

Assessment of devolved forest management: The case of Mauban, Quezon Province, Philippines

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ABSTRACT. Effective forest management results from the collaborative efforts of the local government units (LGUs), community members, academia, and policy implementers. The devolution of certain forest management functions from the Department of Environment and Natural Resources (DENR) to LGUs, as mandated by the Republic Act No. 7160 (the Local Government Code of 1991), aims to achieve a more grassroots approach to managing and maintaining ecological balance. This study identified relevant policies, assessed their implementation using the case of devolved forest management in Mauban, Quezon Province, Philippines, and provided recommendations for improving devolved forest management functions. Data collection methods included key informant interviews, surveys, and desk research. Key policies supporting devolution included DAO No. 92-30, DENR – DILG Joint Memorandum Circular (JMC) No. 1998-01, and DENR-DILG JMC No. 2003-01. These policies provided the legal and technical foundations for effective implementation. Survey results indicated that respondents benefited economically, socially, environmentally, technically, and through capacity-building activities. However, challenges such as lack of technical and financial assistance were also noted. Implementation strategies varied among five barangays in Mauban, considering existing tenurial arrangements within their jurisdiction. The study recommends the following: 1) reviewing and updating the policies on devolved forest management functions, 2) allocating a budget to perform devolved functions effectively, 3) amending paragraphs A and B of Sections 443, 454, and 463 of RA 7160, and 4) monitor and evaluate the devolved management functions, among others.

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INTRODUCTION

The continuing decline and deterioration of forests become more widely acknowledged as a global phenomenon (Taylor *et al.*, 2021; FAO, 2022). Nestled in the Western Pacific, the Philippines, an archipelagic country comprising around 7,641 islands (Agaton *et al.*, 2022), is no exception. In 1900, over 70% of the Philippines' total land

area of 30 M ha was covered with forests (ESSC, 1999), as mentioned in Aquino *et al.*, (2014). Unfortunately, due to rapid deforestation since 1900 (ESSC, 1999; Guiang *et al.*, 2001), continuous influx of migrant communities in forest lands (Aquino *et al.*, 2014), mining, and other development, its forest cover dropped to

around 18.3% in 1999 which led to considerable loss of biodiversity, raw materials, and water storage capacity, as well as an alarming release of greenhouse gasses from slash-and-burn farming (Salzer, 2012, as cited in Aquino *et al.*, 2014). Based on the 2023 Philippine Forestry Statistics, only 7,226,394 ha were under actual forest cover as of 2020 (FMB, 2023), which comprises 24.07% of the country's total land area.

To address these problems, the Philippine government enacted various policies to manage, conserve, and protect the environment. One of these policies is the Republic Act No. 7160, otherwise known as the Local Government Code (LGC) of 1991, which provides for the shared responsibility of the LGUs with the national government in the management and maintenance of ecological balance within their territorial jurisdiction [Section 3 (i)]. It also mandated the devolution of basic and essential services to LGUs based on the idea that LGUs are better positioned to address and effectively deliver these services to their constituents (DILG, 2021). As used in the LGC of 1991, "devolution" refers to the act by which the national government confers power and authority upon the various local government units to perform specific functions and responsibilities. It also includes the a) transfer to LGUs of the records, equipment, and other assets and personnel of the national agencies and offices corresponding to the devolved powers, functions, and responsibilities and b) absorption of the personnel of the national agencies by the LGUs.

Accordingly, Section 17 of the LGC of 1991 mandates the LGUs to discharge certain functions and responsibilities and deliver basic services and facilities devolved to them by national agencies, such as the DENR. The devolved functions include the implementation of community-based forestry projects, which include integrated social forestry programs and similar projects; management and control of communal forests with an area not exceeding 50 km²; establishment of tree parks, greenbelts, and similar forest development projects, which are subject to the supervision, control, and

review of the DENR, for municipalities and the enforcement of forestry laws limited to community-based forestry projects, pollution control law, small-scale mining law, and other laws on the protection of the environment; and mini hydroelectric projects for local purposes, for provinces. To support the LGUs in discharging their devolved functions and responsibilities, Section 284 of the LGC of 1991 provides for the allotment of national internal revenue taxes to the LGUs.

For this purpose, the DENR and the Department of Internal and Local Government (DILG) issued guidelines for the effective implementation of the devolved functions, namely DAO No. 1992-30 entitled "Guidelines for the Transfer and Implementation of DENR Functions Devolved to the Local Government Units," DENR-DILG Joint Memorandum Circular (JMC) No. 1998-01 entitled "Manual of Procedures for DENR-DILG-LGU Partnership on Devolved and other Forest Management Functions" and DENR-DILG JMC No. 2003-01 entitled "Strengthening the DENR-DILG-LGU Partnership on Devolved and other Forest Management Functions."

However, the Philippines has fallen short of achieving full devolution as the funds necessary to carry out the devolved functions were not fully transferred to LGUs (DILG, 2021). As a result, while some LGUs have successfully implemented devolved functions, research has shown that the country's devolution of Environment and Natural Resources (ENR) functions has been partial, insignificant, and largely unsuccessful (Senate Economic Planning Office, 2012). Therefore, it is crucial to understand and determine the relevant policies, and the implementation of devolved forest management functions to uncover why full devolution was not achieved.

Hence, this study was conducted to: 1) identify the policies relevant to devolved forest management functions; 2) assess the implementation of devolved forest management functions in Mauban, Quezon Province; and 3) provide recommendations to improve the implementation of devolved forest management functions.

