



Community-based forest management agreement (CBFMA): The Juxtaposition of participants and nonparticipants between Barangay Poblacion District I and Barangay Bacong, Babatngon, Leyte

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ABSTRACT

The Community-Based Forest Management Agreement (CBFMA) program, which aims to promote sustainable forest management and conservation, faces challenges in effectively implementing its goals. A qualitative study compared a tenurial holder People's Organization (PO) in Brgy. Poblacion District I, covered by the CBFMA, with a non-tenurial holder PO in Brgy. Bacong, Babatngon, Leyte, to explore the strides and gaps between them. The Grounded Theory method was employed to understand the existing systems and the relationship of the communities with the forestland. These findings indicate that regardless of the tenurial instrument or lack thereof both communities are aware of the problem of forest degradation and illegal logging and have negative views of these activities.

However, the study also reveals that both POs struggle to sustain forest protection in their respective areas. Furthermore, the POs in both communities seem to have a dwindling interest in tree planting and are instead showing a preference for forest patrol activities. This highlights the need for a shift in the approach to forest management and conservation, with greater emphasis on patrolling and enforcement to deter illegal activities.

Overall, the study generates a theory by juxtaposing the social forestry governance and mechanisms of each PO from the CBFMA and non-CBFMA sites. The theory suggests that while the CBFMA program has positive aims, there are challenges in implementation that require greater support from national and local government units to ensure effective forest management and conservation.

KEYWORDS: *Community-Based Forest Management Agreement (CBFMA), Social Forestry, Sustainable Forest Management, Grounded Theory, People's Organization (PO)*

1 INTRODUCTION

Forests are significant landscapes as they have numerous environmental benefits and services like water and air quality regulation, flood control, nutrient cycling, and soil formation and erosion prevention. They also provide resources like food, fuel, wood, medicines, and have cultural, spiritual, and aesthetic values (RECOFTC, 2019). Unfortunately, it is one of the most mismanaged ecosystems on the planet. To protect this valuable environment, the Philippine government has notable policies that support and influence forest management and conservation. The 1987 Constitution mandates the state to join into production agreements of natural resource management with empowered communities. The proclamation of Executive Order 263 of 1995 affirms Community-Based Forest Management (CBFM) as the national approach to push forward sustainable forest management and improve the socio-economic conditions of localities.

Community-Based Forest Management Agreement (CBFMA) is a tenure instrument granted to effective communities represented by People's Organizations (POs) by virtue of Department Administrative Order 96-29 of 1996 (Mendoza, 2020). It entitles the PO with the right to occupy and access manage and utilize the site wherein they are dependent for a period of 25 years, which is renewable for another 25 years, that is subject to the evaluation and recommendation of the DENR (Pulhin et al., 2008). The PO is an organized group of people that can be an association, cooperative, or federation that enters an agreement with the State, through the DENR, and are responsible for protecting, utilizing, and managing their specified forest area based on the approved Community Resource Management Framework (CRMF) and the Five-Year Work plan. The members are key stakeholders and resource managers that perform and determine the accomplishment of the CBFMA have benefits like ownership of development and economic improvements, exemption from land rental use and administrative fees, and direct access They are essential

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to determine the effectiveness of the CBFM program (Compendio and Bande, 2017). POs are also direct agents to monitor and respond to forest emergencies such as fire outbreaks, encroachment, or timber poaching (Guiang, Borlagdan, and Pulhin, 2001).

CBFMA also involves partnership with other stakeholders such as LGUs, NGOs, GOs, private sectors, and academies. It encourages development in technical strategy and poverty-reduction strategy through reforestation support, livelihood projects, and PO capacity-building activities. However, the gaps in the national government's support with the local government unit's dedication to this kind of program raise the risk of dipterocarp forest loss in the country (Guiang, et al, 2001; Pulhin et al., 2008). Community-Based Forest Management, as the strategy to strengthen forest management through devolution, still needs to bridge some gaps in the country.

To investigate these gaps and challenges, social studies play a key role in understanding the systems and subsystems of structural, institutional, and cultural facets of the community's relationship with the forestland (Pulhin et al., 2021). Forest resource management and resource extraction are better understood through empirical studies. However, most are case studies focusing on single forest communities that simply narrate the changes which hinder the ability to see patterns and make generalized conclusions. Determining the CBFMA effectiveness is not simple because it generally attempts to concentrate on several themes simultaneously. Solid data are lacking on the effectiveness of CBFM's contribution to communities, hence more evidence-based analysis is required for better assessments (Pulhin et al., 2021).

This study looked into the dimensions of CBFMA and non-CBFMA sites of Barangay District I Farmers Association (BDIFA) and Bacong-Nabuncagan-Tulaan Farmers and Fishermen Association (BANATFFA) respectively to amplify the voices of each POs, monitor forest management, and compare conditions of social forestry governance and mechanisms. This study specifically aims to examine the awareness of forest degradation, views on resource utilization and timber, and generate a comprehensive theory on CBFMA by juxtaposing the social forestry governance and mechanisms of each POs. It is essential to compare and contrast the non-CBFMA, a baseline area, and the CBFMA participant to find interventions to address the determining issues in the upland communities of the two POs.

2 MATERIALS AND METHODS

Research Site

This study aimed to compare the practices of community forestry between the Barangay Poblacion

District I Farmers Association (BDIFA), which has a Community-Based Forest Management Agreement (CBFMA), and the non-CBFMA PO Bacong-Nabuncagan-Tulaan Farmers and Fishermen Association (BANATFFA), a participant in DENR's National Greening Program (NGP). The residents speak Waray-Waray, and the area has a Type II climate with no distinct wet and dry seasons. The landscape is a tropical rainforest that includes various native and endemic timber species such as Yakal (*Shorea astylosa*), White Lauan (*Shorea contorta*), Red Lauan (*Shorea negrosensis*), Kamagong (*Diospyros blancoi*), Toog (*Petersianthus quadrialatus*), Magkono (*Xanthostemon verdugonianus*), Kulipapa (*Teijsmanniodendron ahernianum*), and Bitanghol (*Callophyllum blancoi*).

