Blue Communities

Interdisciplinary research underpinning marine management

Iloilo 28th Nov 2018

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1. The importance of interdisciplinary research due to the complexities of marine management

2. The issues of interdisciplinary in marine management

3. Lesson (to be) learned
Interdisciplinary research is a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a single discipline or filed of research practice.

...The rationality behind the necessity of an interdisciplinary approach to problems is simply that problems in general are not ordered according to the scientific disciplines...

(D. Barković 2010:952)
<table>
<thead>
<tr>
<th>Participants/discipline</th>
<th>Problem definition</th>
<th>Research style</th>
<th>Presentation of findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multidisciplinary</td>
<td>Two or more disciplines</td>
<td>Same question but different paradigm OR different but related questions</td>
<td>“Parallel play” Combines rather than integrates different expertises</td>
</tr>
<tr>
<td>Interdisciplinary</td>
<td>Two or more distinct academic fields</td>
<td>Described/defined in language of at least two fields, using multiple models or intersecting models</td>
<td>Drawn from more than one, with multiple data sources and varying analysis of same data, Some integration demonstrated</td>
</tr>
<tr>
<td>Transdisciplinary</td>
<td>Two or more distinct academic fields</td>
<td>Stated in new language or theory that is broader than any one discipline</td>
<td>Fully synthesized methods and ideas, which may result in creation of new conceptual frameworks</td>
</tr>
</tbody>
</table>

Adapted from Aboelela et al. (2007).

Source: Phoenix et al 2012
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The issues of interdisciplinary in marine management

Lesson (to be) learned
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Lesson (to be) learned

Geographical context

Marine management for whose benefits?
• Ecosystem services

Stakeholders
• National, state, district, local levels, international
• Government agencies, private sector, communities, industry, universities
• Political regime, rules and regulations, cultural practice and mainstream influence
• Funding, enforcement, implementation, scientific research, outreach
• Malaysia has a total coastline of 4,675 km (Peninsular Malaysia- 2,068 km, East Malaysia- 2,607 km)
• History of marine park establishment in Malaysia

• High biodiversity (252 species of hard coral and 350 species of fishes)
• Kudat-Banggi Priority Conservation area
• Sulu-Sulawesi Marine Ecoregion
• Only water gazetted
Protecting such a large area requires a collaborative approach, explains Jomitol. “It is a special park because this is the first park that’s [been designated] multi-use. [There are] more than 80,000 people living on the coastline dependent on the marine resources so we cannot simply close the park. We must take into consideration the livelihoods of these people.”

The multi-use model breaks the park into zones to restrict fishing activity and allow reef regeneration; some are for community fishing, others commercial, and some are designated as completely off limits.

But introducing limits on fishing for communities of subsistence fishermen creates problems if the objectives are not fully understood. Multiple sources confirm the marine park is still a source of contention and estimate that around half the population are for, half against, splitting some communities down the middle.

Despite these successes, the logistics of informing and correcting misconceptions across 1 million hectares and over 80,000 people present a challenge to the WWF.

British owner of eco-guesthouse Tampat Do Aman, Howard Stanton, thinks it’s an information issue, “Different groups as a whole could do a lot more to listen and explain. They need to get onboard because, if they say no, it’s their back garden. It’s just gonna end up a right mess again.”

Stanton empathizes with local villagers who don’t understand why their fishing is being restricted. “It’s their livelihood, that’s their food. You tell a local fella, ‘Your families have been fishing in these local areas for the past 200-odd years and now [you] can’t go there. [They’ll be] frightened of the authoritarianism of what could happen. You’ve got to feed your kids.”

Source: Ben Blackledge, July 17, 2018, The Diplomat
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Lesson (to be) learned

Sciences
- Anthropology
- Environmental economics
- Fisheries
- Marine ecology
- Natural resource governance
- Public health
- Tourism
- Applied geography
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Lesson (to be) learned

Approach to research
Different languages of communication
Understanding and respecting each other

It takes (longer) time
*It is often said that personality can be a more significant factor than discipline base and interdisciplinary collaborations need to be based on trust and knowledge of collaborating partners.* (D. Barković 2010: 958)

Research capacity building
Provide integrated solutions to marine planning
Building capacity for sustainable interactions with marine ecosystems for the benefit of the health, well-being, food security and livelihoods of coastal communities in East and Southeast Asia.