METHODOLOGY

Site description

The study was conducted in the Municipality of Mauban, Province of Quezon, from August to October 2022. The study site was selected as it is within the CALABARZON Region, one of the project sites supported by Forest Foundation Philippines and the Tropendos International SILG Program, as the study is an offshoot of the project, “Analysis on the Implications of the Mandanas-Garcia Ruling on Devolved Forest Management” of Tanggol Kalikasan with the Forest Foundation Philippines. The Municipality of Mauban was chosen from the list of municipalities with the CBFM program of the DENR-FMB and for its proximity to Lucena City, where the TK office is located. Its location made it an ideal choice during the COVID-19 pandemic when travel restrictions existed. Accordingly, travel restrictions, resource constraints, and time limitations may limit the generalizability of findings to other LGUs not covered by this study.

Mauban is a first-class coastal municipality found 157 km southeast of Manila and 52 km north of Lucena City, the capital of Quezon Province (**Figure 1**). Its total land area is 415.98 km², constituting 4.76% of Quezon's total area. In the 2020 Census, its population was 71,081 individuals (Mauban, Province of Quezon, n.d.).

Data collection

TK conducted the data collection from August to October 2022. During the preparatory phase, TK conducted desk research to gather and collate the laws, rules, and regulations regarding devolved forest management functions. This phase also involved coordination and meetings with DENR-FMB to identify the respondents, draft and review a memorandum for necessary assistance in conducting the study, and review the survey questionnaires. The target respondents are based on the list of grantees under the DENR-FMB CBFM program. The main activities involved the development of three questionnaires for Certificate of Stewardship Contract (CSC) holders, DENR, and

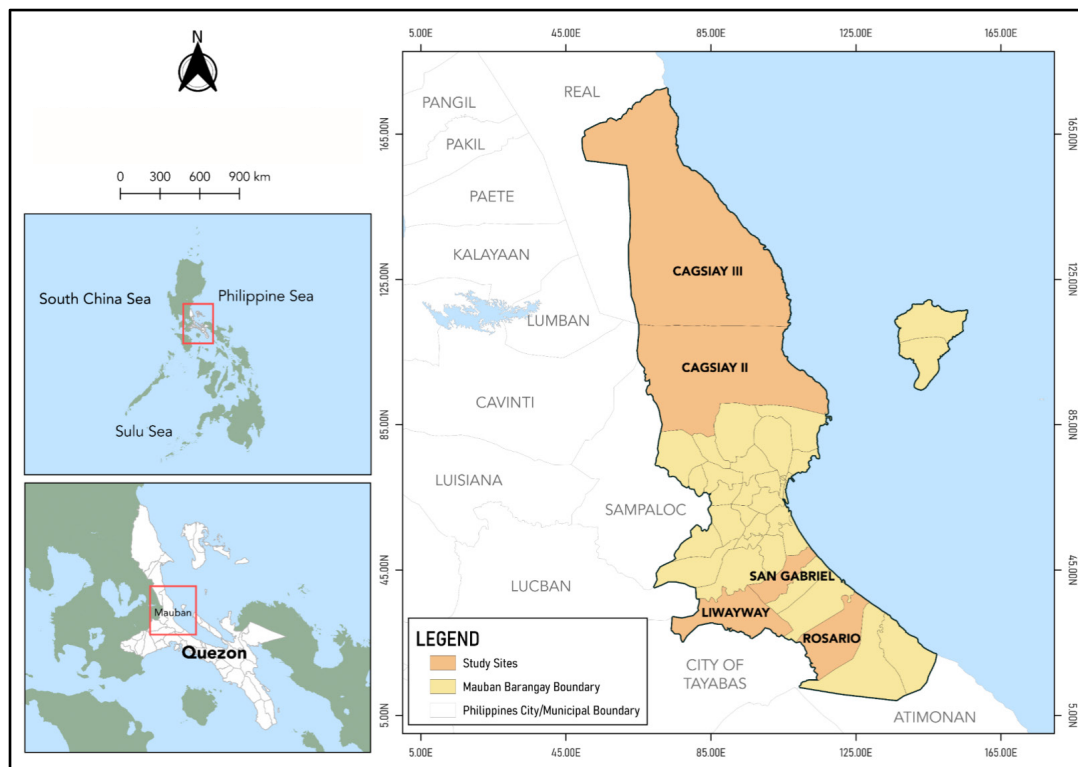


Figure 1. Administrative map of Mauban, Quezon, Philippines.

LGUs, as well as conducting surveys and Key Informant Interviews (KII). These questionnaires were reviewed and approved by the DENR-FMB. They were pre-tested to assess the duration and clarity of the questions due to the study's time frame, which coincided with the 2022 National Election and the COVID-19 pandemic, TK, with the assistance of focal persons from the DENR-FMB, field offices, and LGUs, employed purposive sampling for the survey. Surveys for CSC holders were conducted in person based on the list of CSC holders provided by the DENR-FMB, while surveys for DENR and LGUs were conducted online.

Purposive sampling was used in this study. This type of sampling, also called judgmental sampling, is a non-probability sampling technique that selects participants based on their capacity to provide insights relevant to the research question (Creswell, 2013; Creswell, 2014). In this case, participants from CSC holders were selected based on availability and proximity during the survey. In contrast, DENR personnel and representatives from the LGUs were selected based on their position and capacity to answer the survey. In qualitative research, determining an appropriate sample size is a question of judgment and experience in weighing the data quality obtained against the intended applications, the research technique and purposeful sampling strategy used, and the research outcome (Sandelowski, 1995). Since this will primarily rely on the respondents' answers during the survey and interview, this approach may also introduce biases in their perceptions and experiences of devolved functions.

