The Seybold Report

ISSN 1533-9211

DOI 10.5281/zenodo.7393607

DOCUMENTATION OF GAPS AMONG THE EXISTING REFORESTATION MODELS IMPLEMENTED IN ZAMBALES, PHILIPPINES

RUTH C. CORDERO

President Ramon Magsaysay State University, College of Agriculture and Forestry, Porac, Botolan, Zambales, Philippines.

ABSTRACT

The lapses of the general reforestation programs implemented in the province have been studied to serve as venue in identifying and assessing the gaps of the reforestation programs of the government used in the province. Based on the shared experiences of the local communities, gaps of the reforestation models used for Zambales were analyzed using the qualitative approach. Experiences of the local community was analyzed to correctly identify the issues and challenges behind the minimal success of reforestation programs in the province. The gaps among the existing reforestation models applied in Zambales and how these gaps can be possibly resolved are some of the major findings of the study. The study revealed that despite the successes of the various reforestation models, such as of the CBFM and NGP, one major gap identified is the sustained participation of the local communities.

Keywords: reforestation gaps, reforestation issues, reforestation challenges, reforestation Zambales

INTRODUCTION

Historically, the government looked at upland communities as "squatters" which were hindered to any farming activities in forestlands. Most often, activities of the upland people were considered illegal or is not in accordance with the government's objective. Thus, they were to be removed from the public domain. However, history showed that despite the implemented disciplinary actions towards the upland people, migrant people were not hindered to increase. The increasing rate of migrant people to forestlands have aggravated the loss of resources.

The increase of upland people in the forestlands have pushed the government to devise new laws, policies and programs in relation to enhancing forest management while responding to the needs of the people. Community-based Forest Management (CBFM) and National Greening Program (NGP) were two of the innovations. These innovations were assumed to be the game changer, from a highly centralized form of managing the forest into a people responsive and participatory management (Duthy & Bolo-Duthy, 2003). The government have thought the relevance of distinguishing the claims of local and upland communities to ensure the accountability in the development and management of forestlands. It is expected that thru the said program or models, the socio-economic condition of the community and forest resources management will improve.

The community-based approach to forest restoration has been adopted in the country for more than decades. It has been known that this approach involves community members working as a group to access government lands, restore degraded forests, utilize and manage resources in a sustainable manner. The NGP alone aims to rehabilitate 8.6M hectares from 2011 to 2028

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

mainly using the community-based approach through involvement of Peoples Organization (PO). Decentralizing the tasks of rehabilitating barren uplands and handing forest resources to communities has not been upfront. In many cases, the main goal of poverty alleviation and sustainable management of forest resources are far from being realized. In reality, people's organizations disintegrate when project funds are exhausted, livelihood projects failed and in most cases tree plantations are abandoned.

Mobilizing local communities, as 'partners' in developing and protecting the forest was proven effective in some cases in Zambales. However, maximum restoration of forest ecosystems in the province is still far to be felt and satisfaction in partnerships between and among the POs and the government is needed to be given prior attention.

Objectives

In general, the study aimed to document the gaps among the existing reforestation models implemented in Zambales. Specifically, the research focused on identifying the (1) experiences of local communities from the implemented reforestation programs in the province, as well as the (2) issues and (3) challenges and opportunities from the said programs as raised by the POs.

Scope and limits

The documentation is limited to two government programs of the government, namely: Community-Based Forest Management and National Greening Program as implemented in the province of Zambales. Interviews were limited to involved peoples' organization from January to May 2020.

METHODOLOGY

A field assessment was conducted at the community level determination and assessment of the gaps of the two reforestation models – Community-Based Forest Management (CBFM) & National Greening Program (NGP) – as implemented in the province of Zambales. The assessment focused on the experienced benefits, issues and challenges as perceived by the local community where the reforestation models were implemented in Zambales.

The qualitative research method was used in collecting data from the respondents that will help in answering the objectives of determining and assessing the gaps of the implemented reforestation models in Zambales.

This study is directly concerned with the subjective experiences of the local community (Ohta, 2001; Stedman, 2003), thus, both in-depth interviews and focus group discussions (FGDs) were used to draw personal histories, perspectives and experiences among grouped individuals.

Interviewed respondents were from local community who are adopters and stakeholders of the existing reforestation models. Local community adopters refer to the reforestation contractors such as those from NGP or CBFM. The study utilized purposive sampling in identifying the respondents. The key informants (KIs) interviewed were living within the vicinity of the watershed and are participants or members of the peoples' organization of the identified restoration models within Zambales. The interview considered both men and women

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

representatives as long as they are of legal age. The researcher invited representatives or respondents from each group for a focus group discussion (FGDs). The FGDs were separately done among these respondents.

