

**FPRDI-ITTO Project PD 448/07 Rev. 2(I)**  
August 2009-January 2012

**PROJECT TECHNICAL REPORT**  
**Site identification and support strategies to sustain NTFP**  
**harvesting and utilization**  
**Los Baños, Laguna Philippines**  
**AUGUST 2012**

**Project Costs:** ITTO                      **US\$ 354,672.00**  
                                 Philippines                      **PhP115,650.00**  
                                    (In cash and in kind)



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# ACRONYMS

<b>BFD</b>	<b>Bureau of Forest Development</b>
<b>CBFMA</b>	<b>Community-Based Forest Management Agreement</b>
<b>CBKI</b>	<b>Caayunan Bantay Kalikasan, Inc.</b>
<b>CENRO</b>	<b>Community Environment and Natural Resources Offices</b>
<b>CRMDP</b>	<b>Community Resource Management and Development Plan</b>
<b>DENR</b>	<b>Department of Environment and Natural Resources</b>
<b>DOST</b>	<b>Department of Science and Technology</b>
<b>DAO</b>	<b>Department Administrative Order</b>
<b>DMC</b>	<b>DENR Memorandum Circular</b>
<b>DTI</b>	<b>Department of Trade and Industry</b>
<b>ENR</b>	<b>Enhancing Natural Resources</b>
<b>ERDB</b>	<b>Ecosystems Research and Development Bureau</b>
<b>FMB</b>	<b>Forest Management Bureau</b>
<b>IRR</b>	<b>Implementing Rules and Regulations</b>
<b>KASAMACA-MPC</b>	<b>Kapatirang Magsasaka ng Casispalan Multi-Purpose Cooperative</b>
<b>KBFAI</b>	<b>Kapit Bisig Farmers Association, Inc.</b>
<b>LGUs</b>	<b>Local Government Unit</b>
<b>LUMACA</b>	<b>Luntiing Magsasaka ng Casispalan</b>

<b>NTFP</b>	<b>Non-Timber Forest Products</b>
<b>PENRO</b>	<b>Provincial Environment and Natural Resources Offices</b>
<b>PCARRD</b>	<b>Philippine Council for Agriculture Forestry and Natural Resources Research and Development</b>
<b>POs</b>	<b>People’s Organization</b>
<b>UPLB-CFNR</b>	<b>University of the Philippines at Los Baños, College of Forestry and Natural Resources</b>
<b>RUP</b>	<b>Resource Use Permit</b>
<b>SEC</b>	<b>Security and Exchange Commission</b>
<b>SIFMA</b>	<b>Socialized Industrial Forest Management Agreement</b>
<b>SPCBMRI</b>	<b>San Pascual Community-Based Resource Management, Inc.</b>
<b>TEABI</b>	<b>Tuaca Environment Action Brigade, Inc. (TEABI)</b>
<b>TKFPI</b>	<b>Tao Kalikasan Foundation of the Philippines</b>



## **ABSTRACT**

The selected project cooperators have long term rights on forest resources management and utilization through a tenurial instrument known as Community-Based Forest Management Agreement (CBFMA).

For the benefit of the project cooperators, available technologies on the propagation of economically important NTFP were disseminated during trainings and pamphlets were distributed as references for NTFP enrichment planting and plantation development of preferred species.

Existing policies on NTFP inventory and utilization were also evaluated and discussed/clarified with concerned authorities. Pending the issuance of a consistent or standard methodology on NTFP inventory in CBFM areas, the data under Study 1 could be used by the project cooperators for the application of interim Resource Use Permit (RUP) in their CBFM areas. Furthermore, 4 local ordinances pertaining to NTFP conservation were drafted for approval and implementation at the Barangay or village level.

## **INTRODUCTION**

One significant components of the forestry system which have been overlooked but slowly gaining attention in national forestry development programs is the local level or community forest management and utilization (Alonzo et.al. 1998). This involves mostly forest dwellers and upland communities who are dependent on NTFPs for food, other subsistence as well as for livelihood opportunities.

Previously referred to as “minor forest products”, NTFPs include: rattan, woody vines and bamboo which are traditionally used for furniture and handicrafts; resins; gums, essential oils and wild plants for food, medicine and cosmetic products. These forest products have received little attention from the government and entrepreneurs because timber harvesting and utilization offered higher financial returns than NTFPs (Razal, 2008). In view of this, rules and regulations on NTFPs were subsumed in generalized policies for timber. In most cases these are not adequate because NTFPs have different nature in terms of growth habit and useful parts, distribution in the forests and tools or method for harvesting and utilization.

This component of the project covered the development of criteria for the selection of project sites or cooperators. It also provided information and technical assistance to the project cooperators to address some policy and technology gaps to enhance NTFP sustainable management and utilization in the project sites.

# **METHODOLOGY**

## ***Selection of Project Sites***

The project started with the development of criteria for the selection of prospective project sites. Table 1 shows the criteria or guide for project site selection which was prepared based on the Guidebook on ENR-Community Enterprise Development and Management (FMB, 2009).

After the development of the criteria for project site selection, the FMB was consulted on the existence of SIFMAs and CBFMAs in the target project areas in the provinces of Quezon and Camarines Norte. A list of existing CBFMAs was provided by FMB but no other details are available except the location, total area covered and the name of PO-beneficiaries. The actual assessment and final selection of project sites was done through interviews and reconnaissance survey by key project staff with the assistance of DENR field offices -PENROs and CENROs who have management jurisdiction over the identified project sites.

The participation of the selected CBFMA or PO-beneficiaries as cooperators in the implementation of the project was formalized through a MOA including the support government agencies i.e. DENR, DOST, DTI and LGUs.

## ***Dissemination of NTFP Propagation Techniques***

Conducted literature search on the propagation of some economically important NTFP from the Ecosystems Research and Development Bureau (ERDB), UPLB, College of Forestry and Natural Resources (UPLB-CFNR) and Philippine Council for Agriculture Forestry and Natural Resources Research and Development (PCARRD). The information gathered were compiled and disseminated to the PO members in the project sites during the conduct of trainings. Ready references or pamphlets on NTFP propagation were also reproduced and distributed to the PO members in the different project sites as guide for enrichment planting or plantation development of preferred NTFP species.

**Table 1. Criteria/Guide for project selection**

	<b>CRITERIA/INDICATOR</b>	<b>WEIGHT</b>	<b>TOTAL</b>
<b>A.</b>	<b>ACCESSIBILITY*</b>		15%
1	Accessible to land transportation throughout the year	7	
2	Portions of existing road network to the site impassable to land transportation during rainy season	5	
3	Site inaccessible to land transportation	3	
<b>B</b>	<b>PEACE AND ORDER SITUATION*</b>		20%
1	Generally peaceful/orderly	12	
2	Limited incidence of insurrection/insurgency	8	
<b>C</b>	<b>ENVIRONMENTAL AND ECONOMIC RELEVANCE OF THE LIVELIHOOD PROJECT</b>		20%
1	Existing livelihood project has link or supportive to forest conservation (e.g. NTFP harvesting/processing, handicraft and furniture production, NTFP/Tree plantation development, agroforestry, etc.)	15	
2	With existing marketing tie-up with buyers:	(10)	
	a. Informal	4	
	b. With formal agreement	5	
<b>D</b>	<b>ORGANIZATIONAL STABILITY AND CAPACITY</b>		15%
1	With functional people/community organization and participatory forest management practices to support NTFP/forest-based enterprise	3	
2	Existence of functional body to operate the enterprise (e.g. with members managing the Pos finances, extending marketing assistance, acting as bookkeeper)	5	
3	The organization is extending assistance (financial or technical) its members.	5	
4	Availability of the required technology, expertise and skills and its application.	4	
<b>E</b>	<b>INSTITUTIONAL SUPPORT MECHANISM</b>		10%
	The organization has established networks and linkage with other government agencies and NGOs.	2	
	The livelihood project is consistent with the development priorities of the LGU	3	
	With LGU technical/financial support/assistance.	3	
	Gender responsiveness	2	
<b>F</b>	<b>POTENTIAL FOR EXPANSION</b>		15%
1	Availability of expansion areas (as other source of raw materials)	7.5	
2	Absorptive capacity of the market (with market demand)	7.5	

\*Select and rate only one indicator

Source: FMB 2009. Guidebook on ENR-Community Enterprise Development and Management (Draft) FMB-FAO-NZAID Project

## ***NTFP Policy Review and Local Policy Formulation***

Existing national policies related to NTFP inventory and harvesting were gathered, reviewed and discussed with concerned technical staff of the Forest Management Bureau (FMB). This activity was done to: a) determine possible gaps on NTFP inventory regulations (vis-à-vis methodology employed in Study 1) and b) to clarify with the FMB the possible use of the NTFP inventory data in the project for application of interim RUP by the PO project cooperators in their CBFM areas.

Key informants (PO officers, Barangay/Village officers and some DENR field personnel) were interviewed regarding the needed local policies to conserve NTFP resources and to sustain NTFP handicrafts production in the project sites. Based on their suggestions/recommendations, the needed local policies were drafted. Copies of the draft policies were submitted to the DENR field offices for review/comments and then submitted to members of the Barangay Council for deliberation, finalization and approval as well as preparation of detailed implementing rules and regulations (IRR), if necessary.

## **PRESENTATION OF THE DATA**

Presented below are the list and description of project cooperators in the selected project sites. Also included in this portion of the report are information on the vegetative propagation of economically important NTFP in the project sites (Table 2) and excerpts of policies in the Philippines governing NTFP inventory and utilization in CBFMA and other social forestry areas.

### **Description of Selected Project Sites/Cooperators**

#### **QUEZON PROVINCE**

##### **A. Kapit Bisig Farmers Association, Inc. (KBFAI)**

###### **1. General Information**

- |  |  |
|--|--|
| a. Location:                             | Brgy. Sta Catalina, Atimonan and Brgy. Silangang, Malicbuy, Pagbilao |
| b. Area Covered:                         | 2, 207.03 hectares   |
| c. Land Tenure Instrument:<br>Management | Community Based Forest Agreement (CBFMA)                             |
| d. Date Awarded:                         | June 27, 1997  |

- e. Securities and Exchange Commission (SEC) Registration: **Reg. No. 194247**
- f. Total Membership: 331 (125 households)

**2. Physical Features**

a. **Accessibility:** Accessible to all types of transportation. The area is 15 km from the town proper of Atimonan and 18 km from Pagbilao, Quezon.

b. **Land Uses:** The area is classified into the following land uses:

Natural/Protection Forest (ha) - - - - -	1,000
Plantation Forest (ha) - - - - -	250
Cultivated/Agroforestry (ha) - - - - -	750
Grassland/Brushland (ha) - - - - -	150
Residential/Built-up Areas (ha) - - - - -	57.03

**3. Sources of Income/Livelihood**

Production and trading of farm products (coconut, banana, root crops, etc); piggery; operation of variety store; and job contracts to government project on reforestation, ANR, TSI, etc.

**B. Luntiang Magsasaka ng Casispalan (LUMACA)**

**1. General Information**

- a. Location: Brgy. Casispalan, Tagkawayan
- b. Area Covered: 465 hectares
- c. Land Tenure Instrument: CBFMA
- d. Date Awarded: December 25, 2000
- e. SEC Registration : Reg. No. A1999905192
- f. Total Membership: 15 (6 households)

**2. Physical Features**

a. **Accessibility:** Accessible to jeep/tricycle from the national highway thru the barangay (village) and then by hiking 5-6 km. It is 15 km away from the Calauag town proper.

b. **Land Uses:** The CBFM area covers the following land uses:

Natural/Protection Forest (ha) - - - - -	415
Cultivated/Agroforestry (ha) - - - - -	7
Open/Grassland (ha) - - - - -	43

### 3. Sources of Income/Livelihood

The PO members mainly derive income from production and trading of agricultural products (rice, coconut, banana and rootcrops).

## C. Kapatirang Samahan ng mga Magsasaka ng Casispalan Multi-Purpose Cooperative (KASAMACA-MPC)

### 1. General Information

a. Location:	Brgy. Casispalan, Tagkawayan
b. Area Covered:	521 hectares
c. Land Tenure Instrument:	CBFMA
d. Date Awarded:	December 07, 1998
e. Cooperative Development Authority (CDA) Registration:	CDA 2053
f. Total Membership:	60 (42 households)

### 2. Physical Features

a. **Accessibility:** Site is accessible to jeep or tricycle from the national highway then by hiking 4-5 km.

b. **Land uses:** The CBFM area is classified into:

Natural Forest (ha) - - - - -	79
Protection Forest (ha) - - - - -	67
Forest Plantation (ha) - - - - -	1
Cultivated/Agroforestry (ha) - - - - -	321
Open/Grassland - - - - -	51

### 3. Sources of Income/Livelihood

Most of the members are dependent on farming as their main source of income. Other income comes from cattle raising and share from fees in their income generating project as Irrigation Service Provider.

## CAMARINES NORTE

### A. Caayunan Bantay Kalikasan, Inc. (CBKI)

#### 1. General Information

- |                            |                       |
|----------------------------|-----------------------|
| a. Location:               | Brgy. Caayunan, Basud |
| b. Area Covered:           | 53.66 hectares        |
| c. Land Tenure Instrument: | CBFMA                 |
| d. Date Awarded:           | April 28, 2000        |
| e. SEC Registration:       | Reg. No. 1200-00137   |
| f. Total Membership:       | 95 (86 household)     |

#### 2. Physical Features

- a. **Accessibility:** The CBFM area is 14 km from the Basud town proper and is accessible to land transportation along the national highway then by hiking 2 km along trails.
- b. **Land Uses:** The CBFM area covers the following land uses:

Secondary-growth Forest (ha) - - - - -	3.33
Cultivated/Agroforestry (ha) - - - - -	17.00
Plantation Forest/Reforestation (ha) - - - - -	33.33

#### 3. Source of Income/Livelihood

Production and trading of agricultural products such as pineapple, tiger grass and coconut; poultry; and job contracts from LGUs and DENR (agroforestry/reforestation projects)

## B. Tuaca Environment Action Brigade, Inc. (TEABI)

### 1. General Information

- |                            |                      |
|----------------------------|----------------------|
| a. Location:               | Brgy. Tuaca, Basud   |
| b. Area Covered:           | 54.02 hectares       |
| c. Land Tenure Instrument: | CBFMA                |
| d. Date Awarded:           | May 5, 2000          |
| e. SEC Registration:       | Reg. No. 1200-00014  |
| f. Total Membership:       | 161 (143 households) |

### 2. Physical Features

- a. **Accessibility:** Accessible to land transportation via the national highway from Basud town proper then by hiking 3 km via trails to reach the CBFM area.
- b. **Land uses:** The CBFM area covers the following land uses:

Natural/Protection forest (ha) - - - - -	21.69
Plantation Forest (ha) - - - - -	3.33
Cultivated/Agroforestry (ha) - - - - -	29.00

### 3. Sources of Income/Livelihood

Production and trading of farm products such as pineapple, tiger grass, coconut and vegetables; operation of variety store; and job contracts from LGUs/DENR.

## C. San Pascual Community-Based Resource Management, Inc. (SPCBRMI)

### 1. General Information

- |                            |                          |
|----------------------------|--------------------------|
| a. Location:               | Brgy. San Pascual, Basud |
| b. Area Covered:           | 40.33 hectares           |
| c. Land Tenure Instrument: | CBFMA                    |
| d. Date Awarded:           | March 15, 2000           |
| e. SEC Registration:       | Reg. No. 1200 – 00082    |
| f. Total Membership:       | 107                      |

### 2. Physical Features

- a. **Accessibility:** Accessible to land transportation via 5 km asphalted road from the national highway leading to Basud and Daet, Camarines Norte.



b. **Land Uses:** The CBFM area include the following land uses:

Natural/protection Forest (ha) - - - - - 3.33  
 Plantation Forest (ha) - - - - - 33.33  
 Cultivated/Agroforestry - - - - - 6.66

**3. Sources of Income/Livelihood**

Production/trading of farm products (pineapple, coconut, vegetable, tiger grass); piggery and poultry; and operation of variety store

Table 2. Some economically important NTFP in the projects sites and their vegetative parts needed for propagation [Florido et al (undated); Escobin et al (2009-20120; PCARRD, 1988]

<b>NTFP SPECIES</b>	<b>PROPAGATION</b>
<i>Dicranopteris linearis</i> (Tilob/Agsam)	Spores, suckers, rhizomes
<i>Donax canniformis</i> (Bamban)	Seeds, suckers
<i>Lygodium spp.</i> (Nito)	Spores, rhizomes, wildlings
<i>Pandanus spp.</i> (Pandan)	Seeds, suckers shoots (detached as plantlets)
<i>Calamus spp.</i> (Rattan)	Seeds, wildlings
<i>Levistonina blancoi</i> (Anahaw)	Seeds, wildlings
<i>Corypha utan</i> (Buri)	Seeds, wildlings
<i>Scindapsus curanii</i> (Lukmnoy)	Stem cuttings
<i>Stenochleana palustris</i> (Hagnaya)	Suckers
<i>Thysanolaena maxima</i> (Tiger grass)	Suckers
<i>Entada phaseoloides</i> (Gugo)	Seeds
<i>Anamirta cocculus</i> (Ligtang)	Stem cuttings

Table 3. Excerpts of policies governing NTFP inventory and utilization in CBFMA and other social forestry areas in the Philippines

Policy and Date of Issuance/Subject	Pertinent Provisions
<b>Policies on Resource Inventory</b>	
<p><b>BFD Circular No. 2-85 dated February 6, 1985</b></p> <p>Rules and Instructions governing the cutting, gathering, transporting and disposition of rattan</p>	<p><b>Section 8. Inventory Procedures.</b> The conduct of the required inventory shall be in accordance with the guidelines prescribed in Annex “A” which forms part of this Circular.</p> <p>Annex “A’ par. 1.2- The strip sampling at 5% intensity shall be adopted/used in undertaking the inventory.</p>
<p><b>Department Administrative Order (DAO) No. 4 dated Jan. 10, 1989.</b></p> <p>Revised Regulations Governing Rattan Resources</p>	<p><b>Section 7. Inventory Requirement.</b> Before an area is advertised for disposition, the area covered thereby shall be inspected and inventoried by authorized forest officers following prescribed procedures and standards set therefore.</p>
<p><b>DAO 1993-22 data April 27, 1993</b></p> <p>Revised Guidelines for Community Forestry Program</p>	<p><b>Section 15. Resource inventory</b>  <b>Section 15.1</b> The resource inventory shall provide the basis for preparing the CRMDP and baseline data for monitoring and evaluation</p> <p><b>Section 15.2</b> The resource inventory shall cover all resources including minerals, timber, bamboo, rattan, commercial vines and other minor forest products.</p> <p><b>Section 15.3</b> For areas that will be subject to forest products utilization during the <b><u>first two years schedule for the CRMDP, a 100% inventory of resources shall be undertaken.</u></b> For areas to be operated from <b><u>year 3 onward, an inventory of 5% sampling intensity or any statistically sound estimate may be conducted.</u></b></p>
<p><b>DAO 96-26 dated September 10, 1996</b></p> <p>Revised Guidelines Governing the Harvest and Transport of Planted Trees and <b>Non-Timber Products</b> within Social Forestry Areas</p>	<p><b>Section 3.1. Inventory.</b> Upon submission of the application, the SFDO shall conduct free of charge, <b>an inventory at 100% intensity over the area applied for within ten (10) days except under reasonable circumstances.</b></p>

