MINISTRY OF FISHERIES AND MARINE RESOURCES

Managing the Sea Cucumber Fishery in Solomon Islands

SI NRM SYMPOSIUM

2 – 6 Oct, Hon

Leqata John

Commercial Species of Sea Cucumbers

Species of commercial value

- Number of species exploited had increased over the years

1988 (Adams *et al*, 1992)	1991 (Adams *et al*, 1992)	1993 (Holland, 1994)	2004 (Ramofafia 2004)
15	18	22	32

The sea cucumber fishery

- Multi-species fishery with multi-million dollar industry.
- Second most valuable capture export fishery to tuna.
- SI peak BDM Export in 1992: 715 tons valued at SB$10m.
- Sea cucumbers are harvested using various methods and processed into beche-de-mer.
- No subsistence use but harvested for exports to the Asian markets.

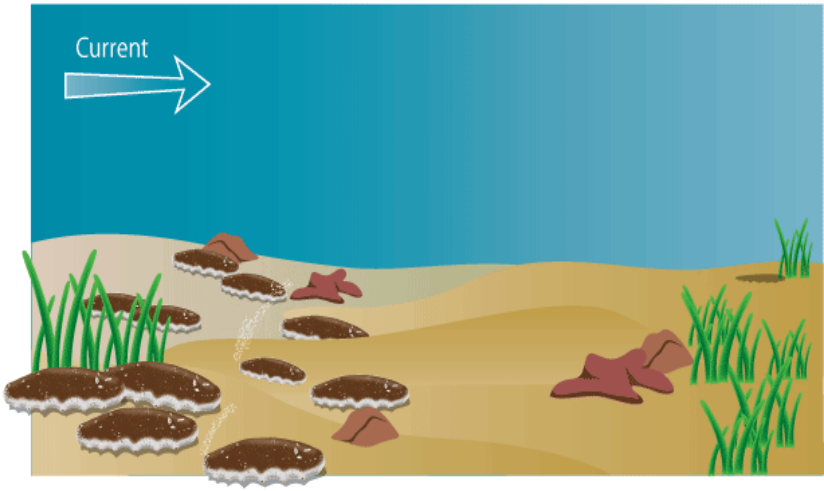
Sea Cucumber Harvesting

Biology of Sea Cucumber

- Many species globally, ~ 1,000 but around 35 species used for BDM production.
- Live in shallow environment such as sand, seagrass, rubbles, reefs, passages etc.
- Most species found in < 20m, some nocturnal, some bury in sand, slow moving, some grow fast, some slow.
- Mature at 2-7 years, some species can live up to 15-20 years.

Biology of SC (cont.)

- Play important role in lagoon systems, turning and cleaning sand.
- Mainly deposit feeders, few suspension feeders.
- Feed on dead plants and animal materials in sand.
- Recycle organic matters
- Close together.
- Good density to breed.



Historical Data of SC

- Sea cucumber harvesting dates back to 1700 in Melanesia, Micronesia, Polynesia.
- Most products are exported to Asian markets.
- Species are used as trials for pharmaceuticals, cosmetics.
- Stocks under intense pressure from fishing, so many stocks are overfished.
- Fishery have gone through boom-bust cycles.

Historical Data (cont.)

- In mid 1980s, prices elevated and demand from Asian markets caused increase fishing.
- A multi species fishery, low capital investment, harvested using several ways such as hand picking, wading, snorkelling, scuba, dive bombs, poles with spears trawl etc.
- Annual average exports from Australia & Pacific Region from 2004-2008 was 1,300 tons worth US$52 million.

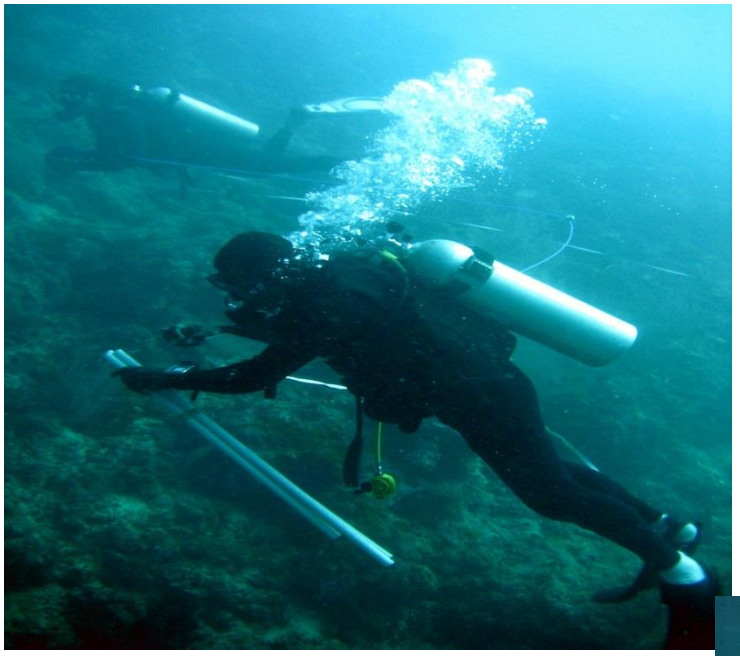
BDM Export Data (2013 & 2015)

- In 2013, 18 licensed exporters, fetched SD$1.9m in licences, exported 304,941 kg of mixed BDM species, valued at SD$33.3m
- In 2015, 10 licensed exporters, fetched SD$2m in licences, exported 316,955 kg of mixed BDM species, valued at SD$29.5m
- The opening period for 3-4 months, with 1 month grace period to ship BDM from provinces prior to final exports.

Past Surveys (2011-2012)

- 2011-2012 assessment surveys indicated that health of SC stocks in a dilapidated state.
- 27 species recorded, 24 species of commercial values, but only 16 species recorded in all survey sites.
- Most widespread species recorded were *brown sandfish, lollyfish* and *tigerfish.*
- Patchy distributions with main species with lower than 10% of the regional reference density for broad scale assessments.

Past Surveys (2011-2012)



Past Surveys (cont.)

- Low densities means stock declines, will no longer reproduce effectively.
- Average sizes for most species relatively small, most species recorded are below reproductive mature sizes.
- Most population unable to reproduce, stocks continue to decline unless small individuals are protected from fishing, need to left on the reef to replenish SC population.

Threats to the SC Fishery

- Overfishing, ineffective enforcement.
- High value species become overexploited, so fishers target lower value species but can still collect few higher value species.
- Limited alternatives income opportunities for isolated small islands. (OJ)
- Overfishing leads to lost income opportunities.
- Lack of timely stock status reports.
- Political interference and transboundary BDM movements.

Management Now & Future

- First concept is rotational harvest closures.
- Alternative for this is to limit the number of species allowed to be harvested and alternate the species harvested in each partitioned areas or seasons.
- Limit size of individuals at harvest, processing and exports to only large high grade products. This will benefit both the stock and the fishers.

Management Options

- SC management plan (reviewed, implemented and adhered).
- Fishery moratorium.
- Improve stock status.
- Aggregation of brood stocks.
- Restrictions on exports.
- Size limits.
- Species permitted for exports.
- Restriction on fishing gear.
- Monitoring and compliance.
- Determine national reference densities.
- SC resource assessments.

Thank you one and all.