Open-ended questions were used to facilitate discussions and to help the proponent extract the possible gaps among the implemented models as identified by each group. The FGDs also served as venues to identify possible solutions that could address the raised gaps.

In-depth interviews were also conducted simultaneously among these group to allow sharing of experiences and have a broad perspective on the history and reasons behind the success and failures of the restoration models in the country. The interviews were audio recorded and transcribed verbatim so that research proponent will be able to review and analyze the discussions made during the interviews. The consent of each individuals that participated in the data gathering were also secured. The information gathered remain confidential throughout the process of the study and until the research was completed.

From the answers given and discussions made by the respondents, the commonality of their answers was extracted, identified and designated as problem themes and probable solution themes. Raised issues or problems based on respondents' experiences in participating in the forest restoration activities were the source of the themes to be identified. From among these themes, possible solutions were identified. It is assumed that from each FGDs and in-depth interviews with the KIs, possible solutions may also be raised based on the respondents' experiences.

RESULTS AND DISCUSSION

The different POs whose contracted projects with the DENR were identified at Olongapo City and in various Municipalities of Zambales. Area covered by these projects ranges from 50 to 544 hectares. At least 15 representatives were designated as key informants from various POs including the Subic-Cawag Upland Farmers' Association (SCUFA), Cawag-2 Tribal Association (C2TA), New Tibag Multi-Purpose Cooperative (NTMPC), Anningway-Sacatihan Upland Farmers' Association, Inc. (ASUFAI), Aeta Development Association in Kanaynayan, Inc. (ADAKI), San Juan Botolan Upland Farmers Association (SJBUFA), Poonbato Farm Forest Developers Associations, Inc. (PFFDAI) and Balincaguing Upland Farmers Association, Inc. (BUFAI). It should be noted that project areas of C2TA, and NTMPC were awarded as Best NGP Sites in 2011 and 2015, respectively while SCUFA and ADAKI were recognized as one of the POs with notable practices in 2015 (DENR-PENRO, 2016).

For this study, reforestation models considered were National Greening Program (NGP) and the Community Based Forest Management (CBFM). These models consider the participation of local community in managing as well as restoring the remaining forestland in Zambales.

In Zambales, the Community Driven Development (CDD) scheme was utilized in the conduct of CBFM and NGP. Another scheme adopted by NGP alone is the Comprehensive Site Development (CSD). The CDD generally involves PO as the beneficiary while the CSD involves private contractors who are interested to be part of NGP. Before a PO is awarded with

ISSN 1533-9211

DOI 10.5281/zenodo.7393607

any contract or MOA with the DENR, each PO must be registered with the Securities and Exchange Commission (SEC) and must be financially stable. Each PO must follow the required procedure stated in DENR manuals and policies**.**

Local Community Experiences

Based on the KII and FGDs, most of them were previously kaingineros and mere tree planters. Most of them are dependent of what they can harvest from the forest. Some of them being swidden farmers is harvesting of trees for charcoal production. The produced charcoal were sold to lowland sellers. Most of the production of these charcoals are illegally conducted. While other participants were mere planters, which only participated just to have additional source of income and this is affirmed one of the respondents.

As affirmed during the KII, their experiences originated from basic income sourcing. Their driving force to participate in the reforestation activities was their limited income. A few have resorted to participate in reforestation activities to be able to stop illegal logging and to conserve the remaining forests and reduce the impacts of degraded upland areas such as the massive soil erosion.

Community's participation or involvement in the reforestation activities indicated that local communities as target clientele were attained. Various sectors of the communities were tapped in order to achieve the accomplishments submitted to DENR. These various sectors included local upland people (resident of the community), members of the indigenous people, women and the youth.

The implemented reforestation models aimed not only to restore the old forest in the area but also to alleviate the local communities' income and for them to experience sufficiency in their economic needs. This objective is positively experienced by the recipients. According to them, before the CBFM/NGP were awarded to them it was too difficult to serve food on the table for the family even when planted vegetables were available. Income to buy rice and other needs was very limited. With CBFM/NGP, other benefits like sending their children to school have been met in addition to food and other economic needs. Based on the interview community resilience was attained.

As part of the sustainable development, after the reforestation models have somehow met the economic and social factors of development, environmental factor has also been met in some aspect. Air pollution contribution of the community has lessened since there was a reduced charcoal production in the areas; experienced microclimate in the area were cooler due to the presence of more growing trees.

