

# SUBPROJECT COMPLETION REPORT

of

## LAPINIG ISLAND MANGROVE REHABILITATION SUBPROJECT

Forestry Sector Project  
Loan Agreement No. PH-P 135

### **I. Subproject Description**

The Subproject is located in the northeastern part of the province of Bohol approximately 120 kilometers away from Tagbilaran City. It covers a total land area of 1,033.2 hectares composed of open mudflats, and secondary growth mangrove under full stocked forest. The Subproject covers Barangays Poblacion, Bogo, Bonbonon, Campamanog, Lipata and Popoo in the municipality of President Carlos P. Garcia (CPG), Lapinig Island.



#### 1. Purpose/Objectives

##### A) Original (at the time of appraisal)

1. To rehabilitate 1,500 hectares of mangrove forest at Pres. C.P.G. Bohol.
2. To promote ecological balance and environmental awareness in the community.
3. To uplift socio-economic condition of the community.

##### B) Modification

###### a. Modified purpose/objectives

1. To rehabilitate 550 ha. of mangrove forest at Pres. CPG, Bohol

###### b. Reasons for the modification

(with detailed explanation of the discrepancy between the original and modified basic plans, where applicable)

During the appraisal, the entire Lapinig Island with an available area of 1,500 hectares, was considered for development. However,

in the implementation phase, it was learned that the eastern side of the island is frequently hit by typhoons and waves and not suitable for plantation establishment and thus, not economically viable. Further, the eastern portion is within the protected area declared under Presidential Decree # 2152 (Mangrove Swamp Forest Reserve), which may hinder issuance of tenurial instrument. These reasons caused the reduction of the area to be developed from 1,500 ha. to only 550 ha.

2. Subproject Scope and Dimension

A. Comparison of Original and Actual Scope & Dimensions

a.1. Please check: There has been  revision and/or modification or  no revision and/or modification) of the Subproject scope and dimensions.

a.2. If "revision and/or modification", please complete the Table.

ITEM	Original Scope and Dimensions (At the time of appraisal/Planned)	Revised/Modified (Actual)
<p>1. REFORESTATION/ WATERSHED/CBFM</p> <p>A. Survey Mapping and Appraisal</p> <p>B. Community Organizing<sup>1</sup> Year 1 Year 2</p>	<p>1500 ha</p> <p>July 17, 2001-July 16, 2003; 550 hectares</p> <ul style="list-style-type: none"> <li>• IEC activities</li> <li>• Assistance to CSD activities</li> <li>• Assistance on Networking and Linkage</li> <li>• Organizational Development and Capacity Building</li> <li>• Livelihood Project implementation</li> <li>• Monitoring and Evaluation</li> </ul>	<p>550 ha.</p>

<p>C. CSD</p> <ol style="list-style-type: none"> <li>1. SOIL EROSION CONTROL <ol style="list-style-type: none"> <li>a. Infrastructure</li> <li>b. Trail and Footpath</li> </ol> </li> <li>2. VEGETATIVE MEASURES <sup>2</sup> <ol style="list-style-type: none"> <li>a. Agroforestry</li> <li>b. Assisted                      Natural Regeneration</li> <li>c. Enrichment Planting</li> <li>d. Tree Plantation <ol style="list-style-type: none"> <li>d.1. Bamboo</li> <li>d.2. Rattan</li> <li>d.3. Mangrove <ol style="list-style-type: none"> <li>d.3.1. New Plantation</li> <li>d.3.2. Enrichment Planting</li> </ol> </li> <li>d.4. Plantation Species</li> </ol> </li> </ol> </li> <li>3. INVENTORY RESIDUAL FOREST</li> <li>4. INCOME ENHANCEMENT SUBPROJECT</li> <li>5. INFRASTRUCTURE <ul style="list-style-type: none"> <li>• Bunkhouse/Office</li> <li>• Look-out tower</li> </ul> </li> </ol> <p>D. INFRASTRUCTURE COMPONENT</p> <ul style="list-style-type: none"> <li>○ Farm to Market Road</li> </ul> <p>C. MONITORING &amp; EVALUATION</p> <p>Physical Aspect Year 1</p>	<p>3 units 3 units</p> <p>April 2003 to May 19, 2003 (1 pass) 550 has.</p> <ul style="list-style-type: none"> <li>▪ Verification of boundaries, monuments, and block corner posts</li> <li>▪ Seedling production inventory analysis</li> <li>▪ Survival Counting</li> </ul>	<p>250 hectares 300 hectares</p> <p>1.32 kms.</p>
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<p>Institutional and Project Benefit Assessment:</p>	<p>with 20% sampling intensity, including mapping of developed areas</p> <ul style="list-style-type: none"> <li>▪ Height and diameter measurement, assessment of overall health/appearance</li> <li>▪ Inspection of physical infrastructure</li> </ul> <p>April 2003- May 19, 2003; 550 hectares; one (1) pass</p> <ul style="list-style-type: none"> <li>▪ Assessment of the overall development of the PO</li> <li>▪ Assessment of the capability of the PO to pursue sustainable resource management and sustain its livelihood initiatives</li> <li>▪ Identification of various issues/problems/c onstraints related to the development and strengthening of the PO and the relevant support systems</li> <li>▪ Identification of immediate benefits of the</li> </ul>	
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<ul style="list-style-type: none"> <li>• Others <ul style="list-style-type: none"> <li>○ SUSIMO Building</li> <li>○ Turned-over facilities of Infrastructure</li> </ul> </li> </ul>		workshop <ul style="list-style-type: none"> <li>• Enhance Forest Management through GIS/GPS</li> <li>• On the job training on GIS/GPS operation</li> <li>• Workshop on benefit sharing system for CBFM-PO</li> <li>• Re-orientation course on FSP implementers</li> <li>• FSP Phase in/out</li> <li>• FSP assessment workshop</li> </ul> 48 sq.m.; concrete None
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<sup>1</sup> Please refer to Table 1 for details of trainings attended by PO's

