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Implementation of the National Greening Program in the Province of Bukidnon: Basis for Interventions

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ABSTRACT

This study assessed the extent of the implementation of the National Greening Program (NGP) strategies in the province of Bukidnon in terms of activities related to social mobilization, harmonization of initiatives, provision of incentives and monitoring, and management of the database. The participants of this study are the stakeholders who were involved in NGP implementation, the study revealed the extent of the implementation of the NGP was partially implemented. Issues encountered by the stakeholders under the social mobilization strategy are financial constraints, infrastructures, and site-species matching. For harmonization of initiatives are a lack of technical capabilities, limited time preparation for nursery establishment, and unavailability of potential areas. On the provision of incentives are the lack of policy guidelines, lack of incentives system, and marketability of harvested crops. And, for monitoring and management of the database, lack of logistics and equipment, manpower constraints, and unpredictable weather conditions. The stakeholders have performed their roles and responsibilities under the four National Greening Program strategies, but some activities were implemented to some extent only. The issues encountered by the stakeholders vary in accordance with different strategies.

Keywords: Reforestation, National Greening Program, Implementation Strategies, Issues, and Interventions

INTRODUCTION

The National Greening Program is a massive forest rehabilitation effort that targets to grow billions of trees within public lands nationwide, which is more than twice the government's accomplishment over the past 25 years. It was part of the flagship program of the government under executive order No. 26, signed by President Aquino on March 24, 2011, declaring an interdepartmental convergence initiative for a National Greening Program (NGP), which primarily aims to pursue sustainable development to reduce poverty, promote food security, environmental stability, biodiversity conservation, and enhance climate change mitigation and adaptation. To achieve these objectives, a multi-sector approach to reforestation is implemented, not only in terms of tree planting but also in the production of quality seedlings and the mobilization of government employees, students (from Grade 5 to college level) as well as private sectors to plant at least ten seedlings each, annually.

The program also taps the contribution of the People's Organizations (POs) with the appropriate assistance from the government to be responsible for maintaining and protecting the established plantations. In response, the Department of Interior and Local Government (DILG) and the Department of Environment and Natural Resources (DENR) issued a Joint Memorandum Circular No 2013-3 or guidelines in the establishment and implementation of the Barangay Forest Program (BFP). The Philippine Institute of Development Studies (PIDS) said that if the program is implemented properly, efficiently and with utmost attention, it can help to improve the country's economy, primarily when it is implemented according to plan, as Dagooc (2017) claims. As the government's primary strategy for reforestation, NGP has several benefits and advantages. Ahmed (2018) has seen NGP as a climate change mitigation strategy, as it seeks to enhance the country's forest stock to absorb carbon dioxide. It has also been seen to provide employment among farmers and local communities. The agricultural sector has much to benefit from the program as the latter would substantially improve the water yield of watersheds, thereby ensuring the supply of water to irrigate farmlands as projected in a study by DENR in 2011. Planters, landowners, and beneficiaries who participate in the program will be provided with financial assistance to establish their plantations, including maintenance and

protection activities. Plantations that are established within tenured areas such as the Community-Based Forest Management Agreement (CBFMA), Certificate of Ancestral Domain Title (CADT), and Integrated Social Forestry (ISF), planters have the privilege to harvest their planted trees provided that it is under the rules and mandates by the DENR. Luna (2016) mentioned that the projects were considered successful considering that most plantations garnered more than 85% survival rate. Said findings led to increased forest cover and provided more jobs and employment to upland farmers. With the project, the NGP has provided some hope for recovering the already balding forests. (Arbo & Israel, 2015).

In the province of Bukidnon, NGP had already employed more than 5,000 individuals through the Community-Based Employment Program. However, with the positive intentions of the DENR to promote, enhance and expand the greening program, some problems and concerns arise in the majority of the NGP reforestation sites and the local communities. Program recipients such as the farmers and the People's Organizations are experiencing various concerns and problems, which include peace and order situations due to the presence of leftist groups, conflicting claims, forest fires, and delayed release of funding support (Gemina,2015). As the Commission on Audit mentioned during its NGP assessment in 2019, they cited some gaps in NGP implementation, particularly in monitoring and evaluation, Social Mobilization, Public-Private Partnership, and Data Reliability (Commission on Audit [COA], 2019).

Based on the data from DENR-PENRO, Bukidnon planted seedlings under the program and gathered an 85% average survival rate. Considering that more than half of the DENR Region 10 NGP target has emanated from the province of Bukidnon, the researcher endeavors to assess the extent of the program's implementation as a basis for interventions by the DENR and other agencies. This study aims to enhance further the implementation of reforestation programs and other environmental development.

FRAMEWORK

This study was anchored on Systems Theory which Bertalanffy proposed in 1972. According to Bertalanffy (1972), since the fundamental character of the living thing is its organization, the customary investigation of the single parts and processes cannot provide a complete explanation of the vital phenomena.

