BECOME A

WASTE HERO

REDUCE TO ZERO

Problem & Solution Tree

Workshop 1

EXPERT VALIDATION by Independent Panel
Content by YUNUS THAILAND
with support from INDORAMA VENTURES

Workshop Prep & Objectives

Prep time: 10 – 15 minutes

The workshop aims to provide guidance on how to frame problems and solutions using practical and user-friendly tools to help solve complex and interconnected problems. The workshop will focus students on transformative thinking, teamwork and results oriented thinking through the utilization of mapping tools that help identify, define, and solve for the greater sustainability challenges of our time.

1. **Display the lesson slides for the class and create a discussion about what they already know about how to solve complex problems** and introduce the problem/solutions tree.

2. The workshop activity is best done on a **large whiteboard or a posterboard using sticky notes** that can easily be displayed for groups to work together in open discussion.

3. **Follow the instructions** in the lesson on how to create a problem/solutions tree from an aspect related to the **”Waste Challenge”.** The slide notes at the bottom of each slide will have instructions on how to create the problem/solutions tree.

SDG & Curriculum Alignment

Prep time: 10 – 15 minutes

Key Learning Outcomes and Curriculum Alignment:

- **English Language Arts and Literacy:** Participate in collaborative conversations with diverse partners about topics and texts. Follow agreed-upon rules for discussions. Use words and phrases acquired through conversations, reading and being read to, and responding to texts. Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning.
- **Social Studies - People, Places, and Environments:** The study of people, places, and environments enables us to understand the relationship between human populations and the physical world.
- **Science - Earth and Human Activity:** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. Things that people do can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.

SDG Alignment

The Workshop

Workshop duration: 45 – 60 minutes

1. **Split into groups of 3-5** and prepare a posterboard or whiteboard with sticky notes for the exercise.

2. **Read the "Waste Challenge "** handout to use for the **problem/solutions tree** exercise. Students will decide on an aspect from the waste challenge scenario to work from (e.g., recycling, waste workers, collection and sorting, etc.).

3. **Groups will map out the problem/solutions tree** to examine the interrelated aspects of their problem, and the means and ends of a potential solution pathway.

4. **When finished with the problem/solutions tree** have the groups define their solutions pathway with a "solutions statement" they think will best solve the core problem. Have the groups present their findings to the rest of the class.

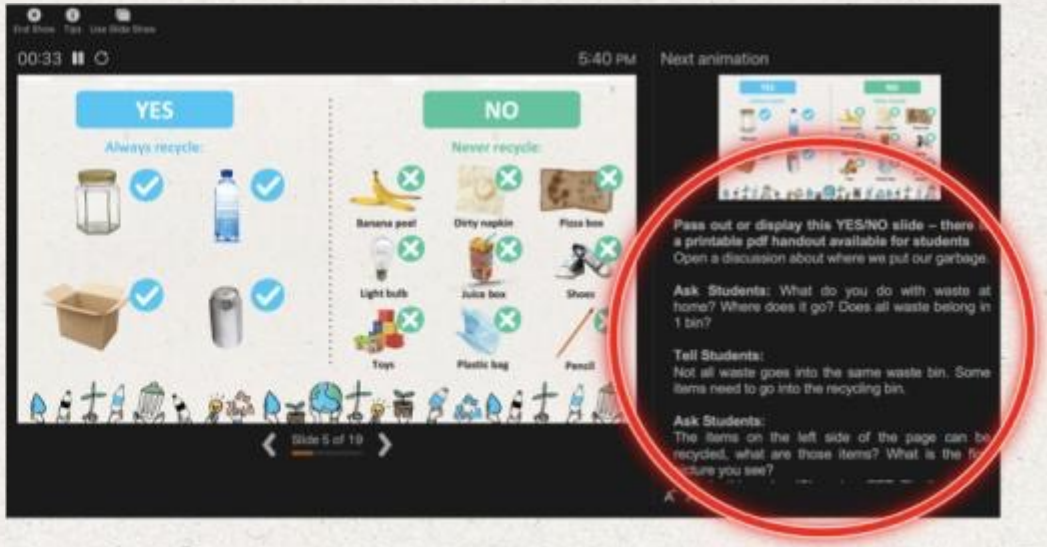
Flexible and adaptive lesson

Lesson plans are designed to be flexible and responsive to the evolving needs of your classroom. Lessons are editable and customizable to meet the different individual student and classroom contexts. A PowerPoint version with teacher instructions and a printable PDF lesson are available for download.

