



**DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
KAGAWARAN NG KAPALIGIRAN AT LIKAS NA YAMAN**



**MEMORANDUM**

**FOR/TO :** Assistant Secretary, Legal Affairs and Enforcement  
Director, Knowledge and Information Systems Service  
Director, Climate Change Service  
Director, Foreign-Assisted and Special Projects Service  
Director, Strategic Communication and Initiatives Service  
Director, Biodiversity Management Bureau  
Director, Ecosystems Research and Development Bureau  
Director, Environmental Management Bureau  
Director, Land Management Bureau  
Director, Mines and Geosciences Bureau  
Executive Director, National Water Resources Board  
Chief of Staff/HEA, Office of the Undersecretary for Legal and Administration  
Chief of Staff/HEA, Office of the Undersecretary for Finance, Information Systems and Climate Change  
Chief of Staff/HEA, Office of the Undersecretary Policy, Planning and International Affairs  
Chief of Staff/HEA, Office of the Undersecretary for Field Operations (FO) - Luzon, Visayas, MGB and EMB  
Chief of Staff/HEA, Office of the Undersecretary for FO – Mindanao, MGB and EMB  
Chief of Staff/HEA, Office of the Undersecretary for Organizational Transformation and Human Resources  
Chief of Staff/HEA, Office of the Undersecretary for Integrated Environmental Science  
Chief of Staff/HEA, Office of the Undersecretary for Special Concerns and Legislative Affairs  
Chief of Staff/HEA, Office of the Supervising Undersecretary for Water Resources Management Office  
Chief of Staff/HEA, Office of the Assistant Secretary for Policy, Planning, International Affairs, and Climate Change  
Chief of Staff/HEA, Office of the Assistant Secretary for Legal Affairs  
Chief of Staff/HEA, Office of the Assistant Secretary for FO - Luzon and Visayas  
Chief of Staff/HEA, Office of the Assistant Secretary for FO – Eastern Mindanao  
Chief of Staff/HEA, Office of the Assistant Secretary for FO – Western Mindanao  
Chief of Staff/HEA, Geospatial Database Office  
Division Chief, PPS-Program Monitoring and Evaluation Division

**FROM :** Director, Policy and Planning Service

**MEMO NO.** 2024 – 924

**SUBJECT: REQUEST FOR CONCURRENCE/COMMENT ON THE REVISED  
DRAFT DENR ADMINISTRATIVE ORDER (DAO) RE:  
GUIDELINES ON THE INVENTORY OF STRUCTURES WITHIN  
FOREST LANDS**

**DATE : 18 OCT 2024**

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This refers to the Memorandum from the OIC- Assistant Secretary for Field Operations Mindanao and Director, in concurrent capacity, Forest Management Bureau (FMB) dated 04 October 2024, submitting the above-cited revised draft DAO which was subject of review during the PTWG Meeting No. 2024-10 held on 12 September 2024 at the OASB Conference Room. As agreed during the said meeting, the revised draft policy shall be circulated to the PTWG members for final vetting.

In this regard, may we request your concurrence or comments, if any on the revised draft policy. We will appreciate receiving your feedback on or before 19 October 2024. If we do not receive any response from you by the said deadline, we will consider this as your endorsement of the proposed policy.

We have attached a copy of the revised draft DAO, Summary of Agreements as well as the comparative matrix of revisions, for your reference.

For your consideration, please.

  
CHERYL LOISE T. LEAL, EnP.



DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
KAGAWARAN NG KAPALIGIRAN AT LIKAS YAMAN



Revised  
draft  
DATE

DENR Administrative Order  
No. 2024 - \_\_\_\_\_

**SUBJECT: GUIDELINES ON THE INVENTORY OF STRUCTURES WITHIN  
FOREST LANDS**

Pursuant to Presidential Decree (P.D.) No. 705, as amended, otherwise known as the "Revised Forestry Code of the Philippines", Executive Order (E.O.) No. 192, series of 1987, "Providing for the Reorganization of the Department of Environment, Energy and Natural Resources, renaming it as the Department of Environment and Natural Resources, and for Other Purposes", E.O. No. 263, series of 1995, "Adopting Community-Based Forest Management as the National Strategy to Ensure the Sustainable Development of the Country's Forestlands Resources and Providing Mechanisms for Its Implementation", R.A. No. 7586 as amended by R.A. No. 11038, known as the "Expanded National Integrated Protected Area System (ENIPAS) Act of 2018, R.A. No. 8371 known as the "The Indigenous Peoples' Rights Act (IPRA) of 1997, and other pertinent laws, rules, and regulations, the following guidelines and procedures on the inventory of structures in forest lands are hereby promulgated for the guidance and compliance of all concerned.

**SECTION 1. Basic Policy.** It is the policy of the state to ensure the sustainable use, management, protection, conservation, and enhancement of the country's environment and natural resources as well as to ensure equitable sharing of the benefits derived therefrom for the welfare of the present and future generations. Towards this end, the State shall pursue the development of the country's forest lands through the advancement of science and technology.

