THE INNOVATIVE WAYS OF UTILIZATION OF PLASTIC WASTE

Abstract: There is a bit of plastic everywhere, in our wallets, on our dining tables and kitchens, in our cars and buses and in our phones and offices. In Indian cities and villages people use the plastics in buying vegetable as a carry bag, drinking water bottle, use of plastic furniture in home, plastics objects uses in kitchen, plastic drums in packing and storage of the different chemicals for industrial use, use plastic utensils in home and many more uses. After usage of plastics it will become part of waste garbage and create pollution due to presence of toxic chemicals and it will spread diseases and give birth to uncontrolled issues in society. In current scenario consumption of plastic waste increasing day by day and it is very difficult to manage the plastic waste. There are limited methodologies available for reutilization of plastic waste again. Such examples are recycling, landfill, incineration, gasification and hydrogenation. In this paper we will review the innovative methodologies of utilization of plastic waste in current scenario.

Keywords: Plastic waste, reuse, reutilization of plastic product

INTRODUCTION

Plastic items are used in our everyday life. From its beginning in 1950, global plastic production has increased dramatically from 2 million tons to 380 million tons in 2015 The volume of municipal solid waste generated from residential, commercial and institutional location is increasing due to population growth and the throw away culture that persists throughout mic of the world. Its sheer convenience (lightweight and durable) has made this man-made material ubiquitous in every sphere of human existence. In the last 70years, 8.3 billion tons of plastic have been produced. Of this amount of plastic produced, 6.3 billion tons have been discarded. Every year, nearly 13 million tons of plastic wastes are added to oceans. Given their durability, plastics do not decompose.

"A plastic bottle takes between 450-1000 years to decompose,'' explained Environment Minister Dr. Harsh Wardhan.

Much of the in plastic production is driven by single use of disposable application. Nearly 50% of plastics used are single use products such as bottles, plastic bags, packaging, straws, stirrers, spoon and forks. Around the world, 1 million plastics drinking bottles are purchased every minute. Every year we used up to 5 trillion disposable plastic bags.

In India, 80% of total plastic consumption is discarded as waste and official statistics say the country generates 25,940 tons plastic waste daily. At least 40% of this waste is uncollected.

The Indian plastic industry is among the fastest growing ones. According to a 2017 knowledge paper by FICCI, a business and industry lobby, Indian plastic processing industry saw compounded annual growth rate of 10% between 2010 and 2015. Annual plastic consumption is expected to increase from 12 million tons to 20 million tons by 2020.

The utilization of plastic products has considerably and profoundly changed the structure of material research. Some of the advantages of using plastics include high resistance to corrosion, high flexibility to process and low manufacturing cost. With the unprecedented development of industrial society, the production of plastic waste has been an overwhelmingly growing domain and accordingly, it reasonable to find that the increasing research focus has been drawn to post consumer plastic products.

However, plastic, as material, are generating environmental problems along their entire life cycles. First, to produce plastic products, greenhouse gas emissions are generated. Second the characteristics that deem plastic so useful materials also make waste management problematic, and presently, only a small fraction of plastic wastes recycled due to contamination and technical limitation. Third, there is a considerable accumulation of plastic waste in the environment. For example waste patches in the Atlantic and the pacific oceans are estimated to be in the order of 100 million tons, approximately 80% of which is plastic.

Now we are going to describe some innovative ways with the help of which we can utilizes the plastic waste that are -

