



Sea ranching of sandfish in an Indigenous community within a well regulated fishery (Northern Territory)

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OVERVIEW

Unusual context exists in the Northern Territory for efforts to develop sea cucumber ranching

- Intact wild-caught fishery
- Well established supply chain and markets
- The commercial sector consists of a single operator who aspires to conduct stock enhancement of wild stocks (in the longer term)
- The commercial operator is willing to partner with Indigenous communities to facilitate ranching activities (in the shorter term)
- High population of coastal Indigenous Australians who aspire to develop economic activities through natural resource use
- Indigenous people recently given recognition of their legal ownership of the intertidal zone
- The rest of the seas to 3 nautical miles is fished by the single commercial operator
- Poaching is not a significant constraint (neither local or foreign)

Management/Governance

- Two zones; east and west of Cape Grey
- 3 licenses per zone (six in total for the fishery)
- Limit on number of crew and divers per zone
- 3 nautical miles from coast
- Collect by diving from vessel, by hand only



Performance triggers

Performance indicators:

- ✓ a breach of a total catch of 300 tonne per year
 - ✓ A rolling three year average CPUE varies by a factor of 30% from the current year value
 - ✓ A decrease in the average weight by more than 20%
 - ✓ Change in species composition to over 30% of total catch
 - ✓ Change in licence ownership
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- Precautionary management approach due to our limited knowledge of the biology and ecology of sandfish
 - Consequently the Commonwealth recommends moving towards addressing key research priorities, and developing meaningful yield estimates

Management/Governance

Additional factors that contribute to sustainability:

- Only one licensee = no gold rush mentality
- The company has the ability to rotate harvest
- Crocodiles, poor visibility, the monsoon season, and extreme tides limit access to many fishing grounds and limit the ability to pick up all harvestable stocks.

Illegal Fishing 1999-2005

Annual apprehension of Illegal fishing vessels in northern Australia						
1999	2000	2001	2002	2003	2004	2005
60	77	80	111	139	161	210

***1994 to 1997 high activity by Indonesian sea cucumber vessels

2006 Apprehensions / Sightings

In 2006, the Australian Fisheries Management Authority set in place an extensive surveillance and apprehension program within the Australian Fishing Zone using aircraft and sea vessels, together with extensive data.