The BDIFA was granted CBFMA No. 48205 on July 4, 2005, allowing them to manage 776.35 hectares of timberland with hilly and flat terrain and an elevation ranging from 15 to 560 meters above sea level. The first Community Resource Management Framework (CRMF) and Five-Year Work Plan of the District I Farmers Association in 2005 identified various issues in administering their natural resources, such as a lack of financial capability for reforestation and forest development, weak forest protection due to slash-and-burn farming and unlawful occupation, inadequate organizational management skills, insufficient technical knowledge on natural resource protection and rehabilitation, lack of effective systems for financial management and negative relation to work, weak enterprise development aside from farming, and a shortage of funds and knowledge to conduct a complete Forest Resource Inventory.

The dipterocarp type of forest covers the majority of Bacong, approximately 338 hectares. The PO of Bacong-Nabuncagan-Tulaan Farmers and Fishermen Association (BANATFFA) is adjacent to PO BDIFA. It is a previous participant in the Extended National Greening Program. However, they do not have the same tenurial instrument of Community-Based Forest Management Agreement (CBFMA).

Research Participants

The study utilized purposive sampling to select participants for data gathering and analysis. This non-probability approach is efficient and deemed appropriate for the research design, objectives, and criteria, given the limited number of targeted respondents (Crossman, 2020). Among the 20 research participants, 11 were male and 9 were female, with an average age of 49, who provided responses to the research questions. The first group consisted of members from the Barangay District I Farmers' Association (BDIFA), which entered the CBFM agreement with the DENR in 2005. The second group comprised members of the Bacong-Nabuncagan-Tulaan Fishers and Farmers Association (BANATFFA). Ten participants were from Barangay District I, Babatngon,

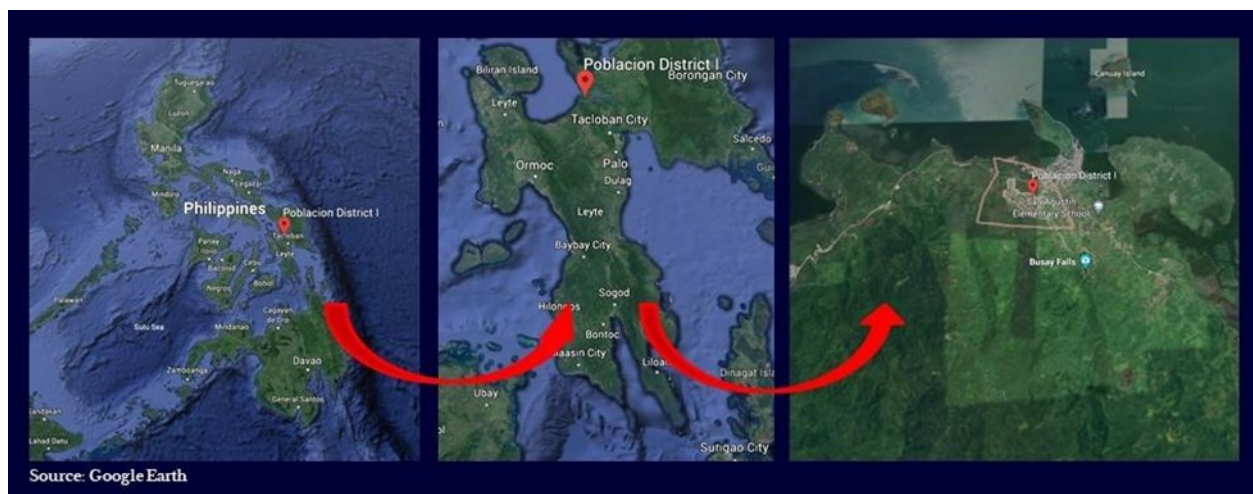


Figure 1. Inset Map of Brgy. Poblacion District I, Babatngon, Leyte

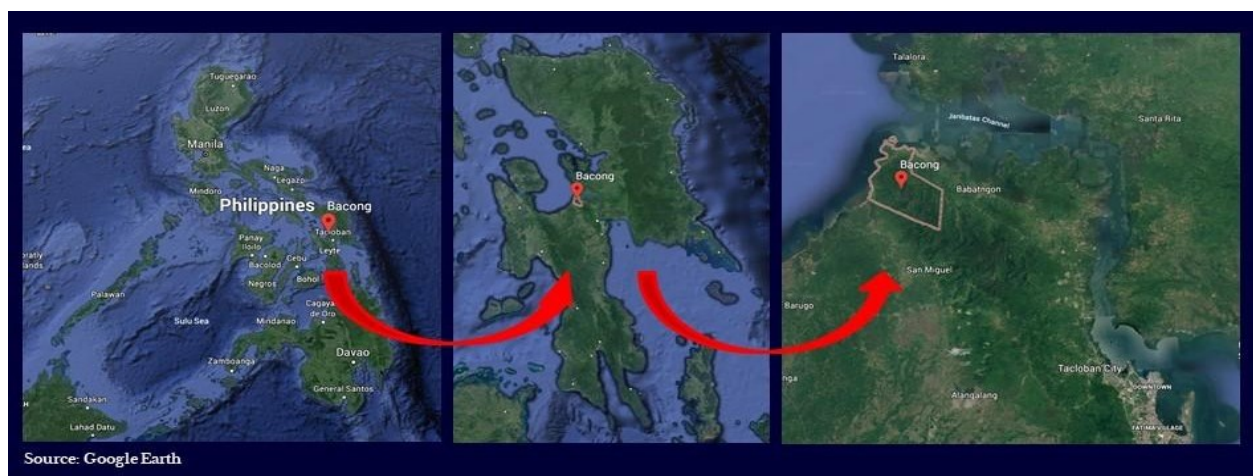


Figure 2. Inset Map of Brgy. Bacong, Babatngon, Leyte

average age of 54. There was only one member from the youth sector which suggests that there will be a new generation to carry on the work of managing forest landscape.

It is noticeable that there were no younger participants from the non-CBFMA PO in Barangay Bacong. This may indicate a potential gap in knowledge transfer and the sustainability of forest management practices. It is valuable to involve and encourage the younger members of the community to participate in local initiatives and learn from the experiences of the older generation to ensure the continuity of these efforts in the future.

Research Design

The study employed a rigorous qualitative methodology to have an in-depth exploration and generate a comprehensive theory on the differences between the CBFMA and non-CBFMA sites in the two barangays. Reiterated questions allowed to scrutinize and to explore more concepts to expose the current on-the-

concerned stakeholders through investigation of the juxtaposed experiences, perceptions, and behaviors of the members of the respective POs from two barangays. The use of Grounded Theory (GT) methods of Charmaz (2006) provided flexibility in data collection, allowing for a constant interplay between data and analysis until theoretical saturation was achieved. It keeps interaction involved with the raw data and emerging analysis.

