



Department of Environment and Natural Resources
Ecosystems Research and Development Bureau

MAY 25 2022



MEMORANDUM

FOR : The Regional Executive Director
DENR Region 6

FROM : The Directors
Forest Management Bureau
Ecosystems Research and Development Bureau

SUBJECT : **RESULTS OF THE MONITORING AND EVALUATION OF
CLONAL NURSERIES AND SEED SOURCES AREA IN
REGION 6**

This pertains to the conducted Monitoring and Evaluation (M&E) of the turned-over clonal nurseries and seed source areas, and clonal nurseries in Aklan State University (ASU), Guimaras State College (GSC) and Iloilo Science and Technology University (ISATU) in Region 6. The activity was undertaken by a joint ERDB-FMB Team on 18-22 April 2022.

Relative thereto, please be informed of the following findings and recommendations based on the result of the M&E activities, to wit:

Jawili, Tangalan, Aklan Clonal Nursery

1. The clonal nursery and its facilities are operational. Non-mist propagation method is being used in the production of planting materials. Some facilities such as clonal nursery building (laboratory, processing area) and recovery area were damaged by typhoon Ursula. Due to limited funds, repair/rehabilitation of the said facilities was not yet undertaken.
2. The sources of their cuttings are identified trees in the vicinities of clonal nursery. Only few species were planted in the hedge garden. Accordingly, these were not enough to supply the target production, thus, the collection of planting materials in their identified sources.
3. A total of 21,002 cloned seedlings were delivered in Jawili, Tangalan, Aklan from September 2021 to January 2022.
4. The target planting materials to be produced for CY 2022 is 20,000, which are accordingly allotted for CY 2023 plantation. The target plantation is not yet identified.
5. As of March 15, 2022, the clonal nursery has commenced their production and initially planted 1,876 stem cuttings of the following species which are still in the rooting chambers/rooting stage. The rooting hormone applied is ANAA.

Narra (*Pterocarpus indicus*) – 1,392

Tuai (*Bischofia javanica*) – 94
 Pagsahingin (*Canarium asperum*) – 13
 Philippine Teak (*Tectona philippinensis*) – 214
 Badlan (*Radermachera pinnata*) - 163

6. Hi-Q VAM 1 is not being applied in the planting materials produced since the last delivery in the clonal nursery was in CY 2014. According to PENRO, Aklan, delivered Hi-Q VAM 1 are currently in the MMFN.
7. The following are recommended based on the observations in the operations of the clonal nursery:
 - a. Observe proper procedures on the preparation of stem cuttings (i.e. use of juvenile cuttings, trimming of cuttings into 2-3 nodes, cutting of leaves, sterilization in fungicide solution).
 - b. Use of appropriate rooting media (i.e. non-mist propagation system – 1:1 ratio of sterilized fine river sand and coconut coir dust/carbonated rice hull; mist propagation system – layer of rocks/gravel, fine net, fine river sand).
 - c. Improvement and proper maintenance of hedge garden. Include species recommended and suitable for reforestation project as well as those that are acceptable to the community/project beneficiaries, and indigenous forest tree species found in the locality.
 - d. Repair and maintenance of facilities and additional manpower (if funds are available).
 - e. Proper selection of species to be produced for CY 2023 site (i.e. indigenous forest tree species suitable in the site). In the event that the target site for plantation establishment is a Protected Area, its profile should be reviewed to identify forest tree species in the area which may be recommended for seedling production and planting.
 - f. Verification of species identification particularly Philippine Teak. According to the inventory documents, the clonal nursery is propagating *Tectona philippinensis*, a species endemic to Lobo, Batangas and Mindoro. However, actual observation revealed that it is *Tectona grandis*, which is an exotic species.
 - g. Allocation of Hi-Q VAM 1 for use in the clonal nursery.