Systems thinking is recognized as vital to understanding climate science and addressing climate change. Understanding how systems thinking influences the

public's beliefs and attitudes about climate change has important implications for climate change education and communication (Ballew et al., 2019). Ingwersen (2013) mentioned in her article, "A systems perspective on responses to climate change, concepts, and science-based on systems theory are needed to reduce the risk of unintended consequences from potential responses to climate change. When one component is severely affected, it will likely trigger effects that ''cascade" to other systems components (Meffe, 2002).

Luna (2016) mentioned that understanding such system thinking patterns of behavior will give clues as to the cycles through which forest rehabilitation in the country has moved throughout its long history over one century and how forest rehabilitation became a priority investment after years of unsuccessful government programs. He postulated that policies for forest protection mechanisms are the most obvious area for reform. Still, all the above drivers can be addressed in different ways using policy interventions in other areas and complex patterns and through systems development. As such, systems thinking has to be applied to conduct the institutional analysis for the NGP comprehensively. Thus, the whole government approach must deliver a result that is greater than the sum of its parts.

In this study, the National Greening Program being the more extensive system, is being supported by a component or subsystems such as its strategies which include; social mobilization, harmonization of initiatives, provision of incentives, and monitoring and management of the database. To achieve the goals and objectives of the program, all government agencies, including the private institutions, need to work together through a convergence initiative to implement the strategies of the program successfully.

Moreover, this study was also anchored on Sustainable Development Goals (SDGs), particularly Goal 15: Life on Land. This goal highlights the protection, restoration, and promotion of sustainable use of terrestrial ecosystems, sustainably managed forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss. United Nations Sustainable Development Goals (2015) considered goal 15 as directly related to SDG 13 "climate action" as it focuses on forests and reforestation and is one of the approaches to mitigate climate change. Lastly, this study was also anchored on the concept of sustainable development, which is the basis of the issuance of Executive Order No. 26, known as the "Implementation of National Greening Program as a government priority", and DENR Memorandum Circular No. 2011-01 as its implementing rules and regulations, to pursue sustainable development for poverty reduction,

food security, biodiversity conservation, and climate change mitigation and adaptation.

The schematic diagram shows the integration of each variable. The first box is the NGP strategies which include; social mobilization, provision of incentives, harmonization of initiatives, and monitoring and management of the database. The middlebox in the lower portion is the issues identified and encountered by the stakeholders and NGP implementers. The upper portion is the extent of implementing the National Greening Program in the province of Bukidnon. These variables will determine whether the desired activities, roles, and responsibilities were compiled or not by the agencies and People's Organizations that are involved in the program. The box on the right shows the intervention initiatives to strengthen the implementation of the NGP further.

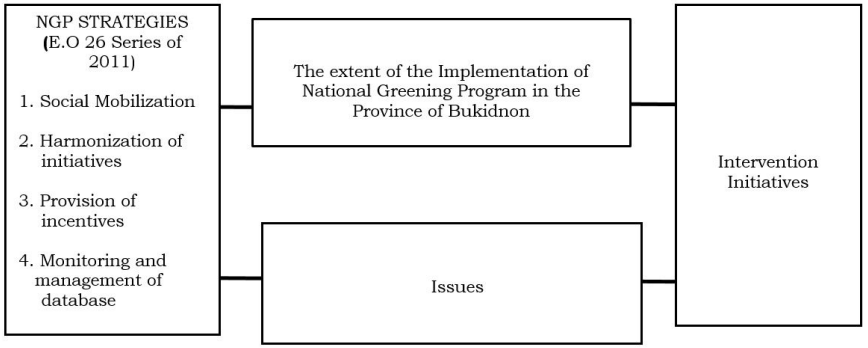

Figure 1. Schematic diagram of the extent of the implementation of the National Greening Program (NGP) in the province of Bukidnon: Basis for interventions.

OBJECTIVES OF THE STUDY

This study assessed the extent of the implementation of the National Greening Program in the province of Bukidnon with the end view of providing interventions to strengthen its implementation further. It also determined issues encountered by the DENR, DA, and DAR, including the LGUs and People's Organizations in its implementation.

METHODS

The quantitative non - experimental descriptive method of research was employed using the researcher-made questionnaire as a data-gathering tool based

on the identified activities under each strategy according to DENR Memorandum Circular 2011-01. The researcher provided questions and distributed them to each participant. An interview and Focus Group Discussions (FGD) were also conducted. The data gathered were treated using mean standard deviation and frequency. It was conducted in the province of Bukidnon covering ,two Cities and six municipalities. The forty-nine participants of this study were the NGP extension officers, NGP Focal Person, CENR Officer of DENR-CENRO, Presidents or authorized representatives of the People's Organizations who were directly implementing the program, Local Government Units particularly the MENROs, and Officials from other National Government Agencies such as DA, DAR, DENR.