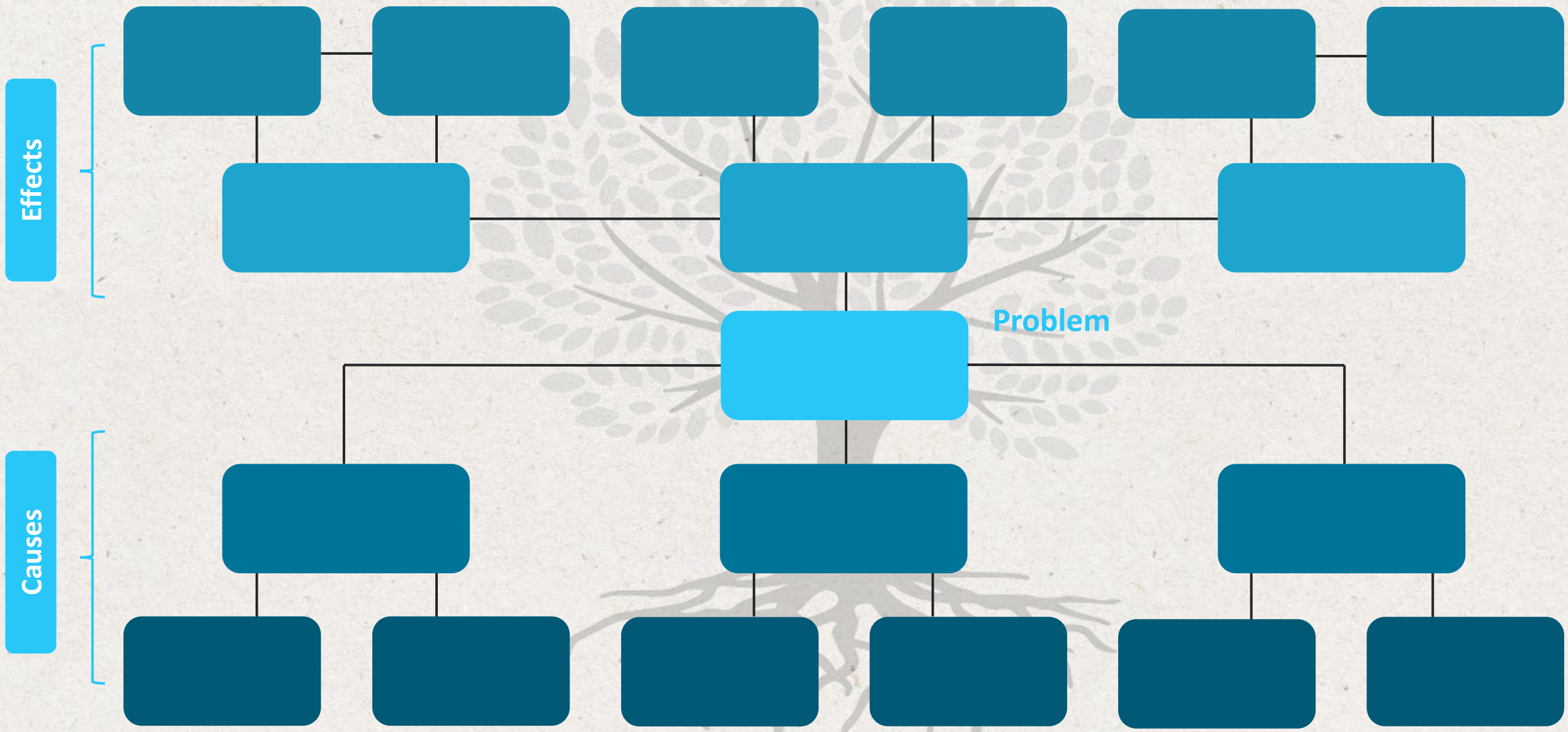
Prepare the PowerPoint presentation

When you are ready to present the lessons to your class click on **Slide Show** on the top menu bar then select **Presenter View.** In Presenter view, you can see your notes as you present while the audience see only your slides.

The notes appear in a pane on the right. The text should wrap automatically, and a vertical scroll bar appears if necessary. You can also change the size of the text in the Notes pane by using the two buttons at the lower left corner of the Notes pane.