<p><b>DAO 96-29 dated October 10, 1996</b></p> <p>Rules and Regulations for the Implementation of Executive Order 263, Otherwise Known as the Community-Based Forest Management Strategy (CBFMS)</p>	<p><b>Sec. 10 Formulation of RUPs.</b> A management and utilization plan for each resource, e.g., timber, rattan, resins, covering a specific area of the CBFMA and timber period shall be prepared. The <b>DENR shall conduct resource inventory</b> as basis for the resource use plan.</p>
<p><b>DENR Memorandum Circular (DMC) No. 97-12 dated July 18, 1997</b></p> <p>Guidelines for the Formulation of Community Resource Management Framework and Annual Work Plan for CBFM Areas.</p>	<p><b>Section 7. Interim Resource Use Permit</b></p> <p>POs/IP who are holders of CBFMA or CADC may be granted <u>Interim Resource Use Permit</u> (IRUP) at the beginning of their CBFM work in order to generate start-up resources needed for resource assessments, rural appraisals, planning, and similar preparatory activities.</p> <p>The CENRO/CBFM staff shall conduct <b>low intensity inventory</b> of the resource availability in the area from which the quantity to be granted under the IRUP shall come from</p>
<p><b>DMC No. 98-09, June 24, 1998</b></p> <p>Additional Guidelines on the Issuance of Interim Resource use Permit or IRUP</p>	<p><b>Section 1. Purpose of IRUP</b></p> <p>POs and IPs who have been issued their CBFMAs or CADCs and whose CRMFs or ADMPs are under formulation or review, <u>may, upon their request, be granted an IRUP to immediately give them access to existing resources, provide livelihood opportunities and generate start-up resources</u> to support preparatory and planning activities of CBFM. A format for a letter/request is herewith attached as <b>Annex 1</b> and forms part of this Circular.</p> <p><b>Section 2. Allowable Forest Products</b></p> <p>IRUP may be granted, in the order of priority, for <b>the collection and harvesting of non-timber forest products</b>, extraction and utilization of abandoned logs, fallen timber and dead trees, and harvesting of plantation species. Harvesting of mature timber</p>

	<p>species from the residual forest will be a last priority, and may be allowed only if it can be shown that income from the priority forest products is insufficient to cover the amount needed for preparatory CBFM activities.</p>
<p><b>DNR Memo Circular 97-12 dated July 18, 1997</b></p> <p>Guidelines for the Formulation of CRMF and AWP for CBFM.</p>	<p><b>Section 1, par. 6.</b></p> <p>In case extraction shall be undertaken within the CRMF, the <u>AWP shall include a Resource Use Plan (RUP).</u> In the case of IPs, the exercise of traditional resource uses only requires affirmation of their ADMP, and does not require an <u>AWP/RUP.</u> However, in the event that the CADC holder-groups opts to extract and utilize forest resources along non-traditional lines, an AWP/RUP shall be prepared in the manner prescribed along the lines of the CRMF.</p> <p><u>Once affirmed by the DENR CENR Officer, the AWP with its RUP also serves as the permit to utilized the resource.</u></p>
<p><b>DENR Administrative Order No. 2000-29 dated March 14, 2000</b></p> <p>Guidelines REGULATING THE UTILIZATION OF FOREST PRODUCTS WITHIN THE CBFM AREAS</p>	<p><b>Section 3. Scope and Coverage.</b> <u>Utilization of naturally grown and/or planted forest resources</u> shall be covered by Resource Use Permit (RUP) may be issued to holders of tenurial instruments under the CBFM program of DENR <u>who intend to harvest/utilize forest products for commercial use,</u> provided that they have an affirmed Community Resources Management Framework (CRFM) and Annual Work Plan (AWP).</p> <p><b>Section 4. Requirements for the Utilization of Forest Resources.</b> The requirements for forest resource utilization are the following</p> <p style="padding-left: 40px;">a. Affirmed CRMF b. Affirmed AWP c. ECC and d. RUP</p> <p>In the case of timber resource extraction, the following additional conditions shall govern:</p>

	<p>-Harvesting of timber within the natural forest should be confined only areas identified as production forest in accordance with the CRMF. Extraction of forest products outside of the identified zone shall be strictly prohibited. Cutting will not be allowed along gullies, steep slopes, river channels and other identified critical areas.</p> <p><b>Sections 4.2. Stand volume after harvesting.</b> Where cutting is allowed in the residential forest, the average stand volume after harvesting these areas should not be less than eighty (8) cubic meters per hectare.</p>
<p><b>Memorandum No. 472 from Secretary to All REDS dated October 26, 2007</b></p> <p>Strict Observance and Implementation of Procedures and Guidelines in the Inventory of Timber and Rattan</p>	<p><b>Par. 2:</b> In this regard, you are hereby ordered to ensure that the conduct of all inventory works shall be strictly in accordance with DAO 2001-21 and DMO No. 8, Series of 1991 (for Tree Inventory ) and <b>BFD Circular No. 2-85 (for Rattan Inventory)</b>... Attached the guidelines and procedures in the conduct of inventory of timber and rattan for your reference and guidance.</p>

# **ANALYSIS AND INTERPRETATION OF DATA AND RESULTS**

## ***Selection of Project Sites***

Information from the FMB (2009) revealed the existence of 33 CBFMA in Quezon province and 18 CBFMA in Camarines Norte as prospective project sites. One SIFMA was also newly awarded in Labo, Camarines Norte but the activities were focused on agroforestry.

Based on the results of reconnaissance survey and the developed criteria for prioritizing prospective project sites, 7 CBFMs (3 in Quezon and 4 in Camarines Norte) were selected as project sites and of which, 6 have formalized MOA as project cooperators. These were described in the previous section of this report under the name of the PO beneficiaries. In terms of land area, the widest CBFMA belongs to Kapit Bisig Farmers Association, Inc. It has also the highest number of beneficiaries. All POs are registered with the Securities and Exchange Commission except the Kapatirang Samahan ng Magsasaka ng Casispalan-MPC which is registered with the Cooperative Development Authority.

The 7<sup>th</sup> cooperator, Tao Kalikasan Foundation of the Philippines, Inc. (TKFPI) opted to participate only in one project component (Study 1: NTFP inventory) due to previous unpleasant experiences with handicraft traders.

The project proposal targeted 5 prospective project sites and SIFMA holders were preferred. However, a shift from SIFMA to CBFMA was done before commencing fieldworks in the project. This is because CBFMA are existing in the target project sites with organized PO beneficiaries and set of officers. This prompted the revision of the title of this Study and objective number 3 of the project.

CBFMA and SIFMA are both people oriented program that grants tenurial rights (25 year renewable for another 25 years) to develop, utilize and manage a tract of forestland consistent with the principles of sustainable management. SIFMA may be awarded to a family (1-10 ha) and community organization or cooperative (10-500 ha) while CBFMA (up to 5,000 ha) is designed for qualified PO.

## ***NTFP Propagation Techniques***

The technologies for the propagation of 12 economically important NTFP species in the project sites (Table 2) were collated and pamphlets on the propagation of 7 priority species were prepared. The information gathered and reproduced pamphlets were disseminated to the PO members per project site during the conduct of trainings. These can be used by the POs as ready references for enrichment planting or plantation development of preferred NTFP species in their CBFM areas.

Actual demonstration of enrichment planting in the project sites was not done because the PO members have been trained by DENR on assisted natural

regeneration which is basically the same as that of enrichment planting. Almost all the POs have a sort of NTFP plantation (particularly rattan) in their CBFM areas. These were established prior to the project implementation thru the assistance of the DENR.

Noteworthy to mention is the Kapit Bisig Farmers Association, Inc. with a 4,000 m<sup>2</sup> research plantation area for herbal plants; 60 ha agroforestry project with tiger grass production established in 2007; and planted 5,000 cuttings of forest vines (hinggiw, gugo, silong gugo or bago bago, takinis or malakatmon and banot) in 2005 under the project entitled “Community-Based Production System for Selected Trees and Vines in Support of the Furniture and Handicraft Industries” by Dr. Enrique Tolentino of the UPLB College of Forestry and Natural Resources.

The San Pascual Community-Based Resource Management, Inc. has a tiger grass plantation. The Tuaca Environment Action Brigade, Inc. has also 10 ha tiger grass plantation and 29 ha agroforestry farm planted with 4,188 pili (*Canarium ovatum*) trees for nut production. “Manila elimi” or latex obtained from *Canarium spp.* is used for various industrial products (air-freshener, finishing materials, etc.). The shells of the nuts can also be made into fashionable handicrafts.

### ***NTFP Inventory and Utilization***

The review of existing forest policies in the country related to NTFP inventory and utilization showed the following observations:

- Before 1990, policies on NTFP inventory and utilization were focused mainly on rattan which is traditionally used for furniture and handicrafts;
- With the advent of community forestry program in the Philippines in the early 1990s up to year 2000, several policies regulating the harvesting and utilization of minor forest products or NTFP were issued for implementation by the DENR in CBFM areas;
- The POs or CBFMA holders/beneficiaries are required to prepare a Community Resource Management and Development Plan (CRMDP). This necessitates a resource inventory to be done by DENR as the basis for making the CRMDP and as baseline data for monitoring and evaluation of NTFP harvesting and utilization;
- The conduct of resource inventory also serves as basis for the preparation of resource use plan and issuance of Resource Use Permit (RUP) to legalize NTFP harvesting and utilization.

- No standard methodology was prescribed in the conduct of the resource inventory in CBFMAs and the sampling intensity was specified at various levels:
  - ❖ **100%** for CBFMA subject to forest products utilization during the first 2 years schedule for the CRMDP and **5%** **or any statistically sound estimate** for CBFMA to be operated for year 3 onwards (DAO 1993-22);
  - ❖ 100% intensity (DAO 96-26); and
  - ❖ Low intensity inventory (DMC 97-12)

In this project, Study 1 in particular, the NTFP resource inventory was conducted in the selected project sites without due reference to existing policies. After its first year implementation and the resource inventory was around 60% completed, the Project Staff have learned that the PO-project cooperators have no RUP. This prompted this project component to refocus its activities on NTFP policy review and to confer with concerned authorities. The 100% required sampling intensity may nullify the use of the data in Study 1 for RUP application. This would affect the sustainability of the project and could deter the PO members from harvesting NTFP in their CCBFM area.

The NTFP inventory in this project employed a one (1) hectare sampling plot replicated 5 times in strategic locations within each project site. Depending on the forested area of the project sites the sampling intensity ranged from around 1% to 23%. After consultations/dialogues with concerned authorities it was agreed that results of the NTFP inventory in this project could be used by the PO-project cooperators for interim RUP application pending the development and issuance of a standard methodology for NTFP inventory.

### ***Local Policy Formulation***

Based on the review of policies on NTFP production and utilization as well as consultation and interview of key informants, 4 Barangay (village) ordinances (written in vernacular language) were drafted and circulated for comments. These include: a) development of formula for sustainable NTFP harvesting; b) enrichment planting and plantation development of preferred NTFP; c) penalties for NTFP harvesting without permit from the Barangay Hall; and, d) ban on the marketing of NTFP raw materials (drafted and authored by one TEABI Member who is also a Barangay Council Member).



In particular, the recommended formula for sustainable NTFP harvesting in the draft local ordinance is as follows:

$$SAAC = [ A/CC \times V ] 75\%$$

Where:

SAAC = Sustainable Annual Allowable Cut

A = operable area (hectare)

CC = cutting cycle (month or year); this could be used as an indicator for the subdivision of the operable area into cutting units for rotation cutting or harvesting

V = average volume per hectare (1m/ha)

75% = reduction factor for ensuring continuous growth of some mother plants to attain satisfactory natural regeneration

Among the drafted local policies, the ordinance on the penalties for NTFP harvesting without permit from the Barangay Hall had been and implemented in Sta. Catalina, Atimonan, Quezon. This is where the CBFMA of Kapit Bisig Farmers Association, Inc. is located.

## CONCLUSIONS

Knowing the benefits from the implementation of this project such as skills development on NTFP handicrafts production and livelihood development, several POs or CBFMA holders in the provinces of Quezon and Camarines Norte showed their keen interest as project cooperators. Based on the projects budgetary requirements and the time frame of implementation, this Study provided the necessary criteria or guide to simplify and facilitate the selection of project sites.

The CBFM was adopted as the national strategy for the sustainable management and development of forest resources and to promote the socio-economic upliftment of forest communities. However, after more than a decade of implementation, the policies for regulating the harvesting and utilization of forest products in CBFM areas have been mainly focused on timber. The existing policies embodied pertinent provisions on NTFP harvesting and utilization but the inventory of NTFP, which are needed in the preparation of CRMDP and issuance of RUP, needs a consistent or standard methodology and sampling intensity.

In cognizance to the importance of NTFP as an alternative livelihood for timber harvesting, some PO-project cooperators have initiated NTFP domestication or plantation development in their CBFM areas. Technologies on the propagation of some economically important NTFPs are available from research institutions but these are not available or known to the CBFMA beneficiaries.

## RECOMMENDATIONS

1. Future projects related to this undertaking should have identified project sites in the project design stage or proposal instead of doing this as part of the project implementation activities;
2. There is an urgent need to revise or update some forest policies related to NTFP, particularly:
  - a) The need for standard methodology and sampling intensity on NTFP inventory in CBFMA or other social forestry areas; and
  - b) Computation of allowable cut for sustained harvest and utilization.
3. Developed technologies on NTFP propagation should be disseminated and transferred in CBFM areas through preparation of ready references (pamphlets or manuals), and trainings or actual demonstrations;
4. To demonstrate the ecological viability of CBFMAs, the PO-beneficiaries should intensify NTFP plantation development because “green market” consumers are interested in protecting forest ecosystems and biodiversity; and,
5. Aside from national forest policies on NTFP, the development of supportive local ordinances is encouraged at the municipal or Barangay level to further enhance the sustainable management and utilization of NTFP as viable livelihood options for forest-based communities.

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**ANNEX** 

**Memorandum of Understanding with  
Cooperators**

**KATIBAYAN NG KASUNDUAN**

**SA PAGITAN NG**

**FOREST PRODUCTS RESEARCH AND DEVELOPMENT INSTITUTE (FPRDI),**  
College, Laguna, na ang kinatawan sa kasunduang ito ay si  
**FELIX B. TAMOLANG**

**PROVINCIAL ENVIRONMENT AND NATURAL RESOURCES OFFICE (PENRO)**  
QUEZON, Iyam, Lucena City, Quezon Province na ang kinatawan sa kasunduang ito ay si  
**EMRICH M. BORJA**

**KAPATIRANG SAMAHAN NG MGA MAGSASAKA NG CASISPALAN-MPC**  
(KASAMACA-MPC), Tagkawayan,, Quezon Province, na ang kinatawan sa kasunduang ito ay  
si **PONCIANO MENDOZA.**

at ng

**DEPARTMENT OF SCIENCE AND TECHNOLOGY REGIONAL OFFICE No. IV**  
Los Baños, Laguna na ang kinatawan sa kasunduang ito ay si  
**ALEXANDER R. MADRIGAL**

**UPANG ISAKATUPARAN ANG PROYEKTONG ITTO PD 448/07 Rev. 2(1)**  
**NA PINAMAGATANG,**

**“Sustainable Utilization and Marketing of Selected Non-timber Forest Products to Support  
Handicraft Industry and the Development of Rural Communities”**

**Kami,** bilang kinatawan ng FPRDI, PENRO-Quezon, KASAMACA-MPC at DOST Regional  
Office No. IV ay pare-parehong nakakaintindihan at nagkakaisa na magkaroon ng katibayan ng  
kasunduan bilang panuntunan sa pagpapatupad ng proyektong nabanggit ayon sa hinihingi ng  
Artikulo III Section 3.03 (a) ng Project Agreement.

**SECTION 1. PANGKALAHATANG RESPONSABILIDAD**

Ang FPRDI ay isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Science  
and Technology (DOST), na inatasanang manguna sa pagsasakatuparan ng nabanggit na proyekto.  
Ang proyekto ay may mga layuning makatulong sa mga napiling samahan na magkaroon ng  
pangmatagalang pangangalaga at sustento ng ani ng yamang gubat na magagamit para sa  
pangkabuhayan ng mga kasapi ng samahan. Ito ang mamamahala sa pagpapatupad ng mga  
gawaing may kaugnayan sa proyekto. Ito rin ang mag-uulat sa International Tropical Timber  
Organization (ITTO) ukol sa pagsasakatuparan ng mga gawain ayon sa pagkakasaad sa  
iminungkahing proyekto.

Ang PENRO, isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of  
Environment and Natural Resource (DENR) sa buong probinsya ng Quezon, ay nakakaalam ukol  
sa datos ng mga yamang-gubat maging ng mga samahan o organisasyong may kalamayan sa  
pangangalaga at paggamit ng yamang-gubat. Bilang tagapamahala sa pagpapalawig,  
tagapagpaganap, at tagapagpasunod ng mga batas ukol sa pangangalaga ng mga yamang-gubat,  
ito ay may tungkulin na makipag-ugnayan sa FPRDI. Ito rin ang nakakaalam kung aling mga  
lugar at samahan ang maaring makatulong na maisakatuparan ang proyekto.

Ang KASAMACA-MPC, isa sa napiling samahan, ay nagnanais na makisama at tutulong para  
maisakatuparan ang mga gawain sa proyektong nabanggit. Ang mga kasapi ay nagkakaisa sa  
layunin na pangalagaan ang yamang-gubat at makatulong upang magkaroon ng hanapbuhay para  
sa kanilang mga kasapi.

Ang DOST ay isang ahensya ng pamahalaan na naatasang tumugon sa pangangailang pangkaunlaran nauukol sa syensiya at teknolohiya ng mga tagapagtangkil sa rehiyon.

Ang mga nabanggit na ahensya ng pamahalaan ng Pilipinas at samahan ay nagkakaisa na magtutulongan sa pamamagitan ng pag-aatas ng mga tauhan na makapagbibigay ng pagpapayong *teknikal* upang maisakatuparan ang proyekto.

Ang mga nabanggit na ahensya ng pamahalaan ng Pilipinas at samahan ay nagkakaisa na magtutulongan sa pamamagitan ng pag-aatas ng mga tauhan na makapagbibigay ng pagpapayong *teknikal* upang maisakatuparan ang proyekto.

## SECTION 2. MGA KAUKULANG AMBAG/TUNGKULIN NG BAWAT PARTIDO

Ang FPRDI ay may mga sumusunod na tungkulin:

- a. Magsagawa ng pag-aaral at maglaan ng pondong gagamitin para makilala, malaman and dami, tamang pag-ani at paggamit ng mga yamang-gubat na tinaguriang "Non-timber Forest Products" (NTFP) na mayroon sa mga napipiling lugar na isasagawa ang proyekto;
- b. Magsagawa ng pagsasanay upang maturan ang mga kasapi ng samahan ng mga gawain ukol sa pagpaparami at paggamit ng mga NTFP;
- c. Magsagawa ng mga pagsasanay na naglalayong makapagbigay o mapaunlad ang karunungan at kaalaman ng mga kasapi sa paggawa ng mga produktong panghanap-buhay mula sa NTFP at maitaguyod ang kakayahan ng samahan sa larangan ng pagbibili at pagnenegosyo;
- d. Magsagawa ng proyekto na may layuning maparami ang mga mahahalagang NTFP na magagamit ng samahan sa paggawa ng kanilang mga produkto;
- e. Magsagawa ng mga pagsasanay ukol sa tamang pamamaraan ng pangungulekta ng NTFP nang sa gayon ay makaaasa ng pangmatagalang ani at sustento ng mga gagamiting materyales .
- f. Magsumite ng mga ulat ukol sa pagsasakatuparan at resulta ng proyekto sa ITTO.
- g. Sagutin ang mga pinansyal na pangangailangan ng kanilang mga tauhan (project staff) maging ng mga tauhan ng tutulong sa mga Gawain ukol sa *inventory* ng NTFP.