Some of the respondents were involved in maintaining the protection forest. According to them, planting additional forest trees or timber trees maintained these protection forests. Regulated cutting or harvesting of trees were allowed. These arrangements and activities were stipulated in their contracts. The aim for environmental conservation and protection of the reforestation models was somehow achieved based on the conducted interviews.

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

Below is the emerging themes and categories identified based on the experiences in relation to their involvement and participation to the reforestation in Zambales as shared by the interviewed respondents.

Table 1. Themes and categories identified based on respondents' experiences of the effects of implemented restoration models in Zambales

Statements	Themes	Categories
• Kapag tag-ulan di na kami nahihirapan bumili ng bigas [We can now buy rice even during rainy season]	Sufficiency	Enhanced Economic Independency
• Bayaran muna yung utang namin [We pay our debts first] • Marami ng nakapagpa-aral [Many were able to send their children back to school]		
• Napagkakakitaan namin mga seedlings namin [We have our income from our seedlings]	Economic Potential	
• Nabawasan na po yung walang trabaho [People who have no work decreased]		
• Dati kaming nag-kakaingin [We were previously involved in swidden farming] • Nakikitanim lang kami [We go out only to participate in planting trees]	Changed Occupation	
• Tribal chieftain din kasi ako dati [I am also a tribal chieftain]	Leadership	Capability Building
• Dati kasi chairman namin kulot [Our previous chairman is a native]		
• Kahit babae sige sumasama kami [Even women participate]	Empowerment	
• Mga babae na ang nagha-haul ng seedlings na itatanim [Women haul seedlings for planting]		
• Kumukuha din mga kabataan ng wildlings kapag bakasyon [Children also collect wildlings during their vacation]	Early Exposure	
• Kahit bata alam na kung anong klaseng puno at buto pa yan [Children know the kinds of trees and seeds]		
• Mas malamig na ngayon sa lugar namin [Our place is cooler now]	Enhanced Environmental Condition	Degraded Forest Rehabilitation
• Mas maganda na ang bundok [Our uplands are more beautiful now]		
• Nabawasan na ang nag-uuling [Charcoal producers were reduced]		
• Mas marami ng puno sa bundok [Our uplands have more trees now]		
• Narra ang itinatanim namin sa protection forest namin [We plant Narra for our protection forests]	Forest Improvement	
• Mga timber o forest trees ang itinatanim namin [We plant timber or forest trees in our areas]		

Based on the themes and categories that emerged from the experiences of the community, effects of the reforestation models to their communities were enhanced economic independence, capability enhancement and rehabilitation of degraded forest. According to the interviewed members of the community, their economic independence was enhanced because they no longer experience difficulty in providing basic necessities for their families such as rice during the rainy season. Most of the partner communities are located in remote areas where transportation is limited. Food stocking is necessary for these communities during the onset of the rainy season. However, purchasing food that can be stored such as rice during the rainy season is considered a privilege for the majority of the farmers due to limited income. For

ISSN 1533-9211

DOI 10.5281/zenodo.7393607

some, instead of purchasing rice in bulk, cassava is bought for storage. Cassava is used as staple food substitute for rice.

Another indicator that the economic independence of the community is the increased number of children being sent to school. Based from the interview, some children of PO members have already graduated while others are still enrolled. Based from the interview, reforestation program like the NGP provided them the financial means to support their children's school needs. Moreover, members are now capable to acquire loans whenever their situation require them to do so and at the same time, pay these loans within the specified payment period.

The seedling production in NGP has offered a new endeavor to some charcoal producers and swidden farmers. The production served as an additional income source to the marginal community members. Some swidden farmers and charcoal producers have opted to raise seedlings and participate in tree planting activities just to have additional income.

Based on the interviews, capabilities of the members of the local communities were improved with the help of the tenurial agreements and reforestation activities. Leadership potentials of the members were recognized. Indigenous people when they become members, were even appointed or elected as PO chairman. This only shows that leadership is recognized across culture variations. Empowerment of women is also experienced by the community where women were also recognized such that they can take part in the implementation of of forest rehabilitation. Part of enhancing the capability of the community was exposure to activities being implemented in the field. In this case, though it was not expected, some of the young children of the local community members were already equipped with knowledge on the species being planted in the area. Seedling growing techniques is already taught to the children.

The objective of the tenurial instrument and reforestation program of rehabilitating the forestlands is partially achieved. Based on the interview, some community members have experience better environment compared to what they have experienced before the implementation of the programs. According to some community members, compared to the previous vegetation cover, more trees are now planted in the area which regulated the microclimate conditions of the area.