Barotac Nuevo, Iloilo Clonal Nursery

1. The clonal nursery in Barotac Nuevo is operational and produces 11 species of planting materials including Lipote, Philippine Ash, Banilad, Bignai, and Saplungan, among others. As of April 8, 2022, a total of 27,301 cloned planting materials were produced by the clonal nursery.
2. Issues raised regarding the facilities are as follows:
 - a. The bio-composting facility, tissue culture laboratory, and seed storage area of the clonal nursery is currently not operational.
 - b. Some of the misting nozzles of the mist rooting area are clogged and need to be replaced.
 - c. Soil and materials used for cloning are not completely sterilized resulting in the observed formation of molds and other fungus in the planting media.
 - d. Although the hedge garden is still functional, replacement of parent plants of some species needs to be done as some of these are overgrown and over-harvested. Species shall be clustered into strips per species.

3. In terms of documents, no implementation plan was presented to the M&E team, hence counter-checking of targets and accomplishments were not carried out to measure efficiency.
4. Accordingly, the staff of the clonal nursery needs further training particularly hands-on training on the operationalization of the clonal nursery.

Aklan State University Clonal Nursery

1. The clonal nursery and its facilities are currently being used for seedling production through seeds of fruit trees and some indigenous forest tree species which include the following: Lanzones, Cacao, Coffee, Rambutan, Palawan Cherry, Bignai, Tipugo, Passion Fruit, Marang, Batuan, Agosip. Accordingly, these species are those that are acceptable to Aklan communities.
2. There were no production of seedlings through cloning due to lack of budget/no fund allotment.
3. Current operations and maintenance activities of the clonal nursery is being undertaken by one laborer/nursery staff and the clonal nursery in-charge. The mist system is still operational. Most of the species planted in the hedge garden are overgrown.
4. The clonal nursery serves as educational and research facilities of ASU students and communities visiting the university. Relevant researches and technologies were being imparted to the communities of Aklan. However, students were not able to conduct research activities during the pandemic due to COVID-19 restrictions.
5. Since the MOA with SUCs has long been terminated, it is recommended to discuss future plans/ways forward on the operations and management of SUC clonal nurseries considering the said facilities are under the DENR property.

Guimaras State College Clonal Nursery

1. The clonal facilities are still operational, however, some facilities needed repair such as the rain collector, and recovery area. In the meantime, improvised repair was done to the facilities while waiting for the actual repair.
2. Cloning of forest trees is still on-going despite the pandemic, but is limited to cloning of several species by students for their thesis. After repairs, production of indigenous forest tree species will continue.

Iloilo Science and Technology University Clonal Nursery

1. The clonal nursery is currently used to raise and clone agricultural crops such as dragon fruit, cacao, coffee, etc. The clonal nursery is also being used by the students, while the maintenance cost is currently supported by the university.
2. Prior to the pandemic, production of indigenous tree species was also done; however, there are currently no requests for the produced cloned planting materials, hence it is overgrown in the nursery. Accordingly, the overgrown seedlings will be used for tree planting in May.
3. One of the issues raised is the lack of budget after the MOA between DENR and SUCs due to lack of proper turn-over of the clonal nursery to the SUCs. Accordingly, they cannot include the clonal nursery in their budget due to implementing regulations. As such, it is requested that proper turn-over to the SUCs be done to address this problem.

Seed Production Area (SPA), Ibajay, Aklan

1. The Beach Agocho SPA is well-maintained and managed. Regular monitoring and patrolling activities were accordingly being conducted by the SPA coordinators, hired laborer and partner People's Organization – Bugtongbato Fisherfolk Association.
2. Seeds collected were not yet being used for NGP. Collected seeds in 2021 were submitted to Visayas Forest Tree Seed Center (VFTSC) in Cebu City and were subjected to seed germination and health testing.
3. Twenty Plus Trees (PTs) (5% of the total PTs) were located and assessed, and revealed the following observations:
 - a. A plus tree (PT-364) was damaged and felled due to butt rot and termite infestation. A replacement tree was already identified and assessed, and falls within 2.5 average grade which is highly acceptable.
 - b. External defect forming callus and presence of termites were observed in PT-068. Twisted branch was also noted which was accordingly brought by typhoon.
 - c. Presence termites were also seen in other PTs with tag numbers PT-282 and PT-129.
 - d. The roots of PT-366 are exposed being situated along water gully.
 - e. The 20 PTs assessed falls within 2.5 to 3.0 average grade which are highly acceptable.
4. The following are recommended based on the observations in the operations of the SPA:
 - a. Hypertrophic symptoms (sarcody) were observed in some PTs, hence, appropriate tagging of trees were suggested (use of paint/signage post).
 - b. Proper labelling of replacement PT/s.
 - c. Conduct of seed tree assessment to include updating of GPS coordinates of PTs.