The questionnaire was tried out before the final form was drafted. It was conducted among the thirty participants from DENR-CENRO, Don Carlos, particularly the beneficiaries of the Integrated Natural Resources and Environment Management Project (INREMP). After the try-out, some items in the questionnaire had been improved and revised, particularly on questions on activities relating to the provision of incentives. The comments and suggestions were integrated into the final draft. The try-out and reliability garnered .83 using Cronbach Alpha.

RESULTS AND DISCUSSION

The extent of the implementation of National Greening Program was partially implemented. Among the 4 strategies, harmonization of initiatives and social mobilizations were fully implemented. The provision of incentives and monitoring and management of the database was partially implemented.

Summary of strategies on the extent of the implementation of National Greening Program in the Province of Bukidnon

As presented in table 1, the strategies anent the implementation of the National Greening Program in the province of Bukidnon were rated by participants as partially implemented. It means that the study participants particularly agencies and stakeholders, such as the DENR, DA, DAR, Local Government Units, and People's Organizations, performed the NGP activities to some extent. It further implies that the participants have conducted their roles and responsibilities under the 4 NGP strategies but some activities were not complied with. As indicated, the standard deviation implies that the participants' responses with

regard to activities of all NGP are not dispersed. The implementation of the National Greening Program is a collective effort through a convergence initiative as indicated in Executive Order No. 26 and DENR Memorandum Circular 2011-01 as its implementing guidelines. Although reforestation programs are part of the functions and mandate of the DENR, NGP guidelines emphasize that this is not a program of the DENR alone, but this is a convergence initiative with various sectors and partner agencies (National Greening Program [NGP] Implementation Manual, 2012).

Table 1

Summary of strategies on the implementation of National Greening Program in the province of Bukidnon

Strategies	Agencies	Mean	SD	Qualified Description
A. Harmonization of Initiatives	POs	2.51	0.52	Fully implemented
	DENR,DA,DAR	2.35	0.68	Fully Implemented
	LGUs	2.21	0.24	Partially Implemented
Average		2.35	0.48	Fully implemented
B. Social Mobilization	POs	2.63	0.57	Fully implemented
	LGUs	2.50	0.35	Fully implemented
	DEAR,DA,DAR	1.90	0.66	Partially implemented
Average		2.34	0.52	Fully implemented
C. Provision of Incentives	LGUs	2.33	0.56	Fully implemented
	DEAR,DA,DAR	2.27	0.67	Partially implemented
	POs	2.12	0.75	Partially implemented
Average		2.24	0.66	Partially implemented
D. Monitoring and Management of Database	DEAR,DA,DAR	2.43	0.76	Fully implemented
	POs	2.39	0.62	Fully implemented
	LGUs	1.86	0.34	Partially implemented
Average		2.22	0.57	Partially implemented
Over-all		2.22	0.56	Partially implemented

Social mobilization and harmonization of initiatives strategies were both rated as fully implemented. The latter got the highest mean. It posits that the participants have performed the said NGP activity to a great extent. It further implies that the participants conducted and complied with all the activities in harmonizing their plans and programs to NGP. All agencies working together for the benefit of the environment is one big solution to reducing problems and issues concerning the current situation of our ecosystem (Tupas & Cacho,2020).

For social mobilization, it was emphasized that it was successful because the community knew the program due to massive program information such as the personnel, radio, television, and posted tarpaulins. The participants also believed that the program promotes sustainable development (Bonita, 2015). The success of social mobilization was attributed to giving appropriate assistance to the POs as implementers who believed as one of the best moves to get the highest level of participation of the people in the program.

In contrast, the provision of incentives monitoring and management of databases strategies were both rated as partially implemented, and the latter got the lowest average mean. It means that the participants performed to some extent. Said finding corroborates with the result of the assessment of Israel and Lintang (2013) that one of the problems in the implementation of NGP includes monitoring and enforcement. Carig (2018) identified some issues relating to weak policy and institutional support for community-based programs and the inability of the government to develop effective monitoring and evaluation system, and not enough field personnel to guarantee the proper implementation of CBFM policies at the community level.

Issues encountered in the implementation of National Greening Program in the province of Bukidnon and suggested interventions

During the conduct of the study, participants mentioned several issues related to the implementation of the National Greening Program. Said issues were based on their actual experiences and observations while implementing the Program. All their answers were collected, and the researcher had chosen the top 3 issues which occurred in every strategy using frequency count and percentage.

A. Issues encountered in the implementation of National Greening Program in terms of Social Mobilization and suggested Interventions

Figure 2 presented the top 3 issues encountered under the social mobilization strategy and suggested interventions on the extent of the implementation of the National Greening Program in the Province of Bukidnon. Ranked first are financial constraints, the second is lack of infrastructures, and third is species-site matching. Herbohn et al. in 2013, conducted a study on reforestation projects that aimed to establish trees on formerly forested land. The study found out that funding source, education, awareness campaigns, and the conditions of road infrastructures were highly connected drivers that influenced multiple success indicators either directly or indirectly. Some of the suggested interventions by

the participants are to capacitate POs and increase funds every month for five years, construction of rain and water impounding facilities. The survey shall be conducted after the tree planting.

