A FRAMEWORK OF INSTITUTIONAL ANALYSIS TOWARDS AN EFFECTIVE MARINE SPATIAL PLANNING PRACTICE

By:
Muhammad Hafiz bin Mohd Yatim

Supervisors:
Dr. Abdullah Hisam Omar
Dr. Nazirah Mohamad Abdullah

Faculty of Built Environment and Surveying (FABU),
Universiti Teknologi Malaysia (UTM),
81310 Skudai, Johor, Malaysia.
Contents

1. Introduction.
2. Problem statements.
3. Objectives.
4. Scope of Research.
5. Literature Review.
6. Research Methodology.
7. Results and Discussions.
8. Conclusion and Future Work
MARINE SPATIAL PLANNING IN MALAYSIA

• Critical need to effectively and sustainably manage for Malaysia marine territory → study on developing a marine plan to strive for effective governance of the marine spaces.

• The priority is due to the undefined marine jurisdictions among marine institutions presently (Abdullah et al., 2014; Omar et al., 2015).

• Undefined marine jurisdictions → caused by the difficulty to determine the institutional territory of the marine spaces.

• The importance to propose the marine policies towards the integration of marine and terrestrial spatial plan (Binns, 2004; Tsamenyi & Kenchington, 2012; Mills et al., 2015)
Need for the Framework of Institutional Analysis and Development in Marine Spatial Planning Practice

Impact

Lacking: Malaysia Marine Spatial Plan

Factor

Technical

Institutional

Legal

Problem

Overlapping Roles among Marine Institutions

Redundancies of Marine Spatial Information

Need for the Framework of Institutional Analysis and Development in Marine Spatial Planning Practice

Solutions

EFFECTIVE GOVERNANCE TOWARDS AN EFFECTIVE MARINE SPATIAL PLANNING PRACTICE
<table>
<thead>
<tr>
<th>Author</th>
<th>Study Area</th>
<th>Main Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teo and Fauzi (2006)</td>
<td>Malaysia</td>
<td>- Land administration system that operated as separate entities from their marine administration system.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Conflicts among stakeholders</td>
</tr>
<tr>
<td>Sutherland and Nichols (2006)</td>
<td>Australia</td>
<td>- Lack of appropriate information for traditional governance practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Conflict among stakeholders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Lack of coordination among stakeholders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Lack of cooperation among stakeholders</td>
</tr>
<tr>
<td>Strain et al. (2006)</td>
<td>Australia</td>
<td>- Lack of marine space management</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Conflicts among stakeholders</td>
</tr>
<tr>
<td>Abdulharis et al. (2008)</td>
<td>Indonesia</td>
<td>- Overlapping with others jurisdictions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Conflicts of interests among stakeholders</td>
</tr>
<tr>
<td>Mwanahija et al. (2012)</td>
<td>Tanzania</td>
<td>- Land administration system and marine administration system operate as separate entities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Causing confusion and a lack of management</td>
</tr>
<tr>
<td>Tuda et al. (2013)</td>
<td>Kenya</td>
<td>- Conflicts of interests among stakeholders</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Overlapping coastal uses</td>
</tr>
<tr>
<td>Heffernan (2015)</td>
<td>Ireland</td>
<td>- Benefits of stakeholder participation</td>
</tr>
<tr>
<td>Tarmidi et al. (2015)</td>
<td>Malaysia</td>
<td>- Lack of communication and cooperation within and between stakeholders</td>
</tr>
</tbody>
</table>
Problem Statement

Overlapping Roles among Marine Institutions

- Growing activities → to have a mechanism to plan, control etc.
- Effective spatial plan on the institutional behaviours for Malaysia MSP.

Redundancies of Marine Spatial Information

- Silo data and environment
- Time consuming & costly

Need for the Framework of Institutional Analysis and Development in Marine Spatial Planning Practice

- Able to communicate and work together in an integrated way as a team.
- The integration is to fill the gap of establishing the marine policy for the institutions.
## Research Aim & Objectives

### AIM

The aim of this research is to develop a framework of institutional analysis for an effective marine spatial planning practice in Malaysia.