Sixty-four respondents were interviewed representing five barangays: Cagsiay 3, Cagsiay 2, Liwayway, San Gabriel, and Rosario in the Municipality of Mauban. Individual surveys were facilitated among the CSC holders within the municipality to gather substantial information regarding the devolved forest management functions on the ground. Nine LGU and DENR respondents were asked to answer the online survey. The survey aims to gather first-hand information about the

devolved forest management activities based on their knowledge, opinions, and experiences that would provide insights into the current state of devolved forest management functions. (Carroll *et al.*, 2004). The respondents hold the positions of Provincial Environment and Natural Resources Officers (PENROs) and Community Environment and Natural Resources Officers (CENROs) who have administrative jurisdiction over the project sites. In contrast, the respondents from the LGUs hold the positions of Municipal Environment and Natural Resources Officers (MENROs) and Municipal Agriculturist Officers.

Follow-up interviews were conducted with the DENR and LGU respondents to clarify the status of the devolved forest management functions on the ground and better understand their respective roles. These interviews also identified lessons learned and challenges in implementing devolved.

Data analysis

Data collected from the survey were subjected to descriptive statistical analysis to obtain a comprehensive view of the data, identify patterns, and make preliminary conclusions (Trochim & Donnelly, 2008). Specifically, frequency and percentage distribution were employed to reveal the quantitative socio-demographic data and benefits derived from the devolved forest management, such as socio-economic, environmental, and capacity-building benefits. Furthermore, data from the interviews were transcribed, translated, and coded to identify themes related to devolved forest management, particularly the issues and challenges faced by the CSC holders, DENR personnel, and officials from the LGUs. Thematic coding employs a systematic method to recognize repeating themes, patterns, and narratives in participants' responses (Braun & Clarke, 2006).

RESULTS AND DISCUSSION

Desk research was conducted to collate and examine the applicable laws, rules, and regulations on devolved forest management functions. Upon examination, a number of laws, rules, and regulations govern the implementation of

devolution in the country. These policies serve as the basis for the government to ensure the effective implementation of devolved forest management functions towards sustainable management and conservation of the environment. These are also designed to enable LGUs to deliver basic services and manage their resources efficiently. The following laws and regulations were selected based on their direct relevance to devolved forest management functions.

Laws and regulations relevant to the implementation of devolved forest resource management functions

The 1987 Philippine Constitution. The 1987 Philippine Constitution is the fundamental legal framework for resource management. Under Section 2, Article XII of the 1987 Philippine Constitution, “all lands of the public domain, waters, minerals, coal, petroleum, and other mineral oils, all forces of potential energy, fisheries, forests or timber, wildlife, flora and fauna, and other natural resources are owned by the State.” This provision imposes a correlative duty on the part of the government to explore, utilize, and develop natural resources, promote the general welfare and social justice in all phases of national development, and protect and advance the rights of the Filipino people to a balanced and healthful ecology in accord with the rhythm and harmony of nature, and the conservation and development of the patrimony of the nation. Moreover, to ensure the management of natural resources, the 1987 Philippine Constitution mandates the Congress to enact “a local government code which shall provide for a more responsive and accountable local government structure instituted through a system of decentralization, allocate among the different local government units their powers, responsibilities, and all other matters relating to the organization and operation of the local units” (Sec.3, Article X).

Executive Order No. 192. On 10 June 1987, President Corazon Aquino issued Executive Order (EO) No. 192 or the “Reorganization Act of the Department of Environment and Natural Resources”. Section 4 of EO 192 mandates the DENR as the primary agency responsible for the conservation, management, development, and proper use of

the country’s environment and natural resources. It gives the DENR clear authority to manage the country’s natural resources, including enacting policies and programs and collaborating with other stakeholders. As the lead agency, the DENR’s powers and functions include but are not limited to the following: 1) formulate, implement, and supervise the government’s policies, plans, and programs relevant to the management, conservation, development, and use of the country’s natural resources; 2) exercise supervision and control over forest lands; 3) develop, implement, monitor, and evaluate ENR policies and plans; and, 4) develop, protect, conserve, and enhance the ecosystems and natural resources and rehabilitate degraded ones. The DENR comprises 16 regional offices, 73 Provincial Environment and Natural Resources Offices (PENRO), and 171 Community Environment and Natural Resources Offices.

Republic Act No. 7160 or the Local Government Code of 1991. LGC of 1991 is one of the Philippines’ laws with environmental management provisions. Pursuant to the 1987 Philippine Constitution, the LGC of 1991 serves as the legal framework for the devolution of functions and services from the national government to LGUs. As used in the LGC of 1991, “devolution” refers to the act by which the national government confers power and authority upon the various local government units to perform specific functions and responsibilities.” It also includes the a) transfer to LGUs of the records, equipment, and other assets and personnel of the national agencies and offices corresponding to the devolved powers, functions, and responsibilities and b) absorption of the personnel of the national agencies by the LGUs. The devolution of basic and essential functions and services is based on the idea that LGUs are better positioned to address and effectively deliver basic services to their constituents (DILG, 2021).

Thus, under Section 17 (ii) of the LGC of 1991, the LGUs shall discharge the following basic services and facilities devolved to them by the DENR:

(2) *For a municipality:*

(ii) *Pursuant to national policies and subject to supervision, control, and review of the DENR,*

implementation of community-based forestry projects, which include integrated social forestry programs and similar projects; management and control of communal forests with an area not exceeding fifty (50) square kilometers; establishment of tree parks, greenbelts, and similar forest development projects;

(3) For a province:

(iii) Pursuant to national policies and subject to supervision, control, and review of the DENR, enforcement of forestry laws limited to community-based forestry projects, pollution control law, small-scale mining law, and other laws on the protection of the environment; and mini-hydroelectric projects for local purposes;

(4) For a city:

All the services and facilities of the municipality and province.

