Bounce Back

A resilience game

about Manila

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Briefing

~20 min

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Introduction

- Metro Manila is the capital region of the Philippines

- Due to its location Manila is prone to multiple natural hazards a year, such as droughts, floods and typhoons

- With a population density of 20,785 people per km^2 it is one of the world's most densely populated areas [1]
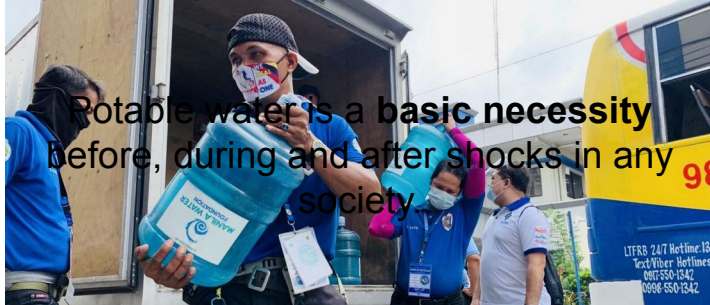
http://www.maphill.com/philippines/location-maps/political-map/
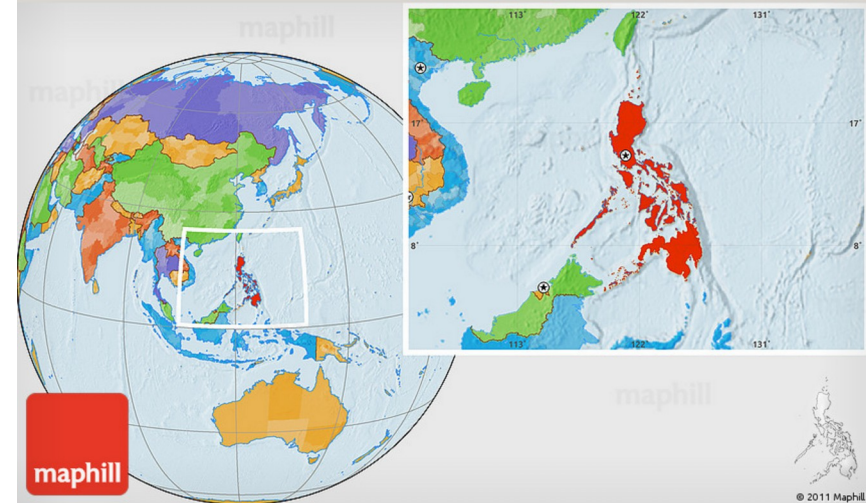
Video: Partners for Resilience: Voices of Manila Bay

Children like me used to play alongside the bay,

Subsystems

Drinking Water System

Potable water is a **basic necessity** before, during and after shocks in any society.

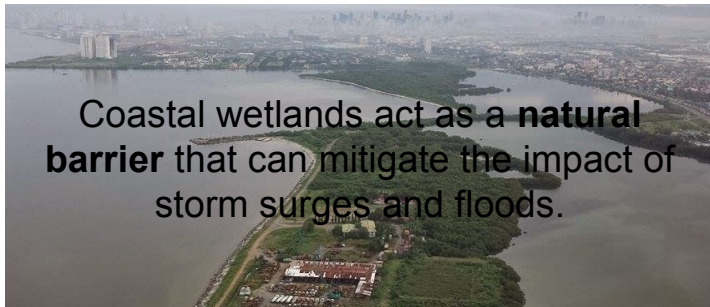https://manilawaterfoundation.org/news/2020-12-07/mwf-partners-bring-much-needed-water-families-hit-rolly-ulysses

Infrastructure

Working infrastructure is important for **mobility** and the delivery of **aid** throughout the region.

shorturl.at/ksxY5

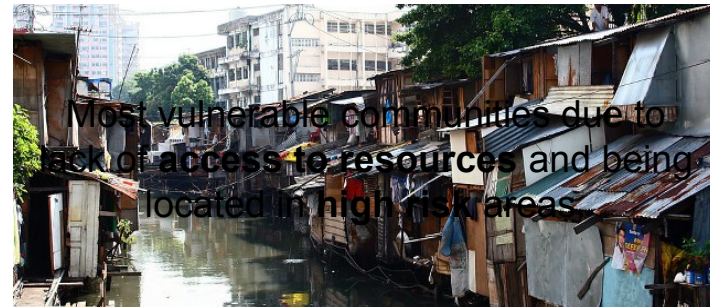## Coastal Wetlands

Coastal wetlands act as a **natural barrier** that can mitigate the impact of storm surges and floods.

https://www.wetlands.org/news/manila-bay-wetland-saved/

Informal Settlements

Most vulnerable communities due to lack of **access to resources** and being located in **high risk areas**.

https://www.rappler.com/nation/relocation-esteros-august

Resilience

- ''<u>Resilience</u> is the ability and rate of an ecosystem to recover from a disturbance and return to its pre-disturbed state.'' [7]

- Resilience includes:
    - Preparing **before** a disturbance
    - Mitigating **during** a disturbance
    - Recovering **after** a disturbance

- When playing the game, make sure to really read all the different measures that can be applied to each subsystem!

[7]https://naturalresources.anthro-seminars.net/concepts/ecological-concept-resilience-and-resistance/

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Ethical implications

- Ethics are the "moral principles that govern a person's behaviour or the conducting of an activity" [8]

- Need to address:
    - **What** are you trying to implement?
    - **Who** will be affected by your decision?
    - **How** will they be affected? Will it be a positive or negative effect?
    - Is there a consensus between **stakeholders**, or was someone left out of the decision?

- When playing, think:
    - Could the measures you are implementing be problematic in any way? If so, how can you justify implementing them anyways?

[8]https://www.lexico.com/definition/ethics

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Playing the game

~90 min

De-briefing

~35 min

Resilience

Reflection:
- What score did you reach?
    - Per subsystem
    - As a council

- Would you say you have worked together as a group or more individualistic?

- What type of card (prepare, mitigate or recover) did you (have to) implement the most?

- What would you have done differently if you would play again?

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Ethical implications

- Necessary Measures + Limited Budget = Prioritizing!
    - Are your decisions for the greater good, or for the benefit of a few?
    - Was the decision fair to everyone involved? Or was there a more just alternative?

- Did you prioritize or neglect any subsystems over the others? How can this occur in real life decision-making?

- Some measures increased resilience at the cost of having a negative impact on nature (e.g. diesel-driven backup generators). Who should be in charge of choosing whether such measures should be implemented over less harmful alternatives?

(Simplified) Wicked and complex problems

- Reality is more complex than what the game showed!

- A wicked problem is a problem that is difficult or impossible to solve due to its complexity and large number of interrelated factors [9]

- What are some connections you could establish between measurements, shocks, stresses or subsystems that weren't addressed in the game?

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[9]https://www.wickedproblems.com/1_wicked_problems.php

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Resistance vs. resilience

- ''<u>Resilience</u> is the ability and rate of an ecosystem to recover from a disturbance and return to its pre-disturbed state.''
- ''<u>Resistance</u> is the ability for an ecosystem to remain unchanged when being subjected to a disturbance or disturbances.'' [7]

Exercise:
- Go through your measure cards, which measures would you consider to increase the <u>resistance</u> and which ones increase the <u>resilience</u> of your subsystem? Divide them into 2 stacks.
- Discuss the 2 stacks of all players.

[7]https://naturalresources.anthro-seminars.net/concepts/ecological-concept-resilience-and-resistance/

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Feedback

- What is your main take-away from the game?

- What did you feel like was the limiting factor for building resilience?