

## **REDUCE ENVIRONMENTAL POLLUTION DUE TO PLASTIC WASTE BY TURNING WASTE INTO PRODUCTS WITH HIGH SELLING POWER**

**Annisa Purnamasari**

**Faculty of Engineering Universitas 17 Agustus 1945 Surabaya**

**Jl. Semolowaru No.45, Surabaya, Jawa Timur 60118, Indonesia**

**Corresponding Author's Email: annisapurnamasari2806@gmail.com**

In the current era, plastic waste is very damaging to the system of living things, this can interfere with the activities that are carried out or are being carried out by living things such as humans, animals, and even plants. Humans are the main factor in the use of plastic but humans are also the ones who spread the garbage and also really feel the negative impact, not everyone is aware of this, not even many are aware of the negative impact that is received by us. Human awareness of the disposal of plastics alone is so small that it causes the waste to roam and damage the air that is inhaled, oxygen will be polluted due to plastic waste that is not recycled or reduced properly. Disposal of garbage in its place is still minimal for many people to realize, even though there are garbage disposals around it or even a garbage dump is provided, there are still many people who still litter. In addition, there has been a lot of waste separation in public places to facilitate waste recycling and also waste disposal, but many people still mix and dispose of organic and non-organic waste in the wrong place, this can hinder the separation of waste and also make it difficult for the community. plastic collector because it mixes with wet garbage.

Plastic bags themselves take 100 to 500 years to be decomposed by the soil. Before decomposed, the waste will result in contamination of the soil, ground water and also the animals in the soil. Toxins from plastic particles that enter the soil will kill decomposers in the soil such as worms. If the soil and animals in the soil are polluted, it will damage the plants that will be planted on the land, besides that it will pollute the oxygen that will be produced by the plants. The soil ecosystem will be polluted and will damage the ecosystem in the air as well, so if everything starts to be polluted, the health of living things will also be affected. In addition to the health of living things, extinction will also approach some plants and animals.

Other living things such as plants and animals also feel the negative impact, many marine animals are trapped or even eat plastic waste that is dumped in the sea. Marine ecosystems will be polluted and fish - fish or animals - animals that exist in the sea will die and even continue to be extinct. Sea water will also be polluted and dirty, making it difficult for ships and fishermen to operate and earn a living at sea. The oxygen inhaled by polluted plants results in incomplete plant growth and extinction if it continues like that. Animals and plants that continue to be attacked by plastic waste will die and become extinct, this risk will create a big problem for the world if it continues and is not realized early on.

PCBs that cannot be decomposed even though they are eaten by animals or plants will become toxic chains according to the order of the food chain. Plastics that are difficult to decompose, have a long life, and are lightweight will easily fly anywhere including the sea, if the garbage flies into the sea it will be difficult to decompose and will cause marine animals to think that the plastics are food and eventually eat them, resulting in animals -Sea animals die due to not being able to digest it and also poisoning. Animals that survive will experience stress disorders or even experience depression due to plastic waste scattered in the sea. In addition to fish and living creatures in the sea, plastic waste will also damage the beauty of the sea and coral reefs that should be enjoyed by many people.

Pollution of plastic waste in rivers will also cause shallowness of rivers and blockage of river water which can cause flooding. To deal with plastic waste, several parties try to burn it. But the combustion process is less than perfect and does not completely break down the plastic particles, it will become dioxin in the air. When humans inhale this dioxin, humans will be susceptible to various diseases including cancer, nervous system disorders, hepatitis,

liver swelling, and symptoms of depression. The plastic cannot be destroyed but can be reduced because basically humans need plastic in their daily activities, because the basic ingredients of plastic are very helpful and easy to use in any case such as in supermarkets, sports, school activities, even almost all activities using plastic.

Since April 9, 2022, the government has banned the use of crackle in Surabaya, this action is one way to reduce plastic waste, until now plastic waste caused by crackle has been greatly reduced, although at the beginning of the implementation many people had difficulties and many were not used to shopping. bring a shopping bag because I don't use crackle anymore. So that some people complained about the regulation, but with time everyone got used to it and started bringing their own shopping bags so that the use of plastic can be reduced by this program. The government's program on reducing plastic is not meant to eliminate plastic, but only to reduce it, so in certain cases plastic is still needed and used by some people. Other cities and places have also not been able to use the program because many things have been considered, but all places have tried to minimize the use of plastic.

