - High capability of conversion to heat energy
Pollution	<ul style="list-style-type: none"> - High Level of greenhouse gasses emittance especially chlorine and methane - High levels of chemical disposal which pollutes water 	<ul style="list-style-type: none"> - Low levels of green house gasses are emitted.



COMPARISON BETWEEN PLASTIC AND PAPER BAGS

- Production of plastic bags uses half the resources required to produce paper bags
- Production of plastic bags uses 30% of energy required to produce paper bags
- Production of plastic bags uses only 20% of water required to produce paper bags
- At equal quantities, the environmental impact of transporting paper bags is 7 times worse than transporting plastic bags
- The production of plastic bags produces 50% of the Greenhouse Gasses emitted by Paper bag production
- Rubbish that is generated from plastic bags is only 20% of paper bags
- The energy required to recycle plastic bags is merely 9% of the energy required to recycle paper bags

From scientific research the world over, it can be concluded that plastic bags have less detrimental impact on the environment when compared to other forms of packaging. Eliminating plastic packaging, as we all know, is impossible. However, managing ourselves better and taking individual responsibility to reuse, reduce and recycle, can help to improve the environment that we so much depend on.



SOURCES:

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