INTRODUCTION

• Over 7,150 islands divided into Luzon, Visayas, and Mindanao

• Greatest number of fish species within world’s most marine diverse area- the Indo-Malay Philippines archipelago
COASTAL ISSUES
PUBLIC SUPPORT FOR FISHERIES MANAGEMENT AND POLICIES

- Effectiveness of policies constrained by community acceptance and support
- Marine Protected Areas (MPAs) are a set of policies for fisheries management
- MPA success depends on governance and strong community-involvement
- Successful fishery policies & management are site-specific with tangible benefits
RESEARCH QUESTION

What predicts public support for Fishery policies?
CO-MANAGEMENT
To achieve public support, tangible benefits must be acquired through increased fish catch abundance
HYPOTHESES

H₁ Basic perceptions about fisheries management are influenced by:
  • co-management
  • support for fishery policies
  • perceived increase of fish catch

H₂ Perceptions about co-management and fish catch will predict public support for fishing policies and initiatives

H₃ The relative influence of co-management and increase of fish catch will differ among municipalities.
Research Sites in Southern Cebu, Philippines
METHODS

Sampling Design
• onsite surveys through face to face interviews in Cebuano

• $n = 511$
  Oslob  ($n = 279$)
  Santander ($n = 139$)
  Samboan  ($n = 87$)

• To avoid social desirability bias, community members conducted interviews
SURVEY VARIABLES

PERCEPTIONS OF FISHERIES MANAGEMENT

• The community’s opinions are taken into consideration by the local government during management decisions concerning MPAs.

• My fish catch has increased since the establishment of the MPA.

• One must register fishing gear with the municipality.

Variables coded on a five-point response scale ranging from “strongly agree” (1) to “strongly disagree” (5).
ANALYSIS

• Exploratory Factor Analysis (EFA)
• Confirmatory Factory Analysis (CFA)
• Reliability Coefficients
• Structural Equation Path Analysis (SEM)
RESULTS
Table 1. Items Measuring Perceptions on co-management, fish catch, and support for Fishery Policies.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Standardized factor loading</th>
<th>SE</th>
<th>t–value</th>
<th>Cronbach alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Co-management Perceptions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisher Organizations should manage their MPA</td>
<td>.54</td>
<td>.05</td>
<td>11.54</td>
<td>.67</td>
</tr>
<tr>
<td>MPA regulations must be planned by the counselors of the municipality</td>
<td>.74</td>
<td>.05</td>
<td>16.18</td>
<td></td>
</tr>
<tr>
<td>The community’s opinions are taken into consideration for MPA management</td>
<td>.65</td>
<td>.05</td>
<td>14.09</td>
<td></td>
</tr>
<tr>
<td><strong>Support for Fishery Policies</strong></td>
<td></td>
<td></td>
<td></td>
<td>.69</td>
</tr>
<tr>
<td>One must register fishing gear with the municipality</td>
<td>.72</td>
<td>.07</td>
<td>13.09</td>
<td></td>
</tr>
<tr>
<td>There should be regulations on fish gear</td>
<td>.74</td>
<td>.06</td>
<td>10.47</td>
<td></td>
</tr>
<tr>
<td>Fishing permits should be given to non-resident fishers</td>
<td>.53</td>
<td>.07</td>
<td>10.30</td>
<td></td>
</tr>
<tr>
<td><strong>Perceptions of Increased Fish Catch</strong></td>
<td></td>
<td></td>
<td></td>
<td>.92</td>
</tr>
<tr>
<td>My fish catch has increased in immediate area of MPAs</td>
<td>.83</td>
<td>.04</td>
<td>20.48</td>
<td></td>
</tr>
<tr>
<td>The MPA is the main reason why my fish catch has increased</td>
<td>.77</td>
<td>.05</td>
<td>18.62</td>
<td></td>
</tr>
<tr>
<td>Fish populations have increased since the MPA establishment</td>
<td>.92</td>
<td>.04</td>
<td>23.39</td>
<td></td>
</tr>
</tbody>
</table>
OVERALL FISHERIES MANAGEMENT MODEL

Co-management

Perceived increase of fish catch since MPA

Support for Fishing policies

R² = .59

Χ² = 34  p - value = .07  RMSEA = 0.03
NFI = .989 CFI = .996 GFI = .985 RMR = .04

* indicates significance at  p < .001
A model predicting public support for fishery policies in Oslob. Asterisk indicates significance at $p < .001$. 

$R^2 = .50$

$\chi^2 = 44.76$  $p$ - value = .004  RMSEA = 0.058

Co-management

Perceived increase of fish catch since MPA

Support for Fishing policies

.52*

.32*
A model predicting public support for fishery policies in Santander. Asterisk indicates significance at $p < .001$. 

$X^2 = 49.09$  \( p \)-value = .001  \( \text{RMSEA} = 0.09 \)
A model predicting public support for fishery policies in Samboan. Asterisk indicates significance at $p < .001$. 

$X^2 = 65.44$  $p$ – value < .001  RMSEA = 0.146
SUMMARY

H₁ Basic perceptions about fisheries management are influenced by:
  • co-management
  • support for fishery policies
  • perceived increase of fish catch

  SUPPORTED

H₂ Perceptions about co-management and fish catch will predict public support for fishing policies and initiatives

  SUPPORTED

H₃ The relative influence of co-management and increase of fish catch will differ among municipalities.

  SUPPORTED
CONCLUSIONS

• Perceptions of MPA co-management and fish catch predicted public support for fishery policies

• Useful in planning and prioritizing management initiatives

• Important for local governments for extending fisheries management beyond MPA borders
FUTURE STUDIES

• Segmenting stakeholders into meaningful sub-groups.

• Cognitive Hierarchy into management (Vaske & Donnelly, 1999).

• Integrating relationships and accountability in coastal law enforcement (Allegretti, 2012).