Seed Source Area (SSA), Nueva Valencia, Guimaras

1. The SSA is 20ha and is composed of four (4) mangrove species namely Bakauan Babae, Bakauan Lalaki, Bungalon, and Pagatpat. A total of 1,100 plus trees were identified. A partnership with two Peoples Organization (PO), La Paz Fisherfolks Aquatic Resources Mangrove Management Association (LAFARMA), Inc. and San Roque Coastal Environment Program Association (SARCEPA), Inc., was done to aid in the management of the SSA in TINMR.
2. Overall, proper management and operation of the SSA was observed. All activities were complete and properly documented.
3. The PO members are well-capacitated with several trainings in the management and maintenance of the IPT area particularly in mangrove areas.
4. Several corrective actions were recommended for the improvement of the management in the area which include the following:
 - a. Replacement of signage and tree tags to more durable materials.
 - b. Replacement of damaged IPTs due to typhoon Odette, though it was reminded that it is not a priority since the area has over 800 (minimum number of IPTs) plus trees identified.
 - c. Replacement of IPTs that are closely located to each other to ensure the genetic diversity of propagules that are collected since trees in mangroves that are close to each other are usually genetically related.

Relative thereto, please be guided with the aforementioned findings and recommendations to improve and/or strengthen the operations and management of your clonal nursery and seed source areas. In case technical assistance relevant to clonal and seed sources operations are needed, kindly inform this Office for the necessary process and documentation.

For information and consideration.

A stylized signature in black ink, consisting of a horizontal line with a large, sweeping loop above it.

TIRSO P. PARIAN, JR., CESO IV
Director, FMB

A cursive signature in black ink, with the first letters of the first and last names being capitalized and prominent.

MARIA LOURDES G. FERRER, CESO III
Director, ERDB



Department of Environment and Natural Resources
Ecosystems Research and Development Bureau

MAY 25 2022

MEMORANDUM

FOR : The Director
Forest Management Bureau

FROM : The Director

SUBJECT : **RESULTS OF THE MONITORING AND EVALUATION OF
CLONAL NURSERIES AND SEED SOURCE AREAS IN
REGION 6**



This pertains to the conducted Monitoring and Evaluation (M&E) of the turned-over clonal nurseries and seed source areas, and clonal nurseries in Aklan State University (ASU), Guimaras State College (GSC) and Iloilo Science and Technology University (ISATU) in Region 6. The activity was undertaken by teams composed of staff from ERDB and FMB on 18-22 April 2022. The teams were joined and assisted by DENR Region 6 NGP Coordinator and staff from the concerned PENROs. Relevant documents such as Work and Financial Plan, Accomplishment Reports, Seed Tree Assessment Form, among others, were presented and made available.

Relative thereto, we are furnishing you copy of the results of the conducted M&E in the aforementioned clonal nurseries and seed source areas. Please be informed that herein findings and recommendations were initially discussed with the concerned DENR Region 6 and concerned PENROs during the conducted exit conference. Nevertheless, the results of the activity and corresponding recommendations are suggested to be conveyed to the concerned DENR Regional Office, hence, attached is the draft memorandum to the said office for your information and concurrence.

For information and consideration, please.


MARIA LOURDES G. FERRER, CESO III

MONITORING AND EVALUATION REPORT

REGION VI

Date of Travel: April 18-22, 2022

Place of Travel: Guimaras and Iloilo, Region 6

Purpose:

- To conduct periodic monitoring and evaluation of seed source areas and turned-over clonal nursery of field offices
- To collect updates on the status of clonal nurseries in Guimaras State College and Iloilo Science and Technology University

Highlights of Activity

The undersigned personnel conducted periodic monitoring and evaluation of the seed source area in Nueva Valencia, Guimaras, and turned-over clonal nursery in Barotac Nuevo, Iloilo on April 18 to 22, 2022. Upon arrival, the team was met by the Assistant NGP Regional Coordinator Ms. Aileen Mendes, and Mr. Albert Liaver from the DENR-Region VI Office to assist the team throughout the duration of the activity. Thereafter, the team conducted a courtesy call with the Regional Executive Director, Sir Livino Duran to discuss the purpose and itinerary of the activity.

