

CGT 275 Project Proposal Spring 2022

Name: Samruddhi Tawade

Email address: stawade@purdue.edu

Project Title

The Effects of Microplastics on Human Health in Third World Countries

Executive summary

In this project, I will explore the effects of microplastic consumption and what kinds of health problems they can cause. I am assuming that microplastics do cause health problems for my project, as well as people living in areas with higher concentrations of microplastics probably do not have the resources they need to properly filter them out of their diet, so my audience is people who may be living in an area with higher microplastic rates, and organizations dedicated to helping them. If there is a correlation between consuming microplastics and being diagnosed with health issues, that information can be used by health officials or the organizations to provide people with different resources that would not lead them to develop them.

Project background

I became interested in this issue through a video that I found on YouTube that was talking about a woman in Africa recycling plastics to be made into pavement bricks. I was initially delighted by this resourcefulness and what seemed to be an environmentally friendly solution to reducing landfill waste, until they mentioned how this could actually be detrimental in the long run due to the amount of microplastics it released into the environment. I was disturbed at the thought that plastic pollution is so bad that even trying to recycle plastic into something useful has severely harmful side effects. This prompted me into thinking about how severely human health must be affected in third world countries from plastic pollution, due to their lack of resources to sustain clean environments, and how recycled plastics have a role in the pollution through the form of microplastics.

According to National Geographic, 500 tons of plastics are dumped into the ocean near the Maldives every day. Eroded plastics that are smaller than 5mm are referred to as microplastics and can travel by virtually any means. A single square meter of the seafloor of the Mediterranean Sea uncovered a layer of over 1 million microplastics. If so many microplastics can exist in such a small space, then their impact on the rest of the world can increase substantially.

Proposed solution

My first solution would be recommend alternate products for consumption, or alternatives to products in general that can be used to decrease the amount of microplastic intake. I would also try to push for more filters to be installed, both air and water, as I know (at the moment) that many microplastics travel through the air and water. I would try to advocate for people to use less plastic products as well, especially ones that cannot be properly disposed of.

- I will push for alternative supplies to be used to current ones that cause a lot of plastic pollution
- This will reduce the amount of plastics released into the environment, and in turn, microplastics

- To my knowledge, there is not much being done in third world countries for the advocacy for less plastic intake or use, so this solution will go a long way as a first step
- It would take a lot of media attention and the attention of organizations dedicated to helping out third world countries. In the long run, it would also be extremely helpful if big corporations could cut down on plastic usage as well.

Requirements

Outline and prioritize the project requirements

- Excel, Tableau
- Map Chart, line charts, bar charts
- .gov websites, CDC, published environmental studies

Deliverables and Success Criteria

I would consider my project to be successful if I could identify the primary factors of microplastic pollution, alternatives to commonly used commodities that can be disposed of properly, and the main products that degenerate into microplastics that can cause health issues, all before the research symposium due date.

S	Specific	What will be accomplished? What actions will you take?
M	Measurable	What data will measure the goal? How much? How well?
A	Achievable	Is the goal doable? Do you have the necessary skill and resources?
R	Relevant	How does the goal align with broader goals? Why is the result important?
T	Time-Bound	What is the time frame for accomplishing this goal?

Topics Worksheets

Attach the following worksheets:

- [Topics](#) identifying topics
- [TawadeS](#) topics to questions
- Questions to a Problem Statement
- [C:\Users\Samruddhi](#)
[Tawade\Downloads\TawadeS_CGT275_S2022_ProblemsToDataSources.pdf](#) Problem Statement to Data Sources