This study distilled insights and consolidate qualitative comparisons between a CBFMA and a non-CBFMA site by examining key issues such as forest degradation and its impact on upland communities, views on forest resource utilization and timber poaching, and social forestry mechanisms of each PO in order to generate a comprehensive theory on CBFMA. The use of key informant interviews, one-on-one interviews, focus group interviews, and document analysis ensured to capture diverse ideas, opinions, and beliefs of the participants.

Table 1. BDIFA CBFMA Participant Research Partners

Research Participant	Age	Role in the PO	Livelihood
Participant 1	61	Board of Director; Ex-Barangay Captain one of the leaders of the establishment of CBFMA in the area	Retired Government Employee
Participant 2	71	President PO 2005; Treasurer	Business Woman
Participant 3	58	Member since 2013	Business Woman
Participant 4	56	Member since 2008; Business Manager	Business Man
Participant 5	69	Member since 2005; Board of Director; Has list of plants and other engagements	Retired Government Employee
Participant 6	18	Youngest member; No knowledge but more on labor	Student
Participant 7	52	Member since 2020; Novice; limited knowledge; Replaced his relative previous member	Sari-sari Store Keeper
Participant 8	52	Member since 2020; Novice; limited knowledge; Replaced his relative previous member	Barangay Tanod
Participant 9	52	Federation President Babatngon LGU (CSO); President Head CBFMA	Rental House; Farming
Participant 10	51	Auditor; Husband is also a member	House Helper

Research Procedure

The researcher visited the Department of Environment and Natural Resources Community Environment and Natural Resource Office (DENR CENRO) in Palo, Leyte to submit a letter informing them about the research and requesting supplementary documents for data saturation of the research sites. The researcher conducted key informant interviews, one-on-one interviews, and focus group discussions with both groups. Additionally, the researcher joined an on-site visit of the communities with the CBFM coordinator and staff from CENRO Palo to

gain a better understanding of the research location. Theoretical sampling guided the data collection iterative process in the Grounded Theory analysis (Charmaz, 2006). It allowed for the emergence of a comprehensive theory on CBFMA by juxtaposing the social forestry mechanisms of each PO. The use of multiple data sources resulted in a more comprehensive and nuanced understanding of the study. It also ensured credibility and reliability through the convergence of information. The semi-structured questionnaire used in the focus group discussion adopted some questions from ClientEarth's

Table 2. BANATTFA Non-CBFMA Participant Research Partners

Research Participant	Age	Role in the PO	Livelihood
Participant 11	45	Vice President	Fishing
Participant 12	72	President PO in 2005; Treasurer	Fishing
Participant 13	49	Member	Fishing
Participant 14	45	PIO	Fishing
Participant 15	45	Member	Fishing
Participant 16	43	Vice President	Fishing
Participant 17	48	President	Fishing; Barangay Kagawad
Participant 18	48	Member	Fishing
Participant 19	48	Treasurer	Fishing
Participant 20	45	Member	Fishing

(2019) Toolkit for Enabling Laws on Community Forestry, provided a framework for exploring the different thematic areas of community forestry governance, while the in-depth interview questions were based on existing documents that cited the problems of the PO in administering their natural resources. The key-informant interviews provided additional insights and perspective from the PO leaders. The use of dialect and an interactive conversation during the in-depth interviews helped in creating a comfortable and open atmosphere for the participants to share their views and experiences. After conducting each interview, the researcher began to identify similarities in the codes derived from the words, phrases, and statements collected in the data and memos. They have collected a comprehensive list of indicators from the 20 interviews.

Data Encoding and Analysis

The data were subjected to initial coding to extract answers and identify similarities and differences between the POs. The codes were then analyzed, interpreted, and refined into categories and themes. This determined the needed data to be collected next until no new properties emerged. The QDA Miner Lite software was used to

assist in the analysis and grouping of similar themes under an overarching theme. It is a free and easy-to-use Computer Assisted Qualitative Data Analysis Software (CAQDAS) designed to help the researcher to analyze textual data.

The researcher followed and paid close attention to the use of language by the respondents to determine in vivo codes. These are symbolic markers of the participants’ meanings and speech (Charmaz, 2006). The process of open coding was utilized to analyze the collected data. This involved breaking down the data into smaller parts, comparing them, and investigating the shared characteristics and differences between them. The researcher was able to identify patterns and relationships within the data without imposing pre-existing categories or themes to new insights and theories based on the findings. After the iterative collection and analysis of data to increase variation and compare words, phrases, statements from the data, and memos from various sources. The study resulted to 12 categories and 50 sub-categories, which were grouped into the themes of CBFMA Knowledge, Forest Financial Capability, Forest