To facilitate the implementation of the policies mentioned above, the DENR, on 30 June 1992, issued Department Administrative Order (DAO) No. 1992-30 entitled "Guidelines for the Transfer and Implementation of DENR Functions Devolved to the Local Government Units." The issuance of this guideline was followed by DENR – DILG Joint Memorandum Circular (JMC) No. 1998-01 entitled "Manual of Procedures for DENR-DILG-LGU Partnership on Devolved and other Forest Management Functions" and the DENR-DILG JMC No. 2003-01 entitled "Strengthening the DENR-DILG-LGU Partnership on Devolved and other Forest Management Functions" between the DENR and the Department of Internal and Local Government (DILG). These guidelines will be discussed in a series below.

DAO No. 30 series of 1992 or the "Guidelines for the Transfer and Implementation of DENR Functions Devolved to the Local Government Units." DAO No. 1992-30 plays a significant role in the devolution of forest management functions from the DENR to LGUs. This DAO serves as a guide for the DENR and the LGUs in effectively transferring devolved forest management functions as it enumerates the policies, devolved functions, programs, and projects and the respective roles of the DENR

and LGUs. Section 1 of DAO 1992-30 states the following policies that shall govern the transfer and implementation of the devolved functions:

1.1. *The DENR shall remain the primary government agency responsible for the conservation, management, protection, development, and proper use of the country's environment and natural resources and promoting of sustainable development.*

1.2 *The LGUs shall share with the national government, particularly the DENR, the responsibility for the sustainable management and development of the environment and natural resources within their territorial jurisdiction.*

1.3 *The implementation of the devolved functions by the municipalities and cities and the enforcement of laws, rules, and regulations pertaining to the devolved functions as provided for in the Code by the provinces and cities shall be pursuant to national policies and subject to the supervision, control, and review of the DENR.*

Provided, that when necessary the concerned provinces, cities and municipalities shall enter into administrative arrangements to effectively and efficiently enforce the laws, rules, and regulations pertaining to the devolved functions;

1.4 *Pursuant to the Code's mandate for National Government Agencies (NGAs) to deconcentrate its power and authority to appropriate field offices, the DENR shall retain and strengthen its regional offices and field offices; xxx*

The devolved functions, programs, and projects of the DENR to LGUs are enumerated under Section 3 of DAO 1992-30. These are divided into forest management, protected areas and wildlife, environmental management, mines and geosciences development, and land management. Specifically, these devolved functions, programs, and projects are as follows:

3.1 Forest management

a) Implementation of the following community-based forestry projects:

(i) Integrated Social Forestry Projects, currently funded out of regular appropriations, except at least one project per province that shall serve as a research

- and training laboratory, as identified by the DENR, and those areas located in protected areas and critical watersheds;
- (ii) Establishment of new regular reforestation projects, except those areas located in protected areas and critical watersheds;
 - (iii) Completed family and community-based contract reforestation projects, subject to policies and procedures prescribed by the DENR;
 - (iv) Forest Land Management Agreements, in accordance with DENR Administrative Order No. 71, Series of 1990 and other guidelines that the DENR may adopt; and
 - (v) Community Forestry Projects, are subject to concurrence of financing institution(s), if foreign assistance are required.
- b) Management and control of communal forests with an area not exceeding fifty (50) square kilometers or five thousand (5,000) hectares, as defined in Section 2, above. Provided, that the concerned LGUs shall endeavor to convert said areas into community forestry projects;
- c) Management, protection, rehabilitation and maintenance of small watershed areas which are sources of local water supply as identified or to be identified by the DENR; and
- d) Enforcement of forest laws in community-based forestry project areas, small watershed areas and communal forests, as defined in Section 2 above, such as but not limited to:
- (i) Prevention of forest fire, illegal cutting and kaingin;
 - (ii) Apprehension of violators of forest laws, rules and regulations;
 - (iii) Confiscation of illegally extracted forest products on site;
 - (iv) Imposition of appropriate penalties for illegal logging, smuggling of natural resources, and endangered species of flora and fauna, slash and burn farming and other unlawful activities; and
 - (v) Confiscation, forfeiture and disposition of conveyances, equipment and other implements used in the commission of offenses penalized under P.D. 705, as

amended by E.O. 277, series of 1987 and other forestry laws, rules and regulations.

Provided, that the implementation of the foregoing activities outside the devolved areas abovementioned, shall remain with the DENR.

3.2 Protected areas and wildlife

- a) Establishment, protection and maintenance of tree parks, greenbelts, and other tourist attractions in areas identified and delineated by the DENR, except those covered by the Integrated Protected Areas System, as defined by law, and the collection of fees for their services and the use of facilities established therein;
- b) Except export and import, regulation of flora outside protected areas including industries and businesses engaged in their propagation and development, such as orchidaria and nurseries. Provided, that such businesses and industries are registered with the DENR for monitoring purposes; and
- c) Implementation of the Rehabilitation in Conservation Hotspots (RICH) and the Conservation of Rare and Endangered Species (CARE) activities in areas identified and delineated by the DENR.

3.3 Environmental management

- a) Enforcement of the following pollution control and environmental protection laws, rules and regulations:
 - (i) Issuance of Environmental Compliance Certificate (ECC) for projects and businesses under the Kalakalan 20;
 - (ii) Adjudication of cases involving complaints against businesses under the Kalakalan 20; and
 - (iii) Apprehension and testing of smoke belching vehicles and collection of appropriate fees and charges.
- b) Implementation of solid waste disposal and other environmental management systems and services related to general hygiene and sanitation, such as sewage and household wastes disposal;
- c) Abatement of noise and other forms of nuisance as defined by laws; and

- d) *Implementation of Cease and Desist Orders issued by the Pollution and Adjudication Board.*

3.4 Mines and Geo-Sciences Development

- a) *Enforcement of the small-scale mining law, subject to the policies, standards, and guidelines of the DENR;*
- b) *Issuance of permit for guano collection and to extract sand, gravel, and other quarry resources; and*
- c) *Verification and adjudication of conflicts on and collection of fees and charges for guano collection and the extraction of sand, gravel, and other quarry resources.*

3.5 Land Management

- a) *Conduct of cadastral surveys;*
- b) *Conduct of lot surveys; and*
- c) *Conduct of isolated and special surveys.*

Provided, that the issuance of survey authority and the verification of survey returns, records keeping, issuance of patents, and other post-survey activities shall be done by the DENR. Provided further, that the DENR shall extend the necessary administrative and technical assistance to the LGUs for the actual conduct of surveys and the preliminary activities attendant to the surveys.

