ROLE AND CONTRIBUTION OF MEN AND WOMEN IN MANGROVE REHABILITATION IN REGION VI, PHILIPPINES

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Introduction

Mangrove state in the country

Decline of mangrove resource in the Philippines

- 450,000 ha in 1918
- 288,000 ha in 1970
- 175,000 ha in 1980
- 140,000 ha in 1988
- 138,000 ha in 1993

If the reduction of mangroves continues at the post-1980 rate, there will be less than 100,000 hectares left in the year 2030.
Mangrove state in **Region VI – Western Visayas**

- Western Visayas (including Panay Island), with ~**61,900 hectares (ha)** of brackish-water ponds (fish and shrimp), is one of the **most extensively converted areas** in the Philippines.

- Mangrove habitats in the region were once profuse with **49,000 ha of forest in 1951**. In December 2008, only **6,687 ha** remained.
Mangrove Areas with natural stand by Province as of December 2008

Total Mangrove Area: 6,687.3768 ha

- Aklan – 447.0000 ha
- Antique – 570.0000 ha
- Iloilo – 1,530.0000 ha
- Guimaras – 822.0000 ha
- Capiz – 896.6000 ha
- Negros Occidental – 2,453.3768 ha

Source: DENR 6 Annual Report, 2008
Timeline: Mangrove rehabilitation efforts in the Philippines

Year | Important events
---|---
100 yrs ago | *Rhizophora sp.* and nipa planted around Manila Bay – traps sediment
1930s-1960s | Local communities started planting in Negros and Bohol for wood supply and typhoon protection
1976 | National Mangrove Committee formed/ mandated – design comprehensive mangrove program
1980 | 1st National Forestation Program – 4,560 ha in Marungas Sulu
1984 | 1st mangrove project with international development assistance of the World Bank is the Central Visayas Regional Project
1985 - 1998 | Mangrove projects in Panggangan Island, Bohol; Banacon island, Bohol; Bani, Pangasinan; New Buswang, Aklan; Fishery Sector Program (JBIC, ADB and OECF)
2000-to date | Community-based mangrove rehabilitation projects
Why the research

• Most of the evaluation/documentation of mangrove rehabilitation efforts focused on the biological aspect
• Inadequate documentation on the role played by human resource input in the success or failure of mangrove reforestation efforts.
• Lack of understanding on the roles and contribution played by women and men in mangrove rehabilitation efforts
The research

- Focused on the role and contribution of men and women in mangrove rehabilitation using as cases the six sites in four provinces of Region VI covered by the Community-based Mangrove Rehabilitation Program of the Zoological Society of London in Region VI.
Mangrove Reforestation in Region VI and the Zoological Society of London

- a NGO based in the United Kingdom

Mission

To achieve and promote the worldwide conservation of animals and their habitats

- Established in 1826
- Runs two animal visitor attractions – London Zoo and Whipsnade Wild Animal Park
- Opened the first Aquarium in the world in 1831
- Conducts field conservation work all over the world
- Institute of Zoology is a centre for conservation research
Community-based Mangrove Rehabilitation Program

• 4-years project, 2008 – 2012

• **Project goals:**
  – To **secure tenure** on coastal land through Community-based Forest Management Agreements;
  – To **rehabilitate abandoned, unutilized and underutilized** government-leased **fishponds** back to healthy mangrove habitat
  – to **provide communities with ecosystem goods and services** including increased food resources;
  – To support coastal communities to **supplement** their **livelihoods** utilising rehabilitated mangrove habitats;
  – To **re-establish the legally mandated mangrove ‘greenbelt’** along the coast, to decrease vulnerability of the communities to coastal erosion and storm surges

[ZSL] [LOTTERY FUNDED]
• **Project strategies**
  
  – **Equal opportunities for men and women**
  – **Active community participation**
  – Influencing opinion
  – Capacity building
  – Building alliances, collaboration and networking
• Project partners
  – Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFAR)
  – Department of Environment and Natural Resources (DENR)
  – Local Government Units (LGUs)
  – Peoples Organisations (POs)
  – Fishpond Operators
  – Academe
ZSL - CMRP Sites