**SECTION 2. Objectives.** This Order aims to provide guidance for the conduct of inventory of structures within forest lands using geospatial technologies such as Geographic Information System and Remote Sensing; and in situ validation using offline data collection tools. Specifically, this Order aims to:

- 2.1 Systematically identify and document all existing structures within forest lands, including their type, size, and status to produce baseline data and information;
- 2.2 To integrate inventory data with Geographic Information Systems (GIS) and remote sensing technologies for better visualization, and analysis; and
- 2.3 Ensure that inventory findings are documented and reported transparently, facilitating informed decision-making.

**SECTION 3. Scope and Coverage.** This Order shall cover the inventory of all structures, both vertical and horizontal, within forest lands. It shall collect data on the

structure's type, status, the material used in construction, basis of occupation, the owner/ holder or any person responsible for the establishment of the structure, geographical location, and geotagged photos, among others.

**SECTION 4. Definition of Terms.** As used in, and for the purpose of this guidelines, the following terms and phrases shall be understood to mean:

- a. **Built-up areas** - refers to the areas classified as built-up under the land cover map of National Mapping and Resources Information Authority (NAMRIA). These areas are characterized by intensive use of the land covered with structures and developments. It includes cities, towns, villages, strip developments along highways, transportation, power, and communication facilities, and areas occupied by malls, shopping centers, etc. [DENR MC 2005-05]
- b. **Certificate of Ancestral Domain Title (CADT)** - refers to the areas covered by a title formally recognizing the rights of possession and ownership of Indigenous Cultural Communities/Indigenous Peoples (ICCs/IPs) over their ancestral domains identified and delineated in accordance with the IPRA law. [IPRA Law]
- c. **Certificate of Ancestral Lands Title (CALT)** - refers to a title formally recognizing the rights of ICCs/IPs over their ancestral lands. Any issued CALT shall be subject to the condition that the said ancestral land cannot be sold, disposed or destroyed except with respect to the ICCs/IPs' right to transfer land or their property rights to/among members of the same ICCs/IPs in accordance with their customary laws and traditions, as provided for under Section 8A of IPRA and its IRR.
- d. **Forestry Spatial Datasets (FSD)** - refers to the datasets being managed by the forestry sector such as but not limited to forestry tenurial instruments, national greening program sites, critical and proclaimed watersheds, potential investment areas, production and protection forests, illegal logging hotspots, apprehensions and/or seizures, Lawin forest conservation areas, cutting permits, etc. [DMC on FSD]
- e. **Forest Lands** - refer to the lands of the public domain which includes the public forest, the permanent forest or forest reserves, and forest reservations [Revised Forestry Code]. For the purpose of this Order, forest lands shall include unclassified public forests.
- f. **Geographic Information System (GIS)** - a system that creates, manages, analyzes, and maps all types of data. [ESRI]
- g. **Offline Data Collection Tool (ODCT)** - refers to data collection tools that are made freely available which can be distributed, modified and used without internet connection. [Definition from various sources] The ODCT referred to in this Order is ArcGIS Survey123.

- h. **Remotely Piloted Aircraft (RPA)** - refers to any unmanned aircraft which is piloted from a remote station. It is also synonymous with aerial drones and unmanned aerial vehicles (UAVs). This includes quadcopter, VTOL and other similar technologies. [FMB Technical Bulletin 35]
- i. **Regional FSD Management Team** - refers to the team in the Regional Offices responsible for the management, consolidation, and submission of FSD. In most cases, this is composed of the Regional GIS Focal/s.
- j. **Satellite imagery** - data collected by sensors on satellite platforms, typically of earth. Sensors can be both active and passive; satellite imagery often consists of multiple bands. The metadata includes characteristics such as sensor position and pointing geometry, sensor gain and bias, acquisition date and time, and associated data. [ESRI]
- k. **Structures<sup>1</sup>** - refers to any vertical and horizontal improvement or development, which are permanent or temporary, affixed to the land excluding plantations and reforestation projects.
  - j.1.) **Permanent Structure** - improvement or development which are permanently affixed to the land in a manner that these cannot be separated therefrom without damage thereto.
  - j.2.) **Temporary Structure** - improvement or development which can be removed without causing any damage to the land and to which the same has been attached.
- l. **Tenure** - guaranteed peaceful possession and use of specific forest and land area and the resources found therein, covered by an agreement, contract or grant which cannot be altered or abrogated without due process. [DAO 1996-29]
- m. **Tenure Compliance Monitoring** - refers to the monitoring and evaluation conducted by DENR personnel to ensure the adherence of the tenure holders in the terms and conditions stipulated in the agreement as well as monitoring and evaluation of the developments and improvements introduced in the area.
- n. **Tenured Forest Lands** - this refers to the forest land areas covered with forestry tenure instruments
- o. **Untenured Forest Lands** - refers to forest land areas which are outside CADT/CALT and tenured forest lands and are further classified into the following:
  - n.1. **Other land cover** - refers to the land classified as built-up, open/barren, shrubs, grassland, annual crop, marshland, mangrove forest, fishponds and inland water [land cover map of NAMRIA]