In implementing the foregoing functions, Sections 4 and 6 of DAO 1992-30 provide the list of the DENR and LGUs' respective roles. Under Section 4, the LGUs are tasked to provide the necessary financial, technical, manpower, and other resources relative to the implementation of devolved functions and programs, allocate funds to finance local development and livelihood projects from their 40% share of the national government in addition to their Internal Revenue Allotment, and call any of the assigned DENR official or employee to make recommendations or advice on environment and natural resources-related matters affecting the LGUs, whenever necessary. The DENR, on the other hand, is responsible for transferring the personnel and assets, including pertinent records and equipment corresponding to the devolved functions, to the

concerned LGUs. These include the strengthening of its policy-related activities such as planning, monitoring, and evaluation of devolved functions, provision of technical assistance to LGUs in environmental law enforcement, implementation of reforestation, ISF and community-based projects, protected areas and wildlife, ecosystems research, and related activities, land surveys and delineation of boundaries, the establishment of greenbelts, urban forests, and forest-based recreation projects, among others.

DENR – DILG Joint Memorandum Circular (JMC) No. 1998-01 entitled “Manual of Procedures for DENR-DILG-LGU Partnership on Devolved and Other Forest Management Functions.” To strengthen the collaboration and partnership between the DENR and DILG and operationalize the provisions of LGC Act of 7160 and DAO No. 30-1992 for the effective implementation of the devolved forest management functions, the DENR and DILG, issued DENR – DILG JMC No. 98-01 entitled “Manual of Procedures for DENR-DILG-LGU Partnership on Devolved and other Forest Management Functions” reiterating the guidelines in DAO No. 30-1992. It further provides that the DENR shall coordinate, guide, and train the LGUs in managing the devolved functions. As the LGUs' capacity in forest management is enhanced, they shall, in turn, be primarily responsible for the management of devolved functions, and the DENR's role will become assistive and coordinated. It also mandated the DENR and DILG to forge the partnership and cooperation of the LGUs and other concerned sectors in seeking and strengthening the participation of local communities in forest management, including enforcement of forestry laws, rules, and regulations.

The above laws and regulations governing the devolution of forest management functions are vital in understanding the context of devolution. Understanding these legal frameworks is essential, especially regarding the authority granted to LGUs and the respective roles of the DENR and LGUs in managing our resources. The study examined how these laws and regulations facilitate the devolved forest

management functions, particularly through the lens of “Certificate of Stewardship Contracts.” By assessing the implementation of devolved forest management functions, the study generates insights and recommendations that can enhance the above policies.

Certificate of stewardship

The Certificate of Stewardship is a document granted by the Office of the President to qualified individuals to develop and manage a social forestry area registered with the DENR. As a forest land steward, the grantee is entitled to peaceful possession, cultivation, and enjoyment of the forest landholding and the fruits found therein. The grantee also has the right to manage and work on the forest landholding in accordance with the appropriate forest and farm practices and relevant rules and regulations of the DENR, as well as strictly observe and/or implement environmental protection and conservation measures. As part of the Integrated Social Forestry Program, which has been integrated into the Community Based Forest Management pursuant to the DENR–DILG JMC No. 98-01, the DENR is mandated to review and assess all existing CBFM projects and provide the concerned LGU with copies of the documents such as records, maps and other information of all CBFM project in their respective jurisdictions. The DENR is also responsible for providing technical assistance to the LGU officials and their technical staff to ensure capacity in forest management activities. To document the forest management projects, the DENR and LGUs shall enter into a Memorandum of Agreement documenting the devolved projects and functions, personnel, equipment, and other resources transferred from the DENR to LGU and acceptance of the same by the LGU. The monitoring and evaluation of the devolved forest management functions are the responsibility of the DENR, the concerned DILG office, and/or LGU. The LGU is responsible for providing the DENR with updates on the status of CBFM projects developed for them.

Survey results

The respondents from the municipality of Mauban were surveyed in five selected barangays.

Cagsiay 3 has the highest number of respondents, with 29 individuals interviewed (**Table 1**). Of the 64 respondents, 40.6% were female, while 59.4% were male. The survey consisted of questions that tackled the benefits derived from the program, including but not limited to livelihood provision, technical assistance, and others. Impacts on the local forest condition were also included in the survey. Lastly, the strengths and weaknesses of CBFM were also identified, using the respondents’ perspective.

Table 1. Respondent’s place of residence.

Municipality/City	Barangay	No. of respondents
Mauban, Quezon	Cagsiay 3	29
	Cagsiay 2	19
	Liwayway	4
	San Gabriel	11
	Rosario	1
Total		64

The survey results revealed that the respondents has benefited from the CBFM program in manifold ways. These benefits are directly linked to the importance of devolving DENR forest management functions to the LGUs under the framework of the LGC of 1991 and relevant rules and regulations. The benefits range from, but are not limited to, economic, social, and environmental. These benefits range from, but are not limited to economic, social, and environmental. These benefits are indicators of how the DENR and LGUs perform their respective roles in the devolved forest management functions and how devolved functions are implemented on the ground. In this paper, the case of Mauban, Quezon, will be intricately discussed through the lived experience of CSC holders.