The Problem Tree



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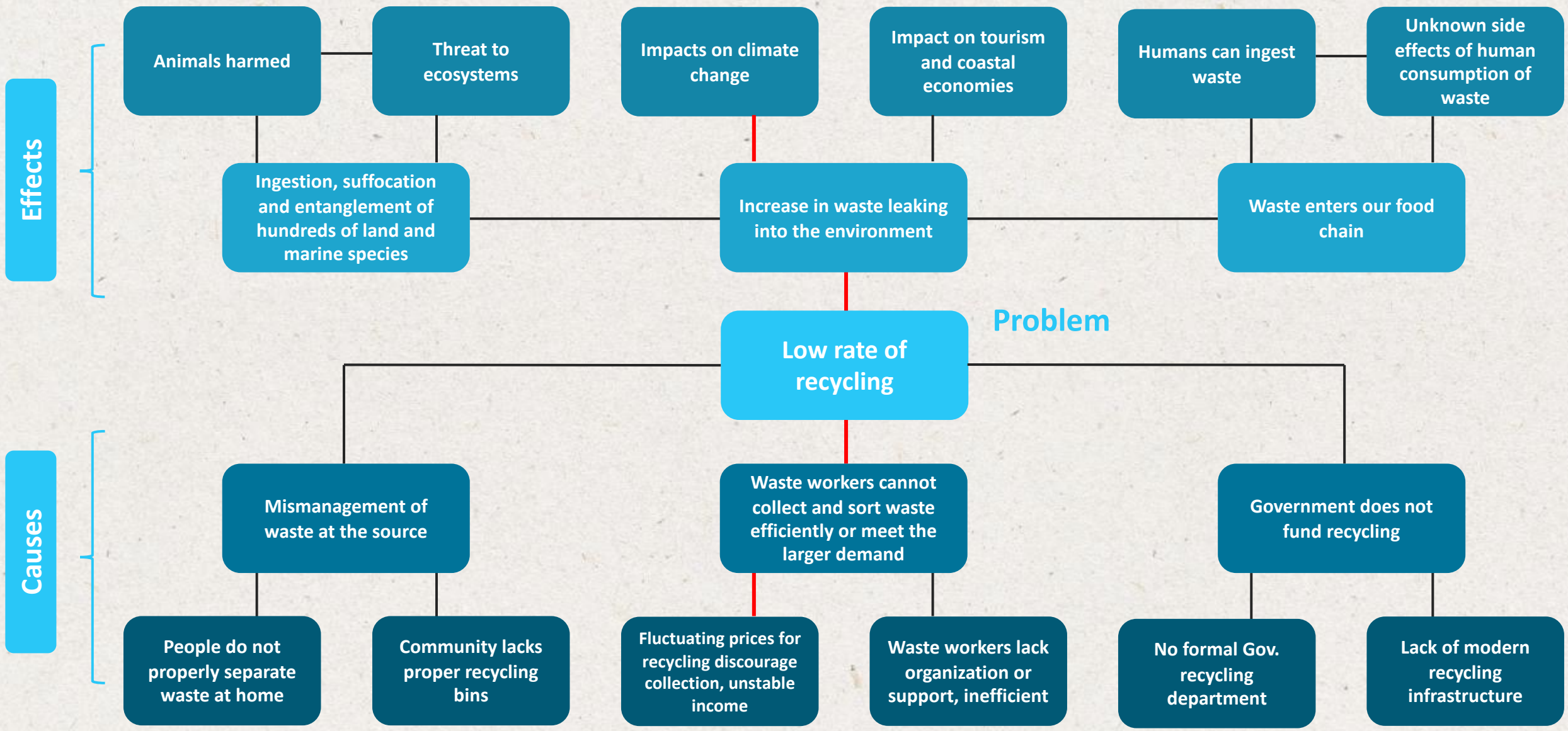