Ang Provincial Environment and Natural Resources Office (PENRO) ay may mga sumusunod na tungkulin:

- a. Makipag-ugnayan sa tanggapan ng Community Environment and Natural Resources Office (CENRO) ng lalawigan ng Quezon ukol sa nabanggit na proyekto upang magtalaga ng mga tauhang makakatulong sa pagbibigay ng pagpapayo kung alin o saang lugar dapat isasagawa ang proyekto;
- b. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI maging ng kaligtasan ng mga tauhang magsasagawa sa nasabing proyekto;
- c. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

Ang Kapatirang Samahan ng mga Magsasaka ng Casisपालan-MPC (KASAMACA-MPC) ay may mga sumusunod na tungkulin:

- a. Pulungin ang kasapi ng samahan tungkol sa proyekto at pagpapatupad ng lahat ng gawain o aktibidad sa ilaim ng proyekto;

- b. Magtalaga o pumili ng mga kasapi o tauhan na tutulong sa mga tauhan ng FPRDI sa mga gawain ukol sa proyekto gaya ng mga sumusunod: *inventory* ng mga NTFP; pagpaparami ng mga napiling NTFP na makakatulong sa pinagkakabuhayan ng mga tao; at pagdalo o partisipasyon sa mga pagsasanay na isasakatuparan ng mga tauhan ng FPRDI;
- c. Maglaan o magtalaga ng lugar kung saan maaring ganapin ang mga pagsasanay;
- d. Mag-ambag ng kaalaman ukol sa pagpaparami at pangangalaga ng NTFP at pagbibili ng mga ito;
- e. Pagsusubaybay sa mga kasapi ng lalahok sa mga pagsasanay upang malaman ang ambag ng proyekto lalo't higit sa may kinalaman sa pagpapaunlad ng pagkakakitaan ng mga kasapi sa pamamagitan ng paggawa ng mga produktong yari sa NTFP at kabuhayan o kaya'y sa pagbibili ng mga ito.


Ang DOST ay may mga sumusunod na tungkulin:

- a. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI.
- b. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

Ang kasunduang ito ay magkakabisa mula 09 FEBRUARY 2010 hanggang matapos ang nasabing proyekto. Bilang tanda sa pagsang-ayon at pagpapatibay ng kasunduang ito, ang mga pangalan at lagda ng mga nauukol na partido ay makikita sa ilalim nitong kasulatan.

  
**FELIX B. TAMOLANG**  
 Director III  
 Forest Products Research and Development  
 Institute

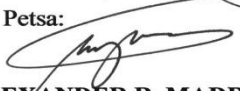
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**PONCIANO MENDOZA**  
 Pangulo  
 Kapatirang Samahan ng mga  
 Magsasaka ng Casispalan-MPC

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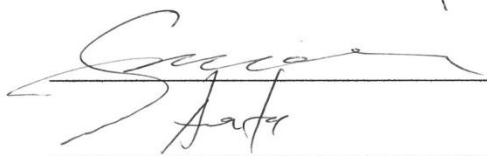
  
**EMRICH M. BORJA**  
 Provincial Environment & Natural Resources  
 Officer

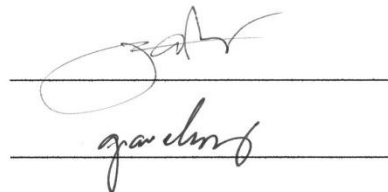
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**ALEXANDER R. MADRIGAL**  
 Regional Director  
 DOST Regional Office No. IV

Petsa:

**MGA SAKSI:**

  
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**REPUBLIC OF THE PHILIPPINES**  
**Los Baños, Laguna**

REPUBLIC OF THE PHILIPPINES)  
Province of CALAMBA CITY)  
Municipality of LAGUNA)

**CALAMBA CITY**  
**LAGUNA**

BEFORE ME, a NOTARY PUBLIC for and in \_\_\_\_\_  
Philippines, this \_\_\_\_\_ day of APR 05 2010 2010, personally appeared

- |                          |  |
|--------------------------|--|
| 1. FELIX B. TAMOLANG     | Community Tax Cert. No. <u>26697087</u><br>Issued at <u>Los Baños, Laguna</u><br>on <u>January 12, 2010</u>    |
| 2. EMRICH M. BORJA       | Community Tax Cert. No. <u>18886987</u><br>Issued at <u>JANUARY 9, 2010</u><br>on <u>JANUARY 9, 2010</u>       |
| 3. PONCIANO MENDOZA      | Community Tax Cert. No. <u>11231481</u><br>Issued at <u>CASIPALAN, TACKAWAYAN</u><br>on <u>JANUARY 7, 2010</u> |
| 4. ALEXANDER R. MADRIGAL | Community Tax Cert. No. <u>26703128</u><br>Issued at <u>LOS BAÑOS, LAGUNA</u><br>on <u>JAN. 29, 2010</u>       |

All made known to me and known to be the same persons who executed the foregoing MOA consisting of 4 page including this page and they acknowledged to me that the same is their true and voluntary act and deed.


WITNESSETH MY HAND AND SEAL on the date and at the place first above written

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Book No. XXXVIII  
Series of 2010

*Ponciano M. Mendoza*  


*Emrich M. Borja*  


*Alexander R. Madrigal*  


  
ATTY. CIRILO B. BAYONETA, JR.  
NOTARY PUBLIC  
COMMISSION VALID UNTIL: 12-31-10  
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Notary Public



**KATIBAYAN NG KASUNDUAN**

**SA PAGITAN NG**

**FOREST PRODUCTS RESEARCH AND DEVELOPMENT INSTITUTE (FPRDI),**  
College, Laguna, na ang kinatawan sa kasunduang ito ay si  
**FELIX B. TAMOLANG**

**PROVINCIAL ENVIRONMENT AND NATURAL RESOURCES OFFICE (PENRO)**  
QUEZON, Iyam, Lucena City, Quezon Province na ang kinatawan sa kasunduang ito ay si  
**EMRICH M. BORJA**

**KAPIT-BISIG FARMERS ASSOCIATION, INC. (KBFAI)**  
Atimonan, Quezon Province, na ang kinatawan sa kasunduang ito ay si  
**NELY ALZULA**

at ng

**DEPARTMENT OF SCIENCE AND TECHNOLOGY**  
**REGIONAL OFFICE NO. IV** na ang kinatawan sa kasunduang ito ay si  
**ALEXANDER R. MADRIGAL**

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**NA PINAMAGATANG,**

**“Sustainable Utilization and Marketing of Selected Non-timber Forest Products to Support  
Handicraft Industry and the Development of Rural Communities”**

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**Kami,** bilang kinatawan ng FPRDI, PENRO-Quezon, KBFAI at ang DOST Regionnal Office No. IV ay pare-parehong nakakaintindihan at nagkakaisa na magkaroon ng katibayan ng kasunduan bilang panuntunan sa pagpapatupad ng proyektong nabanggit ayon sa hinihingi ng Artikulo III Section 3.03 (a) ng Project Agreement.

**SECTION 1. PANGKALAHATANG RESPONSABILIDAD**

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*[Handwritten signature]*  
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Ang KBFAI., isa sa napiling samahan, ay nagnanais na makisama at tutulong para maisakatuparan ang mga gawain sa proyektong nabanggit. Ang mga kasapi ay nagkakaisa sa layunin na pangalagaan ang yamang-gubat at makatulong upang magkaroon ng hanapbuhay para sa kanilang mga kasapi.

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- b. Magsagawa ng pagsasanay upang maturuan ang mga kasapi ng samahan ng mga gawain ukol sa pagpaparami at paggamit ng mga NTFP;
- c. Magsagawa ng mga pagsasanay na naglalayong makapagbigay o mapaunlad ang karunungan at kaalaman ng mga kasapi sa paggawa ng mga produktong panghanapbuhay mula sa NTFP at maitaguyod ang kakayahan ng samahan sa larangan ng pagbibili at pagnenegosyo;
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- b. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI maging ng kaligtasan ng mga tauhang magsasagawa sa nasabing proyekto;
- c. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

*Dammalang*

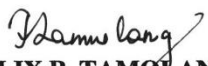
Ang Kapit Bisig Farmers Association, Inc. (KBFAI) ay may mga sumusunod na tungkulin:


- a. Pulungin ang kasapi ng samahan tungkol sa proyekto at pagpapatupad ng lahat ng gawain o aktibidad sa ilalim ng proyekto;
- b. Magtalaga o pumili ng mga kasapi o tauhan na tutulong sa mga tauhan ng FPRDI sa mga gawain ukol sa proyekto gaya ng mga sumusunod: *inventory* ng mga NTFP; pagpaparami ng mga napiling NTFP na makakatulong sa pinagkakabuhayan ng mga tao; at pagdalo o partisipasyon sa mga pagsasanay na isasakatuparan ng mga tauhan ng FPRDI;
- c. Maglaan o magtalaga ng lugar kung saan maaring ganapin ang mga pagsasanay;
- d. Mag-ambag ng kaalaman ukol sa pagpaparami at pangangalaga ng NTFP at pagbibili ng mga ito;
- e. Pagsubaybay sa mga kasapi ng lalahok sa mga pagsasanay upang malaman ang ambag ng proyekto lalo't higit sa may kinalaman sa pagpapaunlad ng pagkakakitaan ng mga kasapi sa pamamagitan ng paggawa ng mga produktong yari sa NTFP at kabuhayan o kaya'y sa pagbibili ng mga ito.

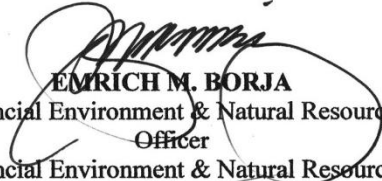
Ang DOST ay may mga sumusunod na tungkulin:

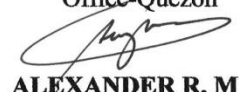
- a. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI.
- b. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

Ang kasunduang ito ay magkakabisa mula 09 FEBRUARY 2010 hanggang matapos ang nasabing proyekto. Bilang tanda sa pagsang-ayon at pagpapatibay ng kasunduang ito, ang mga pangalan at lagda ng mga nauukol na partido ay makikita sa ilalim nitong kasulatan.




  
**FELIX B. TAMOLANG**  
Director III  
Forest Products Research and Development  
Institute


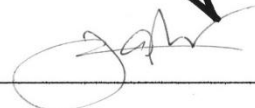
  
**NELY ALZOLA**  
Pangulo  
Kapit-Bising Farmers Association, Inc.

  
**EMRICH M. BORJA**  
Provincial Environment & Natural Resources  
Officer  
Provincial Environment & Natural Resources  
Office-Quezon

  
**ALEXANDER R. MADRIGAL**  
Regional Director  
DOST Regional Office No. IV

**MGA SAKSI:**

  
\_\_\_\_\_  
  
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\_\_\_\_\_  
  
\_\_\_\_\_

REPUBLIC OF THE PHILIPPINES  
Los Baños, Laguna

REPUBLIC OF THE PHILIPPINES)  
Province of CALAMBA CITY)  
Municipality of LAGUNA)

CALAMBA CITY

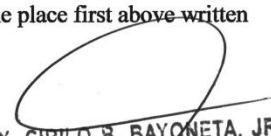
BEFORE ME, a NOTARY PUBLIC for and in LAGUNA  
Philippines, this      day of APR 05 2010 2010, personally appeared

- |                          |   |
|--------------------------|---|
| 1. FELIX B. TAMOLANG     | Community Tax Cert. No. <u>26697087</u><br>Issued at <u>Los Baños, Laguna</u><br>on <u>January 12, 2010</u> |
| 2. EMRICH M. BORJA       | Community Tax Cert. No. <u>18886987</u><br>Issued at <u>SAN PABLO CITY</u><br>on <u>JANUARY 9, 2010</u>     |
| 3. NELY ALZULA           | Community Tax Cert. No. <u>07986426</u><br>Issued at <u>ATI MONAN, QUEZON</u><br>on <u>FEBRUARY 1, 2010</u> |
| 4. ALEXANDER R. MADRIGAL | Community Tax Cert. No. <u>26703128</u><br>Issued at <u>LOS BAÑOS, LAGUNA</u><br>on <u>JAN. 29, 2010</u>    |

All made known to me and known to be the same persons who executed the foregoing MOA consisting of 4 page including this page and they acknowledged to me that the same is their true and voluntary act and deed.

WITNESSETH MY HAND AND SEAL on the date and at the place first above written

DOC. No. 525  
Page No. 06  
Book No. XXVIII  
Series of 2010

  
ATTY. CIRILO B. BAYONETA, JR.  
NOTARY PUBLIC  
COMMISSION VALID UNTIL: 12-31<sup>10</sup>  
P.T.R. No. 0021854 Yr. 2010  
I.B.P. No. 02150 Lifetime

Notary Public

*Madrigrals*  
*Alzul*  
*Borja*  
*Tamol*  
*Alzul*

**KATIBAYAN NG KASUNDUAN**

**SA PAGITAN NG**

**FOREST PRODUCTS RESEARCH AND DEVELOPMENT INSTITUTE (FPRDI),**  
College, Laguna, na ang kinatawan sa kasunduang ito ay si  
**FELIX B. TAMOLANG.**

**PROVINCIAL ENVIRONMENT AND NATURAL RESOURCES OFFICE (PENRO)**  
CAMARINES NORTE, Daet, Camarines Norte Province na ang kinatawan sa kasunduang ito  
ay si  
**ELPIDIO Z. ORATA**

**CAAYUNAN BANTAY KALIKASAN, INC.**  
Basud, Camarines Norte Province, na ang kinatawan sa kasunduang ito ay si  
**JERRY MARISCOTES**

at ng

**DEPARTMENT OF SCIENCE AND TECHNOLOGY REGIONAL OFFICE NO. V**  
Regional Center Site, Rawis, Legaspi City na ang kinatawan sa kasunduang ito ay si  
**TOMAS B. BRIÑAS**

**UPANG ISAKATUPARAN ANG PROYEKTONG ITTO PD 448/07 Rev. 2(1)**

**NA PINAMAGATANG,**

“Sustainable Utilization and Marketing of Selected Non-timber Forest Products to Support  
Handicraft Industry and the Development of Rural Communities”

**Kami,** bilang kinatawan ng FPRDI, PENRO-Camarines Norte, Caayunan Bantay Kalikasan, Inc. at ng Department of Science and Technology Region IV ay pare-parehong nakakaintindihan at nagkakaisa na magkaroon ng katibayan ng kasunduan bilang panuntunan sa pagpapatupad ng proyektong nabanggit ayon sa hinihingi ng Artikulo III Section 3.03 (a) ng Project Agreement.

**SECTION 1. PANGKALAHATANG RESPONSABILIDAD**

Ang FPRDI ay isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Science and Technology (DOST), na inatang manguna sa pagsasakatuparan ng nabanggit na proyekto. Ang proyekto ay may mga layuning makatulong sa mga napiling samahan na magkaroon ng pangmatagalang pangangalaga at sustento ng ani ng yamang gubat na magagamit para sa pangkabuhayan ng mga kasapi ng samahan. Ito ang mamamahala sa pagpapatupad ng mga gawaing may kaugnayan sa proyekto. Ito rin ang mag-uulat sa International Tropical Timber Organization (ITTO) ukol sa pagsasakatuparan ng mga gawain ayon sa pagkakasaad sa iminungkahing proyekto.

*Handwritten signatures:*  
- A signature that appears to be "Namby" with a large flourish.  
- A signature that appears to be "Luis" with a large flourish.  
- A signature that appears to be "Jerr" with a large flourish.

*Handwritten signature:*  
- A signature that appears to be "Tomas B. Briñas" written vertically.

Ang PENRO, isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Environment and Natural Resource (DENR) sa buong probinsya ng Quezon, ay nakakaalam ukol sa datos ng mga yamang-gubat maging ng mga samahan o organisasyong may kinalaman sa pangangalaga at paggamit ng yamang-gubat. Bilang tagapamahala sa pagpapalawig, tagapagpaganap, at tagapagpasunod ng mga batas ukol sa pangangalaga ng mga yamang-gubat, ito ay may tungkulin na makipag-ugnayan sa FPRDI. Ito rin ang nakakaalam kung aling mga lugar at samahan ang maaring makatulong na maisakatuparan ang proyekto.

Ang Caayunan Bantay Kalikasan, Inc., isa sa napiling samahan, ay nagnanais na makisama at tutulong para maisakatuparan ang mga gawain sa proyektong nabanggit. Ang mga kasapi ay nagkakaisa sa layunin na pangalagaan ang yamang-gubat at makatulong upang magkaroon ng hanapbuhay para sa kanilang mga kasapi.

Ang DOST ay isang ahensya ng pamahalaan na naatasang tumugon sa pangangailang pangkaunlaran nauukol sa syensiya at teknolohiya ng mga tagapagtangkil sa rehiyon.

Ang mga nabanggit na ahensya ng pamahalaan ng Pilipinas at samahan ay nagkakaisa na magtutulongan sa pamamagitan ng pag-aatas ng mga tauhan na makapagbibigay ng pagpapayong *teknikal* upang maisakatuparan ang proyekto.

## SECTION 2. MGA KAUKULANG AMBAG/TUNGKULIN NG BAWAT PARTIDO

Ang FPRDI ay may mga sumusunod na tungkulin:

- a. Magsagawa ng pag-aaral at maglaan ng pondong gagamitin para makilala, malaman and dami, tamang pag-ani at paggamit ng mga yamang-gubat na tinaguriang "Non-timber Forest Products" (NTFP) na mayroon sa mga napipiling lugar na isasagawa ang proyekto;
- b. Magsagawa ng pagsasanay upang maturuan ang mga kasapi ng samahan ng mga gawain ukol sa pagpaparami at paggamit ng mga NTFP;
- c. Magsagawa ng mga pagsasanay na naglalayong makapagbigay o mapaunlad ang karunungan at kaalaman ng mga kasapi sa paggawa ng mga produktong panghanapbuhay mula sa NTFP at maitaguyod ang kakayahan ng samahan sa larangan ng pagbibili at pagnenegosyo;
- d. Magsagawa ng proyekto na may layuning maparami ang mga mahahalagang NTFP na magagamit ng samahan sa paggawa ng kanilang mga produkto;
- e. Magsagawa ng mga pagsasanay ukol sa tamang pamamaraan ng pangungulekta ng NTFP nang sa gayon ay makaaasa ng pangmatagalang ani at sustento ng mga gagamiting materyales .
- f. Magsumite ng mga ulat ukol sa pagsasakatuparan at resulta ng proyekto sa ITTO.
- g. Sagutin ang mga pinansyal na pangangailangan ng kanilang mga tauhan (project staff) maging ng mga tauhan ng tutulong sa mga Gawain ukol sa *inventory* ng NTFP.



Ang Provincial Environment and Natural Resources Office (PENRO) ay may mga sumusunod na tungkulin:

- a. Makipag-ugnayan sa tanggapan ng Community Environment and Natural Resources Office (CENRO) ng lalawigan ng Camarines Norte ukol sa nabanggit na proyekto upang magtalaga ng mga tauhang makakatulong sa pagbibigay ng pagpapayo kung alin o saang lugar dapat isasagawa ang proyekto;
- b. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI maging ng kaligtasan ng mga tauhang magsasagawa sa nasabing proyekto;
- c. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

Ang Caayunan Bantay Kalikasan, Inc. ay may mga sumusunod na tungkulin:

- a. Pulungin ang kasapi ng samahan tungkol sa proyekto at pagpapatupad ng lahat ng gawain o aktibidad sa ilalim ng proyekto;
- b. Magtalaga o pumili ng mga kasapi o tauhan na tutulong sa mga tauhan ng FPRDI sa mga gawain ukol sa proyekto gaya ng mga sumusunod: *inventory* ng mga NTFP; pagpaparami ng mga napiling NTFP na makakatulong sa pinagkakabuhayan ng mga tao; at pagdalo o partisipasyon sa mga pagsasanay na isasakatuparan ng mga tauhan ng FPRDI;
- c. Maglaan o magtalaga ng lugar kung saan maaring ganapin ang mga pagsasanay;
- d. Mag-ambag ng kaalaman ukol sa pagpaparami at pangangalaga ng NTFP at pagbibili ng mga ito;
- e. Pagsusubaybay sa mga kasapi ng lalahok sa mga pagsasanay upang malaman ang ambag ng proyekto lalo't higit sa may kinalaman sa pagpapaunlad ng pagkakakitaan ng mga kasapi sa pamamagitan ng paggawa ng mga produktong yari sa NTFP at kabuhayan o kaya'y sa pagbibili ng mga ito.

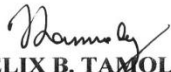
Ang DOST ay may mga sumusunod na tungkulin:

- a. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI.
- b. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

*Domestico* *Almora* *John*



Ang kasunduang ito ay magkakabisa mula 10 FEBRUARY 2010 hanggang matapos ang nasabing proyekto. Bilang tanda sa pagsang-ayon at pagpapatibay ng kasunduang ito, ang mga pangalan at lagda ng mga nauukol na partido ay makikita sa ilalim nitong kasulatan.