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<sup>1</sup> Based on the definition of 'Improvements' from DAO 2004-59

**n.2. Forest cover** - for the purpose of this DAO, this refers to land classified as closed and open forest [land cover map of NAMRIA]

**n.2.1 Open Forest** - These are formations with discontinuous tree layers with a coverage of at least 10 percent and less than 40 percent. [DENR MC 2005-05]

**n.2.2 Closed Forest** - These are formations where trees in the various storeys and the undergrowth cover a high proportion greater than or equal to 40 percent ( $\geq 40$  percent) of the ground and do not have a continuous dense grass layer. [DENR MC 2005-05]

**n.3. Perennial cropland** - refers to the land classified perennial by the land cover map of NAMRIA. Land cultivated with long term crops that do not have replanted for several years after each harvest; harvested components are not timber but fruits, latex and other products that do not significantly harm the growth of the planted trees or shrubs; orchards, vineyards etc. [DENR MC 2005-05]

**SECTION 5. Inventory of Structures within Forest Lands.** The inventory of structures within forest lands shall be conducted to determine and account for the number of existing structures within forest lands, the projection on how built-up areas progress in terms of expansion in the area per year, and the list of factors that may have contributed to the construction of built-up areas inside the forest.

**5.1. Location of Structures.** Structures within forest lands are classified into six (6) categories based on location:

- a. Untenured forest lands and within perennial croplands;
- b. Untenured forest lands with forest cover and 0-18% slope;
- c. Untenured forest lands with forest cover and above 18% slope;
- d. Untenured forest lands with other land cover types;
- e. Untenured forest lands and CADT/CALT areas; and
- f. Tenured forest lands.

**5.2. Initial Data Requirements.** The following are the minimum spatial data needed in the inventory of structures within forest lands:

- a. Forest land boundary using the legal land classification maps of the National Mapping and Resource Information Authority (NAMRIA);
- b. Unclassified public forests from NAMRIA;
- c. Forestry Tenure instruments from FMB and DENR Regional Offices;
- d. Latest land cover map from NAMRIA;
- e. Ancestral lands with Certificate of Ancestral Domain Title (CADT) /CALT from the National Commission on Indigenous Peoples;
- f. Land Administration and Management System (LAMS) data from the Land Management Bureau;
- g. Mining tenements from the Mines and Geosciences Bureau; and

- h. Legislated protected areas from the Biodiversity Management Bureau.

**5.3 Information on Collection Requirements.** The following are the minimum information required for the ground survey as shown in the survey questionnaire provided in the offline data collection tool.

- a. Name of Regional Jurisdiction
- b. Name of PENRO Jurisdiction
- c. Name of CENRO Jurisdiction
- d. Name of Congressional District
- e. Name of Municipality/City Jurisdiction
- f. Team Number
- g. Enumerator Code
- h. Methodology used in identifying structures (Satellite Imagery, ODCCT and/or drone survey, tenure compliance monitoring)
- i. Location of Structures provided in Section 5.1
- j. Type of structure (house, power lines, storage facility, etc.)
- k. Reference Year/Year Constructed
- l. Vertical height in terms of no. of floors
- m. Estimated area of the structures in square meters
- n. Type of material used in construction (brick, wood, mixed, etc)
- o. Structure's Use (e.g. abandoned, residential, commercial, residential and commercial, industrial, institutional)
- p. Geographical Location of the structure
- q. Classification of Structure (permanent, temporary)
- r. Name of owner or contact person
- s. Photo/Image of structure
- t. Other relevant information
- u. Basis of occupation and reference year (i.e. tax declaration, TCT, Business permit)
- v. LC Map and FAO Number.

Recording of the location of structures shall meet the requirement of five to ten meters (5-10 m) accuracy using the geographical coordinate system - WGS84.

Except for the province of Palawan whose standard projection is PRS 1992 UTM Zone 50N, the PRS 1992 UTM Zone 51N shall be adopted as the standard projection for the final shapefiles for submission under this Order.

**SECTION 6. General Procedure in the Conduct of Inventory.** The inventory shall undergo the following main activities:

- 6.1 Determination of Universe and Development of Survey Tool.** The universe for the inventory shall be the total forest land area of the country. The forest land area data shall be processed using GIS to determine the method of data collection (satellite imagery analysis, in-situ data collection and drone survey, and secondary data collection from tenure compliance reports).