### OBJECTIVES

1. To identify and analyse the major components that lead into effective marine spatial planning practice in Malaysia.

2. To examine the institutional behaviour among the marine spatial planning committees in Malaysia.

3. To develop the Malaysia Framework of Institutional Analysis towards the Effective Marine Spatial Planning practice and validate the effectiveness’s reliability and applicability.
Scope of Research

- The respondents were chosen from the committee members’ that involve in development of Semporna Marine Spatial Planning (MSP).
- Technical Committee was selected to be the respondents for identifying the effectiveness components for MSP practice.
- Implementer Committee for analyzing the institutional behavior based on rules applying for Institutional Analysis & Development (IAD) framework.
- The method used mixed method; questionnaire for objective 1 & 3, telephone interview for objective 2.
- This study used questionnaire method to validate the output of the study.
Literature Review

Effective Governance of Marine Spatial Planning

Institutional Analysis (IAD) Framework
What makes MSP effective?

Effective managerial is an evaluation criterion that reflect the management actions towards the achievement of the desired goals, objectives, and outcomes of a management of spatial plan…

Fletcher et al., 2013; Kenchington & Day, 2011; Fletcher et al., 2011; Petruny et al., 2014)
Institutional Analysis and Development Framework

The Action Situations explains on the interaction patterns and organisation behaviours among the institutions.
The concept of rules is defined as the shared understanding among the involved actors who refer to the prescribed action to be achieved (Ostrom, 2011).

### Position Rules
The information on the positions hold by the institutions in an action-situation committee.

### Boundary Rules
Identify the criteria for the institutions to be selected as the committee in spite of the leaving policy and the resources available for the institutions.

### Choice Rules
Identify the task assigned to the institutions based on the position proposed to the institutions. The task reflect on determining the responsibilities, rights, and freedom.

### Aggregation Rules
Decide on how the decision made by the institutions as well as the person in charge selection and the limit of the legislation can be contributed among the committee.

### Scope Rules
Determine the outcomes that may be based from the action and task assigned to the institutions.

### Information Rules
Determine the information that can be shared and distribute to the committee as well as the communication channel available among the institutions.

### Payoff Rules
Highlight on the benefit-loss or the advantages/penalties that is effecting the decision and action set by the institutions.
Objective 2: To examine the organizational behaviour among the marine spatial planning committee in Malaysia;
Research Design

To achieve the best approach, the IAD framework needs to be modified and emerge with other disciplines (KoUn Kim, 2012; Ostrom, 2010b; Smajgl et al., 2009; Aligica, 2006a; Ternstrom, 2003; Pethe et al., 2012 and Rahman et al., 2012).

Modified IAD Framework

External Variables

- Biophysical conditions of marine spatial planning practice.
- Attribute of community:
  - Actors and activities of marine spatial planning.
- Rules in use:
  - Operational Rules
- Effectiveness Governance of marine spatial planning in Semporna

Action Situations

Interactions

Outcomes
List of Respondents

While federal and/or state government agencies were part of the planning process for all MSPs, the level of participation of entities outside of government varied among plans (Collie et al., 2013).

Stage 1

Jawatankuasa Teknikal (Management Group) – Technical Officers

1. Pejabat Daerah Semporna
2. Jabatan Perancang Bandar dan Wilayah
3. Jabatan Perikanan daerah Semporna
4. Taman-Taman Sabah daerah Semporna
5. Kementerian Pelancongan, Kebudayaan dan Alam Sekitar
6. Keselamatan(ESSCOM, APMM, Polis Marin)
7. Jabatan Perhutanan Semporna
8. UMS
9. LKIM
10. Ko-Nelayan
11. Jabatan Kesihatan Semporna
12. Jabatan Pelajaran Semporna
13. Persatuan Nelayan daerah Semporna
14. Persatuan Pengusaha Pelancongan daerah Semporna
15. Majlis Daerah Semporna
16. Pertubuhan Peladang kawasan Semporna
17. RELA daerah Semporna
18. ADUN

Source: WWF-Malaysia & TRPD Sabah

Stage 2

Jawatankuasa Badan Pelaksana (SMSP committee) – Technical Team (which is refer to the main thematic sector)

