

Sorting and recycling of waste (Sustainable waste management)

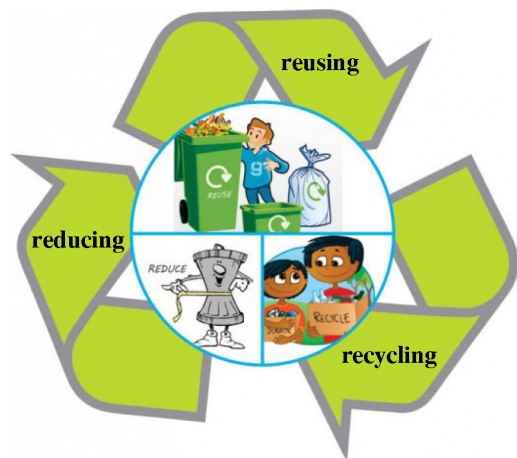
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Humans are only one kind of living organisms among other animals and plants. One of the main ways by which the human being differs from other animals is that he has distanced himself from nature and has adopted an artificial life style. This living organism—the human being or *Homo sapiens sapiens* indulges in activities that no other animals indulges in. He uses all sorts of machinery, he learns not only from his parents but gets “educated” through institutions, he believes that he is the most powerful and that the other animals are not so. He has a consumer style which exceeds the requirements for his living. When we study the consumer patterns of all other animals it is seen that they consume only what is necessary for their day to day existence. However man is not easily satisfied and is unlimited in his consumption. His consumption is not only for the daily survival of himself and his family, but is targeted for the future sustenance of future generation. This has created a deficit in resources and competition which affects man more than other animals. The entire living system has been brought to

a risky situation by man due to this competition. In order to acquire the deficit in resources man has exceeded nature and has produced consumer goods artificially. This has adverse effects. For example the consumption of processed foods has led to the increased incidence of non-communicable diseases. The wrappings and the packaging of these processed foods has created the threat of waste accumulation, which no other animal has created. In the past the “waste” created due to consumption was not a challenge because it was returned to nature as a resource. However, during an era when the industrial revolution was considered as development, yet man has not been successful in dealing with waste without making it a problem. If “waste” is properly sorted out at the very beginning of its generation, then waste management is much easier. Sustainable waste management has to begin even before waste is generated. Prior to the consumption of any resource, we have to think whether using the resource is essential or not. It may be transformed into waste if it is not essential to consume.

For example, imagine that you are purchasing a pair of shoes. You will be given a cardboard box as well as a polythene bag along with the pair of shoes. Now there is something for you to think about. Is it the shoes that is essential for you or the cardboard box and the polythene bag as well. If you do not like to generate waste along with this purchase, then you have got an opportunity to refuse the waste, the box and the polythene bag—that is given to you, free of charge. But do the consumers in our country act with such understanding. Or else you have another opportunity after you bring the box home, you might use it to store some other thing in it and when you finally dispose it, sort it as ‘cardboard’ and give it to be recycled. However if you brought the polythene bag home there is very little opportunity in our country to recycle it. In this example, we have discussed how your decision and action would result in not generating waste or converting it into a resource. Unfortunately, most of the consumers in our country ignore or disregard both these opportunities. Consequently mountains of waste such as the one at Meethotamulla being created. They will produce the gas methane (CH_4) which will contribute to the increase in global



warming. The unhygienic and toxic chemicals produced during the decomposition of the waste mountain will pollute underground and river waters and sometimes will provide the conditions for the spread of communicable and non-communicable diseases. Is this the sustainable development we are hoping for?

Therefore, sustainable development has to begin in our minds. Waste will remain “waste” if we make it a problem. Even though the final result of our consumption is waste, we can transform it to a resource. A further step is to

prevent the generation of waste (zero waste). Then it is also a sustainable waste management.

Is a life style of zero waste generation practical? How can it be done? The 3R concept for waste management is well known. For the past three decades or more, through the use of handbills etc. people are being educated about the concepts of Reduce (minimize) Reuse (using again) and Recycle in waste

management. But have we carried out waste management? If we did so would tragedies such as that at Meethotamulla occurred? So now, time is ripe to go beyond the 3R concept and look for new paths for waste management. A 10R concept going beyond the 3R concept will open up a zero waste life style. How can this be done?