  
**FELIX B. TAMOLANG**

Director III  
Forest Products Research and Development  
Institute

  
**ELPIDIO Z. ORATA**


Provincial Environment & Natural Resources  
Officer  
Provincial Environment & Natural Resources  
Office – Camarines Norte

Petsa:  
Lugar:


Petsa:  
Lugar:


Petsa:  
Lugar:

  
**JERRY MARISCOTES**  
Paggulo  
Caaryunan Bantay Kalikasan, Inc

  
**TOMAS B. BRINAS**  
Regional Director  
DOST Regional Office No. V

**MGA SAKSI:**

  
\_\_\_\_\_  
\_\_\_\_\_

  
\_\_\_\_\_  
\_\_\_\_\_



REPUBLIC OF THE PHILIPPINES  
Los Baños, Laguna

REPUBLIC OF THE PHILIPPINES)  
Province of CALAMBA CITY)  
Municipality of LAGUNA)

CALAMBA CITY  
LAGUNA

BEFORE ME, a NOTARY PUBLIC for and in \_\_\_\_\_  
Philippines, this \_\_\_\_\_ day of APR 05 2010 2010, personally appeared

- |                      |  |
|----------------------|--|
| 1. FELIX B. TAMOLANG | Community Tax Cert. No. <u>26697087</u><br>Issued at <u>Los Baños, Laguna</u><br>on <u>January 12, 2010</u>  |
| 2. ELPIDIO Z. ORATA  | Community Tax Cert. No. <u>02977474</u><br>Issued at <u>DAET, CAM. NORTE</u><br>on <u>FEBRUARY 8, 2010</u>   |
| 3. JERRY MARISCOTES  | Community Tax Cert. No. <u>14627091</u><br>Issued at <u>CAYUNAN, BASUD</u><br>on <u>MARCH 24, 2010</u>       |
| 4. TOMAS B. BRIÑAS   | Community Tax Cert. No. <u>19881975</u><br>Issued at <u>PAWIS, LEGASPI CITY</u><br>on <u>JANUARY 8, 2010</u> |

All made known to me and known to be the same persons who executed the foregoing  
MOA consisting of 5 page including this page and they acknowledged to me that the same  
is their true and voluntary act and deed.

WITNESSETH MY HAND AND SEAL on the date and at the place first above written

DOC. No. 326  
Page No. 67  
Book No. XXXVIII  
Series of 2010

ATTY. CIRILO B. BAYONETA, JR.  
NOTARY PUBLIC  
COMMISSION VALID UNTIL: 12-31-0  
P.T.R. No. 12478 Yr. 2010  
C.C. No. 02950 Lifetime

Notary Public

Wammy   

**KATIBAYAN NG KASUNDUAN**

**SA PAGITAN NG**

**FOREST PRODUCTS RESEARCH AND DEVELOPMENT INSTITUTE (FPRDI),**  
College, Laguna, na ang kinatawan sa kasunduang ito ay si  
**FELIX B. TAMOLANG**

**PROVINCIAL ENVIRONMENT AND NATURAL RESOURCES OFFICE (PENRO)**  
QUEZON, Iyam, Lucena City, Quezon Province na ang kinatawan sa kasunduang ito ay si  
**EMRICH M. BORJA**

**LUNTIANG MAGSASAKA NG CASISPALAN, INC (LUMACA)**  
Tagkawayan,, Quezon Province, na ang kinatawan sa kasunduang ito ay si  
**STELLA CASTRONUEVO**

at ng

**DOST REGIONAL OFFICE NO. IV,**  
Los Baños, Laguna na ang kinatawan sa kasunduang ito ay si  
**ALEXANDER R. MADRIGAL**

**UPANG ISAKATUPARAN ANG PROYEKTONG ITTO PD 448/07 Rev. 2(1)**

**NA PINAMAGATANG,**

“Sustainable Utilization and Marketing of Selected Non-timber Forest Products to Support  
Handicraft Industry and the Development of Rural Communities”

**Kami**, bilang kinatawan ng FPRDI, PENRO-Quezon, LUMACA at ng DOST Regional Office No. IV ay pare-parehong nakakaintindihan at nagkakaisa na magkaroon ng katibayan ng kasunduan bilang panuntunan sa pagpapatupad ng proyektong nabanggit ayon sa hinihingi ng Artikulo III Section 3.03 (a) ng Project Agreement.

**SECTION 1. PANGKALAHATANG RESPONSABILIDAD**

Ang FPRDI ay isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Science and Technology (DOST), na inatasang manguna sa pagsasakatuparan ng nabanggit na proyekto. Ang proyekto ay may mga layuning makatulong sa mga napiling samahan na magkaroon ng pangmatagalang pangangalaga at sustento ng ani ng yamang gubat na magagamit para sa pangkabuhayan ng mga kasapi ng samahan. Ito ang mamamahala sa pagpapatupad ng mga gawaing may kaugnayan sa proyekto. Ito rin ang mag-uulat sa International Tropical Timber Organization (ITTO) ukol sa pagsasakatuparan ng mga gawain ayon sa pagkakasaad sa iminungkahing proyekto.

Ang PENRO, isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Environment and Natural Resource (DENR) sa buong probinsya ng Quezon, ay nakakaalam ukol sa datos ng mga yamang-gubat maging ng mga samahan o organisasyong may kinalaman sa pangangalaga at paggamit ng yamang-gubat. Bilang tagapamahala sa pagpapalawig, tagapagpaganap, at tagapagpasunod ng mga batas ukol sa pangangalaga ng mga yamang-gubat, ito ay may tungkulin na makipag-ugnayan sa FPRDI. Ito rin ang nakakaalam kung aling mga lugar at samahan ang maaring makatulong na maisakatuparan ang proyekto.

*Stella V. Castromo* *Darmology*

*[Signature]*

Ang LUMACA, isa sa napiling samahan, ay nagnanais na makisama at tutulong para maisakatuparan ang mga gawain sa proyektong nabanggit. Ang mga kasapi ay nagkakaisa sa layunin na pangalagaan ang yamang-gubat at makatulong upang magkaroon ng hanapbuhay para sa kanilang mga kasapi.

Ang DOST ay isang ahensya ng pamahalaan na naatasang tumugon sa pangangailang pangkaunlaran nauukol sa syensiya at teknolohiya ng mga tagapagtangkil sa rehiyon.

Ang mga nabanggit na ahensya ng pamahalaan ng Pilipinas at samahan ay nagkakaisa na magtutulong sa pamamagitan ng pag-aatas ng mga tauhan na makapagbibigay ng pagpapayong *teknikal* upang maisakatuparan ang proyekto.

## SECTION 2. MGA KAUKULANG AMBAG/TUNGKULIN NG BAWAT PARTIDO

Ang FPRDI ay may mga sumusunod na tungkulin:

- a. Magsagawa ng pag-aaral at maglaan ng pondong gagamitin para makilala, malaman and dami, tamang pag-ani at paggamit ng mga yamang-gubat na tinaguriang "Non-timber Forest Products" (NTFP) na mayroon sa mga napipiling lugar na isasagawa ang proyekto;
- b. Magsagawa ng pagsasanay upang maturuan ang mga kasapi ng samahan ng mga gawain ukol sa pagpaparami at paggamit ng mga NTFP;
- c. Magsagawa ng mga pagsasanay na naglalayong makapagbigay o mapaunlad ang karunungan at kaalaman ng mga kasapi sa paggawa ng mga produktong panghanapbuhay mula sa NTFP at maitaguyod ang kakayahan ng samahan sa larangan ng pagbibili at pagnenegosyo;
- d. Magsagawa ng proyekto na may layuning maparami ang mga mahahalagang NTFP na magagamit ng samahan sa paggawa ng kanilang mga produkto;
- e. Magsagawa ng mga pagsasanay ukol sa tamang pamamaraan ng pangungulekta ng NTFP nang sa gayon ay makaaasa ng pangmatagalang ani at sustento ng mga gagamiting materyales .
- f. Magsumite ng mga ulat ukol sa pagsasakatuparan at resulta ng proyekto sa ITTO.
- g. Sagutin ang mga pinansyal na pangangailangan ng kanilang mga tauhan (project staff) maging ng mga tauhan ng tutulong sa mga Gawain ukol sa *inventory* ng NTFP.

Ang Provincial Environment and Natural Resources Office (PENRO) ay may mga sumusunod na tungkulin:

- a. Makipag-ugnayan sa tanggapan ng Community Environment and Natural Resources Office (CENRO) ng lalawigan ng Quezon ukol sa nabanggit na proyekto upang magtalaga ng mga tauhang makakatulong sa pagbibigay ng pagpapayo kung alin o saang lugar dapat isasagawa ang proyekto;
- b. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI maging ng kaligtasan ng mga tauhang magsasagawa sa nasabing proyekto;
- c. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

*Estela V. Estanero*

*Ramely*

*Janet*

*[Signature]*


Ang Kapatirang Samahan ng mga Magsasaka ng Casispalan-MPC (LUMACA) ay may mga sumusunod na tungkulin:

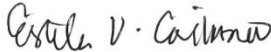
- a. Pulungin ang kasapi ng samahan tungkol sa proyekto at pagpapatupad ng lahat ng gawain o aktibidad sa ilalim ng proyekto;
- b. Magtalaga o pumili ng mga kasapi o tauhan na tutulong sa mga tauhan ng FPRDI sa mga gawain ukol sa proyekto gaya ng mga sumusunod: *inventory* ng mga NTFP; pagpaparami ng mga napiling NTFP na makakatulong sa pinagkakabuhayan ng mga tao; at pagdalo o partisipasyon sa mga pagsasanay na isasakatuparan ng mga tauhan ng FPRDI;
- c. Maglaan o magtalaga ng lugar kung saan maaring ganapin ang mga pagsasanay;
- d. Mag-ambag ng kaalaman ukol sa pagpaparami at pangangalaga ng NTFP at pagbibili ng mga ito;
- e. Pagsusubaybay sa mga kasapi ng lalahok sa mga pagsasanay upang malaman ang ambag ng proyekto lalo't higit sa may kinalaman sa pagpapaunlad ng pagkakakitaan ng mga kasapi sa pamamagitan ng paggawa ng mga produktong yari sa NTFP at kabuhayan o kaya'y sa pagbibili ng mga ito.

Ang DOST ay may mga sumusunod na tungkulin:


- a. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI;
- b. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

Ang kasunduang ito ay magkakabisa mula 09 FEBRUARY 2010 hanggang matapos ang nasabing proyekto. Bilang tanda sa pagsang-ayon at pagpapatibay ng kasunduang ito, ang mga pangalan at lagda ng mga nauukol na partido ay makikita sa ilalim nitong kasulatan.

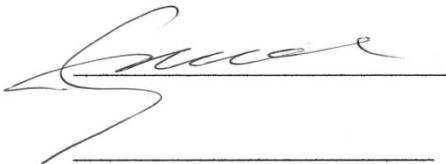
  
**FELIX B. TAMOLANG**  
Director III  
Forest Products Research and Development  
Institute

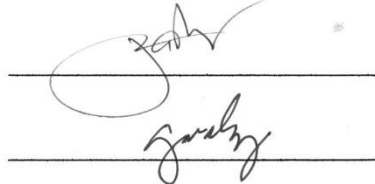
  
**STELLA CASTRONUEVO**  
Pangulo  
Luntiang Magsasaka ng  
Casispalan, Inc.

  
**EMRICH M. BORJA**  
Provincial Environment & Natural  
Resources Officer

  
**ALEXANDER R. MADRIGAL**  
Regional Director  
DOST Regional Office No. IV

**MGA SAKSI:**





REPUBLIC OF THE PHILIPPINES  
Los Baños, Laguna

REPUBLIC OF THE PHILIPPINES)  
Province of CALAMBA CITY)  
Municipality of LAGUNA)

CALAMBA CITY


BEFORE ME, a NOTARY PUBLIC for and in LAGUNA  
Philippines, this      day of APR 05 2010 2010, personally appeared

- |                          |  |
|--------------------------|--|
| 1. FELIX B. TAMOLANG     | Community Tax Cert. No. <u>26697087</u><br>Issued at <u>Los Baños, Laguna</u><br>on <u>January 12, 2010</u>  |
| 2. EMRICH M. BORJA       | Community Tax Cert. No. <u>18886987</u><br>Issued at <u>SAN PABLO CITY</u><br>on <u>JANUARY 9, 2010</u>      |
| 3. ESTELA CASTRONUEVO    | Community Tax Cert. No. <u>22026062</u><br>Issued at <u>CASIPALAN, TAGAYAYAN</u><br>on <u>MARCH 25, 2010</u> |
| 4. ALEXANDER R. MADRIGAL | Community Tax Cert. No. <u>26703/28</u><br>Issued at <u>LOS BAÑOS, LAGUNA</u><br>on <u>JAN. 29, 2010</u>     |

All made known to me and known to be the same persons who executed the foregoing MOA consisting of 4 page including this page and they acknowledged to me that the same is their true and voluntary act and deed.

WITNESSETH MY HAND AND SEAL on the date and at the place first above written

DOC. No. 823  
Page No. 66  
Book No. XXXVIIII  
Series of 2010

  
ATTY. CIRILO B. BAYONETA, JR.  
NOTARY PUBLIC  
COMMISSION VALID UNTIL: 12-31-10  
P.T.R. No. 0024854 Yr. 2010  
I.B.P. No. 02950 Lifetime  
  
Notary Public



**KATIBAYAN NG KASUNDUAN**

**SA PAGITAN NG**

**FOREST PRODUCTS RESEARCH AND DEVELOPMENT INSTITUTE (FPRDI),**  
College, Laguna, na ang kinatawan sa kasunduang ito ay si  
**FELIX B. TAMOLANG.**

**PROVINCIAL ENVIRONMENT AND NATURAL RESOURCES OFFICE (PENRO)**  
CAMARINES NORTE, Daet, Camarines Norte Province na ang kinatawan sa kasunduang ito  
ay si  
**ELPIDIO Z. ORATA**

**SAN PASCUAL COMMUNITY BASED RESOURCE MANAGEMENT, INC**  
Basud, Camarines Norte Province, na ang kinatawan sa kasunduang ito ay si  
**ZALDY BALICTAR**

at ng

**DEPARTMENT OF SCIENCE AND TECHNOLOGY REGIONAL OFFICE NO. V ,**  
Regional Center Site, Rawis, Ilegaspi City na ang kinatawan sa kasunduang ito ay si  
**TOMAS B. BRIÑAS**

**UPANG ISAKATUPARAN ANG PROYEKTONG ITTO PD 448/07 Rev. 2(1)**

**NA PINAMAGATANG,**

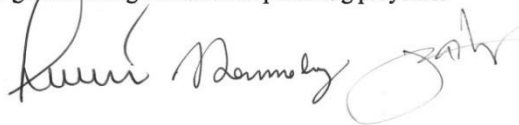
**“Sustainable Utilization and Marketing of Selected Non-timber Forest Products to Support  
Handicraft Industry and the Development of Rural Communities”**

**Kami,** bilang kinatawan ng FPRDI, PENRO-Camarines Norte, San Pascual Community Based Resource Management, Inc. at ng DOST Regional Office No. V ay pare-parehong nakakaintindihan at nagkakaisa na magkaroon ng katibayan ng kasunduan bilang panuntunan sa pagpapatupad ng proyektong nabanggit ayon sa hinihingi ng Artikulo III Section 3.03 (a) ng Project Agreement.

**SECTION 1. PANGKALAHATANG RESPONSABILIDAD**

Ang FPRDI ay isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Science and Technology (DOST), na inatasang manguna sa pagsasakatuparan ng nabanggit na proyekto. Ang proyekto ay may mga layuning makatulong sa mga napiling samahan na magkaroon ng pangmatagalang pangangalaga at sustento ng ani ng yamang gubat na magagamit para sa pangkabuhayan ng mga kasapi ng samahan. Ito ang mamamahala sa pagpapatupad ng mga gawaing may kaugnayan sa proyekto. Ito rin ang mag-uulat sa International Tropical Timber Organization ukol sa pagsasakatuparan ng mga gawain ayon sa pagkakasaad sa iminungkahing proyekto.

Ang PENRO, isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Environment and Natural Resource (DENR) sa buong probinsya ng Quezon, ay nakakaalam ukol sa datos ng mga yamang-gubat maging ng mga samahan o organisasyong may kinalaman sa pangangalaga at paggamit ng yamang-gubat. Bilang tagapamahala sa pagpapalawig, tagapagpaganap, at tagapagpasunod ng mga batas ukol sa pangangalaga ng mga yamang-gubat, ito ay may tungkulin na makipag-ugnayan sa FPRDI. Ito rin ang nakakaalam kung aling mga lugar at samahan ang maaring makatulong na maisakatuparan ang proyekto.



Ang San Pascual Community Based Resource Management, Inc., isa sa napiling samahan, ay nagnanais na makisama at tutulong para maisakatuparan ang mga gawain sa proyektong nabanggit. Ang mga kasapi ay nagkakaisa sa layunin na pangalagaan ang yamang-gubat at makatulong upang magkaroon ng hanapbuhay para sa kanilang mga kasapi.

Ang DOST ay isang ahensya ng pamahalaan na naatasang tumugon sa pangangailang pangkaunlaran nauukol sa syensiya at teknolohiya ng mga tagapagtangkil sa rehiyon.

Ang mga nabanggit na ahensya ng pamahalaan ng Pilipinas at samahan ay nagkakaisa na magtutulong sa pamamagitan ng pag-aatas ng mga tauhan na makapagbibigay ng pagpapayong *teknikal* upang maisakatuparan ang proyekto.

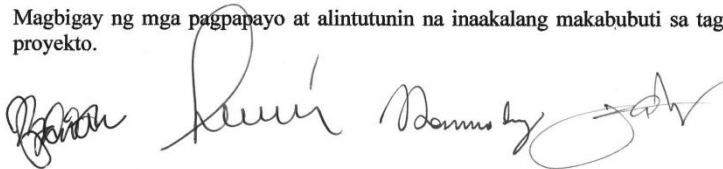
## SECTION 2. MGA KAUKULANG AMBAG/TUNGKULIN NG BAWAT PARTIDO

Ang FPRDI ay may mga sumusunod na tungkulin:

- a. Magsagawa ng pag-aaral at maglaan ng pondong gagamitin para makilala, malaman and dami, tamang pag-ani at paggamit ng mga yamang-gubat na tinaguriang "Non-timber Forest Products" (NTFP) na mayroon sa mga napipiling lugar na isasagawa ang proyekto;
- b. Magsagawa ng pagsasanay upang maturuan ang mga kasapi ng samahan ng mga gawain ukol sa pagpaparami at paggamit ng mga NTFP;
- c. Magsagawa ng mga pagsasanay na naglalayong makapagbigay o mapaunlad ang karunungan at kaalaman ng mga kasapi sa paggawa ng mga produktong panghanapbuhay mula sa NTFP at maitaguyod ang kakayahan ng samahan sa larangan ng pagbibili at pagnenegosyo;
- d. Magsagawa ng proyekto na may layuning maparami ang mga mahahalagang NTFP na magagamit ng samahan sa paggawa ng kanilang mga produkto;
- e. Magsagawa ng mga pagsasanay ukol sa tamang pamamaraan ng pangungulekta ng NTFP nang sa gayon ay makaasa ng pangmatagalang ani at sustento ng mga gagamiting materyales .
- f. Magsumite ng mga ulat ukol sa pagsasakatuparan at resulta ng proyekto sa ITTO.
- g. Sagutin ang mga pinansyal na pangangailangan ng kanilang mga tauhan (project staff) maging ng mga tauhan ng tutulong sa mga Gawain ukol sa *inventory* ng NTFP.

Ang Provincial Environment and Natural Resources Office (PENRO) ay may mga sumusunod na tungkulin:

- a. Makipag-ugnayan sa tanggapan ng Community Environment and Natural Resources Office (CENRO) ng lalawigan ng Camarines Norte ukol sa nabanggit na proyekto upang magtalaga ng mga tauhang makakatulong sa pagbibigay ng pagpapayo kung alin o saang lugar dapat isasagawa ang proyekto;
- b. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI maging ng kaligtasan ng mga tauhang magsasagawa sa nasabing proyekto;
- c. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.