Issues and Concerns Encountered by POs

The issues and concerns identified by the respondents include source of seed and seedling, choice of species and the strict compliance to the contract or agreement. According to the respondents, the presence of MOA or contract between the PO and DENR is not a problem. The agreement is in placed to safeguard both parties. It is an assurance that both parties will comply with what was agreed and assure the implementation of needed activities. According to the respondents, the contract is part of the system. The respondents' concern is the idea of having no option to plant what is not in the contract. Species composition in the area must comply with the listing.

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

Respondents pointed out that it was only in 2017 that they were consulted on the type of species that they can plant before they were awarded with a new contract. This change was attributed to the idea that these PO have already able to raise their own seedlings.

The reforestation models require all PO to raise their own seedlings in their own nursery. This requirement was needed to ensure that the income from the agreement will be maximized by the concerned PO. For the case of CBFM, the seedling production is not a big issue for the respondents since they have no limited time frame to comply. However, the CBFM areas are the beneficiaries of the seedlings produced since these seedlings are planted within the said tenurial areas. At the onset of the agreement based on the interviews, seedlings were brought to the PO by DENR.

However, in the case of NGP, only six months was given to the community for seedling production, which according to PO members, is not enough. Due to limited time given to rear seedlings needed for planting, POs were forced to procure seedlings. Most of the POs were able to procure through a "order now, pay later" scheme with private and commercial seedling suppliers. With the said scheme, POs will order the needed seedlings then the supplier will deliver the seedlings. Payments will follow once these seedlings were checked, validated and planted in the NGP areas.

Moreover, most of the PO procured their seedlings outside Zambales, because of the limited available seedlings within the province. The procurement of seedlings from other provinces has contributed to the reduced quality of seedlings planted in the NGP sites. The seedlings were stressed due to the long distance travelled and the packing condition for transport. Also, according to the respondents, most of the seedlings delivered were not ready for outplanting thus, POs were forced to grow more seedlings in order to comply with the needed quantity at a limited time and this entailed additional expense for the PO.

Based on the interview, species to be planted for both the reforestation models were based upon the decision of DENR. Based on the contract, the species selected for planting were yemane, acacia (Acacia auriculiformis), mahogany, mangium (Acacia mangium) and narra (Pterocarpus indicus) which were mostly identified as exotic or non-native species. Narra is the only native species. These exotic species were favored because they are believed by some of the respondents to be adaptable to the area and are fast growing species. However, other respondents pointed out differently.

In most cases, species selection based on local communities' experiences are neglected or taken for granted. Below are the emerging themes and categories based on the issues and concerns shared by the respondents.

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

Table 2. Themes and categories identified based on issues and concerns of the respondents

Statements	Themes	Categories
• Bigay lang ng DENR yung seedlings [Seedlings were given by DENR]	Prescribed Choices	Engaged Decision Making
• Yun ang dumating, yun ang itanim [Those were the seedlings provided, then those should be planted]		
• Sila sa DENR ang bahala sa klase ng seedlings [The DENR is in-charge of the type of seedlings for planting]		
• Kinukuha pa namin sa Bataan [Seedlings were bought from Bataan]	Minimal Option	
• Yung pinagkukuhanan namin sa Nueva Ecija [Seedlings were procured from Nueva Ecija]		
• Wala nabibilhan dito mismo sa Zambales [There is no commercial nurseries here in Zambales where we can buy them]		
• Sila sa opisina (DENR)ang bahala sa klase ng seedlings [the DENR is in-charge in determining the kinds of seedlings] • Hindi pwede magtanim ng wala sa kontrata [You cannot plant what is not included in the contract] • Yun na yung nasa kontrata [That was stipulated in the contract]	Limiting Technicalities	
• Itong huling project namin nong 2017 lang kami tinanong [Only in our last project in 2017, when we were consulted]	Minimal Stakeholders' Involvement	Directed Choices
• Sila sa DENR ang bahala sa klase ng seedlings [People in the DENR is in-charged on the type seedlings]		
• Mahogany hindi na natin puno yan eh [Mahogany trees are not our trees]	Unrecognized Local Knowledge	
• Pero wala po sa listahan ng DENR [But it is not included in the DENR list]		
• Ilalim ng mahogany wala tumutubo [There were no undergrowth under mahogany trees]		

Based on the themes and categories on issues and concerns raised by the communities, there were two main issues raised, namely: engaged decision making and directed choices (Table 2). Based on what the respondents have shared, their decision making in relation to implementing the reforestation programs in their projects are directly or indirectly affected by the available prescribed species of tree to be planted, by the minimal options of seedling sources presented to them and by the limiting technicalities imposed by the policies as bounded by the agreements.