- Kebudayaan dan Warisan - Kolej Komuniti Semporna, Muzium Sabah
- Konservasi dan Biodiversiti - WWF-Malaysia, Jabatan Hidupan Liar Sabah
- Marikultur - Petubuhan Peladang Semporna
- Perikanan - Jabatan Perikanan daerah Semporna, Persatuan Nelayan daerah Semporna
- Pelancongan - Taman-Taman Sabah daerah Semporna, Majlis Daerah Semporna

Source: WWF-Malaysia & TRPD Sabah
# The First Sabah State Conference on Marine Spatial Planning

## Introduction

### Problem statements

### Objectives

### Scope of Research

## Literature Review

### Research Methodology

### Results and discussions

### Conclusions and Future Work

## Current Position

| Management Group (Grade of 41 and above) | 30 | 66.7 |
| Implementer Group (Grade 38 and below)  | 15 | 33.3 |

## Main field of the institution

<table>
<thead>
<tr>
<th>Port</th>
<th>2</th>
<th>4.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fisheries</td>
<td>3</td>
<td>6.7</td>
</tr>
<tr>
<td>Natural Resources</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td>Forestry / Wildlife</td>
<td>4</td>
<td>8.9</td>
</tr>
<tr>
<td>Laws Enforcement</td>
<td>7</td>
<td>15.6</td>
</tr>
<tr>
<td>Tourism</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td>Heritage</td>
<td>1</td>
<td>2.2</td>
</tr>
<tr>
<td>Education</td>
<td>2</td>
<td>4.4</td>
</tr>
<tr>
<td>Others</td>
<td>22</td>
<td>48.9</td>
</tr>
</tbody>
</table>
Results and discussions

Objective 1

To identify and analyse the major components that lead into effective marine spatial planning practice in Malaysia.
## Effective Practice of Marine Spatial Planning in Semporna, Sabah

### Evidence and Uncertainty
- Effective Practice of Semporna MSP: 0.823**

### Learning and Awareness
- Effective Practice of Semporna MSP: 0.833**

### Leadership
- Effective Practice of Semporna MSP: 0.908**

### Communication
- Effective Practice of Semporna MSP: 0.839**

### Land Sea Coordination
- Effective Practice of Semporna MSP: 0.926**

### Analysis of Pearson Correlation

Analysis of Pearson Correlation shown in Table indicates that there are strong relationships between all five component of effective MSP practice.
Additional Effective Component for Semporna MSP

Table 5.24: List of Respondents’ Answers from Open-Ended Questions

<table>
<thead>
<tr>
<th>No.</th>
<th>Respondents Answer</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Waste Management</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Education</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>Safety of the vessels</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Listen to the local</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>Infrastructure</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Balance of local economic sources and ecosystem preservation</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>Focus on tourism</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>Economic component</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>Marine Boundaries</td>
<td>3</td>
</tr>
<tr>
<td>10</td>
<td>Monitoring</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>Community right</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>Bedrock management</td>
<td>1</td>
</tr>
<tr>
<td>13</td>
<td>Geology information involvement</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>39</td>
</tr>
</tbody>
</table>

Additional Effective MSP Components

i) Environmental Preservation 28%
ii) Safety 18%
iii) Economic Development 18%
iv) Community 18%
v) Institutions Involvement 18%
Objective 2

To examine the institutional behaviour among the marine spatial planning committees in Malaysia.
Committee under Semporna MSP

SEMPORNA MARINE SPATIAL PLANNING WORKING COMMITTEE

Steering Committee

1. District Office of Semporna.
2. Town & Regional Planning Department of Sabah.
3. Fisheries Department of Sabah.
4. Sabah Parks.
5. Ministry of Tourism, Culture and Environment.
8. Forestry Department of Sabah.
9. Sabah Ports and Harbour Department.
10. Member of the Legislative Assembly (ADUN).