Capiz
1. Buntod, Panay
2. Balaring, Ivisan

Aklan
3. Bugtongbato-Naisud, Ibajay- PO

Iloilo
4. Culasi, Ajuy
5. Pedada, Ajuy
6. Nabitasan, Leganes
7. Ermita, Dumangas

Guimaras
8. Dolores, Nueva Valencia
### Basic information on the study areas

<table>
<thead>
<tr>
<th>Basic information</th>
<th>Buntod</th>
<th>Balaring</th>
<th>Naisud</th>
<th>Bugtong bato</th>
<th>Pedada</th>
<th>Dolores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land area (hectares)</td>
<td>222</td>
<td>500</td>
<td>904</td>
<td>181</td>
<td>269</td>
<td>421</td>
</tr>
<tr>
<td>Population</td>
<td>724</td>
<td>1,672</td>
<td>2,624</td>
<td>1,221</td>
<td>1,285</td>
<td>2,055</td>
</tr>
<tr>
<td>Project intervention of ZSL</td>
<td>Enhance-ment of MG GB</td>
<td>Establish-ment of MG GB</td>
<td>Mangrove protection and ecotourism</td>
<td>Establish-ment of MG GB</td>
<td>Rehabilitation of FLA pond</td>
<td></td>
</tr>
<tr>
<td># of years of ZSL presence</td>
<td>1 yr, 8 mo</td>
<td>1 yr, 8 mo</td>
<td>1 yr, 11 mo</td>
<td>1 yr, 10 mo</td>
<td>1 yr, 10 mo</td>
<td></td>
</tr>
<tr>
<td>Target MG planting / protection area (hectares)</td>
<td>15</td>
<td>8</td>
<td>44.22</td>
<td>29.5</td>
<td>6.5</td>
<td></td>
</tr>
<tr>
<td>With PO</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of PO members</td>
<td>61</td>
<td>34</td>
<td>88</td>
<td>152</td>
<td>204</td>
<td>46</td>
</tr>
</tbody>
</table>

**Total: 103.22 ha**  
**Total: 585**

GB – greenbelt  
MG - mangrove  
PO – people’s organization
Data collection methods

- Project data (available with ZSL-CMRP)
- Key Informant Interviews
- Socio-economic data (available with ZSL-CMRP) – gathered through FGDs and HH surveys
## Basic information on the participants

<table>
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<tr>
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<th>Dolores</th>
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</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td><strong>Age (mean)</strong></td>
<td>48</td>
<td>59</td>
<td>47</td>
<td>50</td>
<td>47</td>
<td>47</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>EL</td>
<td>EL</td>
<td>EL</td>
<td>HS</td>
<td>EL</td>
<td>EL</td>
</tr>
<tr>
<td><strong>Main source of livelihood</strong></td>
<td>Fish</td>
<td>Fish</td>
<td>Fish</td>
<td>V, F, Handi</td>
<td>F, NS</td>
<td>Fish</td>
</tr>
<tr>
<td><strong>Mean Mo. Income</strong></td>
<td>4,500 (104)</td>
<td>2,300 (53)</td>
<td>5,000 (115)</td>
<td>2,900 (67)</td>
<td>5,000 (115)</td>
<td>6,954 (161)</td>
</tr>
</tbody>
</table>

**F-** farming  
**FV –** fish vending  
**Handi -** handicraft  
**DM –** dressmaking  
**L-** laborer  
**H-** honorarium as barangay official  
**EL –** elementary  
**HS –** high school graduate  
**NS –** nipa shingles
### Basic information on the participants

<table>
<thead>
<tr>
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<th>Pedada</th>
<th>Dolores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Membership</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Age (mean)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Fish</td>
</tr>
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<td>Mean Mo. Income (PhP, USD)</td>
<td>4,500 (104)</td>
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<td>5,000 (115)</td>
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</tbody>
</table>

F- farming  
SG – shell gleaning  
Fish – fishing  
L- laborer  
NS – nipa shingles