<sup>2</sup> Table 2 details the subproject performance in terms of area planted

<sup>3</sup> Table 3 shows the details of equipment provided to SUSIMO

<sup>4</sup> Table 4 shows the trainings attended by the SUSIMO staff

## B. Reasons for Revision/Modification of scope and Dimensions

b.1. Where there has been "revision/modification" of the Subproject scope and dimensions.

Please choose the reason(s) from the following list and check.

- Revision of the superior plan (e.g. sector development plan, etc.)
- Revision of the supply-and-demand estimate
- Large fluctuation in the Subproject cost
- Substantial revision of design due to the unpredictable physical condition at the time of the original design (e.g. poor soil condition, etc.)
- Natural disaster/unpredictable weather
- Unusual circumstances beyond the control of the Executing Agency
- Structural and organizational problems of the agencies concerned (e.g. lack of staff, inadequate coordination with other agencies, etc.)
- Availability of funds (e.g. lack of funds, use of contingency, fluctuation of the exchange rate, etc.)

- Unrealistic initial plan/Technical problems
- Procurement problems
- Performance of contractor/supplier
- Performance of consultant
- Change in construction period
- Others (Project Management Office Initiative)

b.2. Detailed statement of reasons (with background)

- Others (Project Management Office Initiative)

On Infrastructure Component

The rehabilitation of the farm-to-market road under the Infrastructure Component was initiated by the People's Organization (PO) to support their livelihood development projects pursuant to the Operational Instructions issued by the National Forestation Development Office. The Infrastructure Support Project is an additional component of the Forestry Sector Project that aims to rehabilitate the poor state of basic infrastructure in and around the project to livelihood development.

On SUSIMO Creation

Upon implementation of the Lapinig Island Mangrove Subproject, the Subproject Site Management Office (SUSIMO) was simultaneously installed in the site for effective and efficient project implementation. To further support this undertaking, capability development trainings and seminars were provided to the SUSIMO staff as well as other logistics like, provision of their own SUSIMO building and equipment in pursuance to DENR Administrative Order 2000-65.

C. Contribution of Subproject to Relevant (Sub) Sector(s)

c.1. (Sub) Sector(s) to which the Subproject belongs

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> Electric power and Gas    | <input type="checkbox"/> Telecommunication                              | <input checked="" type="checkbox"/> Social services |
| <input type="checkbox"/> (Multipurpose) Dams       | <input type="checkbox"/> Telecommunications                             | <input type="checkbox"/> Water supply               |
| <input type="checkbox"/> Power Plants              | <input type="checkbox"/> Broadcasting                                   | <input type="checkbox"/> Sewerage                   |
| <input type="checkbox"/> Transmission lines        |   | <input checked="" type="checkbox"/> Education       |
| <input type="checkbox"/> Distribution Systems      | <input type="checkbox"/> Irrigation and Flood control                   | <input checked="" type="checkbox"/> Health          |
| <input type="checkbox"/> Gas                       | <input type="checkbox"/> Irrigation                                     | <input type="checkbox"/> Tourism                    |
| <input type="checkbox"/> Others                    | <input type="checkbox"/> Flood control                                  | <input type="checkbox"/> Others                     |
| <input checked="" type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Agriculture, Forestry and Fisheries |   |
| <input checked="" type="checkbox"/> Roads          | <input checked="" type="checkbox"/> Agriculture and Forestry            |   |