Ang San Pascual Community based Resource Management, Inc. ay may mga sumusunod na tungkulin:

- a. Pulungin ang kasapi ng samahan tungkol sa proyekto at pagpapatupad ng lahat ng gawain o aktibidad sa ilalim ng proyekto;
- b. Magtalaga o pumili ng mga kasapi o tauhan na tutulong sa mga tauhan ng FPRDI sa mga gawain ukol sa proyekto gaya ng mga sumusunod: *inventory* ng mga NTFP; pagpaparami ng mga napiling NTFP na makakatulong sa pinagkakabuhayan ng mga tao; at pagdalo o partisipasyon sa mga pagsasanay na isasakatuparan ng mga tauhan ng FPRDI;
- c. Maglaan o magtalaga ng lugar kung saan maaring ganapin ang mga pagsasanay;
- d. Mag-ambag ng kaalaman ukol sa pagpaparami at pangangalaga ng NTFP at pagbibili ng mga ito;
- e. Pagsubaybay sa mga kasapi ng lalahok sa mga pagsasanay upang malaman ang ambag ng proyekto lalo't higit sa may kinalaman sa pagpapaunlad ng pagkakakitaan ng mga kasapi sa pamamagitan ng paggawa ng mga produktong yari sa NTFP at kabuhayan o kaya'y sa pagbibili ng mga ito.

Ang DOST ay may mga sumusunod na tungkulin:

- a. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI.
- b. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

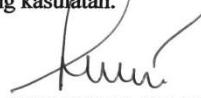
Ang kasunduang ito ay magkakabisa mula 10 FEBRUARY 2010 hanggang matapos ang nasabing proyekto. Bilang tanda sa pagsang-ayon at pagpapatibay ng kasunduang ito, ang mga pangalan at lagda ng mga nauukol na partido ay makikita sa ilalim nitong kasulatan.



**FELIX B. TAMOLANG**

Director III

Forest Products Research and Development  
Institute



**ELPIDIO Z. ORATA**

Provincial Environment & Natural Resources  
Officer

Provincial Environment & Natural Resources  
Office-Camarines Norte



**ZALDY BALICTAR**

Pangulo

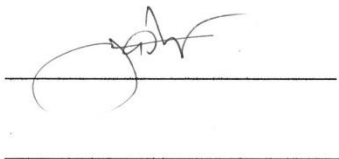
San Pascual Community-Based  
Resource Management, inc.



**TOMAS B. BRIÑAS**

Regional Director  
DOST Regional Office No. V

**MGA SAKSI:**

  
\_\_\_\_\_  
\_\_\_\_\_



REPUBLIC OF THE PHILIPPINES  
Los Baños, Laguna

REPUBLIC OF THE PHILIPPINES)  
Province of CALAMBA CITY  
Municipality of LAGUNA

CALAMBA CITY


BEFORE ME, a NOTARY PUBLIC for and in LAGUNA  
Philippines, this APR 05 day of 2010 2010, personally appeared

- |                      |  |
|----------------------|--|
| 1. FELIX B. TAMOLANG | Community Tax Cert. No. <u>26697087</u><br>Issued at <u>Los Baños, Laguna</u><br>on <u>January 12, 2010</u>  |
| 2. ELPIDIO Z. ORATA  | Community Tax Cert. No. <u>02977474</u><br>Issued at <u>DAET CAM NORIE</u><br>on <u>FEBRUARY 8, 2010</u>     |
| 3. ZALDY BALICTAR    | Community Tax Cert. No. <u>14672827</u><br>Issued at <u>DAET CAM NORIE</u><br>on <u>JAN. 29, 2010</u>        |
| 4. TOMAS B. BRIÑAS   | Community Tax Cert. No. <u>19881975</u><br>Issued at <u>DAVIS, LEGASPI CITY</u><br>on <u>JANUARY 8, 2010</u> |

All made known to me and known to be the same persons who executed the foregoing MOA consisting of 4 page including this page and they acknowledged to me that the same is their true and voluntary act and deed.

WITNESSETH MY HAND AND SEAL on the date and at the place first above written

DOC. No. 328  
Page No. 47  
Book No. XXXVIII  
Series of 2010

  
ATTY. CIRILO B. BAYONETA, JR.  
NOTARY PUBLIC  
COMMISSION VALID UNTIL: 12-31-<sup>10</sup>  
P.T.R. No. 0024054 Yr. 2010  
I.C. No. 02900 Lifetime  
Notary Public



**KATIBAYAN NG KASUNDUAN**

**SA PAGITAN NG**

**FOREST PRODUCTS RESEARCH AND DEVELOPMENT INSTITUTE (FPRDI),**  
College, Laguna, na ang kinatawan sa kasunduang ito ay si  
**FELIX B. TAMOLANG.**

**PROVINCIAL ENVIRONMENT AND NATURAL RESOURCES OFFICE (PENRO)**  
**CAMARINES NORTE, Daet, Camarines Norte Province** na ang kinatawan sa kasunduang ito  
ay si  
**ELPIDIO Z. ORATA**

**TAO-KALIKASAN FOUNDATION OF THE PHILIPPINES, INC. (TKFPI)**  
Labo, Camarines Norte Province, na ang kinatawan sa kasunduang ito ay si  
**WILFREDO ENDIONELA**

at ng

**DEPARTMENT OF SCIENCE AND TECHNOLOGY REGIONAL OFFICE NO. V**  
Regional Center Site, Rawis, Legaspi City, na ang kinatawan sa kasunduang ito ay si  
**TOMAS B. BRINAS**

**UPANG ISAKATUPARAN ANG PROYEKTONG ITTO PD 448/07 Rev. 2(1)**

**NA PINAMAGATANG,**

**“Sustainable Utilization and Marketing of Selected Non-timber Forest Products to Support  
Handicraft Industry and the Development of Rural Communities”**

**Kami,** bilang kinatawan ng FPRDI, PENRO-Camarines Norte, **TKFPI** at ng DOST Regional Office No. V ay pare-parehong nakakaintindihan at nagkakaisa na magkaroon ng katibayan ng kasunduan bilang panuntunan sa pagpapatupad ng proyektong nabanggit ayon sa hinihingi ng Artikulo III Section 3.03 (a) ng Project Agreement.

**SECTION 1. PANGKALAHATANG RESPONSABILIDAD**

Ang FPRDI ay isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Science and Technology (DOST), na inatasang manguna sa pagsasakatuparan ng nabanggit na proyekto. Ang proyekto ay may mga layuning makatulong sa mga napiling samahan na magkaroon ng pangmatagalang pangangalaga at sustento ng ani ng yamang gubat na magagamit para sa pangkabuhayan ng mga kasapi ng samahan. Ito ang mamamahala sa pagpapatupad ng mga gawaing may kaugnayan sa proyekto. Ito rin ang mag-uulat sa International Tropical Timber Organization (ITTO) ukol sa pagsasakatuparan ng mga gawain ayon sa pagkakasaad sa iminungkahing proyekto.

Ang PENRO, isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Environment and Natural Resource (DENR) sa buong probinsya ng Quezon, ay nakakaalam ukol sa datos ng mga yamang-gubat maging ng mga samahan o organisasyong may kinalaman sa pangangalaga at paggamit ng yamang-gubat. Bilang tagapamahala sa pagpapalawig, tagapagpaganap, at tagapagpasunod ng mga batas ukol sa pangangalaga ng mga yamang-gubat, ito ay may tungkulin na makipag-ugnayan sa FPRDI at ng iba't-ibang Community Environment and Natural Resource Office (CENRO) na nasasakupan ng Quezon. Ito rin ang nakakaalam kung aling mga lugar at samahan ang maaring makatulong na maisakatuparan ang proyekto.



Ang **TKFPI**, isa sa napiling samahan, ay nagnanais na makisama at tutulong para maisakatuparan ang mga gawain sa proyektong nabanggit. Ang mga kasapi ay nagkakaisa sa layunin na pangalagaan ang yamang-gubat at makatulong upang magkaroon ng hanapbuhay para sa kanilang mga kasapi.

Ang **DOST** ay isang ahensya ng pamahalaan na naatasang tumugon sa pangangailang pangkaunlaran nauukol sa syensiya at teknolohiya ng mga tagapagtangkil sa rehiyon.

Ang mga nabanggit na ahensya ng pamahalaan ng Pilipinas at samahan ay nagkakaisa na magtutulongan sa pamamagitan ng pag-aatas ng mga tauhan na makapagbibigay ng pagpapayong *teknikal* upang maisakatuparan ang proyekto.

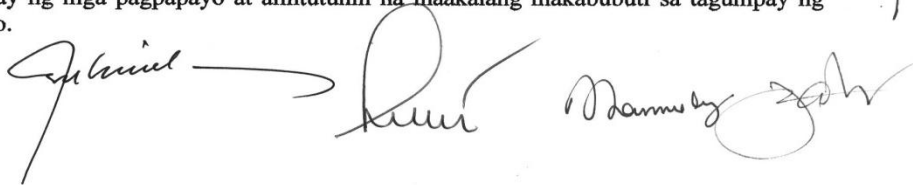
## SECTION 2. MGA KAUKULANG AMBAG/TUNGKULIN NG BAWAT PARTIDO

Ang **FPRDI** ay may mga sumusunod na tungkulin:

- a. Magsagawa ng pag-aaral at maglaan ng pondong gagamitin para makilala, malaman and dami, tamang pag-ani at paggamit ng mga yamang-gubat na tinaguriang "Non-timber Forest Products" (NTFP) na mayroon sa mga napipiling lugar na isasagawa ang proyekto;
- b. Magsagawa ng pagsasanay upang maturuan ang mga kasapi ng samahan ng mga gawain ukol sa pagpaparami at paggamit ng mga NTFP;
- c. Magsagawa ng mga pagsasanay na naglalayong makapagbigay o mapaunlad ang karunungan at kaalaman ng mga kasapi sa paggawa ng mga produktong panghanapbuhay mula sa NTFP at maitaguyod ang kakayahan ng samahan sa larangan ng pagbibili at pagnenegosyo;
- d. Magsagawa ng proyekto na may layuning maparami ang mga mahahalagang NTFP na magagamit ng samahan sa paggawa ng kanilang mga produkto;
- e. Magsagawa ng mga pagsasanay ukol sa tamang pamamaraan ng pangungulekta ng NTFP nang sa gayon ay makaaasa ng pangmatagalang ani at sustento ng mga gagamiting materyales .
- f. Magsumite ng mga ulat ukol sa pagsasakatuparan at resulta ng proyekto sa ITTO.
- g. Sagutin ang mga pinansyal na pangangailangan ng kanilang mga tauhan (project staff) maging ng mga tauhan ng tutulong sa mga Gawain ukol sa *inventory* ng NTFP.

Ang Provincial Environment and Natural Resources Office (PENRO) ay may mga sumusunod na tungkulin:

- a. Makipag-ugnayan sa tanggapan ng Community Environment and Natural Resources Office (CENRO) ng lalawigan ng Camarines Norte ukol sa nabanggit na proyekto upang magtalaga ng mga tauhang makakatulong sa pagbibigay ng pagpapayo kung alin o saang lugar dapat isasagawa ang proyekto;
- b. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI maging ng kaligtasan ng mga tauhang magsasagawa sa nasabing proyekto;
- c. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.



Handwritten signatures of project staff and officials, including a signature that appears to be 'Garcia' and another that appears to be 'Mama'.

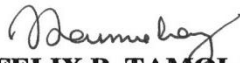
Ang Tao-Kalikasan Foundation of the Philippines, Inc. (TKFPI) ay may mga sumusunod na tungkulin:

- a. Pulungin ang kasapi ng samahan tungkol sa proyekto at pagpapatupad ng lahat ng gawain o aktibidad sa ilalim ng proyekto;
- b. Magtalaga o pumili ng mga kasapi o tauhan na tutulong sa mga tauhan ng FPRDI sa mga gawain ukol sa proyekto gaya ng mga sumusunod: *inventory* ng mga NTFP; pagpaparami ng mga napiling NTFP na makakatulong sa pinagkakabuhayan ng mga tao; at pagdalo o partisipasyon sa mga pagsasanay na isasakatuparan ng mga tauhan ng FPRDI;
- c. Maglaan o magtalaga ng lugar kung saan maaring ganapin ang mga pagsasanay;
- d. Mag-ambag ng kaalaman ukol sa pagpaparami at pangangalaga ng NTFP at pagbibili ng mga ito;
- e. Pagsusubaybay sa mga kasapi ng lalahok sa mga pagsasanay upang malaman ang ambag ng proyekto lalo't higit sa may kinalaman sa pagpapaunlad ng pagkakakitaan ng mga kasapi sa pamamagitan ng paggawa ng mga produktong yari sa NTFP at kabuhayan o kaya'y sa pagbibili ng mga ito.

Ang DOST ay may mga sumusunod na tungkulin:

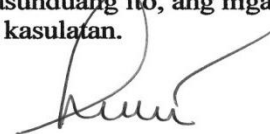
- a. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI;
- b. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

Ang kasunduang ito ay magkakabisa mula 10 FEBRUARY 2010 hanggang matapos ang nasabing proyekto. Bilang tanda sa pagsang-ayon at pagpapatibay ng kasunduang ito, ang mga pangalan at lagda ng mga nauukol na partido ay makikita sa ilalim nitong kasulatan.



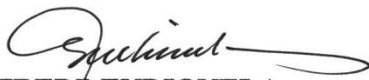
**FELIX B. TAMOLANG**  
Director III

Forest Products Research and Development  
Institute



**ELPIDIO Z. ORATA**

Provincial Environment & Natural Resources  
Officer  
Provincial Environment & Natural Resource  
Office-Camarines Norte

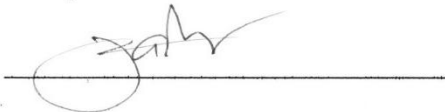


**WILFRED ENDIONELA**  
Pangulo  
Tao-Kalikasan Foundation of the  
Philippines, Inc.



**TOMAS B. BRIÑAS**  
Regional Director  
DOST Regional Office No. V

**MGA SAKSI:**



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**REPUBLIC OF THE PHILIPPINES**  
**Los Baños, Laguna**

REPUBLIC OF THE PHILIPPINES)  
Province of CALAMBA CITY)  
Municipality of LAGUNA)

**CALAMBA CITY**

BEFORE ME, a NOTARY PUBLIC for and in LAGUNA  
Philippines, this APR 05 2010 day of 2010, personally appeared.

1. FELIX B. TAMOLANG

Community Tax Cert. No. 26697087  
Issued at Los Baños, Laguna  
on January 12, 2010

2. ELPIDIO Z. ORATA

Community Tax Cert. No. 02977474  
Issued at PAET, CAM. NORTE  
on FEBRUARY 8, 2010

3. WILFREDO ENDIONELA

Community Tax Cert. No. 26768162  
Issued at LAGO, CAM. NORTE  
on JANUARY 15, 2010


4. TOMAS B. BRIÑAS

Community Tax Cert. No. 19881975  
Issued at PAWIS, LEGAZPI CITY  
on JANUARY 8, 2010

All made known to me and known to be the same persons who executed the foregoing MOA consisting of 4 page including this page and they acknowledged to me that the same is their true and voluntary act and deed.

WITNESSETH MY HAND AND SEAL on the date and at the place first above written

DOC. No. 329  
Page No. 67  
Book No. XXXV/11  
Series of 2010

  
ATTY. CIRILO B. BAYONETA, JR.  
NOTARY PUBLIC  
COMMISSION VALID UNTIL: 12-31-10  
P.T.R. No. 0024854 Yr. 2010  
I.B.P. No. 02950 Lifetime

Notary Public



**KATIBAYAN NG KASUNDUAN**

**SA PAGITAN NG**

**FOREST PRODUCTS RESEARCH AND DEVELOPMENT INSTITUTE (FPRDI),**  
College, Laguna, na ang kinatawan sa kasunduang ito ay si  
**FELIX B. TAMOLANG.**

**PROVINCIAL ENVIRONMENT AND NATURAL RESOURCES OFFICE (PENRO)**  
**CAMARINES NORTE, Daet, Camarines Norte Province** na ang kinatawan sa kasunduang ito  
ay si  
**ELPIDIO Z. ORATA**

**TUACA ENVIRONMENT ACTION BRIGADE, INC. (TEABI)**  
Labo, Camarines Norte Province, na ang kinatawan sa kasunduang ito ay si  
**NESTOR BELGA**

at ng

**DEPARTMENT OF SCIENCE AND TECHNOLOGY REGIONAL OFFICE NO. V**  
Regional Center Site, Rawis, Legaspi City, na ang kinatawan sa kasunduang ito ay si  
**TOMAS B. BRIÑAS**

**UPANG ISAKATUPARAN ANG PROYEKTONG ITTO PD 448/07 Rev. 2(1)**

**NA PINAMAGATANG,**

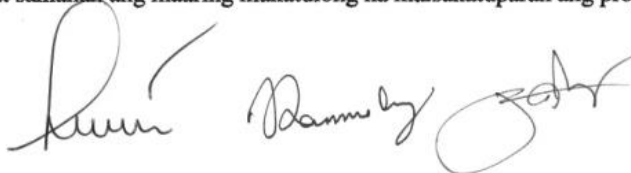
**“Sustainable Utilization and Marketing of Selected Non-timber Forest Products to Support  
Handicraft Industry and the Development of Rural Communities”**

**Kami,** bilang kinatawan ng FPRDI, PENRO-Camarines Norte, **TEABI** at ng DOST Regional Office No. V ay pare-parehong nakakaintindihan at nagkakaisa na magkaroon ng katibayan ng kasunduan bilang panuntunan sa pagpapatupad ng proyektong nabanggit ayon sa hinihingi ng Artikulo III Section 3.03 (a) ng Project Agreement.

**SECTION 1. PANGKALAHATANG RESPONSABILIDAD**

Ang FPRDI ay isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Science and Technology (DOST), na inatasang manguna sa pagsasakatuparan ng nabanggit na proyekto. Ang proyekto ay may mga layuning makatulong sa mga napiling samahan na magkaroon ng pangmatagalang pangangalaga at sustento ng ani ng yamang gubat na magagamit para sa pangkabuhayan ng mga kasapi ng samahan. Ito ang mamamahala sa pagpapatupad ng mga gawaing may kaugnayan sa proyekto. Ito rin ang mag-uulat sa International Tropical Timber Organization (ITTO) ukol sa pagsasakatuparan ng mga gawain ayon sa pagkakasaad sa iminungkahing proyekto.

Ang PENRO, isang ahensya ng pamahalaan ng Pilipinas sa ilalim ng Department of Environment and Natural Resource (DENR) sa buong probinsya ng Quezon, ay nakakaalam ukol sa datos ng mga yamang-gubat maging ng mga samahan o organisasyong may kalaman sa pangangalaga at paggamit ng yamang-gubat. Bilang tagapamahala sa pagpapalawig, tagapagpaganap, at tagapagpasunod ng mga batas ukol sa pangangalaga ng mga yamang-gubat, ito ay may tungkulin na makipag-ugnayan sa FPRDI. Ito rin ang nakakaalam kung aling mga lugar at samahan ang maaring makatulong na maisakatuparan ang proyekto.



Ang **TEABI**, isa sa napiling samahan, ay nagnanais na makisama at tutulong para maisakatuparan ang mga gawain sa proyektong nabanggit. Ang mga kasapi ay nagkakaisa sa layunin na pangalagaan ang yamang-gubat at makatulong upang magkaroon ng hanapbuhay para sa kanilang mga kasapi.

Ang DOST ay isang ahensya ng pamahalaan na naatasang tumugon sa pangangailang pangkaunlaran nauukol sa syensiya at teknolohiya ng mga tagapagtangkil sa rehiyon.

Ang mga nabanggit na ahensya ng pamahalaan ng Pilipinas at samahan ay nagkakaisa na magtutulongan sa pamamagitan ng pag-aatas ng mga tauhan na makapagbibigay ng pagpapayong *teknikal* upang maisakatuparan ang proyekto.