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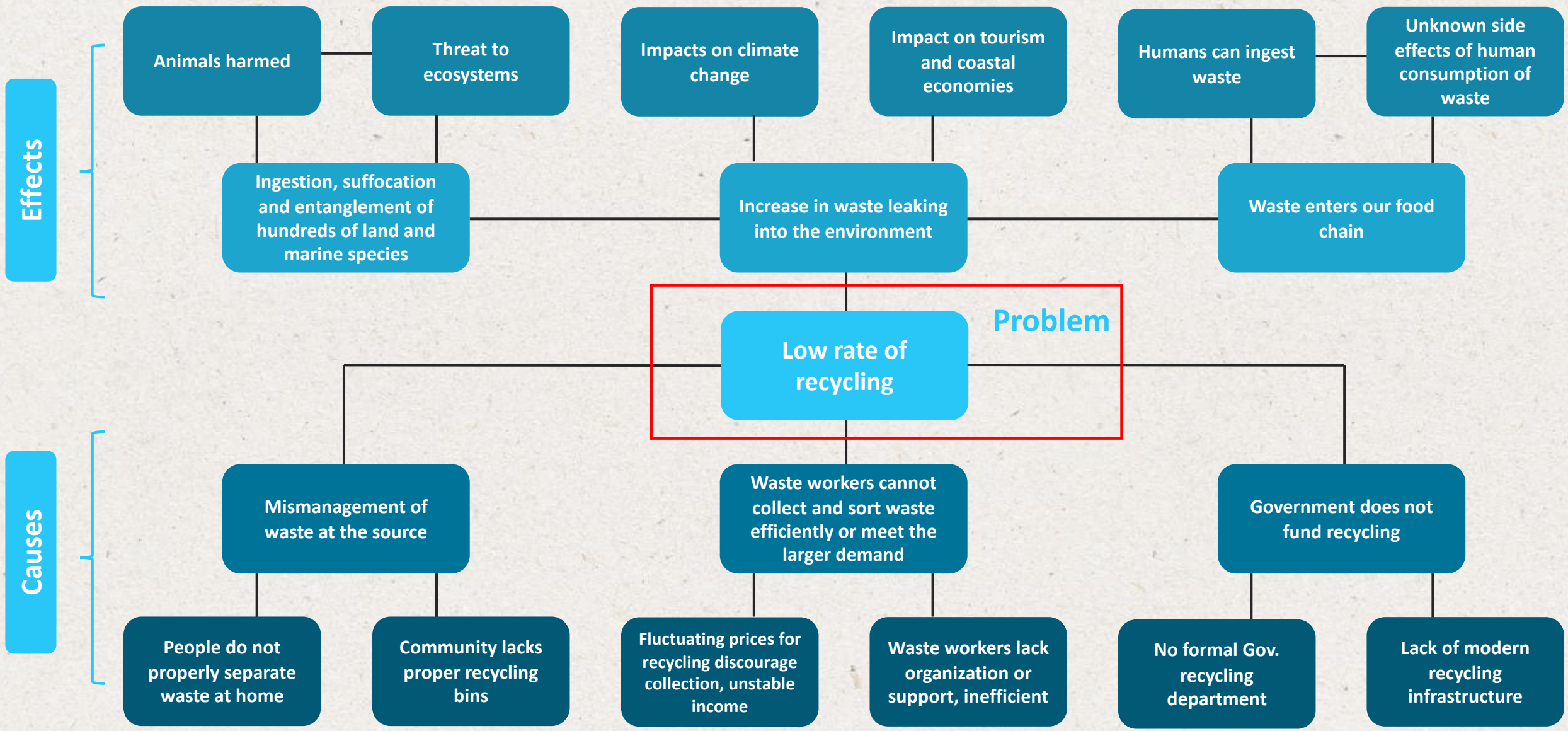

