

Sugud Islands Marine Research Centre (SIMRC)
SIMCA Priority Research Area

1. Species of Concern
 - a. The population status, spawning aggregation site for Humphead wrasse (*Cheilinus undulatus*).
 - b. Species distribution and population density sharks and rays.
 - c. The population density of mouse grouper (*Cromileptes altivelis*).
 - d. Spatial and distribution of giant clam.
 - e. The light impact to sea turtles hatchling navigation and survival rate.
 - f. Population status of Bumphead parrotfish (*Bolbometopon muricatum*).

2. Climate Change and pollution
 - a. Change of ocean current, sea temperature toward coral reef ecosystem – on planktonic productivity, larvae dispersal and development.
 - b. Impact of river runoff toward coral reef ecosystem.
 - c. Pollutant increase enhances coral disease. Tracking pollutants caused by river runoff.
 - d. Ocean acidification and coral resilience.

3. Socio-economic
 - a. The impact of fishing by sea gypsies toward population of megafauna (sharks, rays and sea turtles).
 - b. The socioeconomic value of giant clam and shark to the small scale fishermen.

4. Fisheries
 - a. The effect of marine protected area on enhancement of population density of commercial reef fishes and possibility of creating a spillover.
 - b. Population genetic or genetic marker for commercial reef fishes.

5. GIS and Habitat mapping
 - a. Critical habitats (source reefs – spawning aggregation site) mapping.

6. Ecology

- a. Crown-of-thorns starfish impact on coral cover; and the cause of Crown-of-thorns starfish outbreak.
- b. Predation by Crown-of-thorn starfish: preference to coral species and predation rate.
- c. Fish community structure at protected and non-protected reefs.
- d. Recovery /Recruitment of coral reef from Crown-of thorns starfish predation; bleaching; and destructive fishing (fish bombing).

7. Live Reef Fish Food Trade (LRFFT)

- a. Fishing near the border: the increase in live reef fish fishing.
- b. Documentation of live reef fish fishing methods (increasing new methods beside using sodium cyanide).

8. The effectiveness of enforcement in SIMCA

- a. The use of radar tracking system and increase enforcement presence reduces illegal fishing inside conservation area.

9. Ecotourism

- a. The impact of tourism toward coral reef ecosystem.
- b. The values of healthy coral reefs, and marine species at SIMCA to ecotourism.