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SEABIN

The new way of cleaning ocean

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ABSTRACT

"SEABIN" is a floating bin with several clever features, as the name suggests. The major goal of this effort is to remove floating garbage from all of the country's waterbodies and make them litter-free. The Seabin is a trash can that floats on the water and can be found at marinas, docks, yacht clubs, and commercial ports. The following three key components are used to clean the ocean: a pumping unit, a catchbag made of jhute material, and steel pipes. The Seabin follows the flow of the tide, gathering any floating trash. Water is drawn in from the surface and passes through the Seabin's catch bag. After that, the water is pumped back into the marina.

INTRODUCTION

1.1 GENERAL INTRODUCTION

The Seabin is nothing but a bin floating in over the water and attracts all the floating rubbish in that water body. The Seabin is basically a water filtering system designed for contained environments like marinas and ports. Since it is sheltered from strong currents and ocean storms, it can work on pollution in visible areas where there is plenty of human activity. The Seabin is bin like structure that is fixed to a dock along with water pump running on power. The pump sends a current of water through the system, sucking all floating trash and debris into a natural fibre bag. The water is then returned to the water source. Seabin also separates oil from water to some extent, depending on the quality of the catch bag.

1.2 AIM

To manufacture a Seabin which automatically collects floating garbage which runs on shore's electric power and help us to fight against pollution.

1.3 SCOPE OF WORK

The project involves the construction of seabin which has a 2-horsepower electric pump installed in it. Seabin must be used because they make it a lot easier to collect floating garbage rather than a person with a scoop net. It requires relatively little energy to operate. The plastic which is obtained by Seabin can be used for creating more seabins. Constructing such seabins will prove to be helpful as well as economical. As the garbage is collected automatically there is no need of worker every time near the seabin. As India is a very attractive tourist place the water bodies are still being polluted with debris. This would be great step towards cleaning our water bodies.

1.4 JUSTIFICATION

These Seabins can be used to place where the floating debris can't be taken out easily for eg, beneath the marinas and yacht clubs etc as a result less efforts will be required for clearing the floating debris and the labour work of catching the garbage can be eliminated with the help of seabin. Such bins can solve the problem of marine litter which can be harmful for aquatic life to survive.

METHODOLOGY

The Seabin V5 collects all marine waste by moving up and down with the tide. The Seabin comes with a submersible water pump which is capable of displacing 25.000 LPH (litres per hour), water is pulled in from the surface and sent through a catch bag inside the Seabin V5. The item is immediately inserted into a 110/220V outlet. The water is then pumped back into the marina,

trapping marine debris inside the catch bag, which is subsequently recycled or transferred to a waste disposal facility. The water is circulated with the help of a submersible water pump. The Seabin V5 captures all marine debris 2mm and greater as it travels through the catch bag.

2.1 SEABIN

The Seabin is a trash can that floats on the water and can be found at marinas, docks, yacht clubs, and commercial ports. Water is drawn in from the surface and filtered via the catch bag inside the Seabin. The water is then pumped back into the marina, trapping litter and debris in the catch bag, which is subsequently properly disposed of.

The Seabin can also capture a proportion of oil and contaminants that are floating on the surface of the water.

The Seabin Project is experimenting with 24-volt submersible water pumps that can be powered by alternate energy sources. Depending on the geographical region and current technologies available, this might be done with solar, wave, or wind power.

As part of a three-pronged approach to the present global littering problem, the Seabin Project has devised a three-pronged approach. The elements listed below are being developed concurrently with the product. Although the following elements are given in order of significance, they are all equally important.