- Bridges
- Railways
- Airport
- Ports
- Marine Transportation
- Others
- Fisheries
- Mining and Manufacturing
  - Mining
  - Manufacturing (fish processing)

c.2. Original (At the time of appraisal/Planned)

Item	Description
<p>1. Mangrove restorations and its effect on the immediate environment. (Agriculture and Forestry)</p>	<ul style="list-style-type: none"> <li>• Envisioned to boost the mangrove wood stock in the area. This wood stock and the improved forest condition created by the Subproject offer tremendous opportunities in the future both as reserve stock resource and for ecotourism purposes.</li> <li>• Mangroves are expected to prevent soil erosion, sedimentation, siltation while giving rise to the stability of shorelines; buffer against typhoons and tidal waves; soil accretion; soil productivity along shore areas and improvement of wildlife habitat and biodiversity.</li> </ul> <p>The project is expected to provide positive impacts on the environment with respect to sustaining vital links to food chain in the area. Mangrove forests have their aesthetics value as well.</p>
<p>2. Mangrove restoration and its effect on the ecology. (Fisheries)</p>	<ul style="list-style-type: none"> <li>• Direct intangible benefits to the coastal community and whole island. The increase in quantity and quality of mangrove forest is expected to benefit the ecological and production system in the area.</li> <li>• Its restoration is expected to transform the area to a productive source of marine and mangrove resources which can be utilized by</li> </ul>



<p>3. People's Participation (Education and Health)</p>	<p>the participating community in a sustainable way.</p> <ul style="list-style-type: none"> <li>• Improved forest cover is expected to bring back wildlife in the breeding area and improve spawning, feeding and breeding grounds for crustaceans and marine fishes.</li> <li>• Increased harvest of fish, crabs, shrimps and shells as medium and long- term positive impacts.</li> <li>• Project implementation will boost people's pride and sense of ownership for the mangrove area. It will help deter illegal fishing and cutting of mangroves.</li> <li>• Increase in environmental awareness among participating communities will have its ripple effect on the surrounding communities.</li> </ul>
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c.3. Present situation and outlook for the future

Item	Description
<p>1. Area development</p>	<ul style="list-style-type: none"> <li>• From the original size of 1,500 hectares, area size has been reduced to 550 hectares but the intent of the Project has not been altered.</li> <li>• The area may have lessened but enrichment planting within the 550 hectares will definitely increase biodiversity in the area with its role as breeding ground. When the mangrove forest are fully developed the community will be protected from strong winds and waves as the mangroves serve as buffer.</li> <li>• Additional source of fuel wood (naturally pruned branches) is assured. Its sustainability however, will depend on the vigilance of the</li> </ul>

<p>2. Comprehensive Site Development Activities</p> <p>3. Livelihood development <sup>5</sup></p> <p>4. Constructed/rehabilitated Farm to market road</p> <p>5. Information, Education and Communication campaign (IEC) .</p>	<p>communities.</p> <ul style="list-style-type: none"> <li>• Since, DENR existing policy prohibits the cutting of mangrove species, continuous information drive plays significant role in the protection and maintenance of the remaining mangrove forest. Illegal cutting of mangrove species will be minimized in the future.</li> <li>• Site Development activities such as seedling production, site preparation, planting and maintenance and protection activities provided employment in the coastal communities. This also contributed to the increase in income of the subproject participants.</li> <li>• Livelihood development projects of the PO also generated employment and raised income of the participating members.</li> <li>• The rehabilitated/constructed farm-to-market road is now utilized as an access road by residents from Brgys. Poblacion, San Jose, San Vicente, Campamog, Villa Milagrosa, and Poo of Pres. C.P. Gracia Municipality.</li> <li>• Facilitated ease in transporting products from farm to market. It also lowered the transportation fare from P50 to P40.</li> <li>• Through the Community Organizing and the actual conduct of activities on CSD, knowledge of the community on the importance of mangrove increased and, encouraged the participation of the community in the protection of mangrove resources.</li> </ul>
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	<p>The members of the community became voluntary agents in the protection of the mangrove resulting to curbing of illegal activities.</p> <ul style="list-style-type: none"> <li>• IEC also helped the community to learn and apply other non-mangrove resources livelihood income sources.</li> <li>• The issuance of the Community Based Forest Management Agreement along with the active support of the community (not just the PO) will assure the full management of the mangrove forest and play the important role as sanctuary of migratory birds.</li> </ul>
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<sup>5</sup> Please refer to Table 5 for livelihood projects implemented by PO's

## II. Subproject Implementation

### 1. Organizations for Implementing Subproject

Function in the Subproject Implementation	Name of Organization		Reasons for Change
	(1) Original	(2) Changed	
1. SMA	DENR-Region 7		
2. Assisting Organization for CO	First Consolidated Bank Found. Inc		
3. People's Organization	Pres. Carlos P. Garcia United Women Multi-purpose Cooperative.		
4. M&E Contractor	Community Economic Ventures, Inc.		
5. Infra Contractor	Malmis Construction.		