Clonal Nursery in Barotac Nuevo, Iloilo

The team then proceeded to PENRO Iloilo, where the team was met by PENRO Salvador Manglinong, CENRO Glenn Del Norte, and Ms. Elma Eusoya, PENRO Iloilo NGP Coordinator, to discuss that the team will conduct M&E activity of the clonal nursery in Barotac Nuevo. After the discussion, the team proceeded to visit the clonal nursery in Barotac Nuevo, Iloilo where they were met by CDS Chief, Ms. Prescilla Gallego and Clonal Nursery Focal Person, Ms. May G. Leysa. The clonal nursery in Barotac Nuevo is operational and produces 11 species of planting materials including Lipote, Philippine Ash, Banilad, Bignai, and Saplungan, among others. As of April 8, 2022, a total of 27,301 cloned planting materials were produced by the clonal nursery.

However, several issues regarding the facilities were raised. The bio-composting facility, tissue culture laboratory, and seed storage area of the clonal nursery is currently not operational. Some of the misting nozzles of the mist rooting area are clogged and need to be replaced. Soil and materials used for cloning are not completely sterilized resulting in the observed formation of molds and other fungus in the planting media. Lastly, although the hedge garden is still functional, replacement of parent plants of some species needs to be done as some of these are overgrown and over-harvested. Species shall be clustered into strips per species.

In terms of documents, no implementation plan was presented to the M&E team, hence counter-checking of targets and accomplishments were not carried out to measure efficiency. It was also pointed out by Ms. Leysa that the staff of the clonal nursery needs further training

particularly hands-on training on the operationalization of the clonal nursery. To complete the M&E activity, the team discussed the findings to the clonal nursery staff and gave recommendations to improve the operationalization of the clonal nursery.

Seed Source Area in Nueva Valencia, Guimaras

Upon arrival in PENRO Guimaras, the team was met by the NGP focal Person, Ms. Leonora Magno. She is also responsible for the management of the SSA in Guimaras. The IPT area in Guimaras is situated in Taklong Island National Marine Reserve (TINMR), located in Brgy San Roque and Lapaz, Nueva Valencia, Guimaras. The SSA is 20ha and is composed of four (4) mangrove species namely Bakauan Babae, Bakauan Lalaki, Bungalon, and Pagatpat. A total of 1100 plus trees were identified. A partnership with two Peoples Organization (PO), La Paz Fisherfolks Aquatic Resources Mangrove Management Association (LAFARMA), Inc. and San Roque Coastal Environment Program Association (SARCEPA), Inc., was done to aid in the management of the SSA in TINMR. Overall, proper management and operation of the SSA was observed. All activities were complete and properly documented. The PO members are well-capacitated with several trainings in the management and maintenance of the IPT area particularly in mangrove areas. Since the area is mangrove, the management of PENRO Guimaras had acquired a pump boat to facilitate the activities done in the area.

Several corrective actions were recommended for the improvement of the management in the area, including replacement of signage and tree tags to more durable materials. Replacement of damaged IPTs due to typhoon Odette were also recommended, though it was reminded that it is not a priority since the area has over 800 (minimum number of IPTs) plus trees identified. Replacement of IPTs that are closely located to each other was also recommended. This is to ensure the genetic diversity of propagules that are collected since trees in mangroves that are close to each other are usually genetically related.

Clonal Nursery of SUCs

The team was also tasked to gather information regarding the status of clonal nurseries established in SUCs. Two SUCs namely the Guimaras State College (Baterno Campus) and Iloilo Science and Technology University (Leon Campus) were visited. The clonal facilities in both SUCs are still operational, but primarily used for research of students.