**Data processing shall involve the inclusion of Unclassified Public Forest (UPF) and the exclusion of legislated protected areas under RA 11038 (the Expanded National Integrated Protected Areas System Act) from the Forest Land Boundary provided by BMB, and mining tenements from the MGB to generate the total forest land area or the universe. The generated forest land area shall then be divided into two categories: tenured and untenured forest lands.**

**The untenured forest lands shall be divided further into five categories by overlaying the CADT/CALT map from NCIP and the land cover and slope map from NAMRIA (Annex 1.1). The disaggregated untenured forest lands shall be inventoried using two methodologies as discussed in Section 6.2 and 6.3. The tenured forest lands shall be inventoried using secondary data from tenure compliance monitoring reports.**

**The FMB shall produce an indicative universe from the aforementioned process and it shall be vetted by the Regional Office (RO). This shall serve as the final universe (Annex 1.2).**

**Additionally, the FMB shall develop and design the survey tool using ArcGIS Survey123.**

**6.2. Satellite Imagery Analysis.** This approach entails analyzing satellite imagery sourced from open image repositories. The Regional Technical Working Group (RTWG) shall identify and characterize structures within various land cover types, including built-up areas, open and closed forests with slopes exceeding 18%, and CADT/CALT areas within forest lands (Annex 1.3). For each visible structure, points and polygons are generated based on the information extracted from the satellite imagery.

**6.3 In-Situ Data Collection and Validation and Drone Image Analysis.** The final approach involves the gathering of data and information from the ground by the Ground Validation Team using ArcGIS Survey123 in untenured forest lands specifically within perennial croplands, open and closed forests with below 18% slope (Annex 1.3). ODCI provides smartforms that can be installed on Android/iOS devices that require no Internet connection during the survey. The data requirements included in the smartforms are specified in Section 5.3 and the user interface can be found in Annex 2.

**It shall collect data on the structure's type, use, status, material used in construction, the owner/ holder or any person responsible for the establishment of the structure, basis of occupation, geographical location, and geotagged photos. The desired accuracy for the location point shall be within the range of 5-10 m.**

**In situations where conducting an on-site survey survey is not feasible due to inaccessibility (i.e ravine or cliff areas), drone image analysis shall be employed. The ortho-mosaic images shall be used to count and digitize the structures considering the steps on satellite imagery analysis.**



**6.4 Inventory of Structures within Tenured Areas.** Available geospatial data and information related to structures within tenured areas will be obtained from the compliance monitoring of the Enforcement Division vis-a-vis the submitted Comprehensive Development and Management Plans (CDMP) from Licenses, Patents, and Deeds Division.

The FMB shall provide supplementary guidelines on the inventory of structures within tenured areas, if the need arises.

The identified methodology to be used is presented in Annex 3.

**6.5 Prioritization of Inventory.** The inventory process will prioritize structures within untenured forest lands and those outside of CADT/CALT areas. For structures within perennial croplands and forested areas (both closed and open forests) with slopes below 18%, the ODCT survey tool and/or drones will be used for data collection. On the other hand, structures within other land cover types, open and closed forests with slopes above 18%, as well as those within built-up and CADT/CALT areas, will be assessed using satellite imagery.

**SECTION 7. Creation of Regional Technical Working Group (TWG) and Ground Validation Teams.** The Regional Office shall create a TWG and Validation Team through the Issuance of a Regional Special Order, which shall compose of the following:

#### **7.1 Regional TWG**

Overall Lead:	Assistant Regional Director for Technical Services
Assistant Lead:	Chief, Surveys and Mapping Division
Members:	Chiefs and Technical Staff from the following Divisions: Enforcement Division Licenses, Patents, and Deeds Division Planning & Management Division Conservation and Development Division Surveys and Mapping Division Legal Division Regional NGP Coordinator Regional GIS Focal and/or Control Map Focal

The Regional TWG may invite other representatives as deemed necessary.

#### **7.2 Ground Validation Teams**

The Ground Validation Teams shall compose of the following:

	Implementing PENRO	CENRO
Lead	Chief, Technical Services Division	CENR Officer
Assistant Lead		DMO IV
Members	PENRO GIS Focals One (1) Technical Staff, Monitoring and Enforcement Section One (1) Technical Staff, Regulation and Permitting Section One (1) Technical Staff, Conservation and Development Section	CENRO GIS Focals One (1) Technical Staff, Monitoring and Enforcement Section One (1) Technical Staff, Regulation and Permitting Section One (1) Technical Staff, Conservation and Development Section

**SECTION 8. Roles and Responsibilities.** The following offices shall have the following roles and responsibilities for the inventory of structures in forest lands:

**8.1. The Forest Management Bureau (FMB) shall conduct the initial analysis of the universe and categorize the structures according to the location of structures as per Section 5.1. of this Order. The FMB shall provide the analyzed data to the Regional Offices. The FMB shall also develop, design and provide the ODCT smartforms to the CENRO/ Implementing PENROs.**

- a. **Determination of boundaries based on Section 5.1.** The FMB shall provide the indicative boundaries for tenured forest lands, CADT/CALT areas and untenured forest lands to the Regional Offices and shall ensure that these three (3) major boundaries are exported separately since the inventory methodology of structures within these areas of interest vary.
- b. **Creation of the universe of the inventory.** Using the data derived from Section 6.1, the FMB shall create the initial universe of the inventory ensuring no overlaps among the boundaries. The regional boundaries shall be derived from the land cover map of NAMRIA. The FMB together with the Regional Offices shall reconcile their respective data and finalize the universe.