- Useful
- Usable
- Original
- Technological
- Financial viability
- Acceptance

PLASTIC BROOM

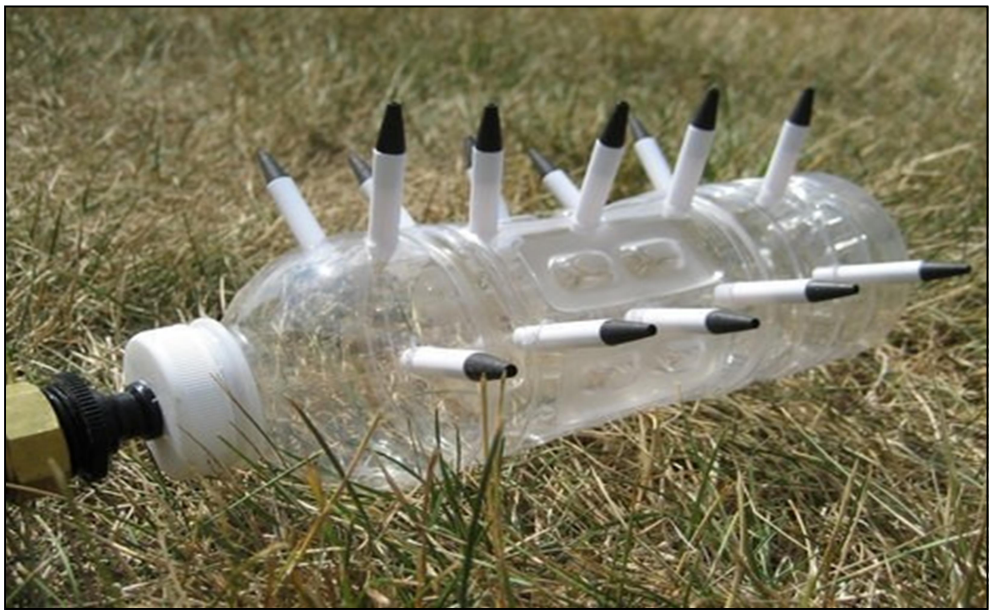
In the following figures we see that how a broom is made by using plastic bottles. To form this product we need bottles, a scissor, a knife, an axe, a wooden or metallic of require length of our need.

PURSE OF BOTTEL

It is useful for keeping small things in our houses.

SPRINKLAR OF BOTTEL AND PEN

It is very useful for irrigation on small scale in our house garden and less water consuming plants. In this distribution of water is same in the whole throughout.



TOOL HANGER OF PEN

As today's scenario shops are furnished with soft materials. So, we can use pen wastage as a small tool hanger by penetrating it into soft walls.

KEY RING

We can also use pen wastage to make key ring like this.

PLASTIC FILLED BLANKET

We can also use the plastic waste like plastic bags to fill our pillow, blanket etc. As these are resisting the air, water, and heat. So, it must be the best replacement of cotton.
For example –

PLASTIC FILLED PILLOW

PLASTIC KITE

It is a different way of making kites by using a plastic bags and wooden stick (for skeleton) to utilize plastic waste.

PLASTIC CONTAINER

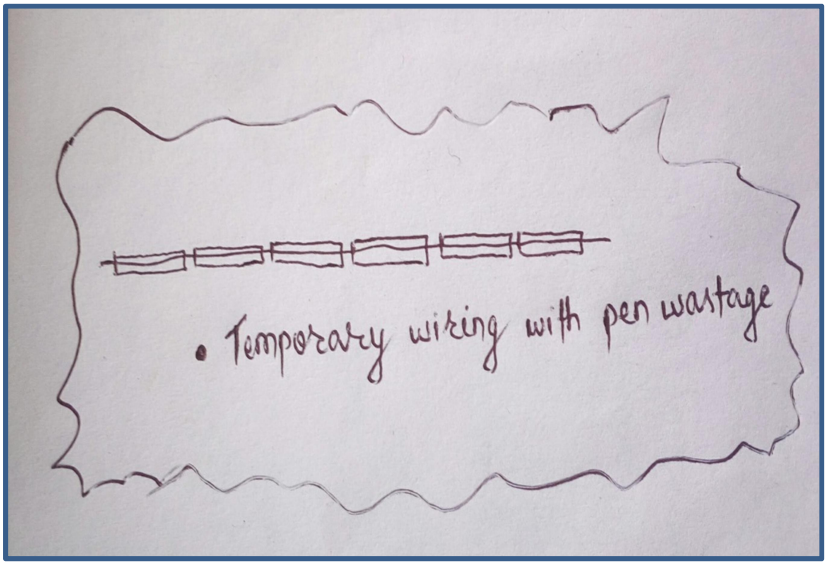
It is a unique combo of plastic bags and plastic bottles. Using this we can keep thing for a long time without being rancid.