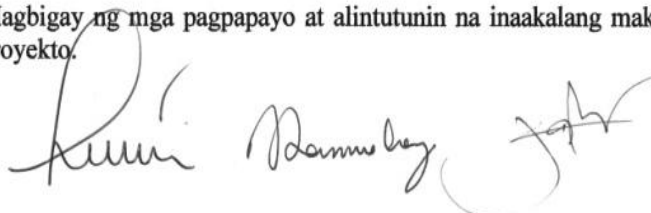
## SECTION 2. MGA KAUKULANG AMBAG/TUNGKULIN NG BAWAT PARTIDO

Ang FPRDI ay may mga sumusunod na tungkulin:

- a. Magsagawa ng pag-aaral at maglaan ng pondong gagamitin para makilala, malaman and dami, tamang pag-ani at paggamit ng mga yamang-gubat na tinaguriang "Non-timber Forest Products" (NTFP) na mayroon sa mga napipiling lugar na isasagawa ang proyekto;
- b. Magsagawa ng pagsasanay upang maturuan ang mga kasapi ng samahan ng mga gawain ukol sa pagpaparami at paggamit ng mga NTFP;
- c. Magsagawa ng mga pagsasanay na naglalayong makapagbigay o mapaunlad ang karunungan at kaalaman ng mga kasapi sa paggawa ng mga produktong panghanapbuhay mula sa NTFP at maitaguyod ang kakayahan ng samahan sa larangan ng pagbibili at pagnenegosyo;
- d. Magsagawa ng proyekto na may layuning maparami ang mga mahahalagang NTFP na magagamit ng samahan sa paggawa ng kanilang mga produkto;
- e. Magsagawa ng mga pagsasanay ukol sa tamang pamamaraan ng pangungulekta ng NTFP nang sa gayon ay makaaasa ng pangmatagalang ani at sustento ng mga gagamiting materyales .
- f. Magsumite ng mga ulat ukol sa pagsasakatuparan at resulta ng proyekto sa ITTO.
- g. Sagutin ang mga pinansyal na pangangailangan ng kanilang mga tauhan (project staff) maging ng mga tauhan ng tutulong sa mga Gawain ukol sa *inventory* ng NTFP.

Ang Provincial Environment and Natural Resources Office (PENRO) ay may mga sumusunod na tungkulin:

- a. Makipag-ugnayan sa tanggapan ng Community Environment and Natural Resources Office (CENRO) ng lalawigan ng Camarines Norte ukol sa nabanggit na proyekto upang magtalaga ng mga tauhang makakatulong sa pagbibigay ng pagpapayo kung alin o saang lugar dapat isasagawa ang proyekto;
- b. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI maging ng kaligtasan ng mga tauhang magsasagawa sa nasabing proyekto;
- c. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.



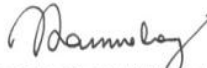
Ang Tuaca Environment Action Brigade, Inc. (TEABI) ay may mga sumusunod na tungkulin:

- a. Pulungin ang kasapi ng samahan tungkol sa proyekto at pagpapatupad ng lahat ng gawain o aktibidad sa ilalim ng proyekto;
- b. Magtalaga o pumili ng mga kasapi o tauhan na tutulong sa mga tauhan ng FPRDI sa mga gawain ukol sa proyekto gaya ng mga sumusunod: *inventory* ng mga NTFP; pagpaparami ng mga napiling NTFP na makakatulong sa pinagkakabuhayan ng mga tao; at pagdalo o partisipasyon sa mga pagsasanay na isasakatuparan ng mga tauhan ng FPRDI;
- c. Maglaan o magtalaga ng lugar kung saan maaring ganapin ang mga pagsasanay;
- d. Mag-ambag ng kaalaman ukol sa pagpaparami at pangangalaga ng NTFP at pagbibili ng mga ito;
- e. Pagsusubaybay sa mga kasapi ng lalahok sa mga pagsasanay upang malaman ang ambag ng proyekto lalo't higit sa may kinalaman sa pagpapaunlad ng pagkakakitaan ng mga kasapi sa pamamagitan ng paggawa ng mga produktong yari sa NTFP at kabuhayan o kaya'y sa pagbibili ng mga ito.

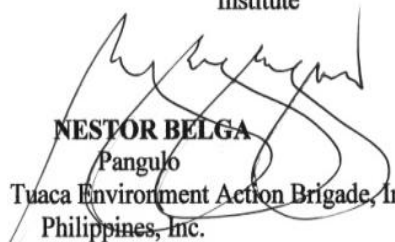
Ang DOST ay may mga sumusunod na tungkulin:

- a. Makibahagi sa proyekto sa pamamagitan ng pagsubaybay sa mga gawain ng mga tauhan ng FPRDI.
- b. Magbigay ng mga pagpapayo at alintutunin na inaakalang makabubuti sa tagumpay ng proyekto.

Ang kasunduang ito ay magkakabisa mula 10 FEBRUARY 2010 hanggang matapos ang nasabing proyekto. Bilang tanda sa pagsang-ayon at pagpapatibay ng kasunduang ito, ang mga pangalan at lagda ng mga nauukol na partido ay makikita sa ilalim nitong kasulatan.


  
**FELIX B. TAMOLANG**  
Director III  
Forest Products Research and Development  
Institute


  
**ELPIDIO Z. ORATA**  
Provincial Environment & Natural Resources  
Officer

  
**NESTOR BELGA**  
Pangulo  
Tuaca Environment Action Brigade, Inc.  
Philippines, Inc.

  
**TOMAS B. BRIÑAS**  
Regional Director  
DOST Regional Office No. V

**MGA SAKSI:**

  
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REPUBLIC OF THE PHILIPPINES  
Los Baños, Laguna

REPUBLIC OF THE PHILIPPINES)  
Province of CALAMBA CITY)  
Municipality of LAGUNA)

CALAMBA CITY

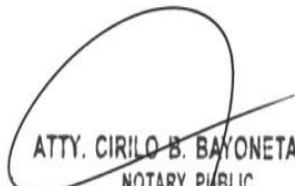
BEFORE ME, a NOTARY PUBLIC for and in LAGUNA  
Philippines, this    day of APR 05 2010 2010, personally appeared

1. FELIX B. TAMOLANG  
Community Tax Cert. No. 26697087  
Issued at Los Baños, Laguna  
on January 12, 2010
2. ELPIDIO Z. ORATA  
Community Tax Cert. No. 02972474  
Issued at DAET CAM NORRE  
on FEBRUARY 8, 2010
3. NESTOR BELGA  
Community Tax Cert. No. 09829945  
Issued at PACUP, JCN  
on 07/05/10
4. TOMAS B. BRINAS  
Community Tax Cert. No. 19681975  
Issued at PAWS, LEGAZPI CITY  
on JANUARY 8, 2010

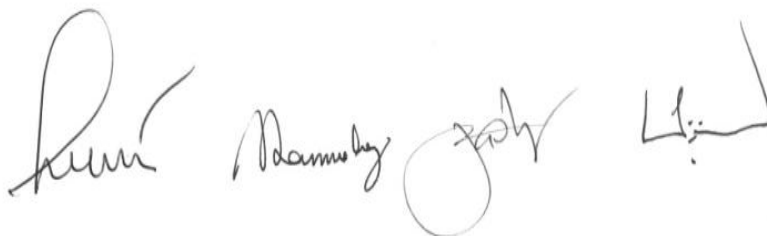
All made known to me and known to be the same persons who executed the foregoing MOA consisting of 4 page including this page and they acknowledged to me that the same is their true and voluntary act and deed.

WITNESSETH MY HAND AND SEAL on the date and at the place first above written

DOC. No. 227  
Page No. 67  
Book No. XXXVIII  
Series of 2010

  
ATTY. CIRILO B. BAYONETA, JR.  
NOTARY PUBLIC  
COMMISSION VALID UNTIL: 12-31-10  
P.T.R. No. 0024854 Yr. 2010  
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# ANNEX

## Pamphlets

# **RATTAN SEEDLING PRODUCTION**

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# Rattan seedling production



Figure 1: A traditional structure for processing & drying the seedlings. It is constructed by the owner or a local craftsman. The structure should be built on a raised platform to prevent flooding. It should have a thatched roof to protect the seedlings from rain. The structure should be built with local materials and should be built in a well-ventilated area.

Seeds are planted in a nursery bed. The seedlings are raised in a nursery bed for 6-8 months. The seedlings are then planted in a field.

The seedlings are then planted in a field. The seedlings are raised in a field for 6-8 months. The seedlings are then harvested and used for rattan furniture.

## Methods

### Planting seed production

#### Preparation for seed

##### Seed selection

1. Collecting ripe seed pods from the tree. The seed pods should be collected from the tree when they are fully ripe. The seed pods should be collected from the tree when they are fully ripe. The seed pods should be collected from the tree when they are fully ripe.
2. To test the seed for viability, the seed is placed in a glass jar with water. The seed should sink to the bottom of the jar. If the seed floats, it is not viable. The seed should be collected from the tree when they are fully ripe.



##### Seed selection and cleaning

1. Place the seed pods in a bowl of water. The seed pods should be placed in a bowl of water. The seed pods should be placed in a bowl of water.
2. Remove the seed pods from the water. The seed pods should be removed from the water. The seed pods should be removed from the water.
3. Clean the seed pods. The seed pods should be cleaned. The seed pods should be cleaned.



7. Transfer the seeds to a clean container. The seeds should be transferred to a clean container. The seeds should be transferred to a clean container.
8. Store the seeds in a cool, dry place. The seeds should be stored in a cool, dry place. The seeds should be stored in a cool, dry place.

##### Germination

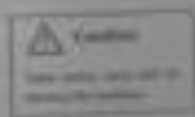
1. Place the seeds in a glass jar with water. The seeds should be placed in a glass jar with water. The seeds should be placed in a glass jar with water.
2. The jar should be placed in a warm, sunny place. The jar should be placed in a warm, sunny place. The jar should be placed in a warm, sunny place.



##### Propagation

Place the seedlings in a nursery bed. The seedlings should be placed in a nursery bed. The seedlings should be placed in a nursery bed.

1. Prepare the nursery bed. The nursery bed should be prepared. The nursery bed should be prepared.
2. Plant the seedlings in the nursery bed. The seedlings should be planted in the nursery bed. The seedlings should be planted in the nursery bed.



**Design**

1. Design the structure with a gable roof
2. The gable should be a square or rectangular structure
3. The roof should be supported by posts
4. The posts should be spaced evenly
5. The roof should be supported by a ridge pole
6. The roof should be supported by a ridge pole
7. The roof should be supported by a ridge pole

**Construction and setting of house**

1. Place the posts in a square or rectangular pattern
2. Place the ridge pole on top of the posts
3. Place the rafters on top of the ridge pole
4. Place the roof on top of the rafters
5. Place the walls on top of the posts
6. Place the floor on top of the posts
7. Place the roof on top of the rafters



**Cost and value comparison of a 1000 sqm house**

Item	Cost	Value
Structure	1000	1000
Roofing	1000	1000
Walls	1000	1000
Flooring	1000	1000
Windows	1000	1000
Doors	1000	1000
Paint	1000	1000
Utilities	1000	1000
Land	1000	1000
Other	1000	1000
<b>Total</b>	<b>10000</b>	<b>10000</b>

**Marketing considerations**

Marketing considerations are important for the success of a business. It involves identifying the needs and wants of the target market and developing a strategy to meet them.

**Ecological implications**


Ecological implications refer to the impact of human activities on the environment. It includes the use of natural resources, the production of waste, and the impact of climate change.

**Support services**

Support service	Responsible institution
Marketing and advertising	Department of Marketing and Advertising
Production and distribution	Department of Production and Distribution
Customer service	Department of Customer Service
Finance and accounting	Department of Finance and Accounting
Human resources	Department of Human Resources
Information technology	Department of Information Technology
Legal and compliance	Department of Legal and Compliance
Operations	Department of Operations
Research and development	Department of Research and Development

**Cost and value comparison of a 1000 sqm house**

1. Design the house with a gable roof
2. The gable should be a square or rectangular structure
3. The roof should be supported by posts
4. The posts should be spaced evenly
5. The roof should be supported by a ridge pole
6. The roof should be supported by a ridge pole
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**Cost and value comparison of a 1000 sqm house**

Item	Cost	Value
Structure	1000	1000
Roofing	1000	1000
Walls	1000	1000
Flooring	1000	1000
Windows	1000	1000
Doors	1000	1000
Paint	1000	1000
Utilities	1000	1000
Land	1000	1000
Other	1000	1000
<b>Total</b>	<b>10000</b>	<b>10000</b>

### Implications for welfare

#### Welfare effects

1. Higher welfare due to price increase in the supply of a public good (higher welfare due to higher supply of public good)
2. Higher welfare due to higher supply of public good
3. Higher welfare due to higher supply of public good

#### Private and public

1. Higher welfare due to higher supply of public good
2. Higher welfare due to higher supply of public good
3. Higher welfare due to higher supply of public good

#### Costing and cost-benefit analysis

Cost-benefit analysis is a method of estimating the value of a project or policy.

### Economic benefits

Higher welfare due to higher supply of public good

### 3. Laws and restrictions

#### Legal and regulatory constraints on welfare

- legal and regulatory constraints on welfare
- legal and regulatory constraints on welfare
- legal and regulatory constraints on welfare

### 4. Sources

Source: *Journal of Law and Economics*, 1978, 21(1), 1-18. Reprinted with permission of the American Law and Economics Association.

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## ***PANDAN FARMING FOR FIBER PRODUCTION***

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# Pandan farming for fiber production

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## Methods

### Materials

- 1. Pandanus plants
- 2. Spinning machine
- 3. Weaving machine
- 4. Loom
- 5. Shuttle

- Site selection**
1. Choose a site with good drainage and soil fertility.
  2. Avoid areas with high water table.
- Site preparation**
1. Clear the site of any existing vegetation.
  2. Prepare the soil by plowing and leveling.
  3. Mark the planting holes.



### Planting site preparation and planting

1. Dig a hole 10 cm deep and 10 cm wide.
2. Place the plant in the hole.
3. Cover the plant with soil.
4. Water the plant immediately after planting.



5. Maintain the plants for one year before harvesting.

### Care and maintenance

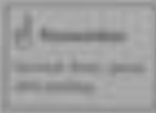
1. Regularly water the plants, especially during the dry season.
2. Fertilize the plants with organic fertilizer.
3. Remove any weeds or unwanted plants from the field.



1. Apply appropriate methods to estimate the quality of service.
2. Apply appropriate methods of financial measurement of quality. The most common is QFD.
3. Review each alternative to ensure that it meets the quality requirements in a particular area, usually using the 'five whys' - Why did this occur? How can it be prevented? Why? Why not? Why not this? Why not that?
4. The overall approach will depend on the needs and requirements that the provider and the customer are seeking to meet.

**Manufacturing**

1. Develop a production system that is consistent with the needs of the customer. The system should be able to produce the product in the quantity and quality required.
2. The design should be able to meet the needs of the customer in terms of cost, quality, and delivery. The design should be able to be modified to meet the needs of the customer in the future.
3. The design should be able to be modified to meet the needs of the customer in terms of cost, quality, and delivery. The design should be able to be modified to meet the needs of the customer in the future.



**Technical preparation**

1. Develop a technical specification that is consistent with the needs of the customer.
2. Develop a technical specification that is consistent with the needs of the customer.



1. The manufacturing process should be able to produce the product in the quantity and quality required. The process should be able to be modified to meet the needs of the customer in the future.



2. The manufacturing process should be able to produce the product in the quantity and quality required. The process should be able to be modified to meet the needs of the customer in the future.



1. The manufacturing process should be able to produce the product in the quantity and quality required. The process should be able to be modified to meet the needs of the customer in the future.



**Marketing**

1. Develop a marketing strategy that is consistent with the needs of the customer.
2. Develop a marketing strategy that is consistent with the needs of the customer.

**Economic benefits**

The economic benefits of a product or service are the benefits that are realized by the customer. These benefits can be measured in terms of cost, quality, and delivery. The economic benefits of a product or service are the benefits that are realized by the customer. These benefits can be measured in terms of cost, quality, and delivery.

**Benefit-cost analysis of establishing an in-house production process for three products**

Item	Year 1	Year 2	Year 3	Year 4
Revenue	0	0	100,000	100,000
Cost of goods sold	0	0	100,000	100,000
Variable overhead	0	0	0	0
Fixed overhead	0	0	0	0
Depreciation	0	0	0	0
Interest	0	0	0	0
Income tax	0	0	0	0
Net income	0	0	0	0

Item	Year 1	Year 2	Year 3	Year 4
Revenue	0	0	100,000	100,000
Cost of goods sold	0	0	100,000	100,000
Variable overhead	0	0	0	0
Fixed overhead	0	0	0	0
Depreciation	0	0	0	0
Interest	0	0	0	0
Income tax	0	0	0	0
Net income	0	0	0	0

**Marketing considerations**

Cost and operational matters are closely related. The cost of a product or service is determined by the production process and the marketing process. The cost of a product or service is determined by the production process and the marketing process. The cost of a product or service is determined by the production process and the marketing process.



***HINGGIW* HARVESTING AND HANDICRAFT  
WEAVING**

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1. Assess the economic benefits for animal husbandry at the farm or community level and the potential for income generation from the sale of the products.
2. Assess the environmental benefits of the system, such as the reduction of soil erosion and the improvement of soil fertility.
3. Assess the social benefits of the system, such as the improvement of the health and nutrition of the community.



### Economic benefits

Subsistence farming is a viable livelihood option for small-scale farmers in rural areas. It provides a source of income and food for the community.

Cost and income analysis for the production of 100 kg of maize

Item	Cost (KSh)	Income (KSh)
Maize seed	100	
Fertilizer	200	
Planting material	50	
Harvesting	100	
Transportation	50	
Marketing	50	
Total cost	550	
Income from 100 kg of maize		1000
Net income		450

Item	Cost (KSh)	Income (KSh)
Maize seed	100	
Fertilizer	200	
Planting material	50	
Harvesting	100	
Transportation	50	
Marketing	50	
Total cost	550	
Income from 100 kg of maize		1000
Net income		450

### Marketing considerations

Marketing is a crucial step in the value chain. It involves finding buyers for the products and ensuring that the products are sold at a fair price. Marketing considerations include the choice of market, the timing of sales, and the methods of transport.

### Ecological implications

Subsistence farming has several ecological implications. It can lead to soil erosion and the loss of soil fertility. It can also contribute to deforestation and the loss of biodiversity. However, it can also be a sustainable system if managed properly.

### Support services

Support service	Responsible institution
Extension services	County Agricultural Extension Office
Input supply	County Agricultural Extension Office
Marketing	County Agricultural Extension Office

### Law and restrictions

Subsistence farming is subject to various laws and restrictions. These include the Land Use Act, the Environmental Conservation Act, and the Wildlife Conservation Act. Farmers must comply with these laws to ensure the sustainability of their operations.

### Sources

- 1. Ministry of Agriculture, Livestock and Fisheries (2018). National Agricultural Policy.
- 2. Kenya Agricultural and Livestock Research Organization (KALRO) (2019). Agricultural Extension Services.

## ***ANAHAW* PRODUCTION AND UTILIZATION**

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# Anahaw production and utilization

## Botany

Anahaw is a tree with a trunk that is 10-15 cm in diameter and 10-15 m high. The trunk is covered with a thick layer of bark and has a smooth surface. The leaves are large and fan-shaped, with a diameter of 1-2 m and a length of 1-2 m. The leaves are arranged in a spiral pattern around the trunk.



The tree is a member of the Pandanus family and is native to the Philippines. It is a fast-growing tree that can reach a height of 10-15 m in a few years. The tree is a pioneer species and is often found in disturbed areas. It is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.

The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.

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## Characteristics

### General description

#### Tree

- 1. The tree is a member of the Pandanus family and is native to the Philippines.
- 2. It is a fast-growing tree that can reach a height of 10-15 m in a few years.



**Warning**

The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.

- 3. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.
- 4. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.

### Uses and utilization

- 1. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.
- 2. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.
- 3. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.

### Planting and propagation

- 1. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.
- 2. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.