Decision making of the local communities are seemingly directed to them since the options provided were very limited. One example is the choice of species to be planted. The species to be planted are based on what the DENR provided them. Most of the POs are incapable of

ISSN 1533-9211

DOI 10.5281/zenodo.7393607

producing seedlings due to limited time frame. Thus, aside from the seedlings from the DENR, POs are also dependent on the available species given through donations from the private sector. These species are planted in the tenured lands just to comply with what is stipulated in the agreements or contracts between DENR and the POs. Moreover, decisions of the POs are also dictated by the inadequacy of seedling sources. The fund they have, the timing of planting and the quality of seedlings to be planted are affected due to the limited sources. These POs are forced to procure from commercial nurseries that demands high price. The low quality of seedlings delivered forces the POs to regrow additional seedlings, causing more expense. Further, the constraining technicalities of the contract or agreements imposed to the POs produces unplanned and unwanted decisions. One example, was when a PO was forced to plant the donated seedlings beyond the planting season and water in the area is very limited. The decision resulted to low survival of the planted seedlings in the field.

POs have experienced directed choices in terms of what seedlings to plant. According to the interview, some of the POs were not consulted on what species to plant while the others were consulted but their suggestions were not recognized. Some have perceptions on species that are not suitable in the areas since they are not "friendly" species towards the local fauna while other species do not encouraged regenerations.

Challenges and Opportunities Raised by POs

In the Philippines, it seems that the government has already dynamically trailed the involvement and allocation of forestlands to local communities. Devolving the management and enhancement of our forests to local communities is a continuous challenge. Involvement of communities has been supported by different policies, frameworks and guidelines. However, based on the foregoing results of the KIIs, FGDs and literature reviews, the reforestation models have weaknesses that needs to be addressed. Despite the overwhelming initiatives, there is still room for improvement for the currently implemented reforestation models.

Based on the above testimonies, the perceived inefficient institutional support from the government was evident. The POs were tapped to manage and develop the forestland by allowing them to occupy, improve and use the awarded forestlands for a particular period and is renewable. Proper demarcation of borders of the awarded forestlands should have been made prior to awarding. Coordination among government agencies should be done in the future to avoid similar issues.

Complex procedures and many restrictions imposed on local communities who seek access to utilize forest resources could be reviewed to maximize the assistance given to the POs.

Based on the emerged themes and categories on the challenges and opportunities according to the shared experiences of the interviewees, the categories identified were the institutional support and complex restrictions presented to the local communities.

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

Table 3: Themes and categories emerging based on challenges and opportunities shared by the respondents that needed to address immediately

Statements	Themes	Categories
• Napasok po yung CSC ko ng CADT [my CSC areas have been infringed by CADT]	Security of Tenure	Institutional Support
• Lahat ng expired na CSC, hindi na marerenew [All expired CSC will no longer be renewed]		
• CBFM pinasok ng CADT [CBFM areas have been covered by CADT]	Policy Implementation	
• Basehan ng CADT ay kung hanggang saan ang kanilang pangangaso [The basis of CADT boundaries was the area covered by their hunting activities]		
• Hindi pwede magtanim ng wala sa kontrata [You cannot plant what is not included in the contract] • Yun na yung nasa kontrata [That was in the contract]	Limiting Technicalities	Complex Restrictions
• Hindi pa nai-va-validate ang seedling namin hindi kami makamove na magtanim sa bundok [We can only outplant our seedlings once these were validated by the DENR]	Procedural Limitations	
• pinilit pa namin itanim yung 9000 [We were forced to plant the 9000 seedlings since we need to comply with the contract]		

The institutional support has been considered as a challenge for the effective implementation of the reforestation program. At present, the security of tenure of some of the partner communities are at risk due to perceived conflicting policy implementation by the DENR and the National Commission on Indigenous People (NCIP). According to the respondents, their tenured lands have been claimed to be part of the CADTs of the indigenous people (IPs). Based on their understanding, due to the presence of CADTs, their CBFMA could no longer be renewed for another 25 years as opposed to the previous explanation to them that their tenure to manage and use the lands and trees planted in the area is secured for another 25 years as renewal. The challenge of questioned security of tenure of the POs and conflicting or unclear policy implementation at their level could serve as an opportunity to improve and offer institutional support to the partner communities. The perceived misunderstanding among and between government agencies and the local communities could be cleared if proper consultation was made.