Technical Committee

1. District Office of Semporna.
2. Town & Regional Planning Department of Sabah.
3. Fisheries Department of Sabah.
4. Sabah Parks.
5. Ministry of Tourism, Culture and Environment.
8. Forestry Department of Sabah.
9. Universiti Malaysia Sabah (UMS).
10. Fisheries Development Authority of Malaysia (LKIM).
12. Semporna Health Department.
13. Board of education of Semporna.
15. Association of Tour Operators Semporna.
16. Member of the Legislative Assembly (ADUN).
17. The People's Volunteer Corps of Semporna (RELA).
19. Farmers' Organization Authority of Semporna.

Implementer Committee

1. CULTURE & HERITAGE PLAN
   - Community College Semporna.
   - Sabah Museum
2. CONSERVATION BIODIVERSITY
   - Sabah Wildlife Department
   - WWF-Malaysia
3. MARICULTURE
   - Farmers' Organization Authority of Semporna
4. FISHERIES
   - Fisheries Department of Semporna District
5. TOURISM
   - Sabah Parks
   - Semporna District Council
Implementer Committee of Semporna MSP

- Community College Semporna
- Sabah Museum
- WWF-Malaysia
- Sabah Wildlife Department
- Farmers' Organization Authority of Semporna
- Fisheries Department of Semporna District
- Fisheries
- Conservation Biodiversity Plan
- Tourism
- Culture & Heritage Plan

Proposed Implementer Plans for Semporna MSP
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Semporna</td>
<td>Community College</td>
<td>- Academic institution that actively involves with marine preservation programmes.</td>
<td>- Culture &amp; Heritage</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>- Educating the community, especially the students on protecting and conserving the nature.</td>
</tr>
<tr>
<td>Culture &amp; Heritage</td>
<td>Sabah Museum</td>
<td>- The institutions hold a broad interpretation of Sabah unique heritage.</td>
<td>- Enakmen Barang-barang Kuno dan Harta Karun 1977.</td>
<td>- Enakmen Warisan Negeri 2017</td>
<td>- The information provided is on the heritage sites of Sabah.</td>
<td>- Few sites that have been gazetted as the heritage sites of Sabah; bangunan Pejabat Pos Lama Kota Kinabalu, Padang Merdeka Kota Kinabalu, Tugu Kota Mat Salleh Tambunan, and Tapak Arkeologi Bukit Tengkorak Semporna.</td>
<td>- Introducing the history and culture of Semporna.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- The process of gazetting the heritage sites will be easier.</td>
<td></td>
<td>- To simplify the gazette procedures of the heritage sites suggested by the District Tourism Committee.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- To have a systematic governance of heritage sites in Sabah.</td>
</tr>
<tr>
<td>Conservation Biodiversity</td>
<td>Sabah Wildlife Department</td>
<td>- The institution is responsible for the efforts of Conservation Enforcement of Wildlife.</td>
<td>Conservation Biodiversity</td>
<td>Sabah Wildlife Conservation Enactment 1997</td>
<td>- The information provided is about the turtle conservation area.</td>
<td>- Be involved with Committee of Turtle Management Body (TMB) District of Semporna.</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------------</td>
<td>---------------------------</td>
<td>---------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>WWF-Malaysia</td>
<td>- Focused on scientific research of wildlife and cover the broader issues</td>
<td>Conservation Biodiversity</td>
<td>-</td>
<td>-</td>
<td>- Collaborate with WWF-Malaysia to do research on turtle under the Priority Conservation Area (Semporna).</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Be involved with WWF-Malaysia, Women Organisation Pulau Omadal (WAPO) and other organisations on turtle conservation and other endangered species.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>To protect Malaysia’s natural environment through our various conservation programmes.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- The plan on the turtle and shark preservation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Farmer</strong></td>
<td>of the natural environment, incorporating such aspects as policy work, environmental education, public awareness and campaigns.</td>
<td>- Mariculture</td>
<td>- The information provided is the location of seaweed cultivation in Sabah.</td>
<td>- To protect and preserve the ecosystem together with seaweed plantation in Semporna.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>----------------------------------------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>---------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Semporna</td>
<td>- The institution plays an assisting role in implementing a balanced development in the programme and projects to eradicate poverty and restructuring of people.</td>
<td>Mariculture</td>
<td>- The institution provides the plan for the TRPD for further action of the plan.</td>
<td>- The format provided is in shapefile (.shp) format and scanned map.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Fisheries</strong></td>
<td><strong>National Development Policy.</strong></td>
<td><strong>Fisheries</strong></td>
<td><strong>Fisheries Act 1985</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------</td>
<td>---------------</td>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fisheries Department of Semporna District</td>
<td>- It leads to the transformation of a sustainable and competitive fishery.</td>
<td>- Fisheries</td>
<td>- The information provided by the institution is on fisheries activities, cage fish farming, seaweed farming, and coral reef farming.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- The information was supplied to the central institution to integrate the data.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- The format of data supplied is in shapefile format as well as the scanned map of fisheries location.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Managing the fishermen and aquaculture activities in Semporna.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Tourism</strong></th>
<th><strong>Parks in Sabah have been the main attraction and tourism hotspots.</strong></th>
<th><strong>Tourism</strong></th>
<th><strong>National Heritage Act 2005</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sabah Parks</td>
<td>- Parks in Sabah have been the main attraction and tourism hotspots.</td>
<td>- Tourism</td>
<td>- The information provided the location of Sabah recreational parks.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- To preserve the environment as a whole especially for the parks.</td>
</tr>
<tr>
<td>Sabah District Council</td>
<td>- The institution is responsible for tax collection, development planning, preparing the necessities, and offering the public services to the locals.</td>
<td>- Tourism</td>
<td>- The information provided includes the location of development area around Sabah.</td>
</tr>
</tbody>
</table>
Objective 3