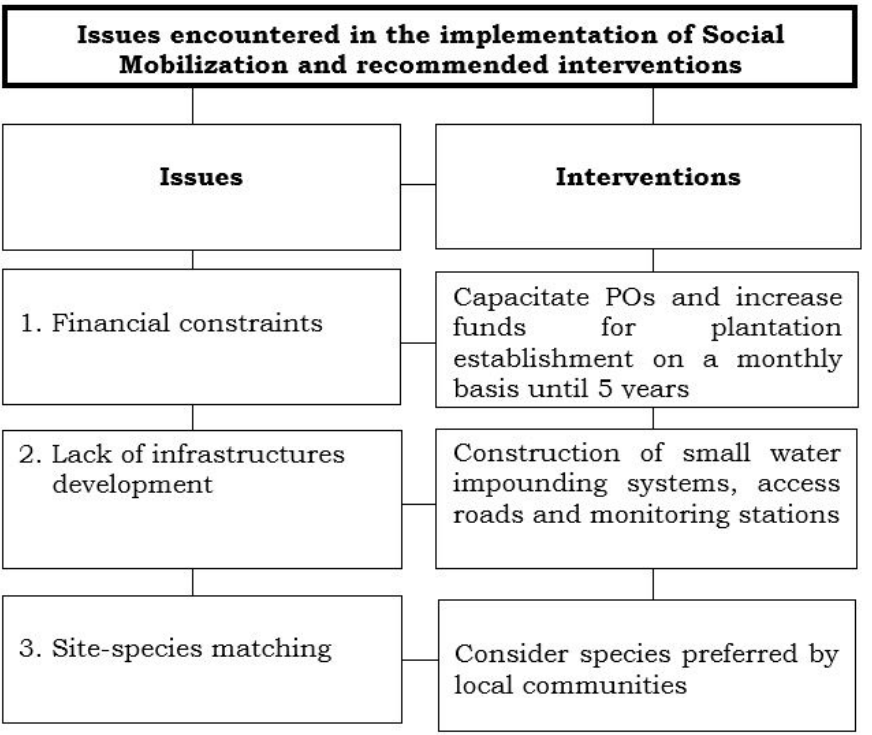

Figure 2. Issues encountered in the implementation National Greening Program in terms of Social Mobilization and suggested interventions in the province of Bukidnon.

Financial constraints. Among the 49 participants, financial constraints have the highest frequency count and ranking. Participants mentioned that they experienced limited and delayed release of funds and payments for seedling production, plantation establishment, and maintenance and protection activities due to lacking documents such as SEC Registration and receipts from the Bureau of Internal Revenue (BIR), which is part of the requirements by Commission on Audit (COA). The delay in the processing of documents resulted in the delay in the performance of related activities, considering that most of them are poor, they do not have the financial capacity to proceed with the implementation of the

program (Bonita, 2015). As a result, POs and planters cannot mobilize, leading to the delayed accomplishment of targets. Based on the Work and Financial Plan, the M&P activities were supposed to be conducted every quarter of the year. Unfortunately, the DENR only allocated a budget for two Quarters. The remaining two Quarters are part of the initiatives of the POs. Said payment and incentive scheme is not favorable to the planters. From 2018 to the present, the cost and funds per hectare are elevated by the DENR to 5,000 pesos per hectare every year.

Participants suggested that if the government wanted to ensure the attainment of an 85% survival rate and to sustain the progress of the planted seedlings, the government should provide or allocate a budget every Quarter of the entire year for five years. Funding for maintenance and protection of P3,000 per hectare annually is inadequate and must at the least be doubled (Israel &Lintang, 2013). Participants admitted that one of the effective strategies for successful programs and accomplishing the targets on time is the provision of financial assistance to implementers and beneficiaries. The said strategy should be undertaken in the last Quarter of the current year. To fasten the release of funds due to document problems, stakeholders also mentioned reducing the number of required documents for POs, considering that some of its members and beneficiaries are less educated. Hence complying with the requirements is time-consuming and a burden on their part.

Lack of infrastructure development. Participants identified issues related to the lack of accessible roads and lack of water facilities in most NGP sites. They mentioned that said scenario was also recognized as one of the main reasons for the absence of an on-site nursery. Considering that NGP plantation sites are situated in forestland areas, distance and terrain affect the efficiency and quality of the seedlings planted, leading to a low survival rate of planted seedlings. Due to poor road conditions, damage to seedlings during transport was also observed, leading to reduced seedlings' survival rates (Bonita, 2015). The POs explained that some NGP sites are inaccessible to any mode of transport, including carabaos (Israel and Lintang,2013).