The local community has been experiencing complex restrictions such as species composition for the reforestation species as stipulated in their contracts or agreements. In addition to these restrictions are the identified procedural limitations. These refer to the bureaucratic procedures that needs to be followed strictly in order to comply with the requirements of fund disbursements to the local communities. Though it is clear to the local communities that these restrictions are part of a system required, they are still looking for adjustments so as to allow them maximized whatever resources they have. Most of the POs have limited resources such as those affected by organizational issues on non-participating members which causes them to

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

face limited manpower and financial limitations including insufficient funds to implement other needed reforestation activities.

Synthesis on Thematic Analysis

Based on the qualitative results, effects of the reforestation models to the lives of the local communities are a combination of positive and negative impacts. On the positive impact, the respondents have affirmed that the reforestation models have the emerging themes of sufficiency, economic potential, change occupation, leadership, empowerment, exposure, enhanced environmental condition and forest improvement. These themes have raised three categories of enhanced economic independence, capability building and rehabilitation of degraded forest. Part of the emerging themes on the positive impact include the enhanced environmental condition of the reforested areas as well as the nearby communities and maintenance of the natural forests. The reforestation models have somehow involved communities, mainstreamed independence in the community and have instilled the purpose of conservation and protection of the environment. Based on the emerging themes, the objectives of the reforestation models have been partially attained. The positive effects on the people's lives have been met. Work and additional livelihood were provided to these communities. However, meeting the restoration of the upland forest were not totally met.

However, forest ecosystem services have not been restored despite the 25 years tenure given to the people through CBFM or NGP. Commercially favored species were still planted which were not suitable to restore the supporting services of the ecosystems. Nutrient cycling and primary productivity of the ecosystem are still at its minimal level due to the species composition.

However, behind the general positive impacts of the reforestation models there remain issues and concerns that needs to be given prior attention. The interviews showed some emerging themes on prescribed choices of planting material for the community due to minimal option of seedling material sources needed to support their reforestation activities. Part of the emerging themes were limiting technicalities of contract, agreements among the contractors and the minimal stakeholders' involvement in terms of using the species they deemed suitable in their tenured areas and the unrecognized local knowledge of the POs on the species being planted. From these themes, categories like engaged decision-making and directed choices emerged. Implication of these categories hindered POs participation since their voices or opinions are not recognized and maximized.

Out of the difficulties shared by the respondents, emerging themes of security of tenure, policy implementation, limiting technicalities and procedural limitations were considered based on the statements of the respondents. The inadequacy of institutional support and complex restrictions imposed to the local communities served as the challenges and opportunities of the reforestation models as presented by the POs. These gaps needs to be addressed.

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

Synthesis on Qualitative Results for Reforestation Model Gaps

In the aid of determining and assessing the gaps among the existing reforestation models, the following are the interpretation of the qualitative research results based on the analysis of the respondent's answers during the interview.

Despite the raised issues and problems on the two reforestation models, the government still considered it a "viable model" for forest management. These are still practical mechanisms because these include concerted partnership with the community while recognizing the property rights and implementation of monitoring management plans.

Mobilizing local communities, as 'partners' in developing and protecting the forest was proven effective in some cases in Zambales. However, participating local communities remained at the losing end in forest restoration if issues, concerns and challenges identified are not addressed. The so-called "partnership" between the government and the POs through the NGP MOAs remained to be a long shot to achieve since POs were still considered as laborers. The limited contract duration raises hesitation among the POs to completely fulfill the task of reforesting the forestlands since success of it would mean losing their economic income at the end. The completion of tasks under contracts is more of compliance rather than accomplishment of the objectives of the reforestation model. On the other hand, the pending renewal of the CBFMA of the POs of Zambales is another factor that may cause problem that will contribute to the degradation of the forest ecosystem. The tenure of the PO serves as their security to their rights to whatever they have planted or developed in their farmlots.

There are at least 50 POs participate in CBFM and NGP in the province. Most of these POs have initially experienced procuring seedlings from other provinces since there is no existing large-scale commercial nursery to provide the required seedlings for their projects. However, at this point they have to maintain small nurseries even if these nurseries cannot produce enough to support the seedling requirements of POs.

Choice of species for planting in the forestlands remains in the hands of the DENR as technical experts. It has always been a practice to choose fast growing and non-native species over more ecologically adaptive native species in reforestation programs and models. Recently, DENR has been promoting the use of native species in the implementation of NGP and CBFM in Zambales. Consultation with POs experiences on various species in their areas could strengthen the initiative. As partners, they hold first-hand information on the biophysical characteristics of the forestlands and most especially the socio-economic needs of their constituents. In relation, the information on the native species from the local community may enhance facilitation of tree species growth and reduction of competition among the species. Managing the plant-plant relationships and interactions for restoring a forest ecosystem is relevant especially with the emerging increase in drought due to climate change (Gómez-Aparicio et al., 2004). However, it is not only necessary to select good combinations of nurse-tree and target-tree species with complementary species traits, but also to manage plant densities and community composition as plant cover and increased competition are also considered.