Please state:

1.1 Reasons for the change (No change)

1.2 Problems arising, counter measures adopted and results

Problems Encountered	Measures Adopted	Results
<p>1. Low participation of the PO members in the implementation of the maintenance and protection activities.</p> <p>The People's Organization (PO) awarded with CSD contract was pre-identified in the appraisal report, with majority of the officers performing only administrative functions. It was observed that most of the BODs and Officers have less commitment due to absence of hands-on participation in the implementation of the CSD activities. This resulted to inactive participation of the PO members in the conduct of M&amp;P activities.</p>	<p>Continuous IEC is being conducted. Clarification of roles and functions was undertaken.</p> <p>Review of Organizational Structure as well as its functions was conducted.</p> <p>Male workers were hired to conduct the maintenance and protection activities.</p>	<p>Much improved participation of members in the maintenance and protection activities.</p> <p>Amendments of the CBL as well as expansion of its members to include the male sector were considered.</p> <p>The PO through the hired male workers was able to maintain the 550 ha plantation with 85.82 % average survival.</p>
<p>2. Presence of illegal fishing that caused damages to plantation.</p>	<p>The SUSIMO requested the assistance of LGU to formulate preventive measures on the damage and pass a resolution penalizing the perpetrator.</p>	<p>Barangay resolutions were passed by the LGU. Barangay Tanods were mobilized to protect the plantations.</p>
<p>3. Late awarding of CO contract and lack of expertise of CO worker deployed in the field.</p>	<p>The SUSIMO requested the AO to hire highly-experienced CO worker, but accordingly, they could not afford to hire</p>	<p>Completed the target on time.</p>

<p>4. Inability of PO Officers to monitor the CSD activities due to old age.</p>	<p>one because of low CO cost. As a strategy, the SUSIMO facilitated the conduct of other CO activities in order to complete the target on CSD.</p> <p>SUSIMO advised the PO to hire mangrove technician/contractual worker to oversee the overall operation of the CSD.</p>	<p>PO hired one (1) contractual worker. Proper management of the project was achieved during the project implementation.</p>
<p>5. Damaged plantation due to the proliferation of green algae</p>	<p>PO members conducted weeding operations on the algae affected areas as well as replanting activities.</p>	<p>The damaged plantation was rehabilitated.</p>

1.3 The latest organization chart (or equivalent) for the implementation of the Subproject is ( attached or  not available).

The Organizational Charts of the FCBFI, CEVI, SUSIMO and Herbert Malmis Construction were attached and marked as Annexes 1a, 1b, 1c and 1d respectively.

1.4 If the organizational chart (or equivalent) is not available, please state the reason. Not Applicable

## 2. Implementation Period

### A. Comparison of Original Schedule and Actual Period

Please fill in the following blanks with actual period for each item.

ITEM	ORIGINAL SCHEDULE	ACTUAL PERIOD
<p>1. SMA</p> <p>2. Contract of AO for CO</p>	<p>May-June 2000</p> <p>July 17, 2001 to July 16, 2003</p>	<p>May-June 2000</p> <p>July 17, 2001 to July 16, 2003</p>

3. Contract of PO for CSD	December 28, 2000 to June 30, 2003	Dec. 28, 2000 to June 30, 2003
4. Contract of NGO for M&E	April 2, 2003 to May 19, 2003	April 2, 2003 to May 19, 2003
5. Contract of Infrastructure Component	December 23, 2002 to June 20, 2003	December 23, 2002 to June 20, 2003
© Completion (completion of Subproject)	June 30, 2003	June 30, 2003

Please refer to Table 6 for the Subproject Status Report

Notes: Completion of the Subproject was defined as ( completion ceremony or  final disbursement or  other than the above.

The completion date was scheduled for June 30, 2003 (at the time of appraisal) and is indicated (thus © ) in the above Table.

B. Reasons for Delay or Early Completion Not Applicable.

b.1. In case of delay or early completion, please choose the reason(s) from the following list and check.