NGP Beneficiaries said that sometimes, they were discouraged, considering that despite their efforts to plant, maintain and take care of their planted seedlings, there is still a high mortality rate due to drought, El Niño, and the presence of rats and gull rusts. Diseases are likewise a significant risk in tree planting, with young trees being partially or entirely infested, resulting in low survival rates, high replanting rates, and overall high production costs (Israel, 2015).

The introduction of a site-based water system to serve the requirement of the plantations during the dry season is a must (Balangue, 2016) for an established nursery near the NGP planting sites.

Site-species matching species. During the SMP, the DENR field office conducted meetings and informed the POs about the activity, and they provided a list of potential species. When the maps were prepared, the participants mentioned that some of the identified beneficiaries backed out, considering that their preferred species were not considered. Nichols and Vanclays (2012) emphasized that species that local people are familiar with are more readily accepted. The selection inequality also negatively affected the quality of the forests planted, as seedlings varied in terms of the soils and climatic conditions they preferred (Hoanh et al.,2014).

In addition, due to the unsuitability of seedlings planted, participants mentioned that some of the plantations were being damaged by gall rust, pests, and diseases. Diseases are likewise a significant risk in tree planting, with young trees being partially or entirely infested, resulting in low survival rates, high replanting rates, and overall high production costs (Israel, 2015). It was also mentioned that spacing for seedlings planted is not a practical and ideal planting design, the higher the density, the lower the quality of trees. The design also affects the usability of their lands, and they cannot plant another crop on their land due to lack of space. The selection of species is critical and should be based on an inclusive process of interested parties selected from species already widely planted (Nichols & Vanclays, 2012).

The participants suggested considering their species preference as they are already familiar with their area regarding the suitability of species. They further suggested that after selecting stakeholders to be tapped and contracted in program implementation, the time frame from a survey, mapping and planning, seedling production, and plantation establishment should be longer. The participants believe that People's Organization will choose to raise their seedlings near the planting site due to more extended preparation. Areas considered non-plantable and that were overlooked during the survey and mapping should be marked on the ground and the map. Such areas should not be planted to avoid wastage of seedlings and workforce and low survival (Balangue, 2016).

B. Issues encountered in the implementation of National Greening Program in terms of Harmonization of Initiatives and suggested interventions in the province of Bukidnon

Figure 3 illustrates the top 3 issues encountered by the participants under the harmonization of initiatives strategy and suggested interventions on the extent of the implementation of the National Greening Program in the Province of Bukidnon. The First issue is the lack of technical capabilities. The second is the lack of preparation time, and the third is the unavailability of areas for nursery establishment.

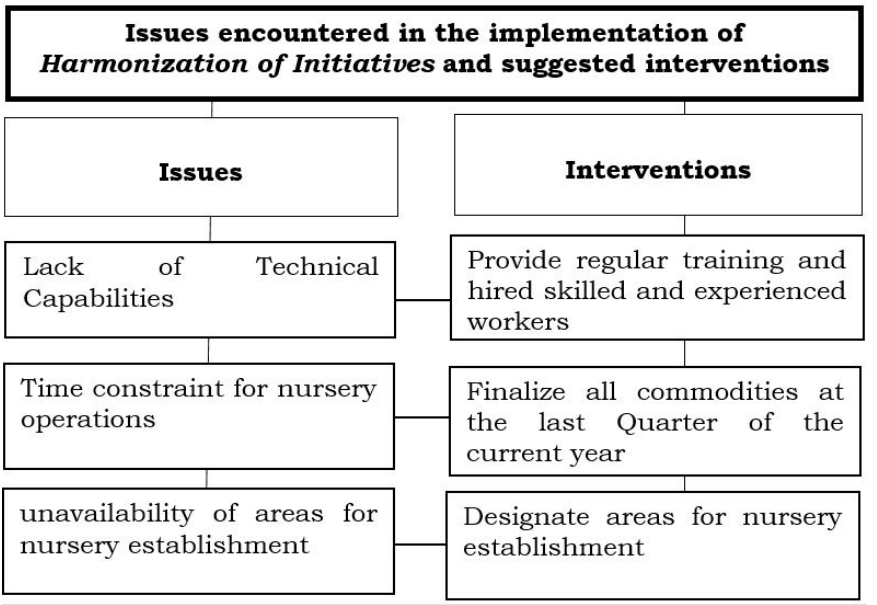

Figure 3. Issues encountered in the implementation of National Greening Program in terms of Harmonization of Initiatives and suggested interventions in the province of Bukidnon.