In Guimaras State College, the team was met by College Dean and Campus Director, Mr. Julius Vegara. He discussed with the team the current status of the clonal nursery. The clonal facilities are still operational, however, some facilities needed repair such as the rain collector, and recovery area. In the meantime, improvised repair was done to the facilities while waiting for the actual repair. Cloning of forest trees is still on-going despite the pandemic, but is limited to cloning of several species by students for their thesis. After repairs, production of indigenous forest tree species will continue.

In Iloilo Science and Technology University, the team was met by Campus administrator, Dr. Julito C. Aligaen, and Clonal Focal Person, Mr. Gerald Zaragoza. They discussed the status of the clonal nursery with the team. Currently, the clonal nursery is used to raise and clone agricultural

crops such as dragon fruit, cacao, coffee, etc. The clonal nursery is also being used by the students, while the maintenance cost is currently supported by the university. Prior to the pandemic, production of indigenous tree species was also done; however, there are currently no requests for the produced cloned planting materials, hence it is overgrown in the nursery. The team was informed that the overgrown seedlings will be used for tree planting in May. Several issues were raised during the site visit. One of which is regarding the lack of budget after the MOA. It was raised that this was due to the lack of a proper turn-over of the clonal nursery to the SUCs, since they cannot include the clonal nursery in their budget due to implementing regulations. As such, it is requested that proper turn-over to the SUCs be done to address this problem.

At the end of the activity, an exit conference with DENR Region VI office was conducted to present and discuss the findings and recommendations of the team. The exit conference was attended by ARD for Special Concerns, Mr. Ivane Reyes, and NGP Regional Coordinator, Sir Fred Canto.

Photodocumentation



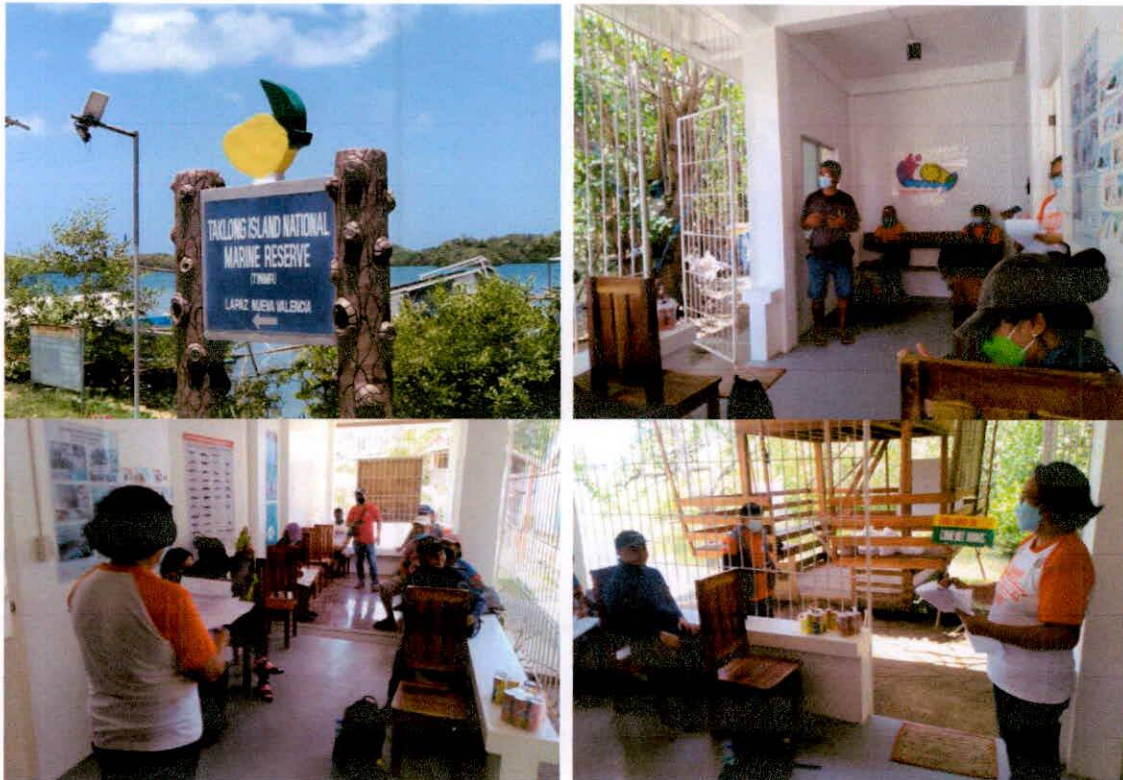
Courtesy call with the RED Livino Duran (left) and PENRO Salvador Manglinong Jr. (right)