2.2 CATCH BAG

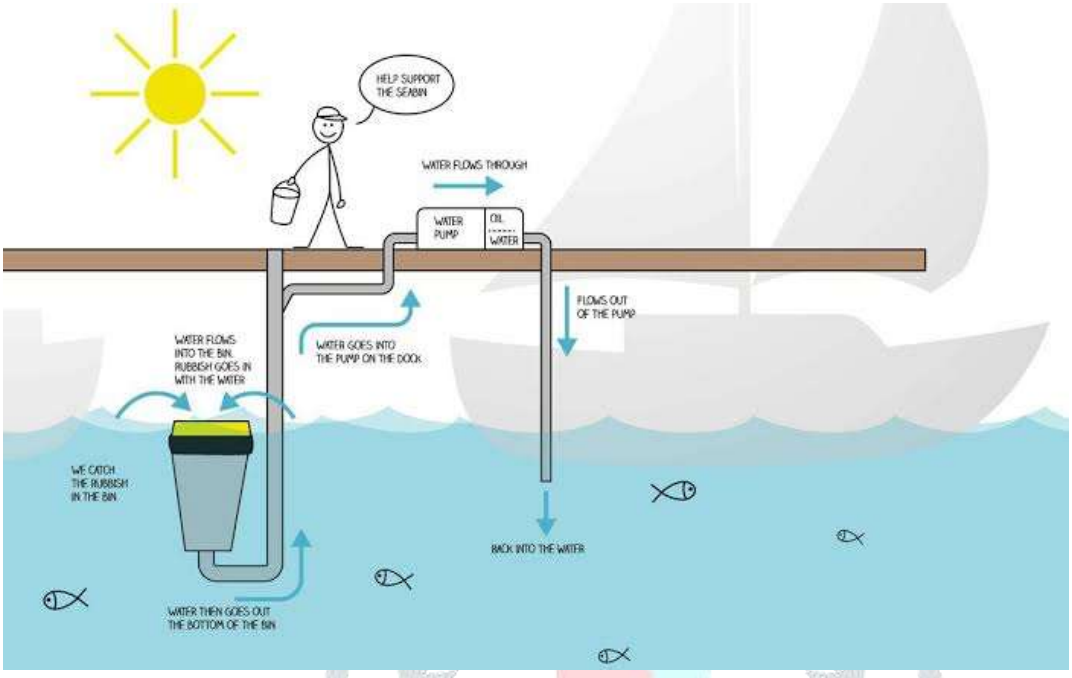
Hessian fibre, sometimes known as burlap, is used to make the Seabin catch bag. Hessian fibre is made from jute, a plant belonging to the Corchorus genus that is primarily produced in Asia. Our catch bags are made from a sustainable and environmentally friendly crop and material.

(Catch bag)

Jute is the second most important vegetable fibre after cotton, and it is widely available, making it a simple and inexpensive material to work with.

Jute is a sustainable and environmentally beneficial crop and material for our catch bags because it requires very little fertiliser and pesticides. Burlap is a 100% biodegradable, recyclable, and compostable material.

The fabric is ideal for the Seabins catch bag because it allows water to pass through the mesh pores, catching plastics as small as 5mm and smaller.



(Working of Seabin)

CONCLUSION

We strive to be as near to zero waste as feasible at Seabin. The catch bag, which actually traps the marine debris, is constructed of jute and is one of the key components of the Seabin. This isn't an issue because jute is completely biodegradable, recyclable, and compostable.

When a catch bag approaches the end of its life cycle or breaks, just clean it thoroughly to remove any plastics or impurities, then compost it to produce your own vegetables.

These and other features combine to make Seabin a fantastic product that aids in the fight against marine trash in the ocean.

The following are some of the advantages of employing a seabin in the maritime environment:

1. It reduces the amount of effort required by humans to collect trash from the water bodies around us.
2. Doesn't require any additional help or attention while working.
3. Use of energy to the bare minimum
4. Removes garbage and other floating and suspended debris from water bodies.
5. Cost-effective and easy to construct

A marine worker walking with a scoop net is less efficient than using a seabin. We can locate the seabin in the ideal location by working with these marinas, ports, and yacht clubs, and mother nature will send us the trash to catch it. Sure, we can't catch everything, but for the time being, it's a great start.

The seabin project is a smaller-scale method, but it still has great goals. This ocean-friendly garbage can is installed in ports and marinas, sucking up waste and even removing oil from the sea.

The seabin initiative is a huge step forward in the fight against marine trash in our bodies of water.

We can also recycle those plastic garbage which we obtained from our marines to construct seabins.

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