Lack of technical capabilities. Participants admitted that some of their personnel have limited training in nursery establishment and community organizing. Activity remains to be critical and includes education, information, or awareness campaign but also training and market enhancement skills building (Luna, 2016). Gregorio, Harrison, Herbohn, and Pasa (2016) mentioned that the program does not have funds for community organizing and has minimal financial resources for capacity building because participating communities were believed to have been empowered already and possess the appropriate knowledge and skills to implement a community-based reforestation project. The government shall create more effective training and relevant activities to improve

the livelihood of the community as well as to increase their positive perception of forest conservation efforts (Fong et al., 2012). The participants suggested that before implementing the program for the next ensuing year, the government should have identified and finalized participants and conducted advance training on financial management and simple bookkeeping.

Limited time preparation. This issue generally occurs in People's Organizations. Accordingly, they cannot correctly manage the nursery, considering they are always competing against time because they are being rushed to accomplish the target during the 2nd Quarter of the current year. Due to insufficient time to produce the seedlings, the POs have no choice but to procure the seedlings from private suppliers (Commission on Audit [COA], 2019). The issues are attributed to the delayed release of funds, delayed preparation and finalization of documents, particularly Memorandum of Agreements (MOA) or Letter of Agreement (LOA), and inconsistency in commodity or type of seedlings raised and planted.

To address the issue, they suggested finalizing all the requirements, including commodities and type of seedlings to be raised during the last Quarter of the current year. By the 1st Quarter of the next ensuing year, they can immediately start nursery operations. Moreover, they suggested that there should be embedded personnel from the Department of Agriculture for every People's Organization who contracted the NGP to train and monitor their nursery operations regularly. Only personnel from the DENR field office are assigned to every People's Organization and other NGP implementers. Due to huge assignments and the responsibility of said personnel, their appearance is limited to every area to supervise nursery operations. They cited that every agency and stakeholder involved must have a straightforward task. For activities related to nursery operations, let the DA handle them. When said suggestions are materialized, the DENR can focus on plantation establishment and maintenance and protection activities.

Unavailability of areas for nursery establishment. With rough geography, distance, and minimal funding support, NGP implementers encountered challenges establishing nurseries near the NGP sites. They are instead procured the seedlings from suppliers locally and even in areas outside the province of Bukidnon on an installment basis and at a low price. Which is Sometimes, its quality did not meet the standards set by the DENR. The said scenario leads to low quality of seedlings and a higher mortality rate due to travel distance. In 2019, the Commission on Audit found out that despite the policies issued supporting

indigenous species, exotic species have continuously been the predominant species planted in NGP sites. The participants suggested to designated a strategic area for nursey establishment.

C. Issues encountered in the implementation of National Greening Program in terms of the Provision of Incentives and suggested interventions in the province of Bukidnon

As indicated in figure 4, the top 3 issues encountered in the implementation of the provision of incentives of the National Greening Program in the Province of Bukidnon include; first is the lack of harvesting guidelines. Second is the lack of an incentive system, and lastly, the marketability of harvested crops.

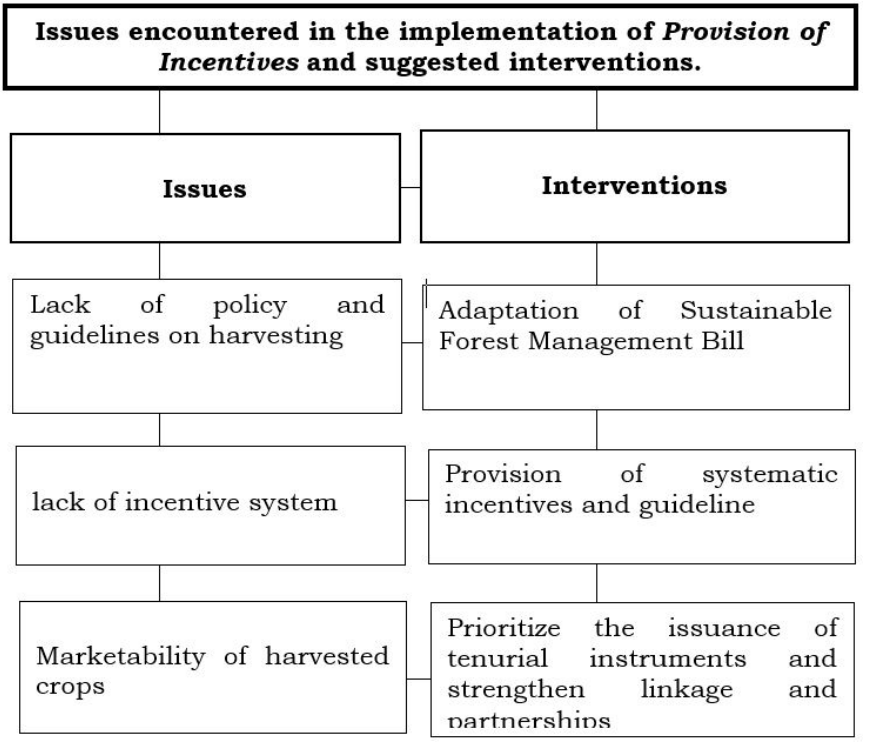

Figure 4. Issues encountered in the implementation of the National Greening Program in terms of the Provision of Incentives and suggested interventions in the province of Bukidnon.