FV – fish vending  
Handi - handicraft  
DM – dressmaking  
H- honorarium as barangay official  
EL – elementary  
HS – high school graduate
## Profile of men and women participation in major capacity building activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Buntod</th>
<th>Balaring</th>
<th>Naisud</th>
<th>Bugtong bato</th>
<th>Pedada</th>
<th>Dolores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>Executive officers/leaders</td>
<td>0</td>
<td>12</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Mangrove ecology training</td>
<td>5</td>
<td>10</td>
<td>20</td>
<td>4</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Leadership training</td>
<td>3</td>
<td>7</td>
<td>5</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
</tr>
<tr>
<td>F</td>
</tr>
</tbody>
</table>
Profile summary

- Membership:
  - Male: 315
  - Female: 270

- Leaders:
  - Male: 47
  - Female: 32

- Mangrove ecology:
  - Male: 63
  - Female: 32

- Leadership training:
  - Male: 48
  - Female: 40
### Profile of men and women participation in mangrove rehabilitation activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Buntod</th>
<th>Balaring</th>
<th>Naisud</th>
<th>Bugtong bato</th>
<th>Pedada</th>
<th>Dolores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local mangrove monitoring team</td>
<td>M: 0</td>
<td>M: 2</td>
<td>M: 2</td>
<td>M: 6</td>
<td>M: 6</td>
<td>M: 5</td>
</tr>
<tr>
<td></td>
<td>F: 15</td>
<td>F: 3</td>
<td>F: 3</td>
<td>F: 2</td>
<td>F: 2</td>
<td>F: 3</td>
</tr>
<tr>
<td></td>
<td>F: 7</td>
<td>F: 3</td>
<td>F: 0</td>
<td>F: 0</td>
<td>F: 0</td>
<td>F: 4</td>
</tr>
<tr>
<td></td>
<td>F: 44</td>
<td>F: 89</td>
<td>F: 89</td>
<td>F: 20</td>
<td>F: 19</td>
<td>F: 11</td>
</tr>
<tr>
<td>Includes other stakeholders and not just the members of the PO</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>F: 273</td>
<td>F: 87</td>
<td>F: 87</td>
<td>F: 64</td>
<td>F: 122</td>
<td>F: 82</td>
</tr>
</tbody>
</table>
**Profile summary**

- Local monitoring team: Male 13, Female 23
- Bantay Gubat: Male 40, Female 14

- Nursery management: Male 182, Female 182
- Mangrove out planting: Male 675, Female 686

*Includes other stakeholders and not just the members of the PO*
Entry to the mangrove rehabilitation efforts

• Organization of POs
  • External agencies started the four organization and strengthened under CMRP-ZSL in 2009
    • Buntod Katibyugan was organized by World Vision in 2000 for child sponsorship program
    • Barangay Pedada Fisherfolk Association (BPFA) was organized in 2003 as a requirement to a livelihood project from the LGU
    • Katilingban sang mga Magagmay nga Mangasingisa sa Dolores (KAMAMADO) was organized in 1997, an all men organization of fishers
    • Bugtongbato Fisherfolk Association (BFA) was organized by the Barangay LGU in 2008 however it was in 2009 that the organization was registered with DOLE through ZSL’s assistance
Entry to the mangrove rehabilitation efforts

- Two POs started with an all-female members

<table>
<thead>
<tr>
<th>Naisud</th>
<th>Buntod</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Naisud Mangrove and Aquatic Organization (NAMAO) was organized by ZSL in 2009</td>
<td></td>
</tr>
<tr>
<td>• At the time of organizational formation more women were present, hence their number is more than men. It was said that the men were out in the sea fishing or outside of the home earning a living.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Buntod Katibyugan was organized by World Vision in 2000 for child sponsorship program</td>
</tr>
<tr>
<td></td>
<td>• 99% of members are women (at the start, only 1 male member)</td>
</tr>
<tr>
<td></td>
<td>• Engaged with DENR in 2004 for a mangrove contract growing project (3 years for 22 hectares reforestation area)</td>
</tr>
<tr>
<td></td>
<td>• Identified as PO partner by ZSL CMRP in 2009</td>
</tr>
<tr>
<td></td>
<td>• Started inviting men to become members after re-organization in 2009</td>
</tr>
</tbody>
</table>
Entry to the mangrove rehabilitation efforts

