

MISSION: WATER DEFENSE

W.A.T.E.R – Watch After Treasured Environmental Resources



THE TEAM AND THEIR ROLES:

1. Niharika Surana	Chief Executive Officer
2. Jayanth Ramganesh	President
3. Syed Zidane Imran Mushtaq	Chief Operating Officer
4. Anuja Pansare	Chief Editor
5. Pranay Bapna	Chief Marketing Officer
6. Rebecca Mathew	Project Manager
7. Krishnesh Krishnakumar Nair	Managing Director
Teachers in charge	Ms. Kusumanjali Chandrashekhar Ms. Shamna Firoskhan

SDGs Chosen



AIMS OF MISSION: WATER DEFENSE

Mitigate the amount of deterioration inflicted on the marine ecosystems. ✓

Come up with sustainable alternatives to plastic. ✓

Provide a safer environment for breeding marine organisms. ✓

Partner up with NGOs with environmental concerns relating to marine environment. (We are in discussion with numerous NGOs)

PROJECT: WOPRO

Wopro is an underwater machine in the shape of a whale. It is in the shape of a whale because it does not disturb the ecosystem present in the ocean. Its exterior is formed by casting made up of used and waste plastic, which is used as it is durable and to prevent corrosion. A robotic arm is affixed at the front of the whale.

The technician at the shore will be responsible for the control of Wopro. In place of eyes, there would be cameras to record ocean activity. As the cameras would be waterproof, they would not get damaged underwater. Wopro can detect any trash found on the ocean floor by using an infrared sensor.

Wopro collects waste materials like plastic bottles, Styrofoam cups, tires, metal parts, etc., without harming marine life. Like a person eating food, Wopro collects waste material and ingests it. Then, it is sent to a canal which drains the water out and collects the material. After that, it gets stored at the back of the whale. After a month, Wopro can be brought back to the shore and the waste can be manually disposed of. In a month, Wopro can collect approximately 500 - 1,000 tonnes of waste dumped in the ocean.

The number of plastic cups being dumped in the ocean is increasing day by day. Approximately plastic substances weighing about 87,000 tonnes are present in our oceans right now. These all affect the marine ecosystem of the oceans. Thus, Wopro protects the ecosystem by collecting them.

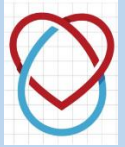
The energy required for the Wopro is generated by hydroelectric generators.

This energy is used to power the motors, sensors, etc. Using this generated energy, Wopro can run at least 10 miles, which means covering an ocean in just 2 months. Wopro would have shark repellents to avoid shark attacks, which are very frequent to whales.

BIO PLASTIC MAKING MACHINE

Plastic. The word has been widely associated with negativity and concern for the environment. Part of this reason is due to its attribute of being non-biodegradable. Its chemical composition foreshadows a menacing demise to the resourceful world we inhabit. Therefore, we at Mission: Water Defence, have devised a mechanism to retain plastic's utilities, while abolishing its banes. We call it the Bioplastic machine. It is capable of weaving bioplastic (plastic composed of organic material) through a mixture of 4 prime components: Corn-starch, glycerine, water and oil. It utilizes the process of induction to ignite the ingredients to form bioplastic. A 3D model of this mechanism has been developed by our team to demonstrate its operation. Extricating the lives of uncountable marine and land critters from the toxic grasps of the synthetic plastic, this would ultimately refine our world and call upon a new heir to the era of plastic: bioplastic. We have also designed a fishing net that can be made using bioplastic and can be used as an

alternative to regularly used plastic nets. We are in the process of designing safer ways for breeding of marine organisms.



SUMMATIONS:

- ADVERSE EFFECTS OF PLASTIC ON MARINE LIFE:

People throw away almost four million tons of garbage every day, with 12.8% of it being plastic, polluting soil, air, and water, according to reports. Every year, more than a million seabirds and 100,000 marine animals die as a result of plastic contamination. Plastic debris consumption by seabirds, fish, and sea turtles has been well recorded, and marine mammals have also been documented. Plastic ingestion is most generally related to cases in which plastic is often mistaken for food. The adverse effects of aquatic plastic debris on river and marine life have been reported by a wide body of evidence. Plastic marine debris is thought to threaten at least 267 species around the world, including 86% of sea turtles, 44% of seabirds, and 43% of marine mammals. Physical hazards from ingestion and entanglement are the most common threats to wildlife.

Scientists estimate that the world's oceans produce up to 100,000,000 metric tons of non-biodegradable plastic trash. Discarded fishing nets and other plastics can entangle animals, limiting their mobility, harming them, or even starving them to death. Sharks, dolphins, crocodiles, turtles and crabs are among the most endangered animals. Plastic's impacts on aquatic life have begun to be felt in oceanic environments, much as they have been on shore. According to research, nearly 12.7 million tons of plastic waste is swept into the ocean each year. About 267 animals have been threatened by aquatic plastic waste around the world. Floating plastics also disperse harmful marine animals and produce up to 51 trillion micro plastic particles.

And so, we can conclude that pollution from toxic runoff, and miles and miles of plastic trash foul the waters and threaten marine life.

- THE VIEWS OF OUR COMMUNITY ON MARINE LIFE, PLASTIC, ETC:

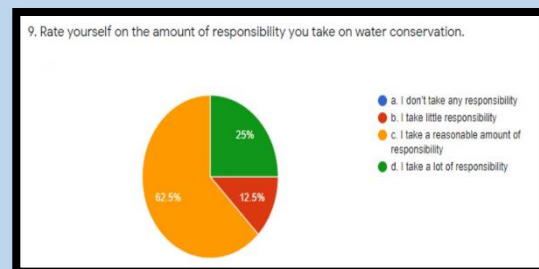
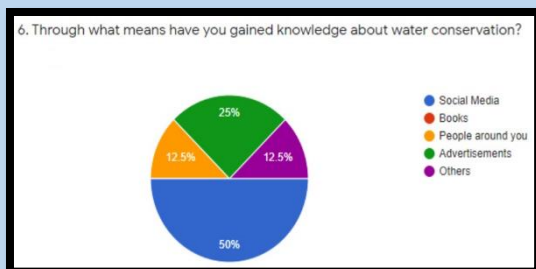


PHOTO HIGHLIGHTS