The final universe vetted by the FMB and the RO shall be the basis for planning the three-year implementation of the inventory.

**8.2. The Regional TWG shall be responsible for the consolidation and submission of data on the inventory of structures. The Regional TWG shall also be responsible in the identification of structures within other land cover types, forest cover with above 18% slope, and CADT/CALT areas using satellite imagery analysis.**

- a. **Designation of Lead Division.** The Surveys and Mapping Division shall be designated as the Lead Division. The Lead Division shall facilitate the consolidation of data on structures and shall mobilize the identified ground validation team members in Section 7.1;
- b. **Consolidation of Inventory data.** The Regional TWG shall consolidate all spatial data on structures which shall include the data gathered using ODCI and/or drone survey, and satellite imagery analysis, and tenured forest lands.
- c. **Identification of Structures using Satellite Imagery Analysis.** The Regional TWG shall conduct satellite imagery analysis within the boundaries of other land cover types outside tenure, closed and open forests above 18% slope and CADT/ CALT areas, to identify structures within these areas. Points and polygons shall be created for each visible structure using satellite images. Information to be gathered shall only be limited to the number of structures and other relevant information that can be identified.
- d. **Monitoring of Ground Validation Team Accomplishment.** The Regional TWG shall be responsible in determining the accomplishment of the Ground Validation Team based on the implementation plan of their respective Regions.

**8.3. The Ground Validation Team shall carry out the ground inventory through the conduct of ODCI surveys within perennial croplands, open and closed forests below 18% slope.**

- a. **Inventory of structures using ODCI.** The Ground Validation Team shall be responsible for gathering first-hand data and information about structures as identified in Section 5.3 of this Order. The inventory shall implement the smartforms created and provided by FMB.

The team shall conduct the survey by municipality and shall ensure the completion prior to moving to another municipality. The team shall ensure that the inventory is properly coordinated with the concerned Local Government Unit (LGU). The Team may also gather other relevant information from the LGUs, such as business permits, tax maps, land use maps, among others.

- b. **Aerial validation using drones.** The Team may opt to use aerial validation using drones for areas where entry is not feasible (such as presence of ravines and creeks). The team shall conduct the planning of drone flight validation adopting the protocols set in FMB Technical Bulletin No. 35.

b.1. *Drone Survey.* The existing Protocol on the Use of Quadcopter Remotely Piloted Aircraft (RPA) in the Monitoring and Assessment of Forestry, Environment, and Natural Resources Programs and Projects is hereby adopted as the official methodology from pre-flight, in-flight,

and post-flight operations, as well as the image processing of the aerial photographs acquired in the drone survey.

b.2 *GIS Analysis from Acquired Images from Drone.* The ortho-mosaic images from the drone survey shall be used to digitize the structures.

b.3. *Areas Restricted to Drone Surveys.* No drone surveys shall be conducted within a 10-kilometer radius of the airport. Only the inventory using an ODCT Survey shall be performed in these areas.

c. **Review, Consolidation, and Submission of ODCT Survey Report.** The ground validation team shall submit the gathered data and information with analysis and recommendations for immediate appropriate actions (if any) to the concerned PENRO. The concerned PENRO shall review, consolidate, and submit the same to the Regional TWG.

In case of Implementing PENRO, they shall directly submit to the Regional TWG.

Data collected (in shapefiles) shall be uploaded through the FSD Portal.

**SECTION 9. Reporting and Uploading of Inventory Data to the FSD Portal and the DENR Control Map.** The inventory output will form part of the Regional Offices' FSD submission (Annex 5). The submission of output shall be done by the Supervising and Implementing PENRO/s. The Regional FSD Management Team and the FMB Geospatial Data Management Team (GDMT) shall be responsible for conducting the quality control and quality assurance of the submitted data. The timeline of report submission shall be as follows:

### 9.1 Reporting

There are three (3) reports required under this Order. The timeline of submission shall be as follows:

Report	Focus	Content	Timeline of Submission	Responsible
Interim Progress	Initial progress and early observations	Summary of early activities, preliminary data, recommended course of actions in general terms	Monthly (every 10th of the ensuing month)	Ground Validation Team to Regional Executive Director thru the RTWG
Progress	Comprehensive view of current status/ Detailed ongoing update	Detailed tasks, data, challenges, stakeholder engagement, financials, next steps	Semi-annual (every end of July and end of January)	RTWG to RED; RED to FMB

Report	Focus	Content	Timeline of Submission	Responsible
Final	Entire project lifecycle and outcomes	Summary of all activities, final data, challenges, financials, conclusions, recommendations	End of activity	RTWG to RED; RED to FMB

