Sensitivity Mapping Exercise

Background:

The National Petroleum Agency is looking to establish new concession blocks for oil and gas activities. However, the Agency wants to first determine the potential environmental risks associated with accidental oil spills within those concession blocks.

The following ecological assets have been identified within the landscape/seascape:



(A) Coral Reef

Coral reef, part of a Key Biodiversity Area but with no formal protection status, providing fish nursing ground on which the local fishing community relies.



(B) Mangrove forest

Mangrove forest, with no formal protection status, providing protection to a local village from extreme weather events.



(C) Sand beach (turtle nesting site)

Sand beach, with no formal protection status, providing nesting sites for a threatened turtle species.



(D) Costal forest

Coastal forest designated as National Park, supporting at least one threatened species.

Exercise: Environmental sensitivity mapping

Aims:

- Assess the importance of different ecological assets.
- Map out the sensitivity of ecological assets to oil spills.
- Identify potential priority areas within potential concession blocks.

Part 1: Importance ranking

1. Based on the information provided, rank the importance of each ecological asset between 1 (Very low) and 5 (Very high) in the table below. More than one asset can have the same importance rank.

Asset	**Importance ranking**	**Reason**
(A) Coral Reef		
(B) Mangrove		
(C) Sand Beach (turtle nesting)		
(D) Forest (National Park)		

Part 2: Sensitivity ranking

1. Using the **susceptibility** rankings provided and the **importance** rankings you established in Part 1, calculate the **sensitivity** ranking of each asset to oil spills (see table 2)
    - Sensitivity is calculated by: *Susceptibility x Importance* (see table 1)
    - Sensitivity ranking go from *1 (Low) – 25 (Very high)*

2. Fill out the sensitivity map accordingly. Each grid cell should include the sensitivity rank based on the ecological assets it overlaps with.
    - Identify which concession blocks may have high environmental risks with it. Discuss which blocks may need to be identified as priority areas for further environmental studies, and why

Importance						
	Very High	5	10	15	20	25
	High	4	8	12	16	20
	Medium	3	6	9	12	15
	Low	2	4	6	8	10
	Very Low	1	2	3	4	5
		Very Low	Low	Medium	High	Very High
		Susceptibility				

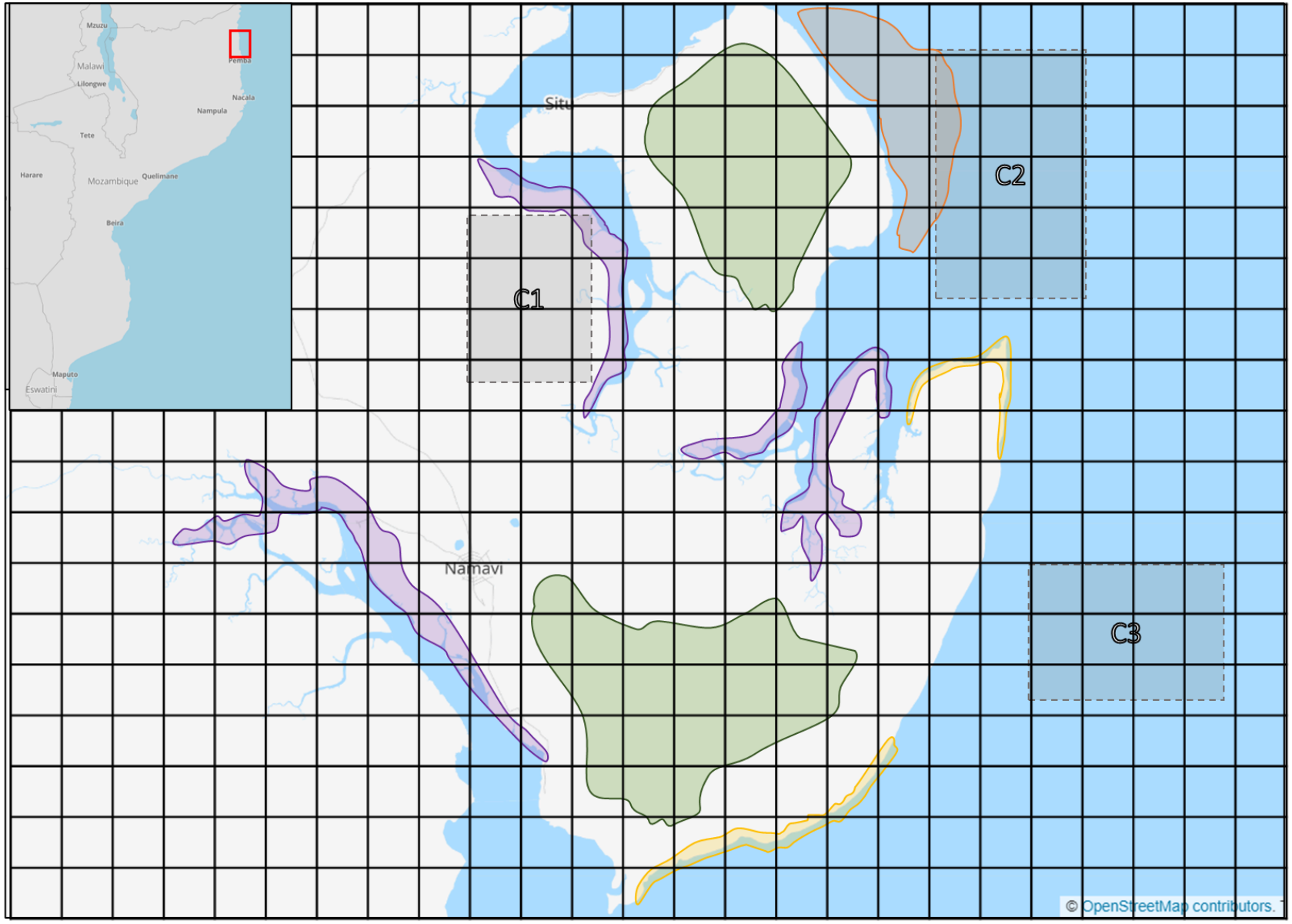
Asset	Susceptibility ranking	Importance ranking (from Part 1)	Sensitivity ranking
Coral Reef	2 (Low)		
Mangrove	5 (Very High)		
Sand Beach (turtle nesting)	3 (Medium)		
Forest (National Park)	4 (High)		

Legend

- (A) Coral reef
- (B) Mangrove forest
- (C) Sand beach (turtle nesting sites)
- (D) Forest (National park)
- C1 Concession block

Sensitivity ranking

Importance		Susceptibility				
		Very Low	Low	Medium	High	Very High
	Very High	5	10	15	20	25
	High	4	8	12	16	20
	Medium	3	6	9	12	15
	Low	2	4	6	8	10
	Very Low	1	2	3	4	5



Part 3: Report back

3. Each group presents their sensitivity map.

4. Compare the different priority areas identified for further environmental studies. Discuss the assumptions that have led to any differences between each group.