- Change in scope/dimensions
- Natural disaster/Unseasonable weather (e.g. earthquake, typhoon, etc.)
- Shortage of funds/Fluctuation of the exchange rate
- Problems in procurement
- Inflation
- Unusual circumstances beyond the control of the Executing Agency
- Structural and organizational problems of the agencies concerned (e.g. lack of staff, inadequate coordination with other agencies, etc.)
- Legislative matters
- Unrealistic initial plan/Technical problems
- Performance of contractor/supplier
- Performance of consultant
- Others

b.2. Reasons and background for delay or early completion (No delay or early completion) None

C. Remedial Action Taken in Each Case of Delay (N/A)

3. Subproject Cost

A. Comparison of Original Estimated Cost and Actual Expenditure (by Component)

Item	Original Cost (based on Contract) (in M pesos)	Actual Expenditures (in M pesos)
Survey Mapping and Appraisal*		
Community Organization	0.863390	0.862586
Comprehensive Site Development	4.953572	4.951798
Monitoring and Evaluation	0.563150	0.563150
Infrastructure Dev't	2.116096	2.355601
Subproject Coordinating Office (SUSIMO)	1.792980	1.792980
<b>Total</b>	<b>10.289188</b>	<b>10.526115</b>

Please refer to Tables 7,8,9 for details on the cost of CO, CSD & M and E.  
Table 10 shows the lists of infra projects with corresponding cost.

\*SMA was conducted by the DENR personnel, wherein only minimal amount for traveling expenses and supplies was spent out of Asian Development Bank (ADB) fund.

B. Reasons for Difference between Original Estimated Cost and Actual Expenditure

b.1. If there is any difference between Table a.1 and Table a.2 in Paragraph a, please choose the reason(s) from the following list and check.

- Increase in reconstruction cost arising from natural disaster/unreasonable weather (e.g. earthquake, typhoon, etc.)
- Increase or decrease arising from a change in construction period
- Increase or decrease arising from inflation
- Increase or decrease arising from fluctuation in the exchange rate
- Increase or decrease arising from a change in the scope/work volume of the Subproject

- Decrease arising from keen competition in tender
- Unusual circumstances beyond the control of the Executing Agency
- Unrealistic cost estimates/Technical problems
- Others

b.2. Description of the detailed reason(s) and background

- *Increase or decrease arising from a change in the scope/work volume of the Subproject*

On Infrastructure

The increase in cost of Infrastructure was brought about by the cost of variation order on the account of the excavation and disposal of unsuitable materials and additional grouted riprap lined ditch of the project amounted to P239, 504.79.

- *Unrealistic cost estimates/Technical problems*

On Comprehensive Site Development and Community Organizing

The difference between the original cost and the actual cost of CSD corresponds to the amount billed by the PO not eligible to be paid under the CSD contract. While on CO, the unclaimed amount is the difference between the estimated cost of motorcycle and the actual amount of procurement. Estimated cost is higher than the actual cost of motorcycle.



C. Action taken in Case of Cost Overrun and Results

Additional obligation was made by the Project Management Office project to address the cost overrun. Corresponding revision of Work and Financial Plans (WFP's) and amendments of the contracts were made, resulting to completion of all activities as required under the contracts as well as payments of all obligations to the contractors



D. Comparison of Original Estimated Expenditure and Actual Expenditure (by Year).

Calendar Year	Original Cost (based on appraisal) (in M pesos)	Actual Expenditures (in M pesos)
2001	3.823970	2.621160
2002	2.033539	2.096013
2003	4.431678	5.808942
<b>Total</b>	<b>10.289188</b>	<b>10.526115</b>

Please refer to Table 11 on details of the Annual Work & Financial Plan

4. Comments on Performance of Assisting Organizations (AOs), Assisting Professionals (APs), Peoples Organizations (POs), M&E and Infrastructure contractors.

Please describe the performance of each organization after checking the item(s) in the relevant lists on which you have any comment.

A. Performance of Assisting Organizations & Assisting Professionals (if any) Peoples Organizations, M&E and Infrastructure contractors

- a.1.  Overall performance                       Design  
 Contract administration                       Construction supervision  
 Expertise     Staff qualifications  
 Coordinating ability                               Compliance with Contracts  
 Performance related to any other than the Subproject scope, if any.  
 Others

a.2 Description (in detail)

- On People's Organization (PCPGUWMPC)

The PCPGUWMPC accomplished the target under the CSD contract and even claimed the retention fee, hence, it can be rated satisfactory. However, the organizational set-up must be strengthened to effectively undertake the maintenance and protection activities of the CSD area, as well as the management of the tenured area under the CBFMA.

- *On Assisting Organization (FCBFI)*

Low level of CO expertise

The assisting organization presented a very good plan for CO activities during the selection process as well as good line up of Community Organizing experts. However, during the CO implementation, the CO workers assigned in the project were newly hired and poorly trained and were changed from time to time. Further, the conducted CO activities were based on the contract stipulations and not on the need of the community, thus, failed to suit the requirements of the PO.