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

Though the reforestation models have enabled the POs to work hand-in-hand with the government, it is still beneficial to consider efforts in determining the suitable tree species that would fit into the people's needs and practices in short, medium- or long-term periods. The use of exotic or non-native species such as yemane, mangium and acacia has already been practiced in the country's reforestation efforts due to their silvicultural characteristics of being easy to propagate and are proven to grow in all types of soils. Native species are better adapted to Philippines conditions particularly in Zambales. One example is agoho (Casuarina equisetifolia) which is highly adaptable and is highly recognized by the local people of the province that has high quality timber when converted to lumber, wood pulp, charcoal and construction materials. The local knowledge of the POs is necessary for the development of the community's socioeconomic condition as well as to the forest restoration.

Complex restrictions to partner POs are actually not a policy issue. It is more of an issue of organizational structure and staff support available to assist and monitor the implementation of PO activities. The inadequate number of DENR technical personnel, particularly at the field level, who can provide technical assistance and conduct regular monitoring is often identified as a key issue that impede the implementation. At present, CBFM field coordinator is limited to one per CENRO and PENRO to oversee all CBFM areas for the entire province while for NGP one coordinator is hired to oversee at least 300 hectares of budgeted projects. It should be noted that NGP coordinators are also tasked to oversee areas that were already turned over or those, which have finished contracts with POs. The limited personnel may have been enough if scheduling of activities were followed in actuality.

It is inevitable that despite the perceived restrictions in the contracts using forest resources, selecting various species, resiliency of local communities were developed through the process and through time. Their ingenuity to cope with changes was observed through the improvement of their farming system and economic lifestyle. They explored the growth patterns of planting mixed crops like fruit-bearing trees and timber crops in forest protection areas.

Another issue that needs to be addressed is the inefficiency of institutional support to partner POs. The respondents admitted that the confirmation of land ownership through the issuance of land tenure instrument inspired them to improve their individual claims not only to comply with the provision of the agreement but also with the belief that they will benefit from it in the future. This is confirmed based on the findings that the issuance of land tenure instrument to the POs is the driving reason that encouraged local people to trade their destructive kaingin farming practices to agroforestry.

However, with some issues on claims and boundaries between tenured forestland and ancestral domain, government agencies such as the NCIP and DENR should have a clear demarcation on their strategies and mechanisms so as to avoid conflicts of beneficiaries in the field. Alleviating poverty while recognizing rights over land can be in parallel as long as implementing agencies work together and not compete with accomplishments. The targeted beneficiaries are always at the loosing end if competition among these government agencies persist.

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

Other aspects of social context that affect restoration include tenure and use rights (ownership versus use rights), participation by those affected (Barr & Sayer, 2012), and the available social capital which include administrative capacity, technical knowledge, and available resources. In some communities, land ownership and use rights are well defined and enforced. In other circumstances, particularly in tropical countries, tenure relations are complex and corruption is endemic (Kolstad & Soreide, 2009).

Today's complex ownership, tenure, and use rights may stem from historical development. Further difficulties arise when ownership of the forest, trees, or fruit from certain trees is distinctively separated from tenurial rights of the land. Land tenure is generally understood as the commonly accepted terms and conditions under which land is held, utilized, and traded. It is significant to note that land tenure is not a stationary system. It is a system and process that is repeatedly developed as influenced by the condition of the economy, changing demographics, cultural interactions, political discourse, or a changing natural and physical environment (Murdiyarso et al., 2012). Land tenure can, however, have an influence on factors, which is why it should be considered in discussions concerning forest restoration, socioeconomic development, and environmental change.

Changing the terms of tenure may lead to uncertainty and short planning horizon for restoration. Short-term planning is less likely to entail large investments in productive assets or adoption of new technologies, as little opportunity is available for a tenant to capture benefits from long-term investments. The same is true for investments in tree planting and sustainable co-management of the forest ecosystem. Thus, uncertain tenure often leads to land degradation and is economically unsustainable in the long term (Robinson et al., 2012). Recognizing these barriers to tree planting and private forest management in general, alternative benefit-sharing schemes, such as modified taungya, have been developed along with community participation in forest management and restoration (Agyeman et al., 2003; Blay et al., 2008; Schelhas et al., 2010).

CONCLUSION AND RECOMMENDATION

The gaps among the existing reforestation models applied in Zambales and how these gaps can be possibly resolved are some of the major findings of the study. The study revealed that despite the successes of the various reforestation models, such as of the CBFM and NGP, one major gap identified is the sustained participation of the local communities.