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- 2. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.

### Propagation and establishment

- 1. The tree is a very hardy tree and can survive in a wide range of soil conditions. It is a very useful tree and has many uses in the Philippines.
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1. **Structure and function of the respiratory system**

The respiratory system is the part of the body that takes in oxygen and gets rid of carbon dioxide. It consists of the lungs, trachea, bronchi, and diaphragm.

2. **Diagram of the respiratory system**

3. **Function of the respiratory system**

The respiratory system's main function is to exchange gases. It takes in oxygen from the air and releases carbon dioxide. This process is essential for the body's cells to produce energy.

4. **Types of respiration**

There are two main types of respiration: aerobic and anaerobic. Aerobic respiration requires oxygen and produces a large amount of energy. Anaerobic respiration does not require oxygen and produces a much smaller amount of energy.

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**Table with 4 columns: Item, Unit, Price, Total**

Item	Unit	Price	Total
Apples	kg	1.20	12.00
Bananas	kg	0.80	8.00
Oranges	kg	1.50	15.00
Pears	kg	1.00	10.00
Strawberries	kg	2.50	25.00
Blueberries	kg	3.00	30.00
Raspberries	kg	2.00	20.00
Blackberries	kg	1.80	18.00
Cherries	kg	3.50	35.00
Peaches	kg	1.50	15.00
Nectarines	kg	1.50	15.00
Plums	kg	1.20	12.00
Apricots	kg	1.00	10.00
Cherries	kg	3.50	35.00
Plums	kg	1.20	12.00
Apricots	kg	1.00	10.00
<b>Total</b>			<b>200.00</b>



## Marketing considerations

Marketing considerations include identifying the target market, determining the distribution channels, and developing a marketing strategy. The marketing strategy should be based on the company's overall business strategy and should take into account the company's resources and capabilities.

**Business Model**  
 The business model describes how the company creates, delivers, and captures value. It includes the company's revenue streams, cost structure, and competitive advantage. The business model should be based on the company's unique strengths and resources.

## Ecological implications

Ecological implications refer to the impact of the company's operations on the environment. This includes the company's carbon footprint, water usage, and waste management. The company should strive to minimize its ecological footprint and to use resources sustainably.

## Support services

Support Service	Responsible Department
Technical assistance	Customer Support
Training and development	Human Resources
Legal and compliance	Legal Department
Accounting and finance	Finance Department
Information technology	IT Department
Facilities management	Operations Department
Public relations	Marketing Department
Quality control	Quality Assurance
Supply chain management	Procurement

## Laws and restrictions

The company must comply with all applicable laws and regulations. This includes laws related to labor, safety, environmental protection, and consumer protection. The company should consult with legal counsel to ensure compliance.

## Sources

- 1. [Market Research](#) - Provides data on market trends and consumer behavior.
- 2. [Industry Reports](#) - Offers insights into the performance of various industries.
- 3. [Government Publications](#) - Provides information on laws, regulations, and economic data.
- 4. [Academic Journals](#) - Contains research findings and theoretical discussions.
- 5. [Trade Publications](#) - Offers news and analysis specific to a particular industry.

## ***BURI* FIBER EXTRACTION AND MARKETING**

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# Buri fiber extraction and processing

The buri fiber is a natural fiber that is extracted from the buri plant. It is a long, thin fiber that is used for making ropes, mats, and other products. The fiber is extracted from the bark of the buri tree and is processed into a usable form. The process involves several steps, including harvesting, cleaning, and spinning. The resulting fiber is then used in various applications, such as making ropes and mats. The fiber is known for its strength and durability, making it a popular choice for many industries.



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## Methods

### 1. Harvesting and cleaning

1. Harvesting: The buri tree is harvested in the dry season, typically between October and February. The bark is cut into strips and then cleaned to remove any impurities.
2. Cleaning: The cleaned bark is then processed into a usable form. This involves several steps, including washing, drying, and spinning. The resulting fiber is then used in various applications, such as making ropes and mats.

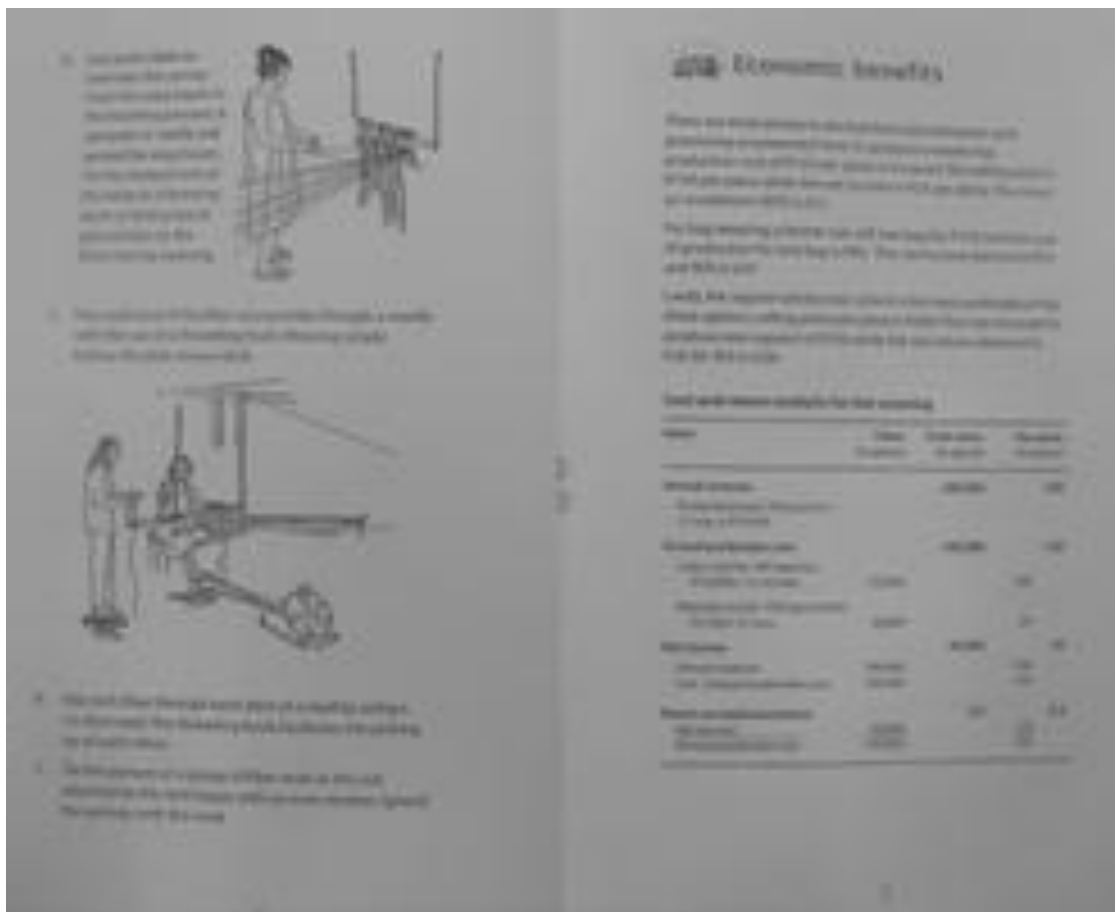
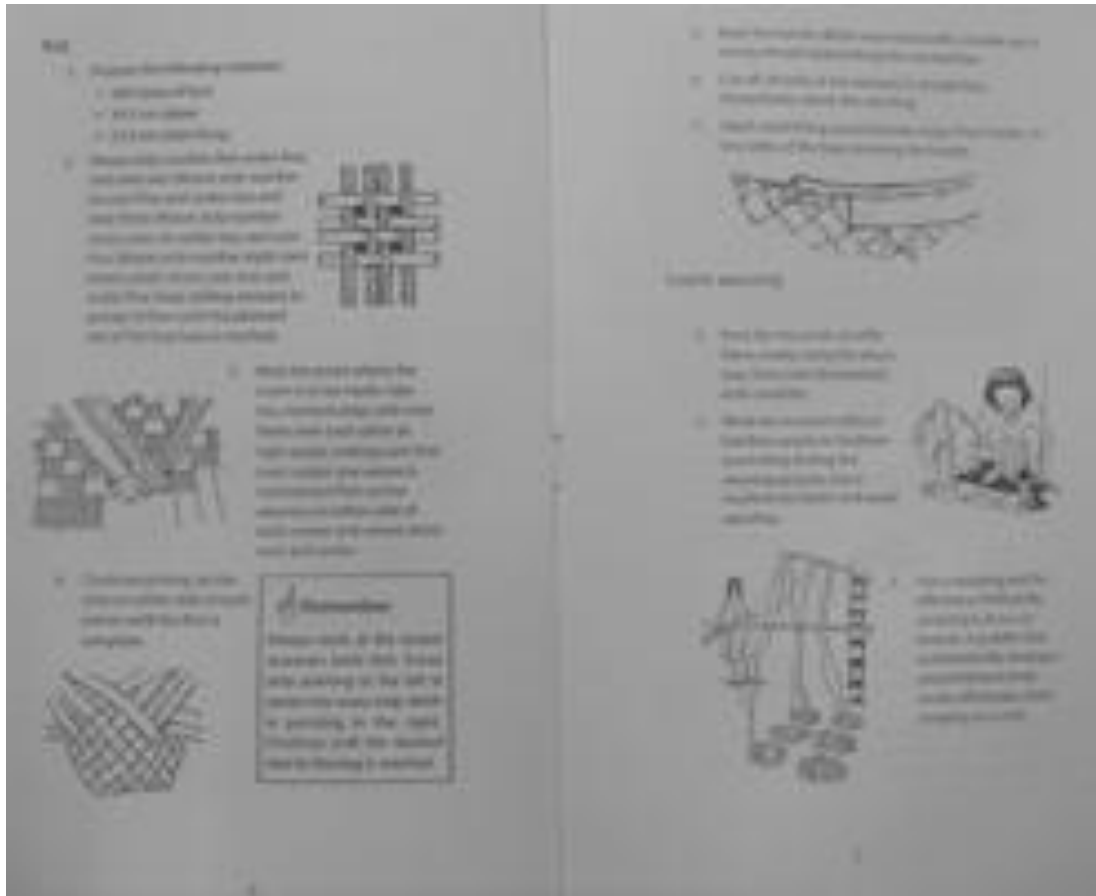


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## Processing

1. Spinning: The cleaned bark is then processed into a usable form. This involves several steps, including washing, drying, and spinning. The resulting fiber is then used in various applications, such as making ropes and mats.
2. Weaving: The spun fiber is then used to weave ropes and mats. This involves several steps, including selecting the fiber, preparing the loom, and weaving the product. The resulting product is then finished and ready for use.





**Financial Statement: Working Capital**

Item	2018 Actual	2017 Actual	2016 Actual
Working Capital		125,000	100
Current Assets			
Cash	100	100	100
Accounts Receivable	100	100	100
Inventory	100	100	100
Prepaid Expenses	100	100	100
Other Current Assets	100	100	100
Current Liabilities			
Accounts Payable	100	100	100
Short-Term Debt	100	100	100
Other Current Liabilities	100	100	100
Non-Current Assets			
Property, Plant, and Equipment	100	100	100
Intangible Assets	100	100	100
Other Non-Current Assets	100	100	100
Non-Current Liabilities			
Long-Term Debt	100	100	100
Other Non-Current Liabilities	100	100	100

**Marketing considerations**

Business development should be a key focus and customer support should be a key focus. The product quality, safety, and reliability are the key factors for success and customer support is a key factor for success.

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**Ecological implications**

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**Support services**

<b>Support services:</b>	<b>Organizational structure:</b>
Customer Support	Product Development
Business Development	Operations
Marketing	Finance

**Legal and restrictions**

Business development should be a key focus and customer support should be a key focus. The product quality, safety, and reliability are the key factors for success and customer support is a key factor for success.

**Contracts**

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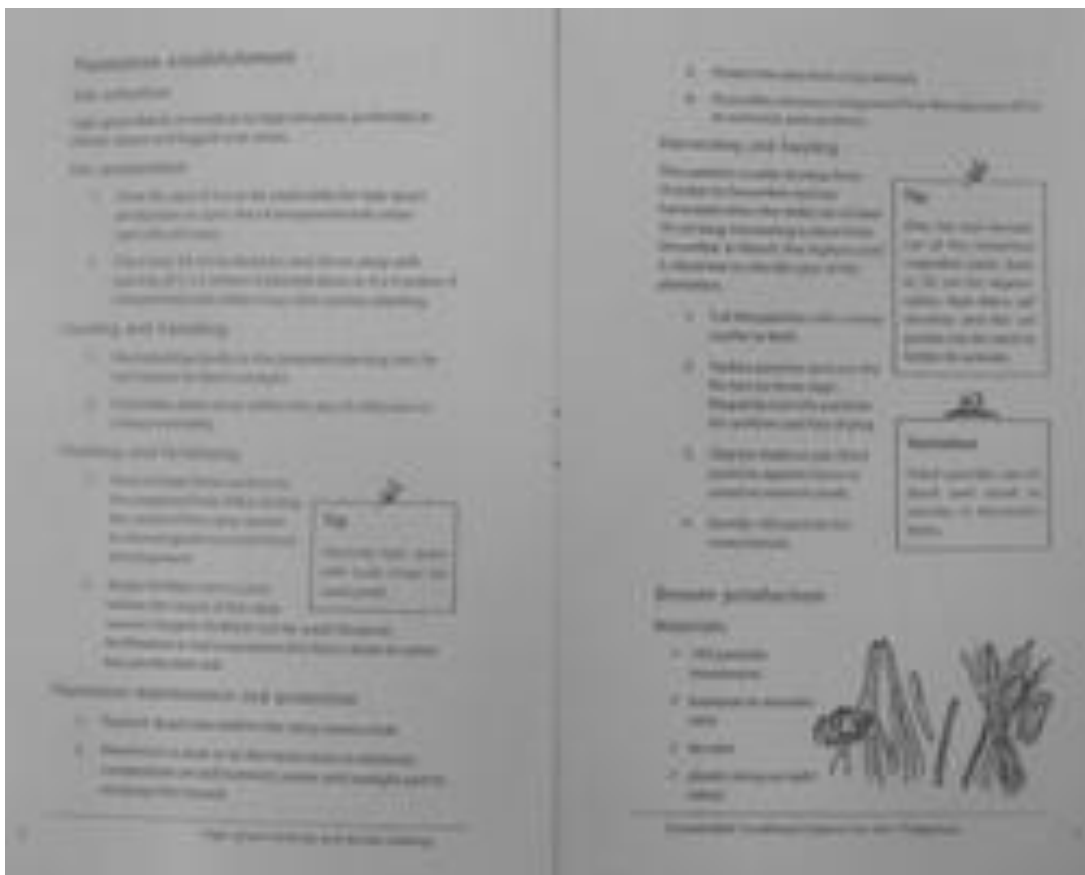
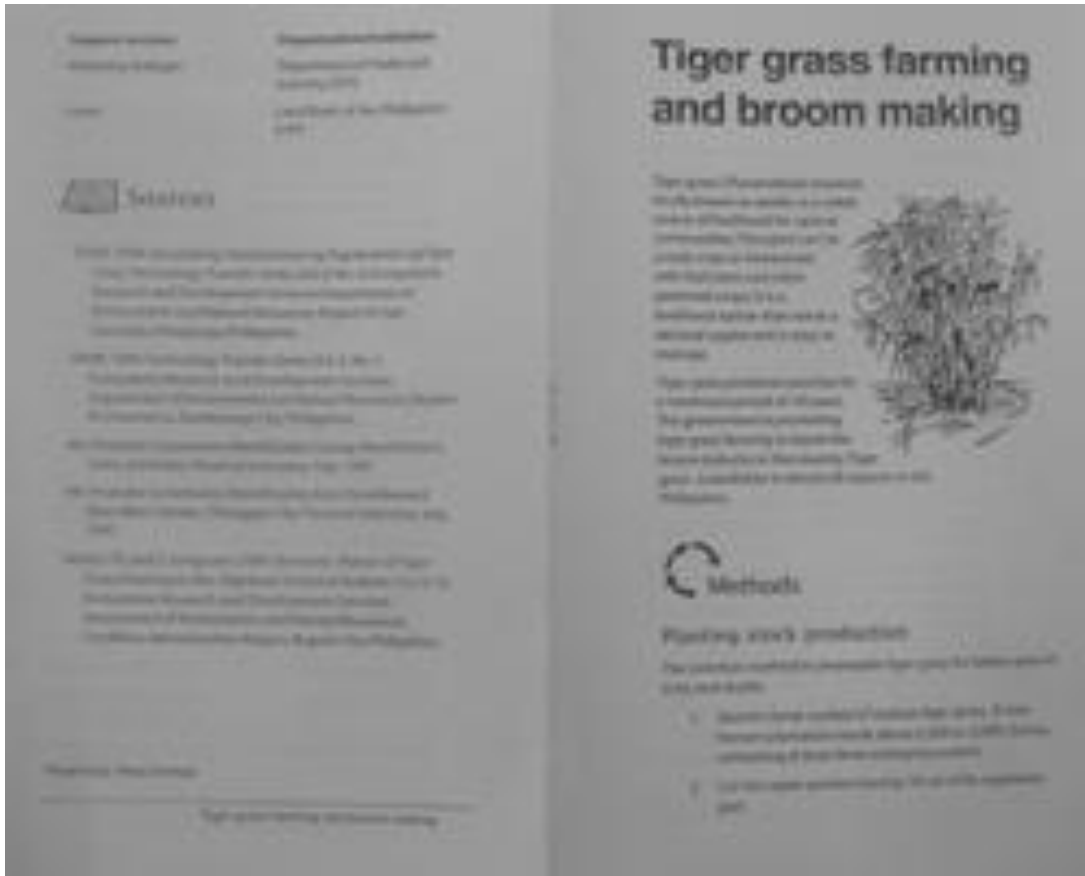
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## **TIGER GRASS FARMING AND BROOM MAKING**