Courtesy call with the Ms. Prescilla Gallago (Chief CDS) and gathering of reports and documents regarding the operation of the clonal nursery



Monitoring and Evaluation activity of the clonal facilities in Barotac Nuevo, Iloilo



Orientation of the team by ma'am Leonora Magno and partner POs LAFARMA and SARCEPA regarding the SSA prior to the site visitation.



Monitoring and Evaluation activity of the SSA in TINMR. It was observed that there is a seasonal infestation of aphids in the area (only during dry season). However, the trees are observed to be resilient to the infestation and is not a cause for concern.



Aerial photo of the Seed Source Area in Guimaras (TINMR)



Discussion of the findings and recommendations of the team regarding the SSA of PENRO Guimaras



Site visitation to gather information regarding the status of the established clonal nursery in Guimaras State College (Baterno Campus)




Site visitation to gather information regarding the status of the established clonal nursery in Iloilo Science and Technology University



Exit conference to discuss the results of the M&E activity done in the clonal nursery in Barotac Nuevo, Iloilo and SSA in Nueva Valencia, Guimaras with ARD Ivne Reye,s and NGP Coordinator Fred Canto

Submitted by:

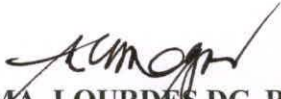

FAITH ANNE A. MANARIN
Science Research Analyst


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Science Research Technician II


ROVIDEL A. ESPIRITU
Science Research Technician II


HANNAH GISELLE P. RICO
Project Development Officer

Noted by:


MA. LOURDES DC. REYES
Focal Person, FERD-ENGP

Concurred by:


FLORITA E. SIAPNO
OIC-Chief, FERD



Department of Environment and Natural Resources
Ecosystems Research and Development Bureau

25 April 2022

MEMORANDUM

FOR : The OIC-Chief, FERD
The ANC, eNGP

FROM : The Monitoring and Evaluation Team

SUBJECT : **SUBMISSION OF REPORT ON THE MONITORING AND EVALUATION OF CLONAL NURSERIES AND SEED PRODUCTION AREA IN REGION 6, AKLAN PROVINCE**

Respectfully submitting herewith is the report of the undersigned on the conducted Monitoring and Evaluation (M&E) of clonal nursery in Aklan State University (ASU) and turned-over clonal nursery and seed production area in Region 6 on 18-22 April 2022. Said turned-over facilities are under the management and supervision of PENRO, Aklan. The M&E team is composed of ERDB and FMB staff.

Please be informed that the activity was done with DENR Region 6 NGP Coordinator Wilfredo P. Canto and PENRO, Aklan clonal nursery and seed sources focal person and staff, Ms. Cecile D. Poblador and Mr. Niel Funtilon. Relevant documents such as Work and Financial Plan, Accomplishment Reports, Seed Tree Assessment Form, among others, were presented and made available. During the M&E activity in ASU, the team met the clonal nursery in-charge, Dr. Rogelio Felizardo. The following are the findings and recommendations of the team:

Aklan State University Clonal Nursery

1. The clonal nursery and its facilities are currently being used for seedling production through seeds of fruit trees and some indigenous forest tree species which include the following: Lanzones, Cacao, Coffee, Rambutan, Palawan Cherry, Bignai, Tipugo, Passion Fruit, Marang, Batuan, Agosip. Accordingly, these species are those that are acceptable to Aklan communities.
2. There were no production of seedlings through cloning due to lack of budget/no fund allotment.
3. Current operations and maintenance activities of the clonal nursery is being undertaken by one laborer/nursery staff and the clonal nursery in-charge. The mist system is still operational. Most of the species planted in the hedge garden are overgrown.
4. The clonal nursery serves as educational and research facilities of ASU students and communities visiting the university. Relevant researches and technologies were being imparted to the communities of Aklan. However, students were not able to conduct research activities during the pandemic due to COVID-19 restrictions.