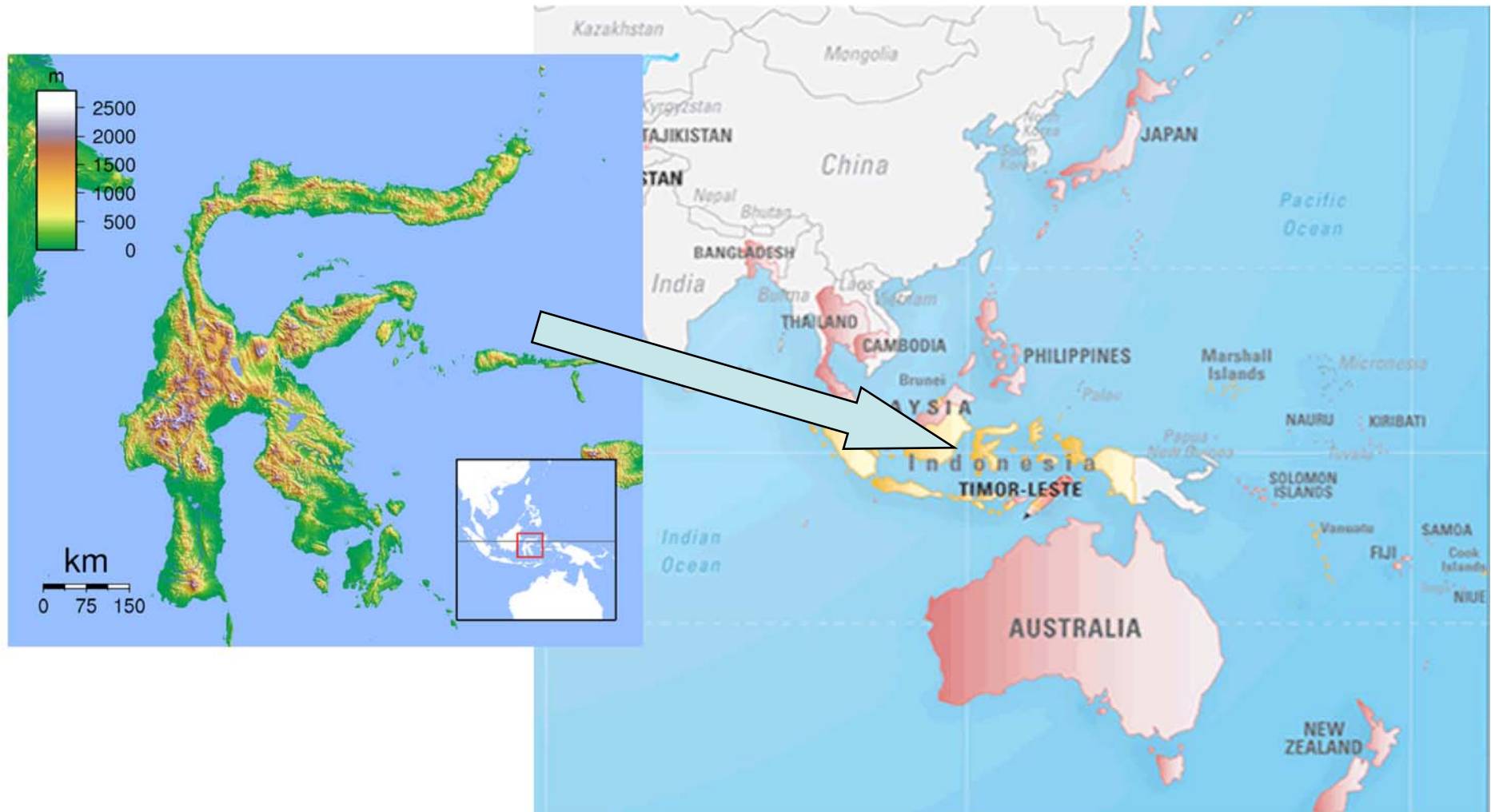
Apprehension of vessels totalled 288 in 2006

Jan – May 2009

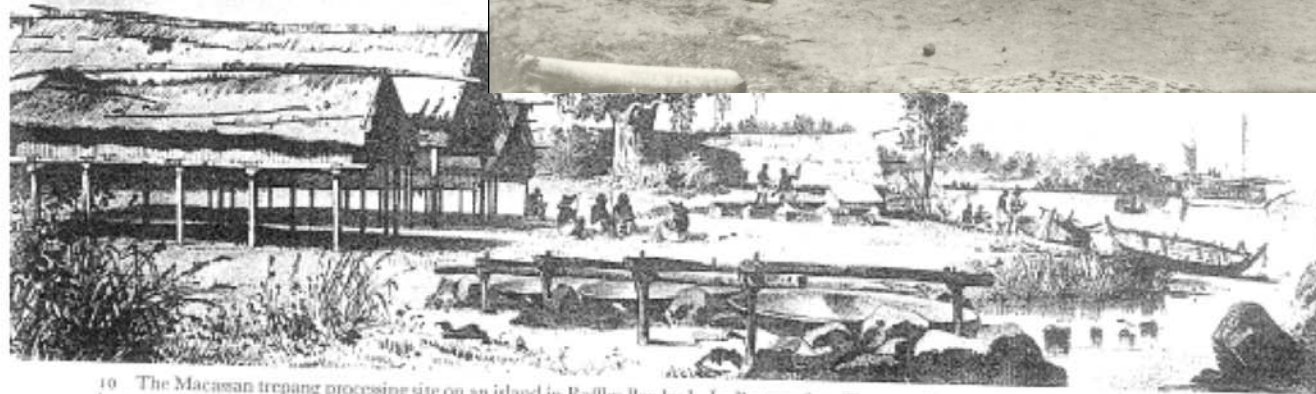
Apprehensions / Sightings

- As a result of this concerted effort, by 2009 the apprehension rate was down to 9 in the first 5 months
- clearly the message had filtered back to illegal fishermen in Indonesia that surveillance had increased and apprehension was likely.

