

# PLAN OF ACTION

## RIVER SCAN CHALLENGE

---

<b>TEAM NAME</b>	:	CrossCurrents	
<b>PROPOSERS</b>	:	<ul style="list-style-type: none"><li>◦ Amino, Ellen Joy</li><li>◦ Alvarado, Joshua</li><li>◦ Joaquin Rhoddel</li><li>◦ Baritua, Matthew Jovell</li><li>◦ Bensig, Dawn Kenneth</li><li>◦ Bos, Victor</li><li>◦ Demaisip, Walter Symon</li><li>◦ Dugang, Kathleen</li><li>◦ Dungog, Jayson Craig</li></ul>	<ul style="list-style-type: none"><li>◦ Espina, Estelle Marie</li><li>◦ Ganados, Raiza Gale</li><li>◦ Haider, Farah</li><li>◦ Lee, Ranito Jr.</li><li>◦ Manlangit, John Gabriel</li><li>◦ Napoles, Dean Elmer</li><li>◦ Ngo, Julius Christian</li><li>◦ Pedoy, Frances Gail</li><li>◦ Sabando, Nina Angeli</li></ul>

---

### Background of the Study

Mahiga River, situated in Mandaue City, starts in the Banilad mountains down to Subangdako as its midstream and downstream at Mabolo Reclamation Area. The river is facing a significant challenge in managing wastes. The river, in particular, was once a vital source of livelihood for local communities but is now heavily polluted due to untreated sewage and improper waste disposal. The water quality in Mahiga River is only suitable for irrigation, livestock watering, and industrial water supply (DENR, 2019). Due to this, it has caused health and environmental impacts such as water-borne diseases and depreciation of marine biodiversity (Caballes, 2020) and in 2018, the river was considered biologically dead. In response, the local government unit has performed many programs and initiatives to resolve this issue including installation of waste traps and clean-up drives (Garcia, 2021).

The accumulation of river waste not only pollutes the water but it also affects the marine life around the river, as well as the residents relying on it for their livelihoods. With this, it is of utmost importance to address the river waste problem by executing proper resolutions to the problem and protect our rivers' health and the people's wellbeing. In this regard, the case of the Mahiga River in Mandaue City stresses the pressing need for waste management policies that could help restore the river's health and biodiversity. By encouraging the local government unit and the residents to come together, these resolutions can effectively reduce the volume of waste that ends up in our rivers, protecting them and the communities that heavily rely on them.

## **Problem Statement**

The Mahiga River is a small river that runs through Cebu City and Mandaue City. It originates from two sources and intersects with a larger river, flowing into the Mactan Chanel. Despite the efforts made to clean up the river, the problem of illegal settlements and improper waste management remains unsolved.

## **Objectives**

In the present, the Mahiga River still faces two major issues, and these are the worsening level of water pollution due to waste disposal in the river and flooding that occurs when it rains too hard or too long. The goal of this project is to restore the river with an innovation that can aid in eliminating the wastes present in the river and maintaining its cleanliness. Specifically, this project aims to achieve these objectives by:

- Interpreting the information gathered from the fieldwork activities and interviews from the residents
- Designing the machine that will help in eliminating non-biodegradable or inorganic wastes
- Redirecting human wastes from households to a centralized location that would be eventually used as biomass fuels to power the designed machine
- Identifying the cost of the project and the stakeholders involved

## **Research Question**

To accomplish the objectives of the project and help resolve the problem, the following questions should be addressed:

1. What is the current state of the Mahiga River?
2. What is a potential and innovative solution to address the waste problem in the Mahiga River?
3. What are the challenges in implementing this potential solution?
4. How can these difficulties be addressed?

## **Action Plan**

The Action Plan provided below includes a timetable for each task and the expected completion dates. The following items are indicated:

Goal 1	Action Step Descriptions	Responsible	Date to Begin	Date to End	Percent Completed
Project Planning and Preparation	<ul style="list-style-type: none"> <li>Identify project objectives and goals</li> <li>Formulate project plan and timeline</li> <li>Assign roles and responsibilities to team members</li> <li>Conduct an ocular inspection of project site</li> <li>Attend the ClimateScan River Scan Challenge Opening Ceremony</li> </ul>	All Members	April 17, 2023	April 18, 2023	100%

Goal 2	Action Step Descriptions	Responsible	Date to Begin	Date to End	Percent Completed
Research and Development	<ul style="list-style-type: none"> <li>Conduct group fieldwork at identified stations for Mahiga and Butuanon River</li> <li>Attend River Scan Lectures I and II</li> <li>Collect and analyze data on the pollution levels and plastic waste in the river</li> <li>Research existing solutions and their limitations</li> <li>Brainstorm and develop ideas for the river skimmer solution</li> </ul>	All Members	April 19, 2023	April 23, 2023	100%

Goal 3	Action Step Descriptions	Responsible	Date to Begin	Date to End	Percent Completed
Prototype Research	<ul style="list-style-type: none"> <li>Finalize the design and specifications of the river skimmer</li> <li>Gathering info about developing a prototype using available materials and resources</li> <li>Research effectiveness of the prototype based on references</li> </ul>	All Members	April 24, 2023	April 25, 2023	45%

Goal 4	Action Step Descriptions	Responsible	Date to Begin	Date to End	Percent Completed
Refinement and Improvement	<ul style="list-style-type: none"> <li>Analyze the results of the prototype testing</li> <li>Identify areas for improvement and refinement</li> <li>Research a revised version of the river skimmer</li> <li>Conduct independent group work and polishing of formulated outputs</li> </ul>	All Members	April 26, 2023	April 27, 2023	45%

Goal 5	Action Step Descriptions	Responsible	Date to Begin	Date to End	Percent Completed
Presentation and Evaluation	<ul style="list-style-type: none"> <li>• Prepare a final pitch and presentation of the river skimmer solution</li> <li>• Attend the Gallery Presentation of Outputs and Presentation of Pitches</li> <li>• Participate in the Plenary Session for Final Evaluation of Pitches and Outputs</li> <li>• Receive feedback from judges and evaluate the success of the project</li> </ul>	All Members	April 27, 2023	April 28, 2023	---

Deadlines	
Date	Description
April 18, 2023	Project plan and timeline
April 23, 2023	Data collection and analysis
April 25, 2023	Prototype research
April 27, 2023	Final pitch and presentation preparation
April 28, 2023	Gallery presentation and plenary session participation

