

People in Places Symposium
26-29 July 2011
Halifax, Canada

Session

The success story of the co-management of a sea-cucumber fishery (New Caledonia, South Pacific)

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The success story of the co-management of a sea-cucumber fishery (New Caledonia, South Pacific)

Contents

1. An overview of sea cucumber fisheries
2. The local co-management cycle
3. Up-scaling the approach

The success story of the co-management of a sea-cucumber fishery (New Caledonia, South Pacific)

A low-tech processing...

1 From (fresh) sea-cucumber *Holothuria scabra* to (dried) bêche-de-mer !

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Exports of bêche-de-mer from the Western Central Pacific Region

1 West central Pacific : boom and decline of sea-cucumber fisheries since the 1980s (high demand <-> resource abundance)

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1 High natural vulnerability : Slow-moving, patchy distribution, spawning groups
Easy access (coastal and mainly shallow areas)
Low-tech gears

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Exports of bêche-de-mer from the Western Central Pacific Region

1 → Resource management issues to sustain sea cucumber stocks across Pacific countries

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Sea-cucumber fishery on this large flat

2.1 A simple customary-owned fishery : 1 specie, 1 village, 26 km² fishing area
~50 fishers since 1995, 2 middlemen
1 legal rule : size (20 cm)

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↓ number of large sea cucumbers (local perceptions)
↓
Temporary closures
Last fishing ban : 2007-2008
↓
Partnership between fishers / Fisheries Dpt / IRD

2.1 How to switch from opportunistic and unpredictable pulse fishing to sustainable harvesting ?

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Assessment method

→ Remote sensing habitat mapping
Quickbird picture (2.5 m resolution)

1 km → Stratified sampling design

2.2 Stock assessment based on direct biomass estimates per station

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Data collection (2 days)
- 100 * 2 m transects
- Counts (walking & snorkeling)
- Size measurements
Observer teams : fishers & Fisheries staff

Weight = 1,186 * (π * Length * Width / 4) * 259248
(S. Purcell, Worldfish Center)

2.2 Participative visual survey on 62 stations in June 2008

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Mean biomass per station for each habitat

Biomass > 15 cm (g)
● 0 - 200
● 200 - 500
● 500 - 2000
● 2000 - 4000
● > 4000

2.2 Fishers decided to reopen the fishery : conservative TAC = 9 t

- Patchy spatial distribution
- Individuals >= 10 cm
115 t +/- 30 t (95 % CI)
- Individuals >= 20 cm
22 t +/- 9 t (95 % CI)

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2.3 Building an empirical adaptive co-management cycle

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3.1 The co-management system allowed to more than double BOTH stock and catches after 3 years only !

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How to up-scale this local co-management approach ?

- An adaptive approach (habitat mapping & stock assessment + catch monitoring)
- Local support and leadership
- Shared governance
- A network of small-scale co-management systems
- National management capacities as a limiting factor

3.2 Current national management plans for sea cucumbers should develop a large-scale strategy that is based on a network of local co-management approaches.

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Thank you !
and come to the film festival !...

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