FRUIT SAFETY COVER

By using plastic bags wastage (after collecting and cleaning), we must save our fruit from damaging when it fall down on earth after ripe. It assure safety from birds also.

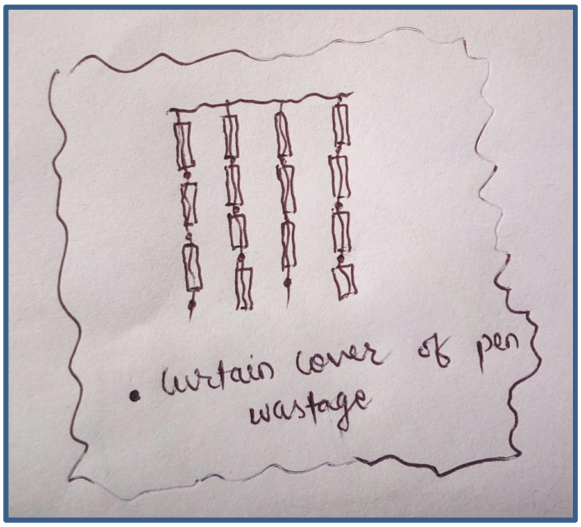
TEMPORARY WIRING USING PEN COVER WASTAGE

As there are some places where we cannot use the specific wiring or on daily using wire. So, we can use plastic pen cover to cover the wire of our house hold. Also it keeps us safety from electrical shock.



DECORATIVE CURTAIN USING PEN WASTAGE

By using plastic pen cover waste we make curtain cover design. As it make good looking and also prevent from blowing of curtain in air.



SPOON BULB

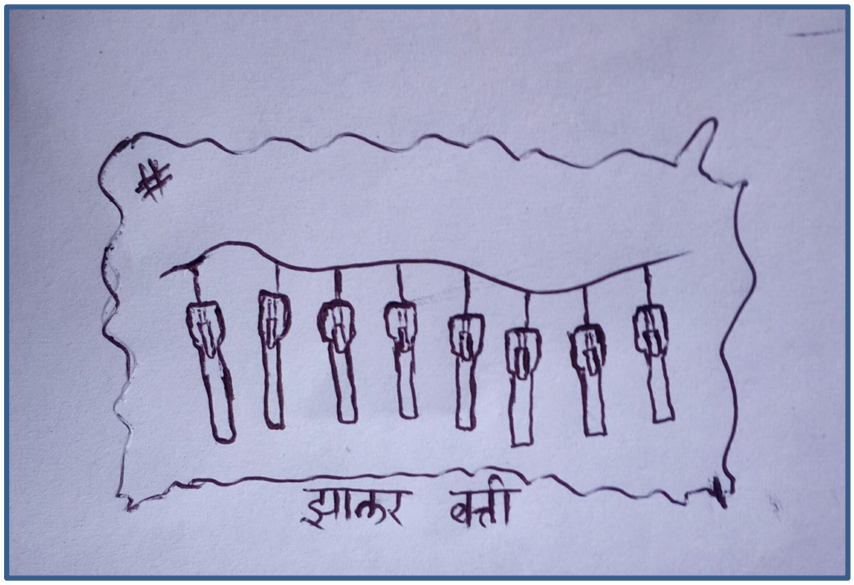
As we go in the market and eats number of product including fast foods, some of them are eaten with help of plastic spoon. After eating we throw it or put in garbage box. As these are single time used product. But we can use it to betterment of our lifestyle.

DUSTPAN FROM PLASTIC BOX

As shown below processes, we must utilize the plastic box as dustpan.

DECORATIVE LIGHTNING USING NEEDLE COVER AND LED BULB

As an idea strike in our mind that we can build a lightening JHALAR generally used in wedding party in villages by using the needle cover (a plastic waste) and small LED BULBS.
In the following figure we are to present this in front of you all respective peoples.