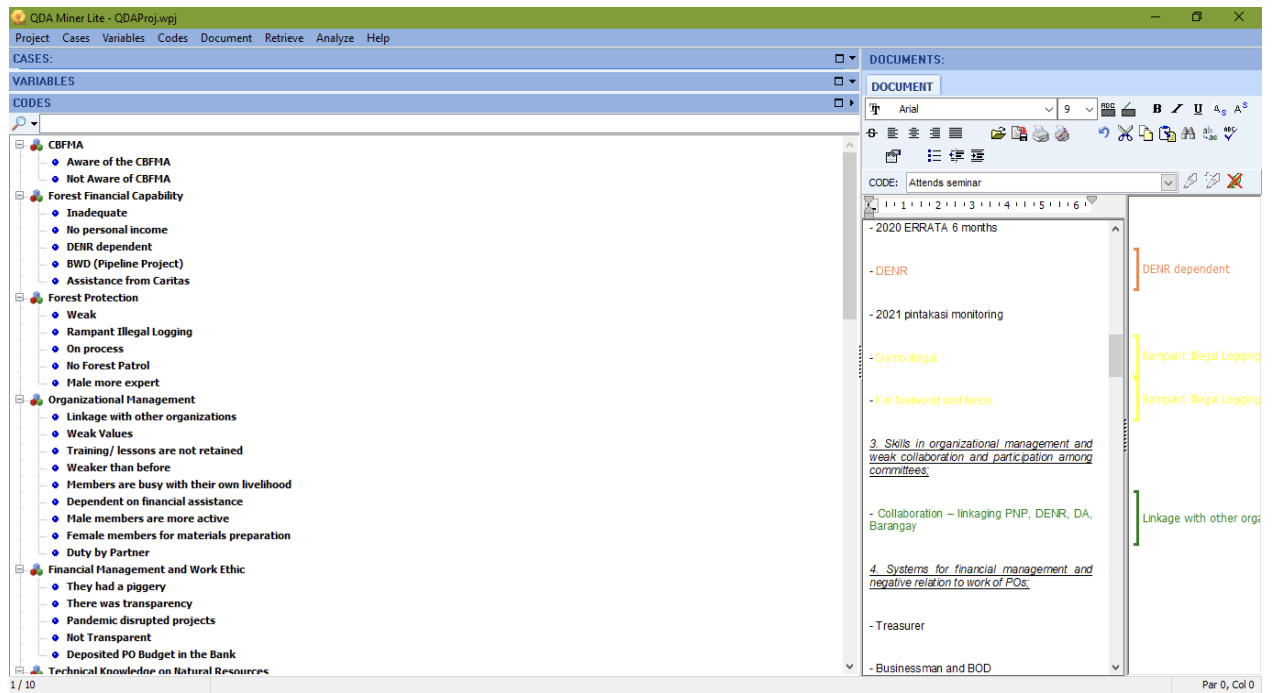


Figure 3. Data Analysis with QDA Miner Lite Screenshot based on Interview Transcripts – BDIFA CBFMA

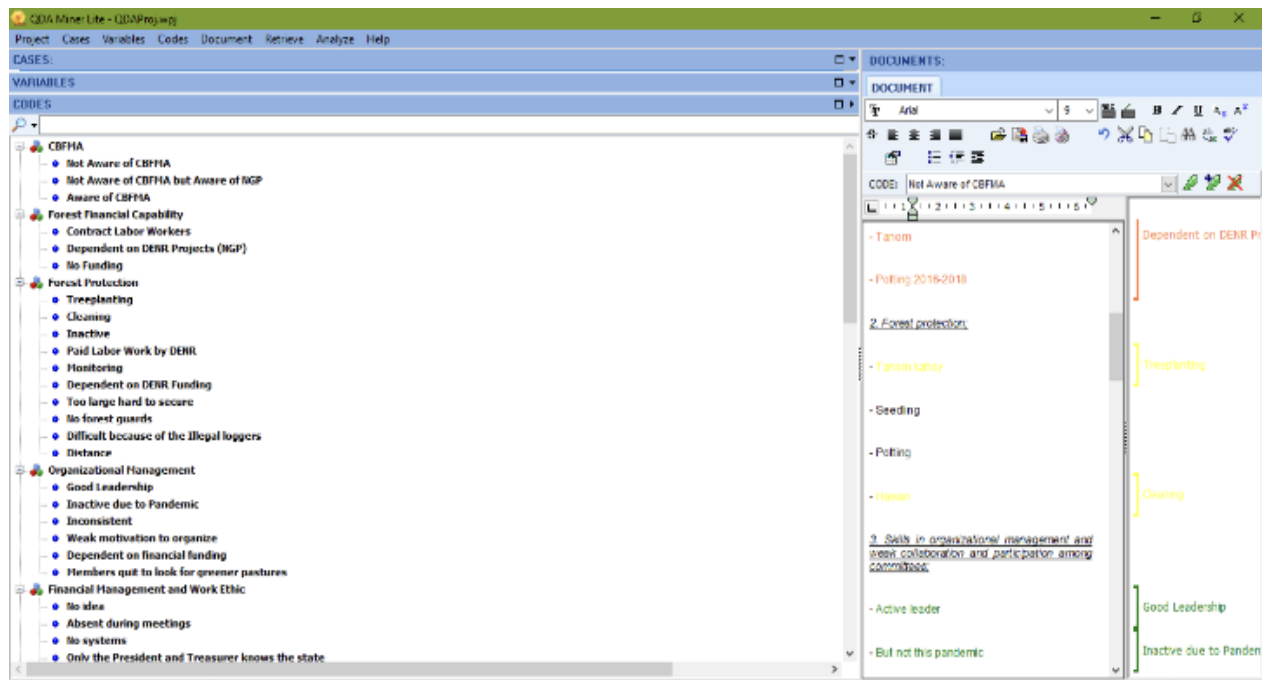


Figure 4. Data Analysis with QDA Miner Lite Screenshot based on Interview Transcripts – BANATFFA Non-CBFMA

Production, Organizational Management, Financial Management, and Work Ethic, Technical Knowledge on Natural Resources, Protection, Rehabilitation, and Conservation, Infrastructures, Enterprise Development, IEC on CBFMA, On-farm Development for Sustainable Agroforestry, Rules on Resource Extraction, and Fund and Knowledge to Forest Resource Inventory to answer

and elucidate the three research objectives.

3 RESULTS AND DISCUSSIONS

Awareness to the Forest Degradation and Its Effects

Table 3. Research Categories and Related Subcategories

Categories	Subcategories
1. CBFMA Knowledge	1.1. Aware of the CBMA 1.2 Not Aware of CBFMA
2. Forest Financial Capability	2.1 Inadequate 2.2 No personal income 2.3 DENR Dependent 2.4 BWD (Future Project) 2.5 External Assistance (e.g. Caritas)
3. Forest Production	3.1 Weak 3.2 Rampant Illegal Logging 3.3 No Forest Patrol 3.4 Male Dominated
4. Organizational Management	4.1 Linkage with other organizations 4.2 Weak Values 4.3 Weak Retention of Training and Lessons 4.4 Members are preoccupied with their own business 4.5 Dependent on Financial Assistance 4.6 More active male members 4.7 Female members assigned to preparation of materials
5. Financial Management and Work Ethic	5.1 Transparency Perception for Active Members causing distrust from non-active members 5.2 Pandemic Disrupted the Projects 5.3 Deposited PO Budget in the Bank
6. Technical Knowledge on Natural Resources	6.1 Not informed 6.2 Local knowledge 6.3 Seminars 6.4 More on theoretical
7. Infrastructure	7.1 Bunkhouse 7.2 Nursery
8. Enterprise Development	8.1 Piggery 8.2 Fishpond 8.3 Rattan 8.4 Abaca 8.5 Furniture Making 8.6 Organic Feed-making 8.7 No Development since the pandemic
9. IEC on CBFMA	9.1 Training about apprehension 9.2 Illegal Logging is not allowed 9.3 Seminars 9.4 More on Theory
10. On-farm Development for Sustainable Agroforestry	10.1 Plant more indigenous trees 10.2 Fish from DENR

Continuation...

