

PURPOSE

What is the biggest purpose behind your idea?
(a highly aspirational tagline that tries to solve a global challenge)

Firstly, it should be known what the water pollution is, so the water pollution is the contamination of water sources by substances and pollutants which make it unusable for drinking, cooking, cleaning, swimming, and others. These water pollutants include chemicals, trash, bacteria, and parasites, that is usually caused by the rain, because it washes the fertilizers, pesticides, and animal waste from farms and livestock operations which causes the pathogens, bacteria and viruses make their way to the water, the chemicals dumped from factories, or just by the discharge of untreated raw sewage from households and factories. These toxics and chemicals such as: chlorine, phosphate, and nitrate are very harmful for the marine life and affect the amount of oxygen in water which makes it difficult for the inhabitants to breathe and may also result in immune suppression and reproductive problems, moreover, polluted water can be responsible for many diseases such as: diarrhea, cholera, dysentery, typhoid, hepatitis A, and polio and Unfortunately, about 297,000 children, under five, die from diseases linked to poor sanitation, poor hygiene, or unsafe drinking water, so our purpose is to provide clean and safe water for drinking in order to save a lot of marine species, in addition to, saving millions of lives and providing a sustainable life beside exploiting the chemicals and benefit from them in water like: nitrate and phosphate in order to use it in agriculture, medical uses, and other uses.

SOCIAL IMPACT

What positive impact does your idea have on society?

There is no doubt that water is one of the greatest blessings that God has bestowed upon us, as it is important for both humans, animals and plants. We seek to solve this problem, and this is what our project will provide, as it revolves around water technology with an effective rate of 99.9%.

This is what has a great positive impact on our society, as this problem is not limited to the environment, but rather it is a political, economic and social problem, so this is what we focused on. Our idea revolves around making a device with lower costs and high features, and also does not require much effort. For example, we will absorb nitrates from water and take advantage of them as a treatment and fertilizer, so we will absorb them from the water and also benefit from them, as well as the presence of a device that works by the method of photocatalysis in order to work on killing bacteria and microorganisms completely.

These are some of the things that our device includes. We will also put drones that will charge themselves through solar panels and do not need human intervention. Our idea has an environmental, political, economic, social and also financial impact, as it will address one of the biggest problems facing the world and entire societies.

PEOPLE

Who will benefit from your idea?

People who want to fertilize their land, people with factories who need quantities of nitrite and phosphate but could not get it because it is expensive, and people who will benefit from our project are who live dependent on river water and can't get clean water because of its pollution. Drivers who take nitrates from the tanks will benefit as they will be provided with job opportunities.

This project will have many impacts on the environment, as it will help purify river water from microbes and impurities in the long run. The river water will immediately become suitable for human use without the need for water purification plants, and this will save a lot of resources and effort. It will also reduce the incidence of diseases due to polluted water and will not be harmful to animals or fish that live in the water. This project will also extract the important elements from the water and use them for other purposes, such as the manufacture of fertilizers, which will increase the fertility of the lands, and this will solve problems such as land desertification, and this will reduce climate change, bearing in mind that these elements have a harmful effect on humans and on animals when they are in the water. And because the project is powered by solar energy, it will not have a bad impact on the surrounding environment.

MOONSHOT

Describe your idea in 3 sentences!

Our project is a solution to one of the biggest problems we face

It is a measure to take advantage of the causes of water pollution and not just get rid of them

It is not expensive or stressful and also easy to use

BREAKTHROUGH TECHNOLOGY

Which technologies help you realize your idea?

Some technologies were studied to make the idea more realizable and achievable such as: using the reverse osmosis method to purify the water beside using the solar panels to collect the solar energy and using the photocatalysis technique to kill the bacteria and pathogens, moreover, using the drones technology to transport the exploited minerals.

FINANCIAL IMPACT

How do you make sure your idea is financially sustainable?

We have set some design requirements for our project, one of which deals with financial sustainability and efficiency. Our project is considered to be financially sustainable. Our project only needs a relatively small cost – less than 70 dollars for the prototype -, making it cheap to construct. Each piece of our prototype is well reviewed, which means that we checked on each piece whether it is proper for our prototype or not, so we made a ratio between the efficiency of each piece and its cost, and we found that every piece is relatively cheap relative to its efficiency. To achieve financial sustainability for our project also, we have made a long-term vision that explains our long-term goal and the processes, resources required to ensure success. We have also created an inventory of all physical resources that we can keep after the project ends or after it is replaced with a new more developed project. Some devices and equipment purchased during the project can be used in future for example developments and constructions. Based on all of these assurances for our prototype to be financially sustainable, our prototype can be easily constructed with low cost and high effectiveness and efficiency.