PLASTIC COVER OF MIRROR AS PHOTOFRAMES

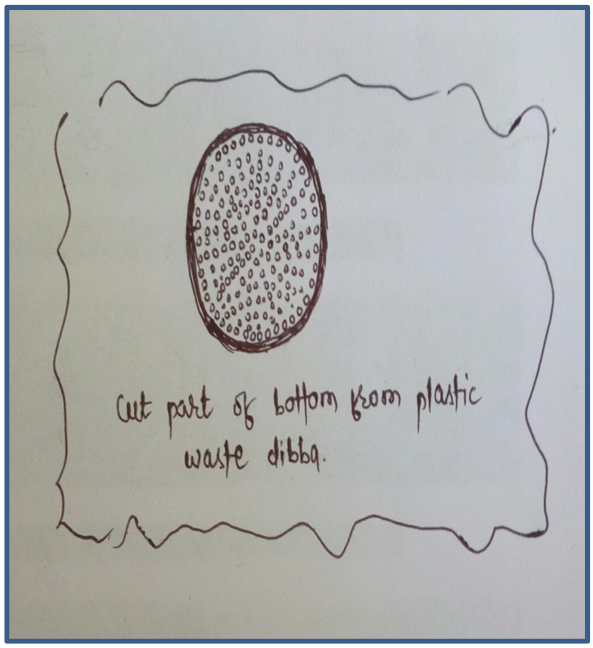
Generally we all are used to throw away mirror plastic cover after breaking its glasses. After seeing our idea we are tending to create something useful and different using zero cost.

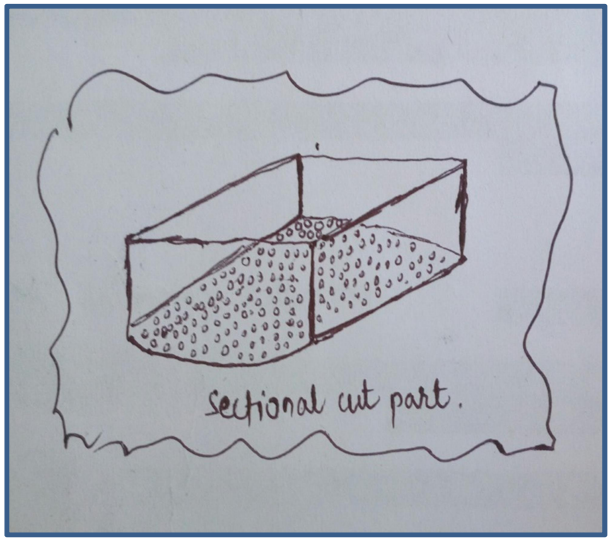
TOY'S TYRE USING OLD CHAPPALS

Usually we throw our old *chappals* after using, as these are not damaged in even manner. Some portions or middle portion of our *chappals* remains similar as new one. By cutting this in circular way, we can make small tyre for children to play with them by making toys.

MAKING SIEVE FROM WASTE PLASTIC BOX-

In general life when the cap plastic boxes of our households going to damaged then we throw away whole the box. But as we think there must be utilization of bottom part of the boxes. It is used to make seed separator (CHALANI) from unwanted particles. And there is no chance of rusting like *chalani* made of iron based material. As shown below -





CONCLUSION

Plastic is aptly called a miracle material which is become an evil due to overuse, beyond a doubt it is one of great environmental challenges, not only because of its tendency of being non-decomposable but also because of its quantum and use our petroleum sources. So, for controlling its production we must reutilize and reuse the waste parts of the plastic products such as plastic bottles, plastic carry bags, plastic pen, plastic needle cover, plastic box etc.

For this, we are trying to represent our innovative ideas in front of you all and we are satisfied from all. These all are feasible, practicable, sustainable and potential for future utilization. After considering all the above ideas we must reuse and reutilize the plastic waste surrounding us. These all are of ZERO COST.

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