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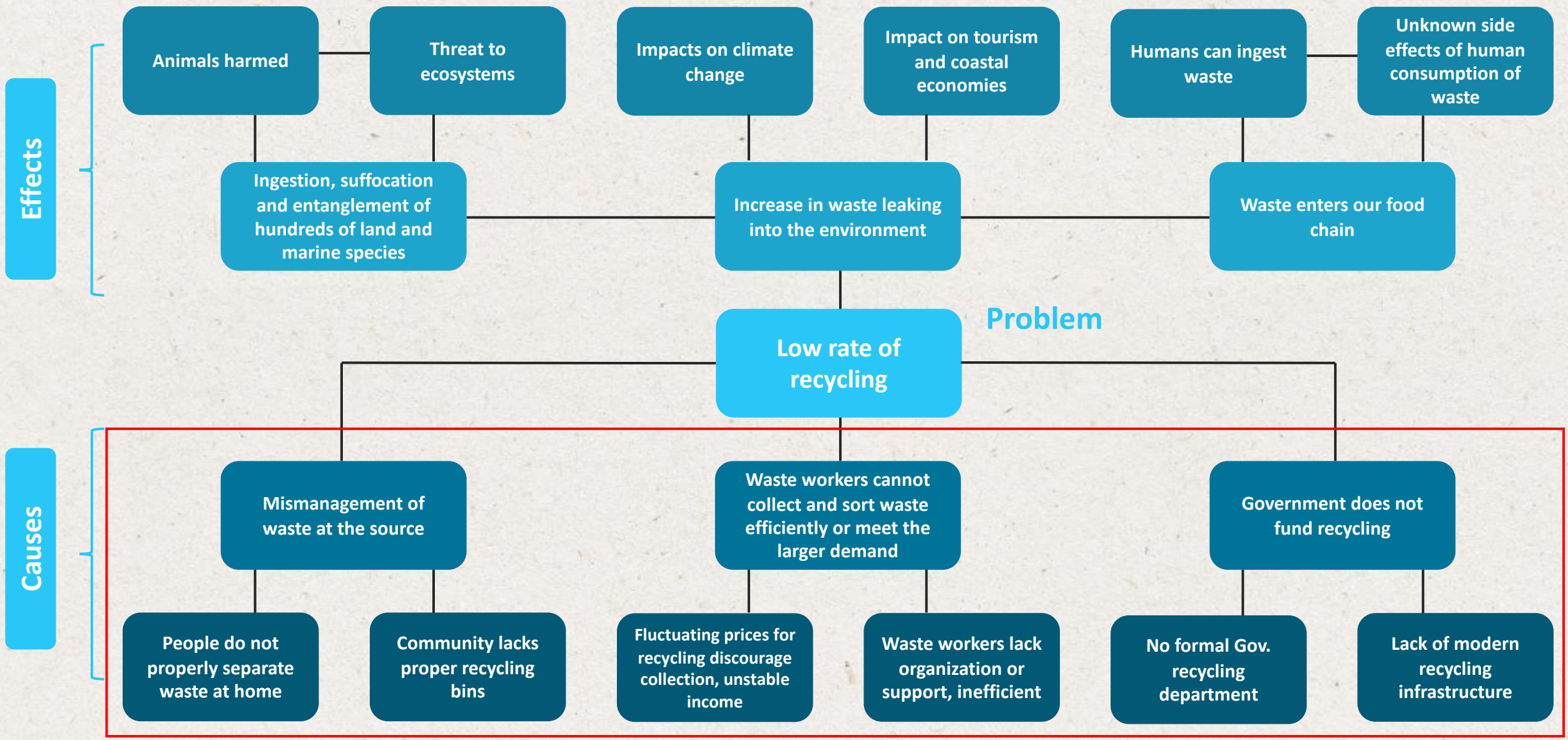

