Application:

Microplastics have become a prevalent issue in our environment, contaminating our water sources and posing a threat to marine life and human health. As such, the development and implementation of a filtration system specifically designed to remove microplastics from water sources could have immense benefits for Earth and humans.

First and foremost, a filter for microplastic removal would help to protect aquatic ecosystems from the harmful effects of these small plastic particles. Microplastics are often ingested by marine animals, leading to digestive issues, starvation, and even death. By removing microplastics from water sources before they reach these vulnerable organisms, we can help to preserve the delicate balance of our oceans and prevent further harm to marine life.

Furthermore, the presence of microplastics in water sources can also have detrimental effects on human health. These tiny plastic particles have been found in drinking water supplies around the world, raising concerns about their potential impact on human well-being. By implementing a filtration system to remove microplastics, we can ensure that our drinking water remains safe and free of these harmful contaminants, safeguarding the health of communities and individuals who rely on clean water for survival.

In addition to the immediate benefits for aquatic ecosystems and human health, a filter for microplastic removal would also have long-term environmental advantages. By preventing the spread of microplastics in our water sources, we can reduce the overall amount of plastic pollution in the environment and mitigate the harmful effects of plastic waste on wildlife, ecosystems, and the planet as a whole.

As I stated in my project description, the filter is a prototype designed to be attached to boats used in oceans, to remove microplastics. Instead of having output and input buckets the ocean would act as both. As concluded in my research, since my filter is effective, I have no doubt it could work in the ocean with some minor adjustments. In addition, I have many ideas of how we could change the filter for other problematic world issues. In the real world, this filter could be used not only as a removal of microplastics in seawater through boat transportation, but for freshwater use. Potentially, the filter could be designed differently and added to water facets in everyone's houses. The filter could also be used in developing countries where water supply comes from rivers or underground in which the water goes through no sort of filtration. Another modification for innovation could include a way to filter the water runoff from buildings that would prevent the spread of microplastics through the water cycle.

Questions for further investigation:

What other ways can we modify the filter to use it in different scenarios to prevent the spread/consumption/creation of microplastics?
Is there a way to track what layers in the filter are filtering the microplastics?
Can the filter be used as blueprints for other water pollution crises like oil spills?
Can we commercialize this filter to fit house water taps to help all humans stop consuming microplastics from fresh tap water?