Socio-economic benefits

The CBFM program has positively affected the respondents’ lives (**Table 2**). Ninety-five percent (95%) of the respondents (61 respondents) have their regular source of income because of the crops produced from the land covered by the CSC. Many of them were engaged in farming. They spent more time producing or planting

crops, fruit-bearing trees, coconut trees, charcoal making, and other crops that they sell to the market. On the other hand, 98% (63 respondents) reside on the land covered by the CSC as they had built their temporary shelter using construction materials such as bamboo, timber, and non-wood forest products. It has also helped them send their children to school and food for their families.

Table 2. Socio-economic benefits derived from the CBFM program.

Benefit	Frequency (N=64)
CBFM has been one of the sources of income	61
Materials derived from CBFM farming areas helped build temporary shelters.	63
CBFM livelihood helped finance children's education	61
CBFM helped provide food for the family	59
Others	6

Among the respondents, around 96%, or 62 individuals, mentioned that their estimated monthly income derived from the land covered by the CSC contract was PHP 15,000.00 and below, while others said they earned PHP 15,000.00 to PHP 30,000.00 (**Figure 2**). This indicates that income derived by most respondents is lower than the regional average of PHP 15,457.00 poverty threshold among the provinces in CALABARZON but higher than the national average of PHP 13,873.00 (PSA, 2024).

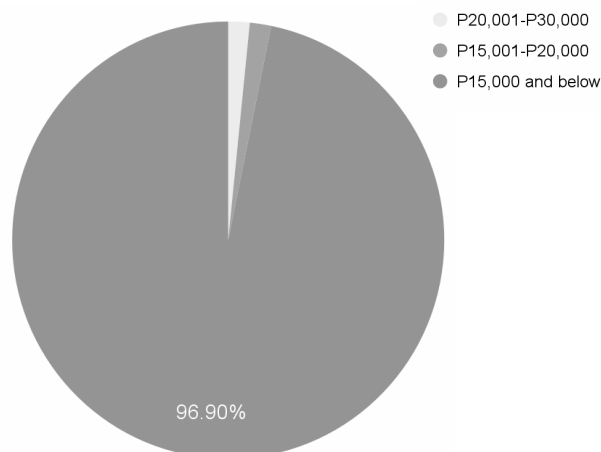


Figure 2. CSC holders' estimated monthly income from forest lands.

Environmental benefits

Aside from the economic and social benefits, the respondents have also perceived the positive impact of being a CSC holder on the environment (**Table 3**). Most of the respondents answered that their continuous conservation and protection of the environment has increased forest cover and biodiversity.

It also shows that 90% (58 individuals) of the respondents answered that their water source has become abundant, while 83% (53 individuals) said that flooding was avoided because of the trees they planted in their areas. In essence, these ecosystem services enjoyed by the grantees were impacts of their long-term efforts. This result manifests that with continuous support from the DENR and LGUs, the devolution of forest management functions will yield better ecosystem services for forest-based communities.

Table 3. Environmental benefits derived from the CSC area.

Benefit	Frequency (N=64)
Abundant source of water	58
Flooding was avoided	53
Forest cover has increased	52
Biodiversity has improved	40
Availability of arable land	0
No environmental benefit	0

Capacity-building benefits

The CBFM program provides economic and environmental benefits and aims to capacitate grantees to fulfill their roles as CSC holders. To determine if this objective has been achieved, the respondents were asked about the strengths and weaknesses of the CBFM program (**Table 4**). Out of 64 respondents, only 10 perceived that the CBFM program had strengthened their capacity to fulfill their roles under the CSC. This training includes orientation of their roles and responsibilities as CSC holders, proper planting of crops and trees, and seminars on environmental laws and/or protection. One respondent was even designated as a Forest Protection Officer. The respondents received

training on the proper way of planting crops such as durian, lanzones, cacao, gmelina, rubber trees, ipil-ipil, *Eucalyptus*, mahogany, and/or how to apply fertilizer on planted trees. Most respondents, however, perceived that the CBFM program has failed to build or strengthen their capacity to fulfill and understand their role as holders of the CSC or attended training, which they found insufficient (**Table 4**).

Table 4. Perceived strength of the capacity-building benefits.

Strength of the CBFM program	Rating (N=64)	
	Sufficient	Insufficient
Building and strengthening capacity to fulfill their roles under the CSC	10	54
Technical assistance by an agricultural technician	8	56
Financial assistance	9	55
Government support, <i>i.e.</i> , farm inputs and implements	5	59

As to the guidance of an agricultural technician, only 8 out of 64 respondents answered that they received guidance from an agricultural technician. This includes the technical training on planting trees, but they were invited only once. Some were also taught how to renew and process their tenorial instrument and survey the area, proper contour farming, and properly prepare the land for planting rubber trees. On the other hand, 56 respondents said that the guidance they received was insufficient. Part of the devolution of forest management functions is for the LGUs to allocate funds to CSC holders to support the management of the areas awarded to them. Based on the survey, 11 out of 90 respondents received financial assistance from the government to implement CSC. In Mauban, Quezon, the support came from the DENR as payment for planting trees or clearing activities and financial support from the National Greening Program (NGP). However, most respondents (n=55) perceived that such financial assistance was insufficient to fulfill their role as CSC holders.

As to government support, 5 out of 64 respondents answered that they received support in terms

of vegetable seedlings, planting crops of fruit-bearing trees, such as coffee, cacao, narra, soursop, and jackfruit. Some received seedlings like narra, mahogany, santol, rubber, falcata, durian, lanzones, and coconut trees. Others added that they also received fertilizers from the Department of Agriculture through the Provincial Governor, farm animals, and other agriculture-related training. However, as those mentioned above needed technical and financial assistance, most respondents (n=55-56) answered that the government's support was insufficient.