Categories	Subcategories
	10.3 Pigs from CARITAS
	10.4 No sufficient funding
	10.5 No recent development
11. Rules on Resource Extraction	11.1 No logging
	11.2 Report Timber Poachers
	11.3 Not followed
12. Fund and Knowledge to Forest Resource Inventory	12.1 Measure the Size
	12.2 Measure the Dimension
	12.3 Brushing, Potting, Weeding, and Trimming
	12.4 Not active since pandemic

to the Upland Communities between PO members of CBFMA and non-CBFMA sites

The participants’ understanding of the impact of forest degradation on their respective landscapes and the corresponding effect on their upland communities were explained with the properties of community forest management, fund, and knowledge of forest resource inventory, weak forest protection, and information education communication.

Community Forest Management

The land under Community-Based Forest Management (CBFM) is around 1.6 million hectares, which is equivalent to 11% of the total forest land area in the Philippines (Pulhin et al., 2021). Around one-third of the world’s forest area is currently managed using Community-Based Forestry Management, which involves various approaches and systems aimed at governing and maintaining forestlands and their natural services and resources (Gilmour, 2016). Developing countries in the Global South have successfully addressed deforestation and degradation challenges through CBFM initiatives (Menton & Cronkleton, 2014).

One of the most significant impacts of CBFM, according to a study by Lasco, Evangelista, and Pulhin (2010), is its contribution to carbon sequestration, which is crucial in the face of the climate and environmental crises. The integration of silvicultural practices, such as sustainable forestry methods, has led to increased carbon storage and sequestration. Moreover, the fast growth of native species in humid and tropical countries contribute to a high rate of carbon sequestration.

Bowler et al. (2010) made explicit comparisons between communities that manage forest and communities by analyzing qualitative and quantitative empirical data from different articles. Their study design recognized that non-CBFM sites are baseline features, which is considered an indicator to compare the changes in CFM areas. Communities that are capable of

managing the forestlands in their vicinity are more likely to be granted with CFMA, which causes smaller environmental and social gains.

The BDIFA, a tenurial holder, creates a CRMF and a Five-Year Work Plan every five years according to DAO 2004-29. In the latest version of these documents, signed last July 29, 2019, it was noted that the previous years of CBFMA implementation had very little positive impact, with insufficient funding for development and protection, as well as inadequate knowledge of managing the CBFM area. The BANATFFA, on the other hand, was an organization that almost became a tenurial holder for CBFMA. They underwent an orientation on community-based forest management strategy by CENRO Palo on October 8, 2008, as they simultaneously presented and ratified their Code and By-laws. However, the process of completing their CBFMA was impeded by Super Typhoon Haiyan, which washed out the submitted documents. As a result, the community manages and protects their forest through the Enhanced National Greening Program (ENGP), which is DENR’s largest reforestation program with a goal to rehabilitate 1.2 million hectares of denuded forest lands and to preserve the existing forests (Department of Environment and Natural Resources, 2019).

Fund and Knowledge to Forest Resource Inventory

Pulhin et al. (2021) stated that the main legal, political, and economic systems in the Philippines are still sufficient to support sustainable forest management. To achieve this, it is necessary to combine scientific innovations in forest management with studies that focus on the social systems and the people involved. However, the bureaucratic and tedious requirements for timber utilization make it difficult for POs in CBFM areas. While the issuance of tenure instruments on paper is beneficial for both the government and local communities, the actual implementation can be challenging. The devolution of responsibilities for forest management and protection is

cost-effective for governments, as it allows public expenditures downsizing. The Department of Environment and Natural Resources (DENR) has benefitted from this agreement by increasing forest cover and improving overall forest (Menton & Cronkleton, 2014; Guiang et al., 2001).

The communities in both POs do not generate sufficient income from their forest management activities. Both POs have the basic forest resource inventory knowledge, including measuring the tree size and dimensions and performing standard procedures that includes brushing, potting, weeding, trimming, and planting. Inventory activities primarily involve ocular inspection and tallying of alive and dead trees, with DENR personnel accompanying its conduct. Male members are more knowledgeable about the local trees and forest conditions. They are more hands-on, while the women are limited to managing nurseries and potting due to their physical strength and stamina that might not be capable of keeping pace with the male POs during the ascent and monitoring in the forest landscape.

“An amon kinabuhì kay isang kahig, isang tuka. Namiling hin pangabuhì an iba” (We have a one scratch, one peck life. Other PO members looked for greener pastures.).

One board member of the BDIFA expressed that their lifestyle is “one scratch, one peck” and that some members have looked for other sources of income due to the COVID-19 pandemic and the stringent and pertinent physical distancing protocols halted social forestry activities in both sites, resulting in a drought of financial assistance. With the inactivity of the CBFMA and NGP, the PO members are preoccupied with jobs to sustain their families.

Forest Protection

Guiang, Borlagdan, and Pulhin (2001) found that People’s Organizations were effective in monitoring and responding to forest emergencies such as fires, encroachment, and illegal logging. However, both Community-Based Forest Management Agreement (CBFMA) and non-CBFMA sites had weak forest protection measures, leading to forest degradation. The illegal logging activities pose a significant danger to the upland communities in Barangay Poblacion District I and Bacong, and the respondents are aware of the adverse effects. The CBFMA site still lacks a strong forest protection protocol, which is the same assessment as the 2005 CRMF and Work Plan for establishing the CBFMA. They have difficulty patrolling the site due to the size of the area, making it hard to maintain and secure. Despite appeals, no forest guards have been appointed and this absence threatens the POs to take action.

The PO members have paid labor work in tasks such as cleaning the area, potting, tree planting, etc. from the Department of Environment and Natural Resources (DENR). The members have experienced landslides and

flooding during Typhoon Urduja, and they are aware of the forest degradation and slope degradation. The non-CBFMA site has also noticed the same changes in landscape, such as the building of highways and an increase in settlement of people in the area. They have witnessed a significant change in landscape with the building of highways and the increase of settlement of people in the area. A decade ago, the area was inaccessible, the tree canopies covered the sites, and the water supply was pristine and fresh.