- *On Monitoring and Evaluation Contractor on the Evaluation of Physical Accomplishments*

Lack of expertise on the conduct of survey (M&E)

The Community Economic Ventures (CEV) was contracted to conduct the physical aspect of the project implementation, which is highly technical, but it was experienced by the SUSIMO that the deployed staff of the CEV had limited knowledge on the conduct of perimeter survey and thus had to be trained by the SUSIMO. This caused delay in the completion of the final map of the project. The CEV then was advised to hire additional surveyors, to make it five (5) surveyors for the project evaluation.

## 5. Other matters relating to Subproject Implementation

Please choose the item(s) from the following list on which you have any comment, check it (them), and describe it (them) with measure and results in (B) below.

- A.  Technical     Financial     Institutional     Economic  
 Social/Distributional     Others

B. Description (in detail)

- *On Community Organizing*

The budget allocated for the CO is limited which caused the CO contractor to hire less competent Community Organizers.

### III. Action Taken by the AOs, APs and POs relating to Recommendation(s)

#### 1. Recommendation(s) made by SUSIMO

SUSIMO check: This article is  applicable or  not applicable. There has been no recommendation with regard to the Subproject).

#### 2. Action Taken and Results

##### Recommendations by the SUSIMO

Recommendations by the SUSIMO	Action Taken		Results
	AO	PO	
1. The SUSIMO advised the PO to hire Mangrove Technician/ contractual worker to oversee the overall operation of the CSD project.		Po hired 1 worker	Improved CSD Implementation.
2. The SUSIMO assisted and facilitated the PO in the collection of bakauan propagules from outside sources since propagules locally are not sufficient.			The response was positive since the members were eager to develop their areas following the Banacon scheme (closer planting)
3. The SUSIMO assisted and facilitated the PO Field visit at Banacon Island for field exposure and learnings from other mangrove implementers.		Conducted field visit at Banacon	Acquired new strategies in the conduct of maintenance and protection activities from Banacon experience.
4. The SUSIMO advised and assisted the PO in the formulation of Core group at the barangay level as point person in their CSD operation.		Core groups in every barangay were organized	Improved management syatem on CSD operation.

<p>5. The SUSIMO facilitated the PO in the linking with LGU for the formulation of ordinances for the effective and efficient protection of the mangrove forest.</p>		<p>Positive reaction. Linkaging was easy for them because most of the officers of PO are barangay officials.</p>	<p>Ordinances were formulated and barangay tanods were mobilized.</p>
<p>6. The SUSIMO assisted the PO in the deputization of the PO members as forest officers.</p>		<p>The PO members are eager to be deputized as forest officers, requirements were submitted already. Trainings and seminars will be provided by the DENR and LGU.</p>	<p>Still waiting for the seminar/ training to be conducted.</p>
<p>7. The SUSIMO recommended the PO to allocate fund for planting along bufferzone.</p>		<p>The PO are still looking for the potential fund source for bufferzone planting.</p>	
<p>8. The SUSIMO assisted and facilitated the PO link with other agencies for possible livelihood projects.</p>			<p>Linked with BFAR and LGU. BFAR provided two projects; fish cage and processing.</p>
<p>9. The SUSIMO recommended to the DENR that Issuance of CBFMA by barangay for a more affective and efficient management</p>		<p>PO wanted to have the CBFMA issued In their name.</p>	

10. The SUSIMO recommended to the AO to undertake a holistic approach in community organizing.	The AO activities were concentrated more on what was targetted in the CO contract.		Appropriate systems in all aspects are still wanting.
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#### 1V. Initial Operation and Maintenance of Subproject Facilities

##### 1. Present Condition of Facilities

A. Please check: This article is ( applicable due to problem(s) or  not applicable. No particular problem has occurred since the initial operation started). If there have been any problems, please check the relevant space in the Table.

For the PO: President Carlos P. Garcia United Women Multi-purpose Cooperative

Item	Status	Initial Operation	Maintenance	Management	Others
1. Bunkhouse/ Office	Serviceable				
2. Look-out tower	Serviceable				
3. Motorcycle	Serviceable				
4. Fish Cage	Serviceable				
5. Fish Processing equipment	Serviceable				

For the SUSIMO: Lapinig Mangrove Rehabilitation Subproject

Item	Status	Initial Operation	Maintenance	Management	Others
1. Global Positioning System (GPS)	Unserviceable		✓		
2. Maptitude	Serviceable		✓		
3. UPS	Unserviceable				

4. Generator	Serviceable				
5. Personal Computer	Serviceable				
6. Printer	Serviceable				
7. Radio Transceiver	Serviceable				
8. Basecom regulated Supply	Serviceable				
9. Rain gauge	Serviceable				
10. Water tank	Serviceable				
11. SUSIMO building	Serviceable				
12. Motorcycles	Serviceable				
13. Pump boat	Serviceable				

a.1. Please check: The Problem(s) has arisen owing to the following reason(s).