Lack of policy and guidelines on harvesting. Before the project implementation, most of the beneficiary's concerns is "Harvesting." Considering that most of the

target and priority areas for NGP are untenured, planters, particularly the upland communities, are hesitant to participate because they think their labor, time, and commitment are wasted. The said scenario is already experienced by some of the NGP beneficiaries who have participated in the program since 2011, especially those who plant commercial tree species such as falcata, Brazilian fire tree, and Gmelina. Unfortunately, they cannot cut and sell or even utilize it to build and establish their houses due to a lack of cutting guidelines. People will conserve biodiversity, reduce deforestation and manage forests sustainably when they derive regular benefits from them and are empowered to participate in decision-making processes regarding those forests (Atkinson et al., 2013).

These issues trigger disappointments which lead to non-participation of other forest occupants, which affects the implementation of any reforestation programs in the next succeeding years. The current NGP program is not clear on the direct benefits to the communities, except on the short-term contracts, especially in untenured areas. To encourage communities to protect the plantations, future NGP interventions should include in their design socio-economic incentives to ensure the sustainability of reforested areas. Incentives can take the form of harvesting rights and livelihood support in the interim (Cororaton et al., 2016). The participants suggested that the government should immediately fix and find an alternative to resolve the issue to sustain the program's implementation. The solution is to issue a tenurial instrument among the forest occupants to recognize their rights, grant them to harvest the commercial trees planted under the national greening program, and give them the privilege to develop, manage, and conserve their areas in the forestlands areas.

Lack of guidelines on incentive systems. Aside from harvesting issues, participating agencies and stakeholders have no policies on incentive schemes regarding the program's implementation. Currently, the agencies have different approaches to recognizing groups and individuals who participated in the program. Unfortunately, those recognitions are not regularly implemented. The collective action of community members to implement project activities was very high when a direct financial benefit was provided. Activities such as seedling production, site preparation, and plantation establishment and maintenance encouraged high levels of participation when wages were provided immediately after the completion of tasks. Financial incentives and food security become primary drivers of participation. It has also demonstrated the importance of adequate social preparation, strong leadership, land tenure security, supportive policy, and good governance in promoting a successful community-based forest

restoration project (Gregorio & Kapadia, 2018).

For instance, the DENR only searched best implementing CENROs and POs in 2016. At that time, the DENR awarded the partner People's Organizations with a certain amount for following guidelines and properly undertaking the activities relative to the program. In addition, some of the DENR personnel were awarded the Performer of the year for supervising the program. It means that different agencies independently perform the mode of recognizing efforts. The participants suggested that for the higher offices and committees involved in crafting the implementation of national development projects, there should be a uniformity of guidelines and policies (National and Local) among agencies and POs regarding incentive mechanisms in participating in NGP and other development and reforestation programs.

Marketability of harvested products. Unfortunately, even those NGP beneficiaries who established their forest plantations in the tenured areas are also experiencing problems with harvesting, but this time, on the marketability of their products. The tree planting production process is considered risky. One form of production risk is price risk, particularly the high and fluctuating costs of production inputs due to inflation and limited supply (Israel & Lintang, 2013). Suddenly, prices nowadays fluctuate and unstable. As a result, beneficiaries are frustrated because they think they were scammed by the government. During the planning stage, DENR personnel convince the beneficiaries to plant trees to be successful once they take care of the trees. Accordingly, they are trapped by false promises, and they are being maneuvered to participate in the program.

Participants suggested tapping other agencies and asking for program support, such as the Department of Trade and Industry and other companies like PhilFida, and the Philippine Crop Insurance Corporation (PCIC). They inked a Memorandum of Agreement (MOA) with government funding institutions like the Development Bank of the Philippines (DBP) Tree Plantation Financing Program to ensure that during the harvesting period, the products will be sold at a considerable price. People will conserve biodiversity, reduce deforestation and manage forests sustainably when they derive regular benefits from them and are empowered to participate in decision-making processes regarding those forests (Atkinson et al., 2013).

D. Monitoring and Management of Database

As illustrated in figure 5, the top 3 issues encountered in the implementation of monitoring and management of the database in the implementation of the

National Greening Program in the province of Bukidnon include; First is the lack of logistics and equipment. Second is the manpower constraints, and lastly, unpredictable weather conditions.