- a. **Interim Progress Report.** The Interim Progress Report shall be prepared on a monthly basis, by the Ground Validation Team to be submitted to the Regional Executive Director thru the Assistant Regional Director for Technical Services. The report shall include a summary of activities completed so far, preliminary data, challenges encountered, and any adjustments needed. It shall emphasize the initial progress, early observations, and recommendations to aid in identifying any immediate issues or necessary changes in the conduct of the activity. The template on the report format is shown in Annex 6.
- b. **Progress Report.** The Regional TWG shall submit a progress report semi-annually through a Memorandum to the Regional Executive Director every end of July and January which details their accomplishment from January to June and July to December, respectively. The Regional Executive Director shall then endorse the progress report to the Forest Management Bureau. The report shall provide a comprehensive view of the project's current status to include detailed information on the completed and ongoing tasks, data and compiled findings, challenges and mitigation strategies, stakeholder engagement, financial, and recommendations.

If the survey for a particular province is still ongoing at the time of reporting, the RTWG shall include the percentage of accomplishment and target completion. The progress report format is shown in Annex 7.

- c. **Final Report.** The Regional TWG shall submit the final report to the Regional Executive Director through a Memorandum at the end of three (3) years which summarizes the entire inventory upon completion, providing a comprehensive overview of all activities, findings and outcomes and shall then be submitted to the Forest Management Bureau. The final report format is shown in Annex 8.

## 9.2 Uploading of Inventory Data to the FSD Portal and The DENR Control

Aside from the technical reports to be submitted for the inventory, the corresponding geospatial datasets should be uploaded to the FSD Portal.

- a. **Data Attribution.** The information to be included in the shapefiles of the structures within forest lands shall follow the format as shown in Annex 4. For data on structures gathered using satellite imagery analysis and tenured forest lands, only the attributes on geographical location,

methodology used, and other relevant information shall be identified. Other information such as the ones gathered using ODCT may be left blank.

- b. Creation of FSD Portal Regional Accounts.** The FMB shall provide the ROs with their respective FSD Accounts to be used for the uploading of their respective inventory data.
- c. Data Uploading.** The Ground Validation Team shall upload their survey data in the FSD Portal using their respective regional accounts for ArcGIS Survey123. This shall serve as means of verification of accomplishment. If the ground validation team conducted inventory through drone images, an accomplishment report shall be submitted through a Memorandum to the Regional Office including shapefiles and map layout. This is also the same with the structures' data collected from tenured forest lands. Said accomplishments shall be consolidated by the RTWG.

**SECTION 10. Capacity Building.** The FMB, in coordination with Geospatial Database Office, shall conduct the roll-out and provide capacity-building activities to the DENR Regional and Field Offices to ensure that the activities in the field shall be conducted correctly and efficiently relative to the operations stated herewith.

**SECTION 11. Duration.** Within three (3) years of the effectivity of this Order, the FMB and the RO shall complete the baseline inventory of structures within forest lands. In the event that the target area cannot be accomplished within the three (3) year activity, the Regional Office through a Memorandum addressed to the FMB Director shall officially request for extension including the area coverage and justification.

For the succeeding years, the inventory shall be included in the regular monitoring activities of the regional offices as part of the evidence-based enforcement process and shall be updated annually.

**SECTION 12. Funding.** The Department shall allocate funds for the operationalization of this Order.

**SECTION 13. Separability Clause.** If any provision of this Order shall be held invalid or unconstitutional, the other portions or provisions hereof which are not affected shall continue in full force and effect.

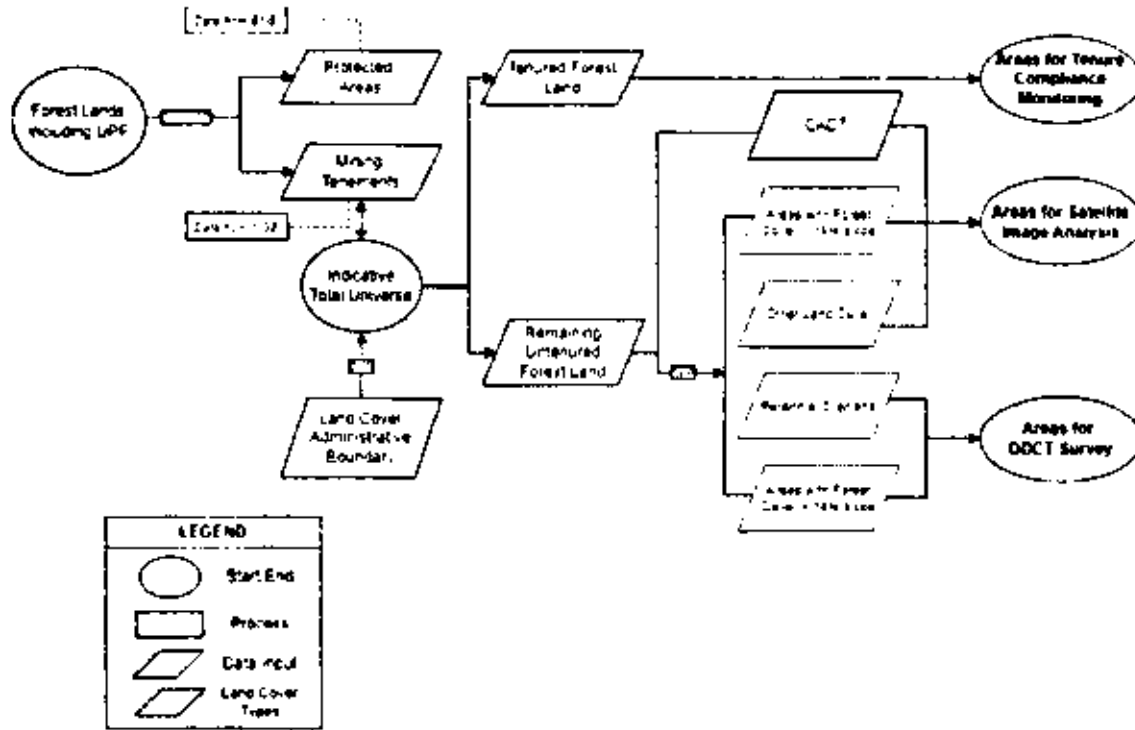
**SECTION 14. Repealing Clause.** All Orders and other similar issuances inconsistent herewith are hereby revoked, amended, or modified accordingly.