Issues and challenges

The results obtained from the respondents highlight essential areas to improve the implementation of devolved forest management functions. Based on the CSC, there should be appropriate and proper implementation of finance, monitoring, and evaluation systems to ensure the sustainability of devolved programs, projects, and activities. These include downloading sufficient funds from the national government agencies, allocating funds from the LGUs, and continuous capacity building of personnel to ensure the provision of technical assistance to the grantees. Further, coordination with non-government organizations, private sectors, academe, and national government agencies - especially the DENR - is crucial to improving the devolved functions' efficacy. Additionally, a continuous, actual, and regular monitoring and evaluation system must be in place to sustain the devolution process. This is possible through the creation and capacity building of monitoring and evaluation teams, and committees that will work on devolved functions must also be created. All these measures will ensure the improvement and sustainability of the devolved forest management functions, assuming that policy is rigorously followed, and all stakeholders are encouraged to participate actively.

In this study, the primary concern voiced by most respondents revolved around the limited technical assistance available to CSC holders, which they perceive as a significant drawback. Regarding capacity-building to fulfill their roles within the CSC framework effectively

(Table 5), a noteworthy finding is that 47 respondents reported receiving no training on farming knowledge and technologies. Among those who underwent training (n=17), a prevailing sentiment is that the training was insufficient. Moreover, a substantial portion of the respondents expressed dissatisfaction with the lack of support from the government, particularly in terms of technical and financial assistance, as well as the provision of necessary farm inputs and implements. Specifically, 44 respondents highlighted the absence of guidance from agricultural technicians, and among the minority who did receive guidance (n=20), many found it lacking. Furthermore, the survey revealed that many respondents (n=51) claimed no financial aid. In contrast, most of the respondents (n=47) likewise stated that they did not receive any support from the government regarding farm inputs and implements. However, despite the lack of technical and financial support from the government, the respondents still believe that the current implementation of the CBFM program is good as the DENR, together with the concerned LGU official, regularly monitors it.

Table 5. Perceived issues and challenges of the CBFM program.

Issue or challenge of the CBFM program	Rating (N=64)	
	Sufficient	Insufficient
Capacity-building training to fulfill their roles under the CSC	17	47
Provision of technical assistance by an agricultural technician	20	44
Financial assistance	13	51
Government support, <i>i.e.</i> , farm inputs and implements	17	47

When asked about their experiences with executing duties and roles in devolved projects, one respondent from DENR voiced concerns about the weak development attributed to the incomplete and unripe devolution process of LGUs. According to the respondent, the transfer of programs lacked the full devolution necessary for LGUs to fully comprehend the programs, including the transfer of records and duties. Additionally, two respondents of the same cohort

highlighted implementation challenges arising from insufficient budgetary allocations and a lack of personnel capacity within the LGUs to carry out devolved functions. They emphasized the need for continuous collaboration with the relevant LGUs, underscoring that forestry projects often receive inadequate attention. These respondents stressed the importance of consistent, robust coordination and proper turn-over of documents, maps, and records of devolved programs, projects, and activities to ensure the proper management and development of natural resources, aligning with policies as mentioned earlier.

Due to the lack of coordination among government agencies, the LGUs insufficient funds, and permanent LGU personnel assigned to focus on ENR programs, the implementation of monitoring and evaluation functions has not been effective. Most respondents answered that they are unaware of the present status of the grantees and the land covered by the CSC.

Recommendations to improve the program

To address the numerous issues and challenges faced in implementing the devolved forest management functions, the respondents were also asked for their recommendations to improve the program. These recommendations are as follows.

From CSC holders: Firstly, they emphasized the crucial need for technical and financial assistance to carry out their roles effectively. This includes vital support from the government in the form of guidance from agricultural technicians and other experts, as well as assistance with essential farm inputs and implements, such as seedlings and fertilizers. Second, respondents proposed two key measures to ensure the stability of CSC holders' roles. One, the organization and mobilization of CSC holders into a unified entity were suggested. Two, a call for the renewal of CSC was deemed essential for ensuring the program's sustainability. Lastly, respondents underscored the importance of various improvements. These include enhancing information and education campaigns, strengthening monitoring and evaluation systems, investing in infrastructure

development, and capacitating livelihoods. These measures, collectively, aim to fortify the CBFM program and address the multifaceted challenges faced by its holders.

From DENR: To strengthen the devolved forest management areas and activities of LGUs, DENR made three recommendations. First, ensure proper and sustained coordination/partnership on forest management. Second, strengthen the organizational structure of the POs for the project's success. Third, the DENR shall provide technical assistance to the LGUs, while the LGUs shall focus on the devolved functions/projects.

From the LGUs: Respondents from the LGUs agree to continue the devolved forest management functions for the community's benefit and in accordance with the mandate of the LGC of 1991. However, there is a need to strengthen the coordination between the LGU and DENR, especially in providing the necessary technical assistance for the grantees and allocating funds for this purpose.

With these recommendations for and from the major stakeholder groups, the researchers have provided key recommendations that are further categorized to address the weak points of CBFM program implementation (**Table 6**) as one of the devolved forest management functions. The lived experience of the grantees is a testament to the program's current status. A hallmark of an effective policy or program is the change it brings to the community, for whichever problem it seeks to address.

Implementing devolved functions in forest management highlights several specific areas for improvement. First, financing, monitoring, and evaluation mechanisms should be implemented appropriately to ensure sustainability. Additional funds, logistics, and personnel are necessary for close monitoring and implementation as well as continuous capacity building. Moreover, coordination with national agencies, particularly the DENR and private sector, is essential, as is hiring forest rangers and stricter law enforcement. In addition, downloading the funding from the

national agencies to LGUs will assist in financing devolved forest management functions to allocate sufficient localized funds for the propagation of native trees and implementation of Payment for Ecosystem Services (PES). Furthermore, a result-based monitoring and evaluation system must be in place for continuous, actual, and regular monitoring and evaluation. To do this, an additional monitoring and evaluation team must be designated, and committees that work on devolved functions must also be created. In congruence, science-based, participatory, and transparent research on forest conservation will ensure the sustainability of the devolved functions in forest management with the assumption that policy is strictly enforced, and the involvement of all stakeholders is encouraged.