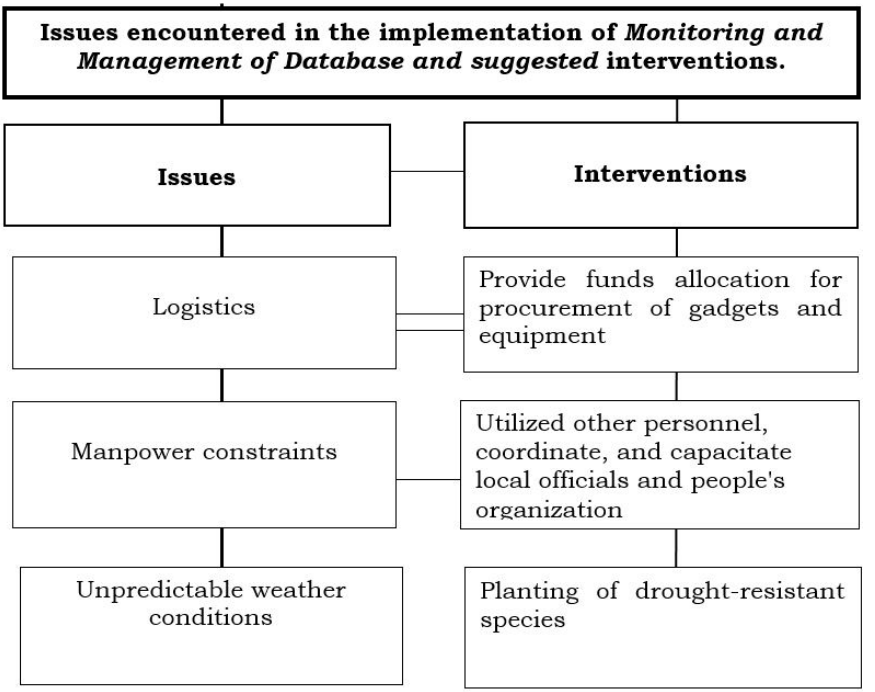

Figure 5. Issues encountered in the implementation of National Greening Program in terms of Monitoring and Management of Database and suggested interventions.

Logistics. One of the requirements in implementing NGP is to ensure that its goals and objectives, particularly on attaining more than 85 percent survival rate of planted seedlings, were achieved. To determine the performance of NGP, extension officers and People's Organizations were tasked to conduct and submit comprehensive site development and geotag pictures of all established NGP sites. However, due to voluminous targets, monitoring and evaluation were an uphill battle, especially those projects that are located in remote areas. Monitoring teams, extension officers, and People's Organizations experience quality and durability issue on their gadgets that results in overlapping of maps and polygons of different projects, including the National Greening Program implemented in the other areas, thus, affecting the completion of their targets and submission

of reports on time. Balangue (2016) observed that no funds were intended and allocated for logistic support for traveling and the welfare of CENRO Extension Officers. No proper protocols for monitoring by extension officers. Most of the monitoring activities were conducted by extension officers from CENRO. No other agencies were involved.

Manpower constraints. This issue is attributed to area coverage, re-assignments, and constant leadership change. Limited manpower and financial resources of the DENR, including monitoring and enforcement, were perceived as a severe problem in all the areas covered by the study (Mosqueda, 2012). Participants mentioned that there are only ten extension officers who supervise about 25,000 hectares of forest plantations. Accordingly, it affects the performance and efficiency of the project, considering that some of them do not have enough time to visit and provide technical assistance to their POs. The said issue leads to a shortage of target land area to be planted and survival rates of seedlings caused by not following proper spacing and planting techniques by POs due to limited presence and minimal supervision of forest extension officers.

Participants also postulate that they were also tapped as reinforcement in apprehending illegal forest activities, which they considered dangerous on their part, especially since they are exposed and known to the community. The participants suggested including forest rangers in the implementation of the National Greening Program, including forest technicians and other personnel of the DENR who are handling field positions. Due to consistent changes of leadership and re-assignments of field personnel, monitoring, and evaluation of the status and performance of NGP were also affected. The participants suggested that considering that re-assignments are part of the routine of the national government to its heads of offices, every People's Organization has its monitoring team who is familiar with every site. Whenever re-assignments occur, they can easily guide the newly assigned personnel.

Unpredictable weather conditions. Accordingly, considering that the DENR is fast raking the accomplishments of all NGP activities, they were forced to plant those trees even when the weather was not favorable. Another issue identified in the implementation of the National Greening Program is conflicting land claims and unfavorable weather conditions, which support the claims of Israel et al. (2013). One recommendation for the project to effectively be implemented is to introduce the site-based water system to serve the requirement of the plantations during the dry season (Balangue, 2016).

CONCLUSIONS

Based on the highlighted results and findings of the study, the following conclusions were drawn: The stakeholders have performed their roles and responsibilities under the 4 NGP strategies but some activities were implemented to some extent only. Issues encountered by the stakeholders vary by different strategies and activities. Interventions formulated are mechanisms to overcome issues. Despite the presence of the 4 strategies, the participants encountered issues that affects the implementation of the National Greening Program in the Province of Bukidnon.

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