Information Education Communication

The local communities are aware of the forest degradation in their respective areas and the negative effects it has on their livelihoods, due to the Information Education Communication (IEC) about Executive Order 263 or Community-Based Forest Management (CBFM). However, there is a lack of formal IEC materials, and training sessions on apprehensions are not inclusive to all members. Only officers attend these functions and knowledge gained is not sufficiently disseminated to the rest of POs. New members are not informed of the essence of CBFMA. Pamphlets serve as the only educational material, and while cutting small firewood for household utilization is permitted. Cutting native tree species is prohibited.

The PO members who work as laborers in tree-planting activities are solely after the payment of their work. There is a need for reorientation of the value of their work for both POs. Despite acknowledging climate change, both communities believe that the knowledge imparted to them on community forestry is more in theory, with no significant practical applications to show for it.

Views on Forest Resource Utilization and Timber Poaching between PO members of CBFMA and non-CBFMA sites

The responses to the second research objective were grouped into three open codes: Technical Knowledge on Natural Resources, Protection, Rehabilitation, and Conservation; Rules on Resource Extraction; and Land and Forest Tenure Use.

Technical Knowledge on Natural Resources, Protection, Rehabilitation, and Conservation

Stein and Lippert (2020) emphasized the important role of natural ecosystems in absorbing atmospheric carbon dioxide and highlighted how healthy forests can combat climate change and promote healthy communities. Regarding the BDIFA members and their CBFMA site, they have a weak understanding of technical knowledge related to natural resources. Orientations given by the DENR were not conducive for them. Although they attend seminars, the knowledge they gain is more theoretical than practical. Consequently, they

perceived themselves as being inefficient.

“Mas damo it theory kaysa ha tuod” (There are more theories than applications).

On the other hand, BANATFFA members are limited to seeding, brushing, potting, measuring the distance between plants, and tallying alive and dead trees. Male members possess technical knowledge, however, they lack access. They are only the laborers of the DENR, unlike the BDIFA, which has a privilege to full access to the tenured land.

The field assessments of Miyakawa et al. (2006) found that in the early 2000s, the number of members in POs increased following the implementation of CBFMA, which was seen as a promising policy. However, many PO members eventually became inactive due to a lack of support from the government and disinterest from other PO members. Additionally, the cost of membership fees, monthly fees, and low incentives contributed to a relatively small PO membership.

Rules on Resource Extraction

POs face a significant challenge in the form of the log ban policy, which prohibits the cutting of planted timber and discourages POs from investing in CBFMA (Bacalla, 2006). This limitation makes it harder for them to sustain their socioeconomic status by harvesting what they have planted. Additionally, accessing forest resources involves complicated paperwork and procedures, which discourages them from harvesting timber resources. (Aquino & Daquio, 2014). According to the Commission on Audit's (2007) record on the CBFM program in the Leyte Province, some officers and members of POs claimed disinterest in maintaining their area because they believed that only tree poachers would benefit from their forests. Some POs are left with no option but to engage in illegal timber poaching due to the ban of timber harvesting in their areas that cut-offs their source of income (Pulhin and Inoue, 2007). In his paper on forty years of community-based forestry, Gilmour (2016) emphasized that the CBFM framework should enable rather than constrain management to optimize its effectiveness.

In this study, both PO respondents agree that logging is strictly prohibited, and hardwoods are protected. However, beyond that, most members do not have sufficient knowledge about regulations on resource extraction. Illegal logging remains a significant issue in the area, and community members are calling for stronger penalties for those who engage in such activities. According to Pulhin et al. (2022), there has been a rise in illicit practices, such as timber poaching and unlawful collection of non-timber forest products, in areas where community forestry initiatives have ceased due to the pandemic.

“Parusahan an mga nag-illegal. Nagyakan na kami ha DENR na dire la pananom na proyekto dapat mayda magbantay.” (Punish the illegal loggers. We have already

told the DENR before that planting activities should not be the only project. There is also a need for forest patrol).

The BDIFA and BANATFFA communities believe that the forest governance support from other stakeholders, such as the local government unit, is poor and ineffective in maintaining forest cover. Weak in maintaining the forest cover. While tree planting activities are undertaken to replenish the denuded areas, community members feel that conscientious monitoring and strict policy implementation are crucial to ensuring the success of such efforts.

“Maiha tumubo an kahoy dapat bantayan” (Trees take time to grow and they must be monitored).

Both communities agreed on the need to penalize illegal loggers. However, it is common knowledge that there are members of the PO who are responsible for these activities. Members, as dependent residents of the forest, utilize firewood and twigs they call ‘sungu’ or ‘rahitis’. The profits to be gained from illegal logging drives most of the deforestation. Individuals engaged in tree poaching are primary actors in the complex and interconnected relationships within society that contribute to deforestation.

Land and Forest Tenure Use

Seymour, La Vina, and Hilde (2014) discovered that there is a strong correlation between secure tenure and improved forest conditions. Forests with insecure tenure tend to be degraded, which endangers both the biodiversity and adjacent communities. In Carig's (2012) impact assessment of CBFM in Nueva Vizcaya, the respondents were below the poverty threshold, and CBFM had a remarkable impact on controlling tree poaching and the slash-and-burn cultivation practices. The enforcement of forestry laws and local policies by the tenure holders improved and increased forest covers. The tenure holders adapted by having a variety of crops and by integrating livestock into their farming systems. Carig (2012) concluded that CBFM contributed to an increase in natural forest area and conversions of grasslands into tree and agricultural plantations.

The participants of the CBFMA are disappointed with the rampant timber poaching despite their rights to land use. They have exclusion rights to prevent non-members from using land and forest resources. The BDIFA has access, withdrawal, utilization, and management rights to the forest land under the CBFMA tenurial instrument, and can harvest non-timber forest products covered by the five-year work plan in the community resource management framework. They are also allowed to develop and protect the forest, but cutting native timber is strictly prohibited. The PO has management rights in decision-making to use the forest and its resources, but they fail to exercise their exclusion rights and prevent illegal loggers from accessing the area due to poor protection.