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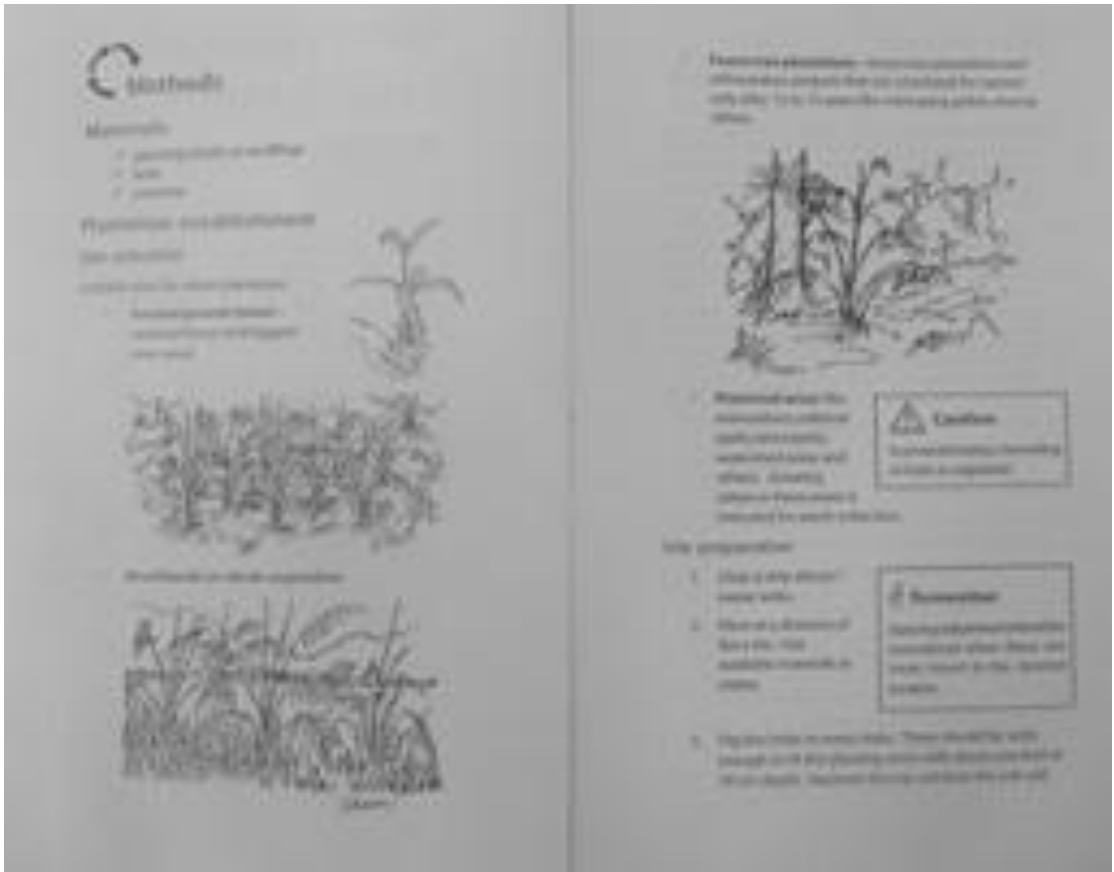
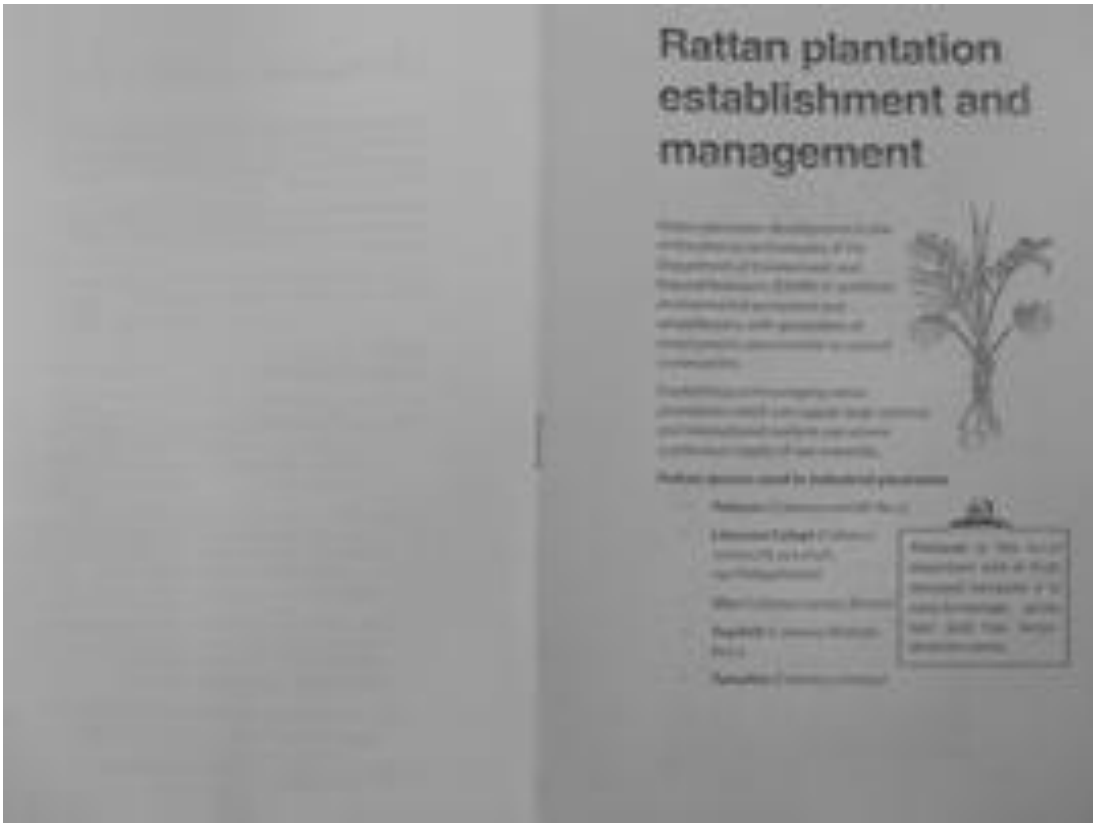


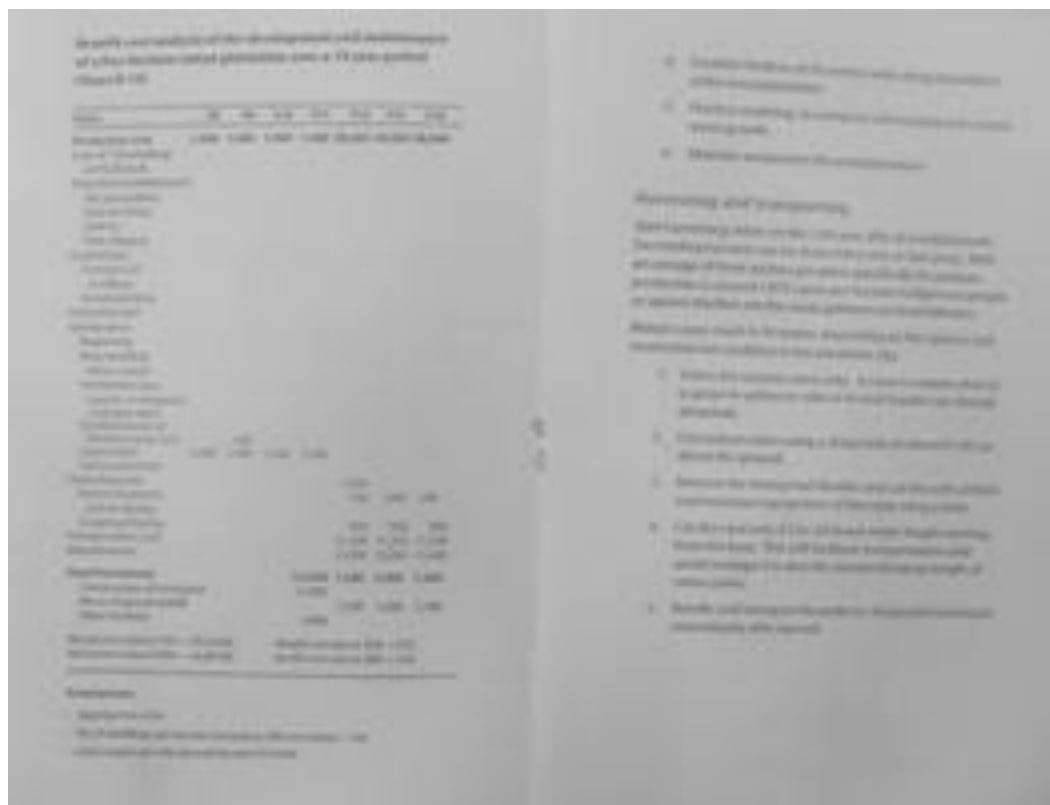
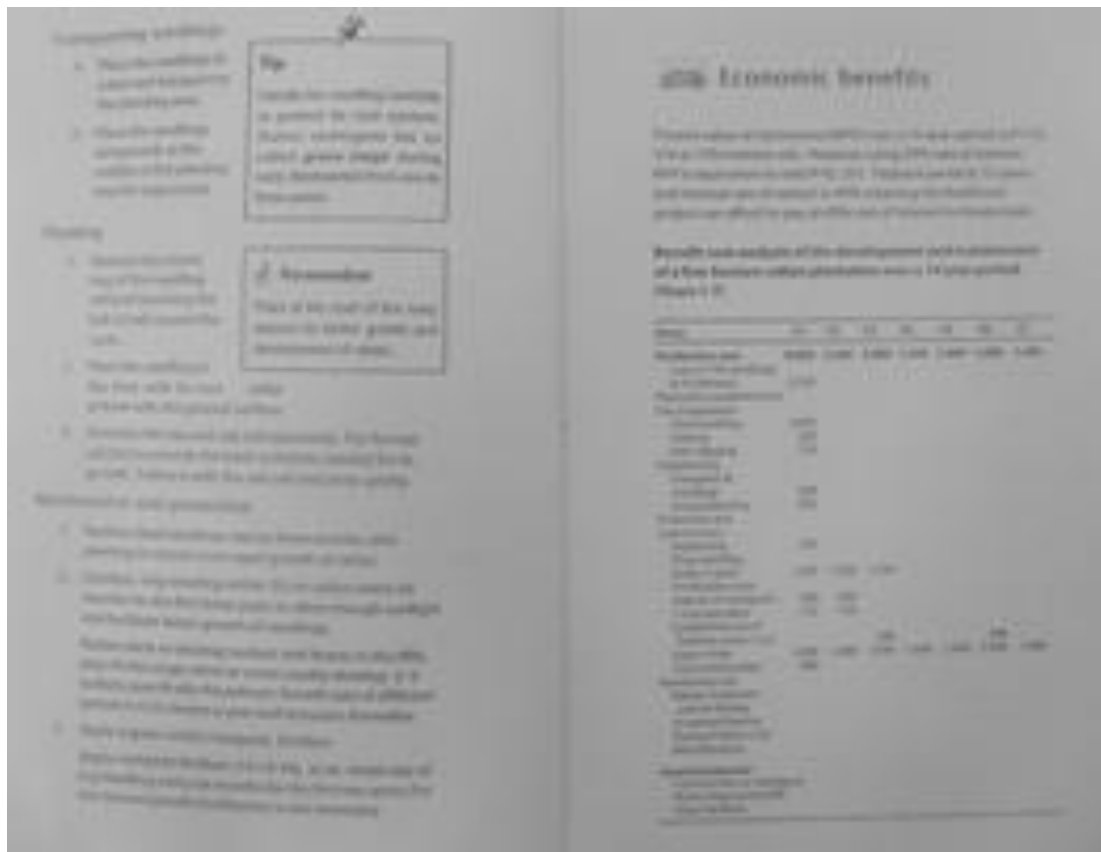




# **RATTAN PLANTATION ESTABLISHMENT AND MANAGEMENT**

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### Production and Harvest

1. Seed dispersal (wind-dispersed) or autochthonous
2. The seedlings are:
  - tall and thin
  - long and narrow
  - long-lived
  - long-lived
  - long-lived
  - long-lived
  - long-lived
  - long-lived
3. The seedlings are:
  - long-lived
  - long-lived
  - long-lived
  - long-lived
  - long-lived
  - long-lived
  - long-lived
  - long-lived



### Marketing of rubber latex

#### Marketing of rubber latex in the Philippines

1. The marketing of rubber latex in the Philippines is done through the following channels:



Figure 1. Marketing channels for rubber latex in the Philippines.

### Marketing considerations

The marketing of rubber latex in the Philippines is done through the following channels:

- Marketing channels for rubber latex in the Philippines are:
  - Direct marketing (to the consumer)
  - Indirect marketing (through intermediaries)
- The marketing of rubber latex in the Philippines is done through the following channels:

The marketing of rubber latex in the Philippines is done through the following channels:

### Ecological implications

Rubber production is a land-use change that affects the flora and fauna of the area. It also affects the soil and water resources.

The ecological implications of rubber production are:
 

- Deforestation
- Loss of biodiversity
- Soil erosion
- Water pollution
- Air pollution

### Support services

Department	Department/Institution
Department of Agriculture	Department of Agriculture
Department of Environment and Natural Resources	Department of Environment and Natural Resources
Department of Health	Department of Health
Department of Education	Department of Education
Department of Science and Technology	Department of Science and Technology
Department of Labor	Department of Labor
Department of Social Welfare and Development	Department of Social Welfare and Development
Department of Trade and Industry	Department of Trade and Industry
Department of Energy	Department of Energy
Department of Transportation	Department of Transportation
Department of Public Works and Highways	Department of Public Works and Highways
Department of Housing and Urban Development and Planning	Department of Housing and Urban Development and Planning
Department of Information and Communications Technology	Department of Information and Communications Technology

### Laws and restrictions

The following laws and restrictions apply to rubber production in the Philippines:

- Republic Act No. 10641 (2015) - Rubber Production and Processing Act
- Department Order No. 10 (2015) - Rubber Production and Processing Regulations
- Department Order No. 11 (2015) - Rubber Production and Processing Guidelines

### Sources

- Bureau of Agricultural Extension (2015). Rubber Production and Processing Act. Department of Agriculture, Manila, Philippines.
- Department of Environment and Natural Resources (2015). Rubber Production and Processing Regulations. Department of Environment and Natural Resources, Manila, Philippines.
- Department of Health (2015). Rubber Production and Processing Guidelines. Department of Health, Manila, Philippines.
- Department of Trade and Industry (2015). Rubber Production and Processing Guidelines. Department of Trade and Industry, Manila, Philippines.

## ***MABILIS NA PAGPAPATUBO NG GUGO***

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Mabilis na  
pagpapatubo  
ng  
gugo  
(Growth promotion)



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*Mamamaraan sa mabilis na  
pagpapatubo ng gugo*

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## Maglalarawan

Ang paghihiwalay ng mga bahagi ng katawan ay nagbibigay-daan sa pagkakatamtam ng mga bahagi ng katawan. Ang pagkakatamtam ng mga bahagi ng katawan ay nagbibigay-daan sa pagkakatamtam ng mga bahagi ng katawan. Ang pagkakatamtam ng mga bahagi ng katawan ay nagbibigay-daan sa pagkakatamtam ng mga bahagi ng katawan.

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### Mga bahaging mabubuhay

1. Ang bahaging mabubuhay ay nagbibigay-daan sa pagkakatamtam ng mga bahagi ng katawan.
2. Ang bahaging mabubuhay ay nagbibigay-daan sa pagkakatamtam ng mga bahagi ng katawan.

1. Mula sa mga bahagi ng katawan ay nagbibigay-daan sa pagkakatamtam ng mga bahagi ng katawan.



2. Mula sa mga bahagi ng katawan ay nagbibigay-daan sa pagkakatamtam ng mga bahagi ng katawan.



3. Mula sa mga bahagi ng katawan ay nagbibigay-daan sa pagkakatamtam ng mga bahagi ng katawan.







**ANNEX** 

**Local Ordinances**

Republika ng Pilipinas  
Lalawigan ng Quezon  
Bayan ng Atimonan  
Brgy. Sta. Catalina

**TANGGAPAN NG PUNONG BARANGAY**

**ORDINANSA BLG. \_\_\_\_\_ 2011**

ISANG KAUTUSANG BARANGAY NA NAGTATAKDA NG MGA SUMUSUNOD NA ALITUNTUNIN AT PATAKARANG DAPAT SUNDIN UKOL SA PANGANGALAGA NG LAHAT NG URI NG “NON-TIMBER PRODUCTS” SA NALOLOOBAN NG BARANGAY STA. CATALINA, ATIMONAN, QUEZON NA NAGTATAKDA NG KAPARUSAHANG;

**Seksyon 1** – Na sino mang tao ay dapat alamin kung sino ang may-ari ng lupain ng may non-timber products magsabi o magpaalam na siya ang kukuha o bibili ng mga nasabing non-timber products bago magputol o kumuha;

**Seksyon 2** – Na sinumang tao ay dapat humingi ng sulat pahintulot ng may-ari pirmado nya na pagpayag na kumuha ng mga nasabing non-timber products;

**Seksyon 3** – Na sinumang tao na mahuli ng may-ari na wala siyang pahintulot ay pananagutin o pagbabayaran sa mga nawalang mga produkto “Non-Timber Products” sa kanyang nasasakupang lupain;

**Seksyon 4** – Na lahat ng mga tao ay makipagtulungan para mapangalagaan ang mga nasabing “Non-Timber Products” upang maisaayos ang pagkuha at di maabuso para magamit ng ating mga kabarangay na mayroong samahan ng paggawa ng mga Handicraft;

**Seksyon 5** – Na sinumang tao na lumabag sa kautusang Pambarangay na ito at mapatunayang lumabag ay magkakaroon ng multa;

**Seksyon 6** – Unang paglabag.....300.00 piso  
Ikalawang paglabag.....600.00 piso  
Ikatlong paglabag.....1,000.00 piso

**Seksyon 7** – Ang kautusang pambarangay na ito ay magkakabisa pagkaraan ng mapagtibay.

Republika ng Pilipinas  
Lalawigan ng \_\_\_\_\_  
Bayan ng \_\_\_\_\_  
Barangay \_\_\_\_\_

**TANGGAPAN NG PUNONG BARANGAY  
ORDINANSA BLG. \_\_\_\_\_**

ISANG KAUTUSANG BARANGAY NA NAGHIHIMOK SA MGA PO-BENEFICIARIES NG CBFMA NA MAG-ENRICHMENT PLANTING O MAGTANIM NG NON-TIMBER FOREST PRODUCTS (NTFP)

**Seksiyon 1.** Maraming klase ng NTFP and natural na tumutubo sa kagubatan pero bawat klase ay iba-iba ang dami sa isang lugar; may makapal ang tubo, mayroon ding pa-isa isa lamang.

**Seksiyon 2.** Para sa masagana at tuloy-tuloy na pag-ari ng NTFP sa loob ng CBFM area ang mga PO-beneficiaries ay dapat magsagawa ng “enrichment planting” o assisted natural regeneration (ANR) ng mga importanteng NTFP sa kanilang CBFM area.

**Seksiyon 3.** Para sa lalong masaganang ani ng NTFP sa loob ng CBFM area, and mga PO members ay hinihikayat na maglaan ng taniman ng mga mahalagang pangkabuhayan na NTFP sa Annual Work Plan ng kanilang CBFM program.

**Seksiyon 4.** May mga insentibo na ibinibigay ng DENR sa pag-ani ng NTFP na mula sa taniman o plantasyon tulad ng medaling pagkuha ng Resource Use permit (RUP).

**Seksiyon 5.** Ang pamilihing local at sa ibang bansa ng mga handicrafts ay pabor at isusulong ang “green marketing system” o pagbili ng produktong galing sa taniman sapagkat ito ay hindi nakakasira sa kalikasan.

**Seksiyon 6.** Ang pagtatatag na taniman ng NTFP ay malaking tulong sa pagtupad ng mga layunin ng National Greening Program.

**Seksiyon 7.** Ang kautusang Pambarangay na ito ay magkakabisa agad pagkaraan na mapagtibay.

**Republika ng Pilipinas**

Lalawigan ng \_\_\_\_\_

Bayan ng \_\_\_\_\_

Barangay \_\_\_\_\_

**TANGGAPAN NG PUNONG BARANGAY  
ORDINANSA BLG. \_\_\_\_\_**

ISANG KAUTUSANG BARANGAY NA NAGTATAKDA NG PATAKARAN PARA SA TULOY-TULOY AT MASAGANANG PAG-ANI NG MGA PILING "NON-TIMBER FOREST PRODUCTS" (NTFP) SA LOOB NG CBFM AREA

**Seksiyon 1.** Ang **Peoples Organization (PO)** na nabigyan ng legal na karapatan sa pamamahala at pag-ani ng yamang gubat sa kanilang CBFM area ay dapat sumunod sa mga alituntunin at patakaran ng **DENR Administrative Order No. 2000-29** [March 14 2000] – Guidelines Regulating the Harvesting and Utilization of Forest Products within Community-Based Forest Management Areas.

**Seksiyon 2.** Ang pag-ani o pagkolekta ng NTFP sa loob ng CBFM area ng mga membro PO ay dapat gawin lamang kapag nabigyan na sila ng Resource Use Permit (RUP).

**Seksiyon 3.** Dahil sa limitado at kakulangan ng detalyadong alituntunin ukol sa tamang dami ng puwedeng anihin na NTFP kada taon sa CBFM area at para tuloy-tuloy and masaganang ani, pansamantalang gamitin ang formula na nakasulat ditto para malaman and dami ng aanihin na NTFP sa CBFM area:

$$SAAC = [ A/CC \times V ] 75\%$$

Where:

SAAC = Sustainable Annual Allowable Cut

A = operable area (hectare)

CC = cutting cycle (month or year); this could be used as an indicator for the subdivision of the operable area into cutting units for rotation cutting or harvesting.

V = average volume per hectare (lm/ha)

75% = reduction factor for ensuring continuous growth of some mother plants and to attain satisfactory natural regeneration

**Seksiyon 4.** Ang kautusang Pambarangay na ito ay magkakabisa pagkaraan na mapagtibay na kalakip ang nararapat na **Resource Use Permit (RUP)** mula sa DENR.

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January 2012**