There are two main types of waste: the decomposable wet garbage or organic waste and the non-decomposable dry garbage. The non-decomposable waste can be

further categorized as recyclables and non recyclables. Sorting of the waste into decomposable and non decomposable waste at the point of waste generation itself is very important. Because the mixing of these two types makes the waste “real” waste. The main reason for the build up of waste into mountains of waste is this mixing. When mixed the decomposable waste cannot decompose and the opportunity of turning the non-decomposable waste into a resource is also lost. The consumer is mainly responsible for generating waste. If every individual of the 20 million people in Sri Lanka takes individual responsibility for waste management then the state or urban councils will have to bear only a limited responsibility. If this happens waste will not become a national problem. What can each individual do to prevent waste becoming a national problem. The answer is simple-that is follow the 10R process. The first step in this 10 step chain of processes is to reduce the generation of waste as

far as possible. The first step is:

1. Reject (avoid use) - some of the food sold in today's market which are artificially flavoured with no nutritional value what so ever, and propped up by sheer advertising, causing allergies with long term consumption, and finally even causing cancers. For example, the soups containing artificial taste enhancers, sweetened drinks and





instant foods are some of these. Also they are packeted or contained in packagings which cannot be recycled. Consumption of such foods will only have ill effects. By the rejection of these one does not waste money, does not harm ones health, and safe guards the environment by not generating waste.

Doing this with proper understanding is the first step of the 10R concept. Let us consider another simple example. When you use a bank teller machine (ATM) the machine questions whether you need a receipt for the money you intend to withdraw. If you have understood the question you can select “No” (reject) as the answer before the receipt is printed. If most of the consumers do this rejection do you think that you will see so many small slips of paper (waste) near the ATM machine?

2. Refuse - This is a more loose step. At most times what is refused may be used on rare occasions. However, if you are vigilant you will be able to follow this step of refusal also. When you purchase certain goods, without even asking you, you are given free of charge a wrapper or a bag. You are at liberty to refuse the wrapper or the bag. You have to be

prepared to refuse. That is you should have with you a cloth bag or a reed bag or at least a reusable plastic bag. Then only you can refuse the bag offered to you and help to reduce the generation of waste.

3. Reduce - If you follow the two steps started above then you will not generate any “waste” by your actions.

4. Reuse - If you take a clothbag or a reed bag or a box with you then you will be able to refuse the wrapper or the bag that the salesman gives you. You can use your bag over and over again. Then no waste will accumulate in your home.

5. Repair - This is a habit we had in the past. If anything went wrong with anything that we used, then we repaired it. This habit does not exist in the modern day society which indulges in over consumption. Learn to move away from this “disposable”, or the use and throw away mentality. Instead

cultivate the habit of repairing and using. When an article of clothing is torn it is possible to sew it up and wear it again.

6. Replace - The habit of repairing the broken or the non-functioning part of a chair, table or any other object has almost become extinct. This is due to the “disposable” mentality. Disposable concept makes a huge contribution towards waste generation. Get out of that mentality. It is harmful to the economy also.

7. Recycle - It is possible to hand over paper, some types of plastics, glass, iron, cardboard and electronic waste to places which recycle them. You can get some income and also contribute to the recycling of the limited resources.

8. Rethink - It is compulsory to rethink, in order to reduce the waste generation and to use the waste. For example a serviate or a door mat can be turned out of an old bed sheet. According to the western system, this is called upcycling. This concept was very well practiced in our culture in the





turned into compost. Then you are left with the waste that will not decompose. The decomposable and non-decomposable waste should never be mixed. Keep two bins in a suitable location—one for decomposable waste and the other for non decomposable waste. Sort the non decomposable waste into cardboard, paper, glass iron, tins, coconut shells, plastic and store them in separate containers. Hand them over to a recycling

In many countries burning of waste or setting fire to it is prohibited by law, because the smoke released to the environment during burning is harmful to humans and animals, specially the gas that is produced by the burning of polythene and plastics as dioxene ($C_4H_4O_2$). This is a powerful carcinogen. Also this burning releases a large volume of methane and carbondioxide to the atmosphere.