On the other hand, BANATFFA has access rights to

the area of plantation and forestland as long as there is a permit. Use rights also exist as long as they don't destroy, but withdrawal rights require permission to extract forest resources. They planted rattan in 2014 on a 25 hectare-land, but it is not yet harvested. Meanwhile, the 10-hectare bamboo plantation they established in 2013 was destroyed by Typhoon Urduja.

Juxtaposition of Social Forestry Governance and Mechanisms of POs between PO members of CBFMA and non-CBFMA sites

This study chronicled the comparisons of the forest management and status between two neighboring upland communities, and identified several open codes that relate to the third research question. These codes include the differences in organization management, financial management and work ethic, benefit-sharing, enterprise development aside from farming on-farm development for sustainable agroforestry, infrastructure, and forest financial capability.

Organizational Management

Mahanty et al. (2006) provided a definition of forest governance, which refers to the various processes, rules, institutions, practices, and norms that affect the management of natural resources. The authors used this definition to examine the representation of CBFM participants, their level of authority at different levels, accountability and transparency, property rights and tenure, markets, financial flows, and how the system manages risks and adapts to new knowledge. The participation of POs in CBFM is determined by their socioeconomic background, as noted by Compendio and Bande (2017). Some POs may not participate due to the nature and demands of their livelihood.

The organizational management of the two POs differs in terms of community forest management and the quality of leadership of its officers. While both organizations have presidents with good leadership, there are concerns about transparency. BDIFA, as a tenorial holder, has better access to other organizations but is criticized for weak values and not retaining training and lessons given by the DENR and other agencies.

Meanwhile, the BANATFFA president has held the same position since the beginning. The PO became inactive due to the pandemic. They have felt the inconsistency and loss of the motivation to organize, being heavily dependent on financial funding. The organizations also face the challenge of retaining members, as many have retired or left due to other livelihood opportunities.

These findings also concur with the study of Pulhin et al. (2022) on the effects of COVID-19 on Community-Based Forest Management (CBFM) in selected regions of the Philippines. Upland communities are the most marginalized sector with the brunt of the pandemic. It's hard to deal with their daily needs and look

after the forests. Fundings and activities, such as training and workshops, agroforestry, forest protection, forest production, livelihood activities, and research and development, were hampered, thus deteriorating the targets of increasing forest cover, securing food supply, and achieving specific sustainable development goals.

Financial Management and Work Ethic

Having a fair and effective benefit-sharing system is also an important aspect of community forest management. It sustains harmony and trust in line with transparency. Transparency in the breakdown of funds is usually presented during meetings. Some are wary of the finance only disclosed between the President and Treasurer. BDIFA has a more equitable system of profit-sharing among members as compared to BANATFFA. The profit-sharing is based on the size of the area being managed by the member, and the amount of non-timber forest products collected. BANATFFA's profit-sharing, on the other hand, is based on the amount of work a member puts in during activities such as tree planting.

Enterprise development, aside from farming on-farm development for sustainable agroforestry, is also vital in community forestry management. BDIFA has established a piggery enterprise as an alternative livelihood source for its members, while BANATFFA focuses on rattan and bamboo planting. BDIFA is also more proactive in seeking and applying for funding from various organizations and government agencies.

Benefit Sharing

According to Sunam and McCarthy (2010), equity in CBFM refers to the fair distribution of decision-making power, access to resources, management and control of resources, and the benefits derived from these activities. In 2001, Guiang, Borlagdan, and Pulhin conducted an initial assessment of CBFM programs, which showed that these programs provided various social benefits to communities within CBFM areas. These benefits included rights to land tenure and resource utilization, livelihoods from forest products and agricultural inputs, access to stable and clean water supply, and the preservation of cultural values and religious beliefs.

There is a disparity in benefit-sharing arrangements between BDIFA and BANATFFA. BDIFA follows a clear income policy for equitable benefit sharing within their organization. Meanwhile, BANATFFA has no fixed benefit-sharing guidelines within its community. This suggests that the BANATFFA may not be achieving one of its primary objectives, which is to generate income and livelihood opportunities collectively. In terms of compensation, BANATFFA members are paid on a rush labor basis, which is not a sustainable source of income in the long run.

Enterprise Development

Aside from ensuring Sustainable Forest Management (SFM), CBFM also aims to improve livelihoods. It

entrusts POs with the authority to establish and enforce rules for forest management and to resolve conflicts related to this matter. CBFM also promotes the use of Non-timber Forest Products (NFTP) such as rattan and bamboo as alternative sources of sustainable livelihood. However, CBFM projects are measured to be performing below expectations and may only become effective if all necessary conditions are met (Gilmour, 2016).

Both POs had enterprise development to supplement their income and meet their daily needs. However, BDIFA was more productive than BANATFFA, as they received support from other organizations. The PO had previously ventured into chicken and piggery livestock with the support of CARITAS Germany, tilapia culture in fishpond with the help of DENR, and the making of organic fertilizer. Unfortunately, these ventures were not operational due to the pandemic. Cases of theft by PO and non-PO members and swine fever impedes them to sustain these.

Currently, BDIFA has been identified as the proposed area for the water system project with the Babatngon Water District (BWD). On the other hand, with limited resources, BANATFFA primarily relies on fishing as their livelihood. They were able to create a small community garden that included various agricultural crops such as guava, ampalaya, sitaw, upo, pepper, pechay, kamatis, lemongrass, turmeric, okra, and talong. They were able to harvest and sell their products, but they stopped with the challenge of soil acidity.

On-farm Development for Sustainable Agroforestry

The promotion of sustainable agroforestry through on-farm development centers on the objective of planting more native trees. The President of BDIFA stated that their aim is to plant 10% mahogany. In the past, BDIFA generated income from selling fruits, pigs, fingerlings, and fish. In contrast, BANATFFA has limited crops such as gabi and malunggay due to the unstable soil condition for optimal plant growth. Although they plan to revive the community garden, the project might be in vain due to the research sites' ultramafic outcrops. Ultramafic soils are deficient in essential plant minerals such as phosphorus and potassium, and have major cation imbalances, resulting in a low cation exchange capacity and nutrient retention. In tropical countries, areas with this soil have high weathering induced by the intensity of the rainfall and temperature, influenced by the elevation (Galey et al., 2017). This may be the explanation for the unsuccessful planting of fruit trees and crops by BANATFFA. Both communities have not undergone any significant development recently.