Part of the challenges were the limited choice of tree species, limited sources of planting materials within the province and inefficiency of institutional support to sustain efforts in managing forest resources. Due to these factors, minimal benefits accrued to beneficiaries from the managed forestlands. The realization led to diminishing interest of the local community to actively participate in the restoration of the degraded ecosystems resulting to unsustained forest management efforts. The reforestation models have taken for granted the importance of sustaining local participation in the restoration process. Benefits through employment in plantation establishments were immediately felt but interest was not sustained resulting to poorly managed sites that are sometimes abandoned and burned.

The Seybold Report
ISSN 1533-9211
DOI 10.5281/zenodo.7393607

These gaps in the reforestation models could be possibly resolved if the participation of the local community was given prior attention rather than just targeting them to get involved. Not everyone in the local community or POs are actually participating in the reforestation. Most of them are concerned only in getting the financial gains from the activities without interest on whether the reforestation objectives are achieved or not. Participation of community can be enhanced by allowing the community to get involved in the planning process. Listening to the people's ideas and adopting them will serve as an indication that their concerns are being considered with the hope of putting them into action.

Immediate needs of the local community could have been sustainably supported if correct selection of species was done. The identification and selection of species with the help of the local community is a huge advantage. The people know what tree species are locally available and what these species can provide for their immediate needs. Also, limited seedling sources could be avoided with the identification of existing and more adaptive native species in the province prior to implementing the reforestation models. A central nursery for the province could be established through the collaboration between the DENR, LGU and academe.

The challenges posed by the identified gaps for future restoration efforts in the province still remains. However, addressing these gaps can be initially bridged through collaborations of DENR, LGU, academe and local communities in searching for existing valuable native species in the inventory of the province's forestlands. Targeting to reproduce these species to in a community nursery for the province can help in reducing the procurement of these from other provinces. In addition, with the community nursery, seedling requirements for the restoration will be provided locally.

References

- Agyeman, V., Marfo, K., Kasanga, K., Danso, E., Asare, A., Yeboah, O., & Agyeman, F. (2003). Revising the taungya plantation system: new revenue-sharing proposals from Ghana. Unasylva 54, 40–43. Retrieved from http://www.fao.org/3/y4744e/y4744e11.htm
- Barr, C.M., & Sayer, J.A. (2012). The political economy of reforestation and forest restoration in Asia–Pacific: critical issues for REDD+. Biological Conservation, 154, 9–19. https://doi.org/10.1016/j.biocon.2012.03.020
- Blay, D., Appiah, M., Damnyag, L., Dwomoh, F.K., Luukkanen, O., & Pappinen, A. (2008).Involving Local Farmers in Rehabilitation of Degraded Tropical Forests: Some Lessons from Ghana. Environmental Development Sustainability, 10,503–518. https://doi.org/10.1007/s10668-006-9077-9
- Duthy, S. & Bolo-Duthy, B. (2003). Empowering people's organizations in community-based forest management in the Philippines: The community organizing role of NGOs. Annals of Tropical Research, 25(2), 13–27.
- DENR-PENRO. (2016). Greening Zambales: Stories within and beyond the National Greening Program implementation CY 2011-2015. Coffee Table Book.
- Kolstad, I., & Soreide, T. (2009). Corruption in Natural Resource Management: Implications for Policy Makers. Resources Policy, 34, 214–226. https://doi.org/10.1016/j.resourpol.2009.05.001.

ISSN 1533-9211

DOI 10.5281/zenodo.7393607

- Murdiyarso, D., Brockhaus, M., Sunderlin, W.D., & Verchot, L. (2012). Some Lessons Learned from The First Generation Of REDD+ Activities. Current Opinion in Environmental Sustainability, 4(6), 678–685. https://doi.org/10.1016/j.cosust.2012.10.014.
- Ohta, H. (2001). A phenomenological approach to natural landscape cognition. Journal of Environmental Psychology 21(4), 387-403. https://doi.org/10.1006/jevp.2001.0233.
- Robinson, B.E., Holland, M.B., & Naughton-Treves, L. (2012). Does Secure Land Tenure Save Forests? A Meta-Analysis of the Relationship between Land Tenure and Tropical Deforestation. Global Environmental Change.
- Schelhas, J., Samar, S., Johnson, C., Asamadu, A., Tease, F., Stanturf, J., & Blay, D. (2010). Opportunities and capacity for community-based forest carbon sequestration and monitoring in Ghana. Nature & Faune, 25, 41–45.