CONCLUSION AND RECOMMENDATIONS

The devolution of forest management functions, as mandated by the LGC of 1991, has had mixed results. While the policy provides a framework to ensure its effective implementation, it has been hampered by financial constraints, capacity issues, and inadequate inter-agency coordination. To achieve the intended goals of forest conservation and sustainable management, the Philippine government must address these challenges by increasing funding, ensuring the allocation of funds for devolved programs and activities, enhancing technical support, fostering local-community partnerships, and strengthening law enforcement. These measures make devolved forest management more effective and sustainable in protecting the Philippines' remaining forest resources.

The devolution of forest management functions to the LGUs has been one of the strategies to ensure effective forest management within its territorial jurisdictions. In Mauban, Quezon, respondents benefited from the devolved forest management functions through the economic, social, environmental, and capacity-building activities they received. Despite this, the implementation of devolved forest management functions was only partially successful due to issues and challenges that are stumbling blocks

Table 6. Recommendations on the devolved forest management functions.

Category	Specific recommendation
As to the implementation of devolved functions in forest management	1) Proper implementation of financing, monitoring, and evaluation, as well as sustainability, policy, and other mechanisms; 2) Additional funds and logistics; 3) Continuous coordination with national agencies, particularly with DENR and the private sector; 4) Additional personnel for close monitoring and implementation; 5) Capacity building; 6) Strengthen the coordination of the LGU and DPWH in the implementation of major infrastructure projects to avoid cutting existing trees and to locate areas rarely affected by their projects; 7) Continue hiring the Forest Patrollers; 8) Conduct an assessment and develop an enforcement plan to enhance the capacity of the staff; 9) Stricter implementation of the law; and, 10) Presence of DENR skilled enforcers in the checkpoints in cities and municipalities.
As to the financing of devolved functions in forest management	1) Assist the LGUs in the implementation of Payment for Ecosystem Services (PES); 2) Allocate sufficient funds for propagation of seedlings of native trees and other programs; 3) Augment funds and specifically itemized in the Local Annual Budget Ordinance; 4) Formulate an enforcement work and financial plan for the sustainability of programs; 5) Enact national legislation mandating all LGUs to provide funding support of not less than 5% of the total IRA; and, 6) Download the funding from national agencies to LGUs.
As to the monitoring and evaluation of devolved functions in forest management	1) Provide a result-based monitoring and evaluation system; 2) Conduct continuous actual and regular monitoring and evaluation of regular and hot spot areas with quarterly evaluation; 3) Designate additional personnel for implementation and monitoring; 4) Create committees on devolved functions; 5) Establish a composite monitoring team with other stakeholders, in coordination with DENR for effective implementation; and, 6) Create a national policy to strictly enforce tree-growing activity and protect existing forest areas, especially those within a more than 18% slope.
As to ensuring the sustainability of devolved functions in forest management	1) Prioritize science-based research for the conservation and protection of forest lands that is participatory and transparent together with other stakeholders; 2) Ensure strong political will on the part of LGUs and strong support from stakeholders will sustain project viability; 3) Provide a national roadmap for non-negotiable areas which should be allocated strictly for tree growing purposes; 4) Formulate ordinances to support enforcement activities and make barangay and local communities as partners; 5) Conduct continuous tree plantation activity. 6) Harmonize the programs and projects from NGOs and national agencies to sustain the program; and, 7) Strong implementation of programs despite the change of administration and 8) Maintain mutual coordination with DENR.
As to policy and other mechanisms of devolved functions in forest management	1) Strict implementation of policy that is performance and geographic-based and responsive to the needs of forest lands in the area; 2) Adopt a clear policy vis-a-vis mechanism for the implementation and involve all stakeholders, particularly the DENR, in the planning process; 3) Formulate ordinance consistent with the existing national laws; 4) Amend RA 7160, particularly paragraphs A and B, of Sections 443, 454, and 463 thereof; and, 5) The strict implementation of the policy will require all industries to plant trees.

in the devolution process. These include limited technical capacity and financial assistance from the LGUs in terms of technical inputs and support. These challenges are due to the lack of or inadequate budget allocation by the LGUs, which resulted in limited technical assistance for the communities, optional creation of the Environment and Natural Resources Office, lack of proper turn-over of records and assets to LGUs, lack of periodic monitoring and evaluation as well as lack of documentation and dissemination of monitoring and evaluation results and learnings.

Forest management functions could be fully devolved if the policies are reviewed and updated. This will help harmonize policies and clarify the objective and implementation of these policies. It is also recommended that the LGUs set aside a budget for the effective devolution of forest management functions considering the Mandanas-Garcia ruling of the Supreme Court that increases the share of revenues of the LGUs from the national government. The amendment of RA 7160, particularly paragraphs A and B of Sections 443, 454, and 463 providing the local chief executive the option to appoint a municipal, city, or provincial environment and natural resources officer, is also recommended to achieve full devolution. The mandatory creation of the Office of the MENRO or City ENRO will ensure the implementation of devolved forest management functions as this office would focus on implementing plans, programs, and other activities within their LGU. To increase the technical capacity of the LGUs on devolved functions, the LGUs and DENR should collaborate to strengthen their partnership. Lastly, it is also necessary to regularly monitor and evaluate the program to identify other policy gaps and challenges in the implementation and determine possible solutions to address these gaps.

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