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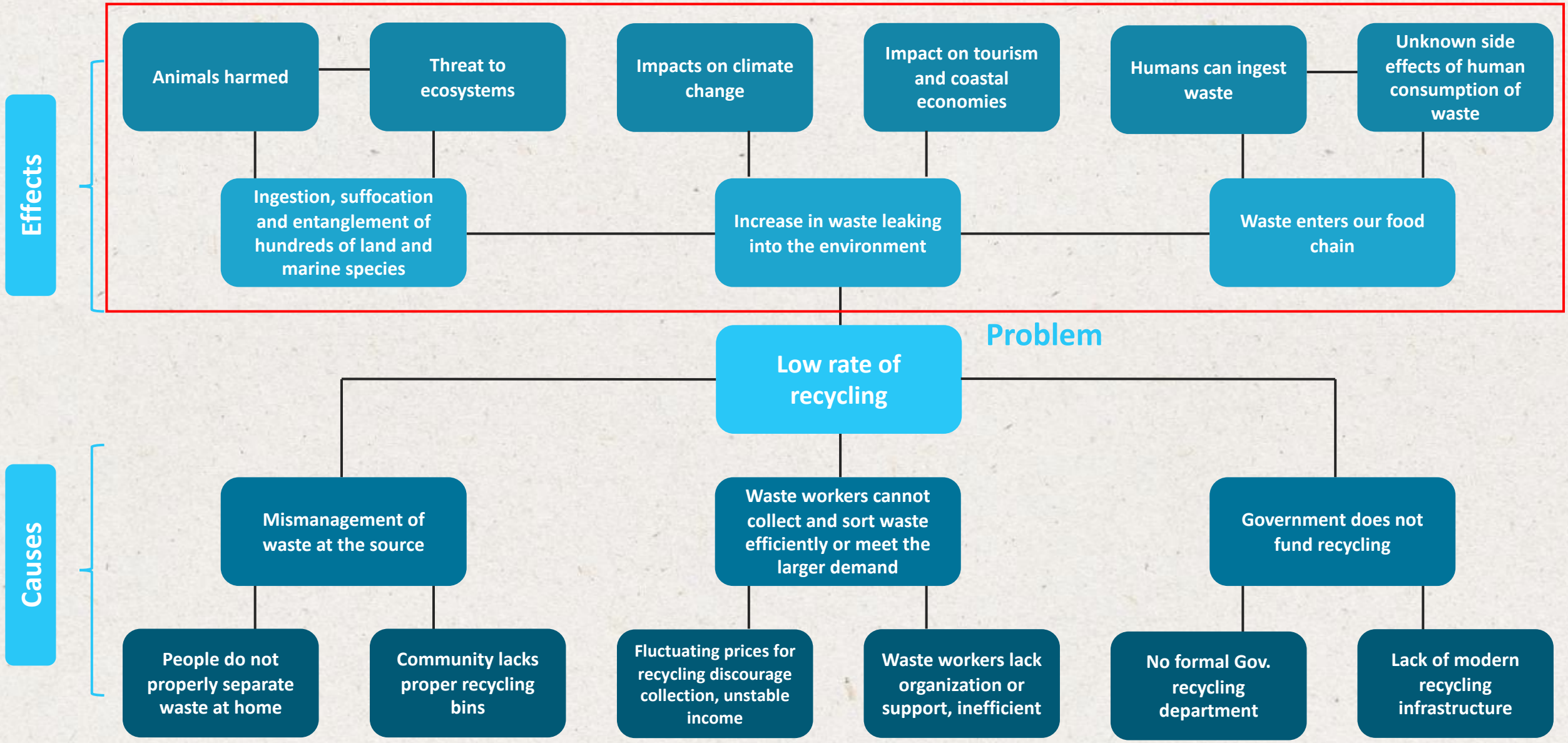
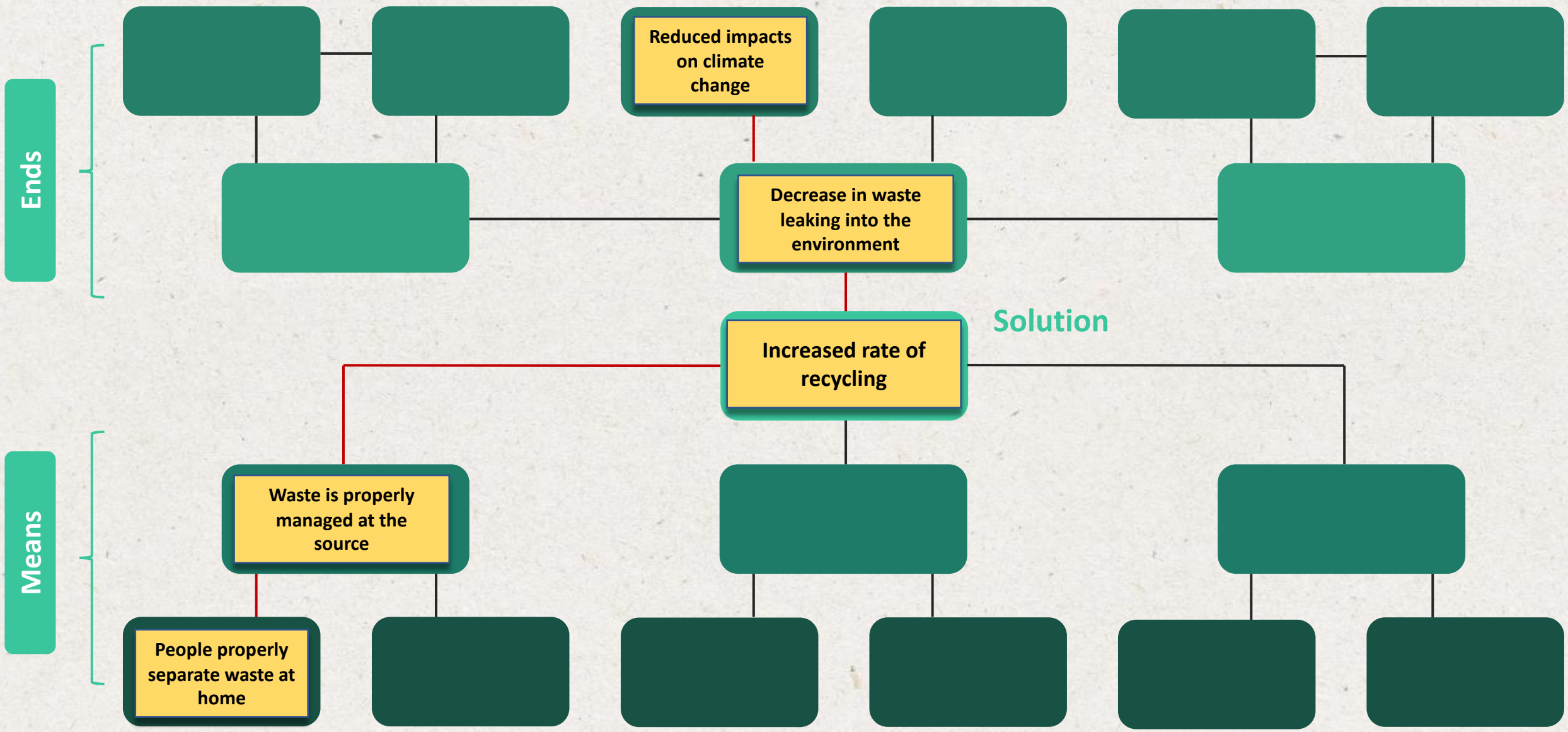
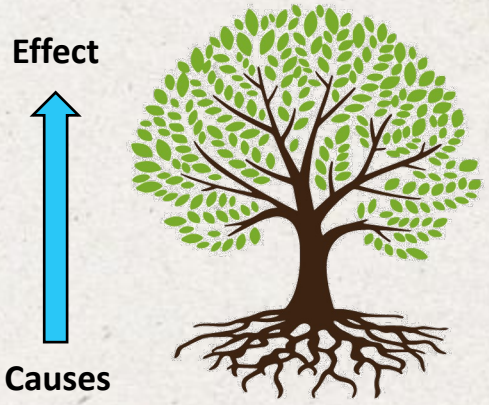