**SECTION 15. Effectivity.** This Order shall take effect fifteen (15) days after its publication in a newspaper of general circulation and upon acknowledgment of the receipt of the copy thereof by the Office of the National Administrative Register (ONAR).

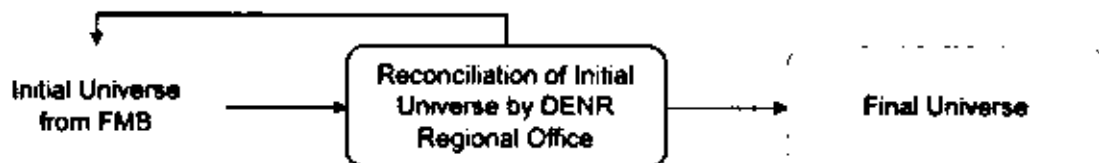
**MARIA ANTONIA YULO LOYZAGA**  
Secretary

## Annex 1. Processing of Universe and Development of Survey Tool

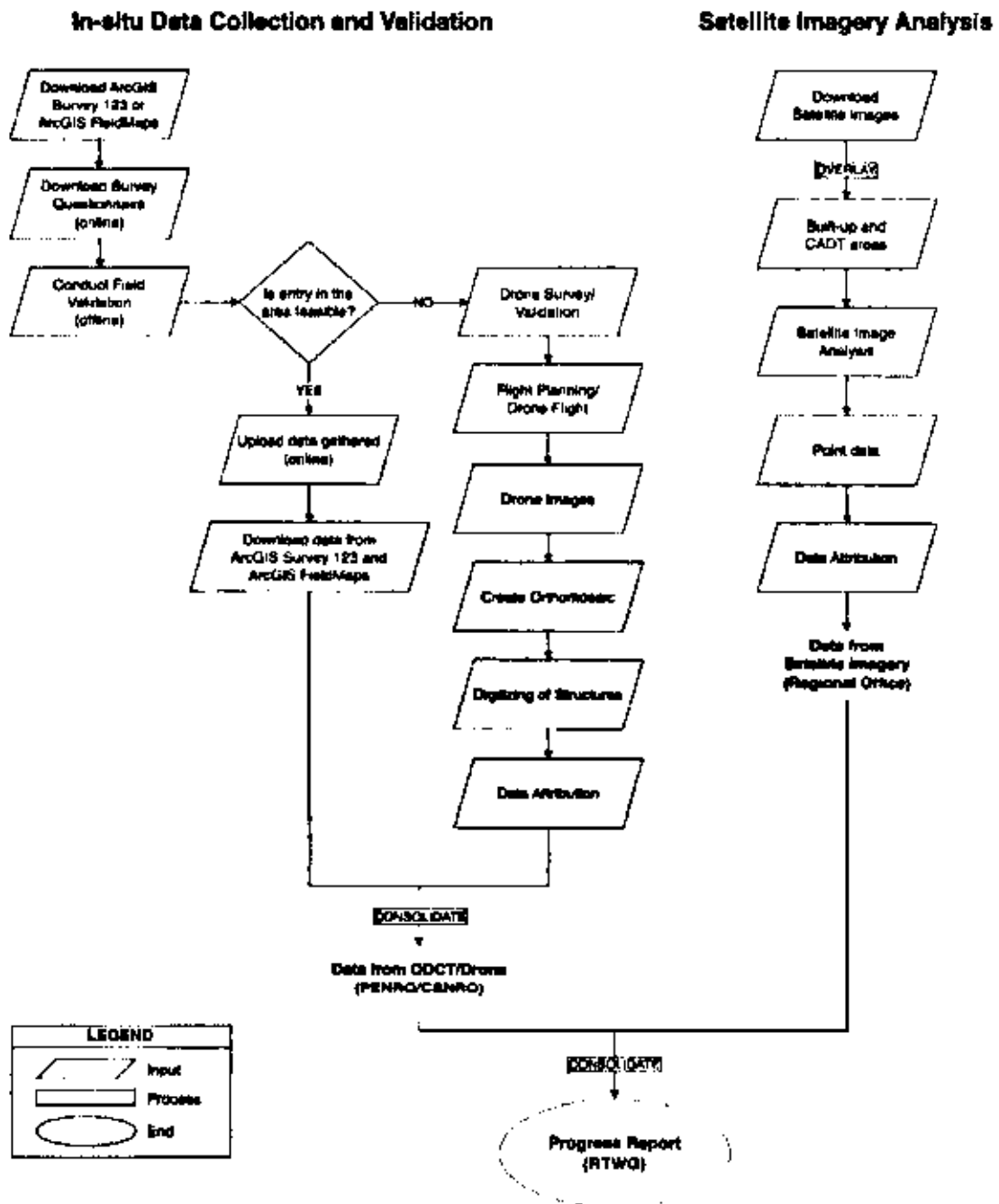
### 1.1 Processing of Indicative Universe