Early Macassan Fishery - 1700s to 1907



European observations of Macassan industry – 1830s on



10 The Macassan trepang processing site on an island in Raffles Bay by L. Le Breton 1839. The overall arrangement of the features may not be accurate and the smokehouses were not used on this occasion.

Sea tenure

- In 2005 the High Court of Australia gave Indigenous Australians legal recognition of their ownership of the intertidal zone
- Negotiations are underway to determine the level and nature of exclusion of fishing activities in the zone
- Provides an opportunity for Indigenous people to conduct sea ranching and on-sell to commercial sector
- Commercial sector has demonstrated willingness to partner with Indigenous people in this enterprise, buying all post-harvest or first -process product
- Commercial sector has expressed aspirations to enhance stocks in wild-fishery zones
- Northern Territory government has a policy on ranching, not enhancement as yet – although doesn't foresee issues with latter

Current ranching trials

- ACIAR funded
- WorldFish collaboration



Government trial with Warruwi community

Commercial partner's trial with Umbakumba community

Ranching site at Goulburn Island



Government strategy on Indigenous economic development through aquaculture

- Conduct grow-out trials and pilot programs for a range of target species on communities. Select species for economic development based on the following:
 - has high market value and strong/medium demand (preferably with existing supply chains)
 - Has low capital requirement and low management/operational demands
 - meets the social and cultural criteria as suitable for Indigenous engagement and job participation and,
 - has a commercial partner and/or project champion and facilitator

Work with Warruwi school





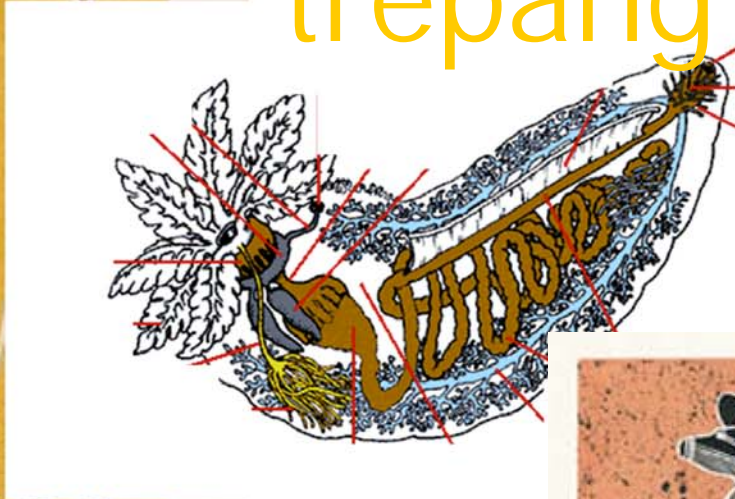
Do you like eating trepand?



Who does?



X-ray art of trepang



Implication of unique context

Implication of unique context for ranching/enhancement strategies:

- Different strategies for Indigenous community-based ranching enterprises to commercial enhancement activities
- Social constraints to Indigenous participation require careful management and long-term commitment by government
- The need to conduct research to ensure viability must be balanced against the need to progress Indigenous economic opportunities
- Collaboration between commercial sector and Indigenous communities must be a win/win to work in the long-term

and...

Implication of unique context

- Timeframes must be appropriate to ensure gradual development, because:
 - technologies not yet established,
 - logistics not yet addressed
 - capacity to identify suitable sites not certain
 - economic returns yet to be determined
 - Indigenous engagement across many communities not yet adequate for effective participation

thank you