- Technical   
 Financial   
 Institutional   
 Economic  
 Social/Distributional   
 Others

a. 2. Description (in detail)

The problem on GPS and UPS are considered technical due to the malfunctioning of the battery pack, damaged chord (GPS) and the power of UPS.

a. 3. Aspect of utilizing the Subproject facilities

For the PO

Item	Original Plan	Actual Operation
1. Bunkhouse/ Office	For the use of PCP Garcia United Women MP Cooperative, Inc	For the use of PCP Garcia United Women MPC Cooperative, Inc
2. Look-out tower	PCPGUWMPC	PCPGUWMPC
3. Motorcycle	PCPGUWMPC	PCPGUWMPC
4. Fish Cage	PCPGUWMPC	PCPGUWMPC
5. Fish Processing equipment	PCPGUWMPC	PCPGUWMPC

For the SUSIMO:

Item	Original Plan	Actual Operation
1. Global Positioning	For the use of SUSIMO	For the use of SUSIMO

System (GPS)	Lapinig	Mangrove	Lapinig	Mangrove
2. Maptitude	Rehabilitation Subproject		Rehabilitation Subproject	
3. UPS	SUSIMO		SUSIMO	
4. Generator	SUSIMO		SUSIMO	
5. Personal Computer	SUSIMO		SUSIMO	
6. Printer	SUSIMO		SUSIMO	
7. Radio Transceiver	SUSIMO		SUSIMO	
8. Basecom regulated Supply	SUSIMO		SUSIMO	
9. Rain gauge	SUSIMO		SUSIMO	
10. Water tank	SUSIMO		SUSIMO	
11. SUSIMO building	SUSIMO		SUSIMO	
12. Motorcycles	SUSIMO		SUSIMO	
13. Pump boat	SUSIMO		SUSIMO	

## 2. Organization for Operation and Maintenance

### A. Name of PO

a.1. Please give the name of PO and/or Body in charge of O/M.

PO : Pres. Carlos P. Garcia United Women Multi- Purpose Coop.  
 SUSIMO : SUSIMO of Lapinig Watershed Subproject

a.2. Please check: The latest organization chart (or equivalent) for O/M of the Subproject facilities is ( attached or  not available).

a.3. If the organization chart (or equivalent) is not available, please state the reason.

B. Number of staff/workers of the PO or Body for Operation and Maintenance of Subproject Facilities.

PO : 1  
 SUSIMO : 4

C. Please check and explain the following.

c.1 The number of staff is currently ( sufficient or  insufficient).  
 If "Insufficient", please describe your estimate of the optimum number of staff and your plan for providing them.

c.2 Average employment period of the present staff

PO : 3 years

SUSIMO : 15 years

c.3 Availability of training program to promote the vocational ability of the staff, its contents and expected effects - **None**

3. Annual Budget or Actual Expenditure for Operation and Maintenance (by Year)

A. Original Expected Expenditure

(Unit: Mil Pesos)

Item Calendar year	Maintenance	Operation	Total
2001	0.052200	0.271800	0.324000
2002	0.027000	0.258000	0.285000
2003	0.142030	0.450970	0.593000
<b>Total</b>	<b>0.221230</b>	<b>0.980770</b>	<b>1.202000</b>

B. Actual and Currently Expected Expenditure

For the PO

(Unit: Mil Pesos )

Item Calendar year	Maintenance	Operation	Maintenance	Operation	Total
			(for expanded portion)		
2001 1. Motorcycle 2. Multi-purpose building					
2002 1. Motorcycle 2. Multi-purpose building		0.006			0.006
2003 1. Motorcycle 2. Multi-purpose				0.020	0.020
		0.006		0.006	0.012



building					
<b>Total</b>		<b>0.0120</b>		<b>0.026</b>	<b>0.038</b>

For the SUSIMO:

Item Calendar year	Maintenance	Operation	Maintenance	Operation	Total
			(For expanded portion)		
2001					
1. Large pump boat		0.048			0.048
2. Small pump boat		0.010			0.010
3. Motorcycles (3 Honda XL 125)	0.040	0.040			0.080
4. SUSIMO building		0.006			0.006
5. GPS					
2002					
1. Large pump boat					
2. Small pump boat	0.030	0.048			0.078
3. Motorcycles (3 Honda XL 125)	0.0070	0.010			0.017
4. GPS	0.040	0.040			0.080
5. SUSIMO building		0.006			0.006
2003					
1. Large pump boat					
2. Small pump boat	0.030	0.048		0.020	0.098
3. Motorcycles (3 Honda XL 125)	0.007	0.010		0.005	0.022
4. GPS	0.040	0.040		0.035	.115

5.SUSIMO building		0.0060		0.010 0.010	0.010 0.016
<b>Total</b>	<b>0.194</b>	<b>0.312</b>		<b>0.080</b>	<b>0.586</b>

Note: Actual and currently expected expenditure for expansion, replacement or any other improvement purposes

Please describe the basis for the above estimate and your financing plan for the same.

The above cost was based on actual expenses by the PO and SUSIMO during the project implementation. Funds for the expanded portion of the SUSIMO was the actual release of the Project Management Office (PMO). For the PO, the expanded portion was projected based on the actual expenditure. Allocation will come from the net income of the People's Organization that will form part of the maintenance and operating expenses.

#### 1. Maintenance Method

##### A. Content of Method

Maintenance of facilities of both PO and the SUSIMO will be undertaken by respective Organization. Repainting, body scrubbing and change oil of pumpboats will be done once in every quarter, while repainting of SUSIMO Building will be undertaken once. Change oil, change of defective parts and tune-up of motorcycle will be taken cared of as scheduled below. GPS will have to be repaired.

##### B. Frequency

Facilities	Content of Method	Frequency
1. Large pump boat	Body scrubbing and repainting	Once in every quarter
	Engine change oil	Once in every quarter
2. Small pump boat	Body scrubbing and repainting	Once in every quarter
	Engine change oil	Once in every quarter
3. SUSIMO building	Roof painting	Once
4. Motorcycles	Engine change oil	1 per month
	Engine and rear sprocket replacement	2 per year

	Roller chain replacement Motorcycle tune-up	2 per year 1 per quarter
5. GPS	Repair	Once

## V. Benefits derived from Subproject

### 1. Indirect Effects

A. Please choose and check the item(s) which are dealt with this Article by you.

- Technological transfer (e.g. application of technology used in the Subproject to other similar projects and subprojects)
- Employment creating (e.g. during construction, contribution to the sector(s) after completion)
- Income-raising (e.g. income of the residents in the region)
- Other intended or unintended effects on the relevant sector(s) and/or the region concerned

B. Please give details for each of the item(s) you checked.

- *Technology transfer*

Before the project was implemented, rampant mangrove destruction and conversion into fishponds was observed. Most people think of direct benefits through cutting of mangroves for fuel and for fishponds (fish production) alone, not knowing of such other benefits such as protection from strong wind, increased fish production and fish catch, sustained livelihood and increased timber products. Through an intensive information, education and communication campaign, conduct of seminars and trainings on mangrove resources, knowledge and appreciation of the benefits that can be derived from the mangrove forests have increased. The community have been encouraged finally to participate in the protection of the mangrove forest.

- *Employment Creating*

The project implementation generated an estimated average of 20,000 man days per year during the project implementation, from propagules collection, planting to removal of debris.

- Income Raising:

The short term benefits derived from the subproject was the additional income derived by the coastal residents involved in plantation establishment, maintenance and protection. Long- term benefits will come from the harvests of the mangrove (when policy changes) and marine resources. Through the CSD activities and livelihood implemented project by the PO, the subproject was able to raise the annual average household income from P32,612 at the time of appraisal (inclusive of on-farm, off farm and non-farm activities) to P42,000 during the project implementation.

## VI. CONCLUSIONS AND RECOMMENDATIONS

- The bio-diversity of the mangrove forest increased with the rehabilitation and plantation establishment within the targeted area.
- Mangrove forest destruction was minimized if not totally eradicated through community participation as well as support from the local government unit.
- Rehabilitation of the mangrove forest will allow its full development to encourage spawning of fishes and shells thereby increasing fish catch
- The Subproject implementation empowered the coastal communities with new found knowledge ranging from organizational strengthening to networking abilities
- It is recommended that POs evaluate their own policy on amount of time given to implementation of activities on the site to avoid a repeat of the PCPGUWMPD incident whereby the members of the community were the ones who did the implementation most of the time since majority of the PO officers are not residents of the subject barangay where the plantation is located.
- It is recommended that capability of the PO as a CBFM holder be Strengthened
- In cases when officers and board of directors of PO are matured in age, it is recommended that second line managers likewise be trained.



