Infrastructure

The infrastructures, i.e., nurseries and bunkhouses, at both sites serve as a facility for planting materials and the PO members, as well as a venue for receiving visitors for forest management and development purposes.

Previously, BDIFA had two bunkhouses and a nursery, but the pathway leading to the area remains inaccessible, which means that one of the objectives of the first CRMF was still not realized. Meanwhile, BANATFFA had three nurseries, but all were damaged due to typhoons. Additionally, two bunkhouses were also damaged by landslides, but no repairs have been made to date.

Forest Financial Capability

During the discussions on forest landscape and their organization, the participants constantly referred to their respective PO's financial capacity. In the case of BDIFA, they acknowledged having limited funds for community forest protection and noted that they did not receive significant personal income from their benefit-sharing mechanism. Consequently, they heavily rely on the support of the DENR, although they remain optimistic about the pipeline project with Babatngon Water District. They also received assistance from CARITAS, a German-based non-government organization, after being severely affected by super typhoon Haiyan. However, the COVID-19 pandemic has hampered the realization of their work plan, resulting in their PO being inactive for almost two years. On the other hand, BANATFFA members view themselves as contract labor workers of DENR, dependent on the funding and schedule of National Greening Program projects.

The Theory of Establishing Motivation to Enable Community Forest Protection

Selective coding involves identifying the relationships between the main categories of forest financial capability, organizational management, and Information, Education, and Communication (IEC) on the Community-Based Forest Management Agreement (CBFMA). This framework is an abstract illustration of the research categories and the interpretation of their connection to one another. The theory was the understanding based on the researcher's interpretation representing that truth is conditional and social life is processual (Charmaz, 2006). Although the BDIFA is a CBFMA holder with corresponding privileges and incentives, most activities mirror BANATFFA. The latter participates in the National Greening Program (NGP). Both CBFMA and NGP look into the welfare of forest-dependent communities with the shared objectives of alleviating poverty and promoting sustainability.

The diagram exhibits the data gathered through analysis which explains the community forestry mechanisms in the BDIFA and BANATFFA POs. The 12 categories related to social forestry governance and mechanisms are illustrated in Figure 5 and support the explanation of the theory. The 2005 CRMF and CBFMA document of the Brgy. Poblacion, District I served as the blueprint for comparison between the two locales.

The researcher identified 12 categories that emerged from the data and were arranged based on their

interpretation and connection to the codes. The core category was the forest protection code, as it was the end goal of both POs. This was linked to four sub-categories: Organizational Management, Information, Education, and Communication (IEC) on CBFMA, Forest Financial Capability, and Technical Knowledge on Natural Resources Protection, Rehabilitation, and Conservation to show their relationships.

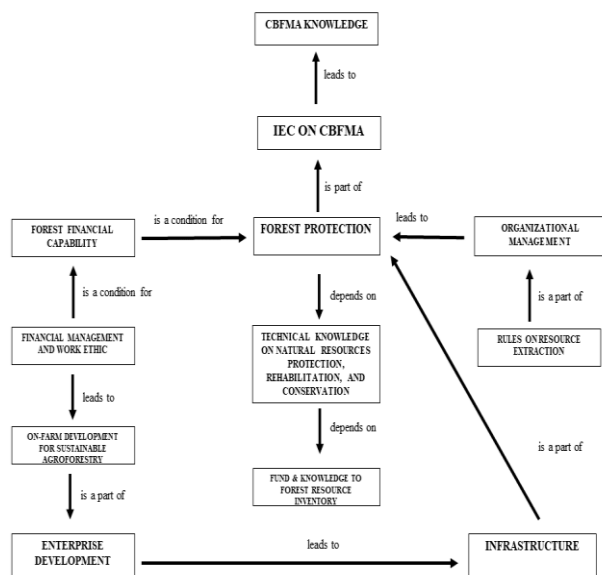


Figure 5. The Theory of Establishing Motivation to Enable Community Forest Protection

4 CONCLUSION

This study revealed that both upland dwellers in CBFMA and non-CBFMA sites are aware of the forest degradation caused by illegal logging and exacerbated by strong weather conditions. The loss of forest cover due to uprooted trees from typhoons was connected to extreme heat, soil erosion, flooding, and landslide. Participants recounted that the landscape was comparatively more verdant when they were younger, and the supply was more abundant, cleaner, and fresher. The construction of the cemented highway for transportation and mobility was also attributed to the cutting of trees. All participants agreed that the situation of the ridge is bound to affect the reefs.

The study identified the views of research participants on forest resource utilization and timber poaching. The POs have a negative impression of illegal harvesting within the sites that they manage, but with the brunt of the pandemic and the continuing price hikes, illegal activities continue in the community. Despite the law's strict prohibition of cutting hardwood, there are rampant cases of timber poaching and illegal logging, according to both POs.

The study generated a theory of establishing motivation to enable community forest protection, which emerged from the 12 research categories and was condensed into four sub-categories revolving around the core category of forest protection. This explained and juxtaposed the social forestry governance and mechanisms of each POs. Both CBFMA and non-CBFMA PO participants revealed weak organizational management, weak forest financial capability, and weak technical knowledge on natural resources, protection, rehabilitation, and conservation. The motivation to continue planting activities has dwindled, and both groups want to urge the DENR to fund them with projects that will form sustained forest rangers or patrollers.

RECOMMENDATION

This study recommends that the findings of this study can serve as a basis for the DENR as indicators for the condition of both sites in order to bridge the gaps and extend the appropriate course of action. There is a need to reinvigorate CBFMA to PO members in the new normal. It is suggested to community forestry, in whatever form, to make it an inclusive and engaging decision-making vehicle for user groups and other stakeholders. There is a need for an updated IEC on the importance of forests and other relevant topics and programs to increase the number of CBFMA holders within the region. It is recommended to conduct an assessment of CBFM and NGP if goals of poverty alleviation, livelihood assistance, and food security were realized, conduct a study on possible alternative livelihood projects with available non-timber forest products (NTFPs), and a replication of the study to other sites or more grounded theory methodology focused on CBFMA. Research into other CBFMA sites within the region might provide an interesting comparison of baseline data to compare categories and have more elucidation on the situation of CBFMA. Identify the determined concepts through a quantitative study to provide a different lens and demonstrate hard numerical evidence.

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