In addition how do we safely dispose the polythene wrappers or bags in which the sugar, salt, spices etc. that we bring to our homes. When we hand over this polythene to the lorry from the municipality which comes every week finally the harm caused is the same as stated above. This is because the municipality collects a large amount of waste on a daily basis and the waste management is extremely difficult. No methodical procedure is followed. Only a relatively small fraction is subjected to recycling. Even though the municipality collects this waste in a specific site, the waste dump causes the spread of flies and mosquitoes. In addition foul smelling gases are also produced. These have adverse effects on the health of the people in the vicinity. The best option is the suitable management of the polythene that collects in your home. You can make an environmentally friendly brick (ECO brick) with the polythene.

How is an Eco brick made?

1. The polythene made for this should be cleaned free of dirt and dried. (If dirty and wet polythene is used the brick may

past. According to the advice given to the Buddhist priests, they were asked to use their old robe in various ways and finally use it as a door mat or plaster it to the clay walls. This is the upcycling concept.

9. Remember - Always remember to take the necessary basket, bag or wrapping material when you go to the market or shop for purchases. Remember to refuse the bag that the salesman gives you free of charge. Then waste will not become a problem.

10. Repeat - The final R of this 10 step process is to repeat it over and over again continuously.

If you have got a good understanding of this concept what ever that remains after your use will not be waste. When purchasing food, purchase only in amounts that you need. By not bringing home unnecessary food stuff you will save money as well as time. Then the waste going out of your kitchen—the wet organic waste—will also be reduced. What ever that goes out of your kitchen can be



unit at the end of the month, and you will receive money for it. The polythene that you sorted out will be a problem. If you followed the 10R concept the amount of polythene that you accumulated should be reduced to a minimum. However polythene would be a problem even at a reduced level. There is a solution to this also.

Problem of Polythene-ECO Bricks

A very harmful thing that most of us do is the burning of polythene and plastic. Waste management at present is at a very unsatisfactory level and the easiest way for the public to get rid of waste is to collect it and burn it. This is open burning or burning it on open land.

burst open with time due to the bacterial activity occurring inside the brick)

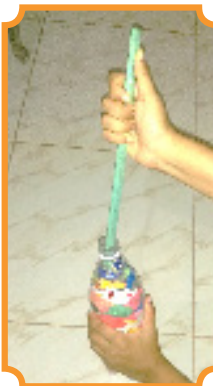
2. Then either fold the polythene into small packets or cut it into small pieces and put into a clean dry plastic bottle that you have discarded after use. (Because plastic water bottles and drinking bottles cause cancer if used more



strong.

4. By pressing in this manner you will be able to make a strong brick when the bottle is completely filled with the polythene that collects daily in your home. To

if you see a Eco brick that you will realize that it is possible to live safely inspite of the waste, until someday in the future non-recyclable wrappers are prohibited. This is because even if you collect such waste and hand it over to the municipality lorry, according to the waste management procedures currently existing the waste (at most times) ends up in the ocean. There the polythene will turn into microplastic (small plastic particles) and enter into our body through water, soil or fish in the oceans. They may be carcinogenic. So conduct your waste management according to the 10R method and attempt to give a solution to the national waste problem. How pleasant and contented it would be to live in an environment free of any non-decomposable waste.



than once, they can be used for a purpose like this).

3. After placing the polythene wrappers (pieces) in the bottle it should be compressed tightly using a piece of stick. If the bottom of the bottle is not flat but irregular in shape pack the spaces well by pressing onto the polythene in order to fill up all the crevices. Otherwise the brick will not be

fill the bottle completely you will require the polythene that collects in your home during many months. So this is a solution to the polythene problem in your home because a large amount of polythene can be stored in a minimum of space.

These Eco bricks may be used to make tables, benches or other objects by using cement, clay, ropes, wires etc. (Some countries even build houses using Ecobricks). A Zero waste life style may not remain a dream any more because of the Eco brick described above. It is only



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