Solution Tree



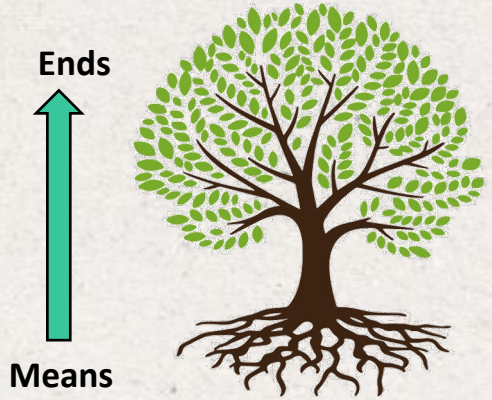
1. **Choose an aspect from the “waste challenge” scenario**

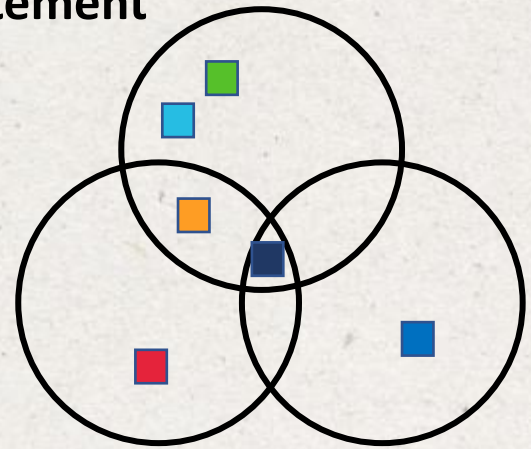
2. **Create a problem tree and define the core problem**



Negative Statements

3. **Create a solutions tree and define the solution**



Positive Statements

4. **Select a preferred intervention and create a final Problem & Solutions Statement**