To develop the Malaysia Framework of Institutional Analysis towards the Effective Marine Spatial Planning practice and validate the effectiveness’s reliability and applicability.
| No. | Name of Experts                          | Position                                      | Department                                                           | Years of Experience with marine governance |
|-----|------------------------------------------|-----------------------------------------------|                                                                     |---------------------------------------------|
| 1   | Profesor Dr. Wan Izatul Asma Bt Wan Talaat | Head of Research Program, Ocean Governance.  | Universiti Malaysia Terengganu (UMT)                               | 18 years                                    |
| 2   | Dr. Ashraf Bin Abdullah                  | Senior Lecturer                               | Uitm Arau, Perlis                                                  | 13 years                                    |
| 3   | Dr. Ir. Rizqi Abdul Haris                | Senior Lecturer                               | Institut Teknologi Bandung (ITB)                                   | 10 years                                    |
| 4   | Ir. Chan Keat Lim                        | Director of Survey                            | Survey and Mapping Department of Malaysia (JUPEM)                  | 31 years                                    |
| 5   | Mohd Khaizal bin Maa'rip                 | Deputy Director                               | Plan Malaysia Pulau Pinang                                          | 15 years                                    |
The framework of institutional behavior towards an effective marine spatial planning practice in Malaysia
<table>
<thead>
<tr>
<th>Literature Review</th>
<th>Problem statements</th>
<th>Objectives</th>
<th>Scope of Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>comprehensive study on the marine space stakeholder governance development</td>
<td>Platform to solve the conflict area</td>
<td>Successfully filled these gaps in the available literature concerning the real issues</td>
<td>Conclusions and Future Work</td>
</tr>
<tr>
<td>Research Contributions</td>
<td>Foundation towards the establishment of Malaysia marine spatial governance.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Foundation for the establishment of National Marine Planning Council.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Development of Effective Malaysia Marine Spatial Planning framework, taking into account the institutional analysis Rules-In-Use</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Future Work

Additional component proposed by the respondents which is Environmental Preservation which is concerned with the waste management in Semporna.

Analysis can be extended towards Constitutional which involves Steering Committee decision-making for the approval of plans developed in the Operational Level and Collective-Choice Level.
Novelty

➢ The research on marine spatial planning had been conducted over decades before and none of the research had been integrated with Institutional Analysis & Development (IAD) framework.

➢ The importance to integrate with framework is to study the institutional behaviour that lead towards policy formation.

➢ The method used in the research is based on mixed method approach to gain perspective from different best angle from the respondents. Research by Baiju (2013) that integrate IAD framework into fisheries management and he only use qualitative method.
Thank you