5. Since the MOA with SUCs has long been terminated, it is recommended to discuss future plans/ways forward on the operations and management of SUC clonal nurseries considering the said facilities are under the DENR property.

Jawili, Tangalan, Aklan Clonal Facility

1. The clonal nursery and its facilities are operational. Non-mist propagation method is being used in the production of planting materials. Some facilities such as clonal nursery building (laboratory, processing area) and recovery area were damaged by typhoon Ursula. Due to limited funds, repair/rehabilitation of the said facilities was not yet undertaken.
2. The sources of their cuttings are identified trees in the vicinities of clonal nursery. Only few species were planted in the hedge garden. Accordingly, these were not enough to supply the target production, thus, the collection of planting materials in their identified sources.
3. A total of 21,002 cloned seedlings were delivered in Jawili, Tangalan, Aklan from September 2021 to January 2022.
4. The target planting materials to be produced for CY 2022 is 20,000, which are accordingly allotted for CY 2023 plantation. The target plantation is not yet identified.
5. As of March 15, 2022, the clonal nursery has commenced their production and initially planted 1,876 stem cuttings of the following species which are still in the rooting chambers/rooting stage. The rooting hormone applied is ANAA.
 - Narra (*Pterocarpus indicus*) – 1,392
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 - Pagsahingin (*Canarium asperum*) – 13
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6. Hi-Q VAM 1 is not being applied in the planting materials produced since the last delivery was in CY 2014. According to PENRO, Aklan, delivered Hi-Q VAM 1 are currently in the MMFN.
7. The following are recommended based on the observations in the operations of the clonal nursery:
 - a. Observe proper procedures on the preparation of stem cuttings (i.e. use of juvenile cuttings, trimming of cuttings into 2-3 nodes, cutting of leaves, sterilization in fungicide solution).
 - b. Use of appropriate rooting media (i.e. non-mist propagation system – 1:1 ratio of sterilized fine river sand and coconut coir dust/carbonated rice hull; mist propagation system – layer of rocks/gravel, fine net, fine river sand).
 - c. Improvement and proper maintenance of hedge garden. Include species recommended and suitable for reforestation project as well as those that are acceptable to the community/project beneficiaries, and indigenous forest tree species found in the locality.
 - d. Repair and maintenance of facilities and additional manpower (if funds are available).
 - e. Proper selection of species to be produced for CY 2023 site (i.e. indigenous forest tree species suitable in the site). In the event that the target site for plantation establishment is a Protected Area, its profile should be reviewed to identify forest tree species in the area which may be recommended for seedling production and planting.
 - f. Verification of species identification particularly Philippine Teak. According to the inventory documents, the clonal nursery is propagating *Tectona philippinensis*,

- a species endemic to Lobo, Batangas and Mindoro. However, actual observation revealed that it is *Tectona grandis*, which is an exotic species.
- g. Allocation of Hi-Q VAM 1 for use in the clonal nursery.

Seed Production Area (SPA), Ibajay, Aklan

1. The Beach Agocho SPA is well-maintained and managed. Regular monitoring and patrolling activities were accordingly being conducted by the SPA coordinators, hired laborer and partner People's Organization – Bugtongbato Fisherfolk Association.
2. Seeds collected were not yet being used for NGP. Collected seeds in 2021 were submitted to Visayas Forest Tree Seed Center (VFTSC) in Cebu City and were subjected to seed germination and health testing.
3. Twenty Plus Trees (PTs) (5% of the total PTs) were located and assessed, and revealed the following observations:
 - a. A plus tree (PT-364) was damaged and felled due to butt rot and termite infestation. A replacement tree was already identified and assessed, and falls within 2.5 average grade which is highly acceptable.
 - b. External defect forming callus and presence of termites were observed in PT-068. Twisted branch was also noted which was accordingly brought by typhoon.
 - c. Presence termites were also seen in other PTs with tag numbers PT-282 and PT-129.
 - d. The roots of PT-366 are exposed being situated along water gully.
 - e. The 20 PTs assessed falls within 2.5 to 3.0 average grade which are highly acceptable.
4. The following are recommended based on the observations in the operations of the SPA:
 - a. Hypertrophic symptoms (sarcody) were observed in some PTs, hence, appropriate tagging of trees were suggested (use of paint/signage post).
 - b. Proper labelling of replacement PT/s.
 - c. Conduct of seed tree assessment to include updating of GPS coordinates of PTs.