Regulations that focus on banning the use of 'single-use' plastic bags, imposing higher taxes and user charges on consumers, significantly reduce plastic bag consumption (Adeyanju et al, 2021). In connection with the regulations issued by the Mayor of Surabaya, the government prohibits the provision of plastic bags in minimarkets, supermarkets, department stores, hypermarkets or wholesalers so that people who shop at the places mentioned must prepare their own bags or similar baskets to store their groceries. The intended plastic bag is a bag made of/or containing plastic, latex or polyethylene, thermoplastic synthetic polymeric, or other similar materials, with/or without handrails, which is used as a medium for lifting or transporting goods.

Plastic waste can also be used as an object to make money if we take advantage of these plastics by turning them into items that have a high selling power, handicrafts made from plastic such as bags, dolls, knick-knacks, room accessories and much more. which can be made of plastic. Creativity that is used with plastic-based materials is also one way to reduce pollution caused by plastic. Besides that, you can also get activities that are useful and make money. The income earned by plastic recyclers is not small, even many recyclers have luxury homes and cars, this depends on the aspects that make the recycling business progress and continue to grow.

According to Putra (2010), the advantages of plastic compared to other materials include being strong, lightweight, flexible, rust-resistant, not easy to break, easy to color, easy to shape, and good heat and electrical insulators. Therefore, plastic waste has many advantages if it can be used as a recycled product. Plastic waste is very easy if it is made into products that have high selling power. The manufacture of these products can also create fields to create jobs for creative people who need work. Utilization of creative power and also the problem of plastic waste can produce activities and also big profits if we have interesting ideas and also sell them so that many people know our products.

Product marketing is also very important so that the products that are made can be known by many people, apart from that the creation of product-specific social media can also make people directly see the products offered, in addition to product offerings we also use social media as a way to reduce plastic by spreading information. so that plastic waste can be collected and sold to product owners to be used as a product, besides that, there are times when there are creative events for products made from these plastic-based materials to be exhibited so that anyone can see or even be interested in the products that have been made.

To become a plastic recycling business, one needs to build a good waste collection system, collaborate with scavengers, have waste processing facilities, and know the market share of the plastic recycled products they produce. The plastic recycling businessman must continue to look for plastic collectors so that the products he makes continue to grow and increase. It is very important to find plastic collectors so that the plastics out there continue to

be collected so they don't wander around and damage the earth's ecosystem. In addition to plastic collectors, businessmen must also have land for storing collected plastics so that they are not scattered and even damage the surrounding environment, because the leftover plastics if collected for a long time will be damaged and difficult to recycle. result in environmental pollution around storage.

Market share, as with other businesses that must have market share, for whom the product is intended because if it does not have market share then the product cannot or does not reach the customers who are looking for the product so that the product has a long period of time for sale. and will affect the financial system and will also affect the progress or failure of a business. Plastic recycling products can be said to be easy and not to do because we are required to be creative and develop these products. Products that are finished and are in the right market prey will keep the business going. The recycling business will really help to reduce the plastic waste caused by some people.

### **Bibliography**

Yohanes Kopong Blolo. (2021). *IMPLEMENTASI KEBIJAKAN PENGURANGAN PENGGUNAAN KANTONG PLASTIK DI KOTA DENPASAR*. 16(1), 13-24.

<https://doi.org/10.31258/sorot.16.1.13-24>

I Nyoman L, Whilyan I, Aisyah K L. (2019). *PENGOLAHAN LIMBAH PLASTIK MENJADI PRODUK KERAJINAN TANGAN UNTUK MENINGKATKAN EKONOMI MASYARAKAT SENDANG DAJAH*. 4 (3) No 04.

Dinas Lingkungan Hidup. (2019). *DAMPAK PLASTIK TERHADAP LINGKUNGAN*.

<https://dlh.bulelengkab.go.id/informasi/detail/artikel/dampak-plastik-terhadap-lingkungan-31#:~:text=Akan%20memberikan%20akibat%20antara%20lain,di%20dalam%20tanah%20seper%20erti%20cacing.>