- Two POs started with an all-male members

<table>
<thead>
<tr>
<th>Balaring</th>
<th>Bugtongbato</th>
</tr>
</thead>
<tbody>
<tr>
<td>• New Balaring Mangrove Association (NewBAMA) was organized in April 2009 by ZSL</td>
<td></td>
</tr>
<tr>
<td>• Bgy Captain initiated formation of the core group of 19 people composed of BHWs and Tanods (more men members; the majority were men barangay officials)</td>
<td></td>
</tr>
<tr>
<td>• Membership of the men was short lived; women members stayed with the organization, was observed to have good camaraderie and enjoy planting activity</td>
<td></td>
</tr>
<tr>
<td>• Bugtongbato Fisherfolk Association (BFA) was organized by the Barangay LGU in 2008. In 2009, the organization was registered with DOLE through ZSL’s assistance</td>
<td></td>
</tr>
<tr>
<td>• Only the men who were engaged in fishing was organized.</td>
<td></td>
</tr>
</tbody>
</table>
Entry to the mangrove rehabilitation efforts

- Two POs started with a mix group

<table>
<thead>
<tr>
<th>Pedada</th>
<th>Dolores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barangay Pedada Fisherfolk Association (BPFA) was organized</td>
<td>Katilingban sang mga Magagmay nga Mangingisda sa Dolores (KAMAMADO) was</td>
</tr>
<tr>
<td>in 2003 as a requirement to a livelihood project from the LGU</td>
<td>organized in 1997, an all men organization of fishers</td>
</tr>
<tr>
<td>Active recruitment - At the start both men and women were</td>
<td>Later, the wives of the fishers were invited when husbands cannot</td>
</tr>
<tr>
<td>invited to participate, hence, the near equal distribution</td>
<td>attend meetings</td>
</tr>
<tr>
<td>of membership</td>
<td>• with ZSL’s influence, KAMAMADO membership was opened to women</td>
</tr>
<tr>
<td>More men were observed occupying top leadership positions</td>
<td>• To date women are highly visible in all activities</td>
</tr>
<tr>
<td>Women act as secretary, treasurer, bookkeeper, auditor</td>
<td></td>
</tr>
</tbody>
</table>
The men in mangrove rehabilitation

Engaged in activities that require physical strength:

• setting up of bamboo poles and binders during area demarcation
• dig holes during planting
• construction of the footwalk
• construction of the breakwater-piling and hauling of rocks from source
The women in mangrove rehabilitation

Engaged in following activities:

• Monitor mangrove growth and survival
• Organize meetings
• Keep records
• Conduct saving mobilization
• Handle funds of organization
• Wives perform activities of husbands when unable to do so while out fishing
Roles for both men and women in mangrove rehabilitation

- Participate in organizational meetings
- Actual planting and replanting activities
- Bagging, driving of the raft during hauling of planting materials,
- Maintenance work such as taking out of algae from newly planted mangroves,
- Attend meetings/activities outside of the site
- Manage the affairs of the organization as elected official
• **Reasons for staying**
  – Passion to plant
  – Payment from the contract growing/ Incentives
  – Understands the importance of mangroves

• **What they like most about work**
  – time to bond
  – able to help the environment
  – feeling of being in a group and contributing to its goals

• **What do they do not like about the work**
  – They get lots of cuts/ wounds in the skin
  – Planting area is muddy, difficult to move
  – They are taken away from their livelihood
Possible reasons for exit

- Livelihood opportunity outside of homebase (better pay, to be able to send children to school, better quality of life for the family)
- Interests not provided/ satisfied with the project (e.g. payment for planting activities)
- Personal disappointment (not chosen by group to participate in seminars and training due to opposing political affiliation)
- Conflict among fellow members
- Delisted from the membership due to non-participation in activities/ non-attendance in meetings
Concluding remarks

• Women and men actively participate in mangrove rehabilitation efforts in all sites.
• Each play a unique role but also share similar other responsibilities
• Women complement and many times substitute the males
• Women play an important role in the operations of their organizations as officials (decision makers), record keepers and managers of funds.
• Women play a crucial role in the success of mangrove rehabilitation because of their role in monitoring the growth of the mangroves and in the overall maintenance of the reforestation project.
Thank You!

Centuries old *Avicennia rumphiana* found inside the mangrove forest of Ibajay, Aklan, Philippines