In addition, the techniques and methods used by ERDB were conveyed to improve their clonal operations. The PENRO staff has also signified the need for technical assistance on clonal propagation and SPA. Thus, they were advised to send a memorandum to ERDB requesting such activity.

The aforementioned findings and recommendations were discussed with the concerned staff and focal persons during the exit conference. Nonetheless, it is still suggested to furnish the concerned DENR Regional Office of herein findings and recommendations, hence, attached is the draft memorandum to the said office for review/comments. Also attached are the accomplished monitoring forms and photo-documentation.

For information and further instructions, please.


DAVID CARLO B. BALANE
Science Research Technician I


HAIZEL ROSE S. ARCILLAS
Science Research Technician II


MA. KRISTINA P. ORPIA
Science Research Specialist II


JOHN PAUL ACEBUCHE
NGP Coordinator-Region 8, FMB

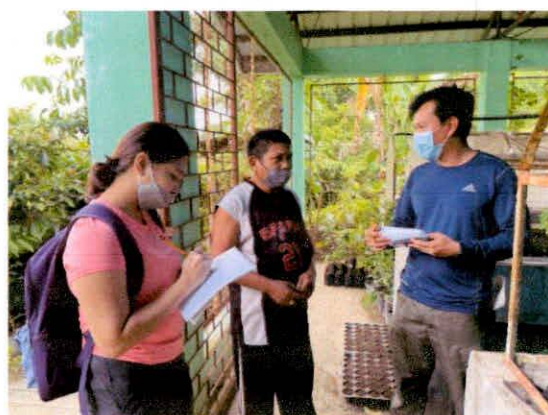
Photo-documentation of M&E in Aklan State University



Clonal nursery of Aklan State University (ASU).



Seedling production (through seeds) of ASU.



The M&E team during interview with nursery labourer of ASU.



Dr. Felizardo showing the recovery area to the M&E team.



Hedge garden of ASU.

Photo-documentation of M&E in Jawili, Aklan Clonal Nursery



Clonal production in Jawili nursery using non-mist propagation system. Cuttings used are matured and have woody stems.

Some of the clonal facilities.



Potting area and potting mix.



Hedge garden and recovery area.



Some of the cuttings in the recovery area.

Initially identified as Philippine Teak, but needs verification. Identification of the team is Teak (*Tectona grandis*).

Photo-documentation of M&E in Beach Agoho Seed Production Area



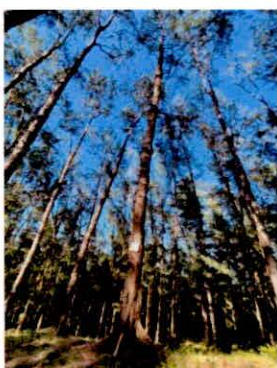
Entrance and portion of Beach Agoho SPA.



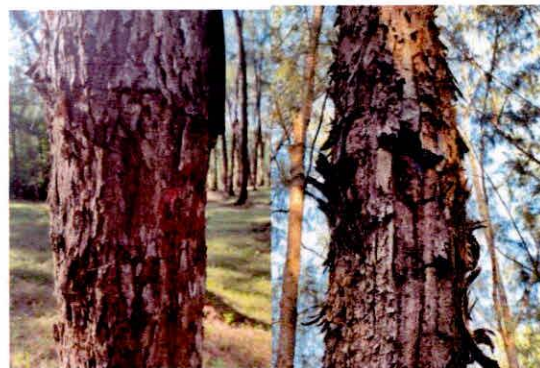
Exposed roots of one plus tree.



Damaged and felled PT-364.



PTs located and assessed.



Observed presence of termites in some PTs.



M&E team during seed tree assessment.