### 1.2 Derivation of Final Universe



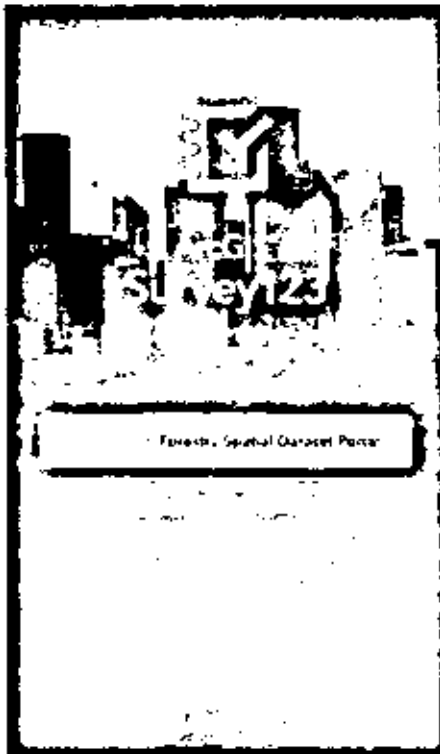
### 1.3 Process Flow in In-Situ Data Collection and Validation and Satellite Imagery Analysis



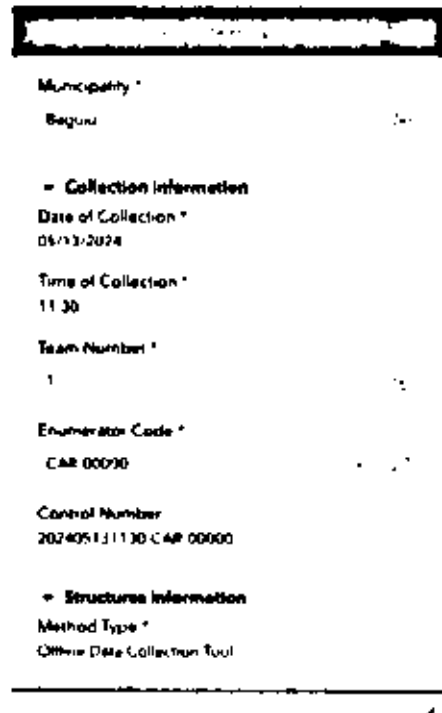
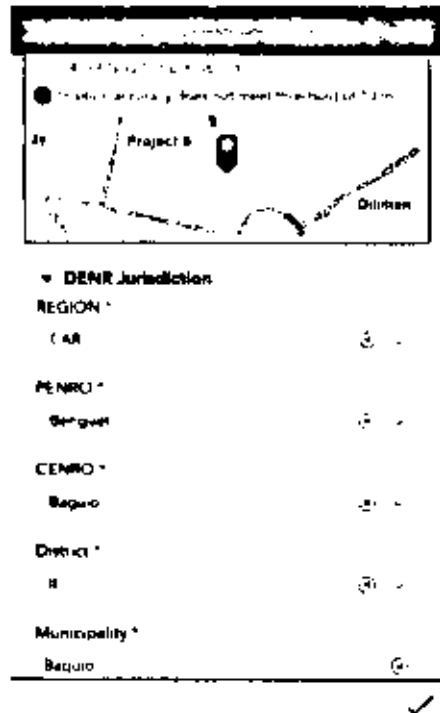


## Annex 2. Offline Data Collection Tool (ArcGIS Survey123)

### 2.a. ArcGIS Survey123 Interface



### 2.b. Smartform



**Structure Information**

**Method Type \***

Other Data Collection Tool

**Location of Structure \***

Please select the category of the location based on the provided structure.

Facility with forest cover and 0-18% slope

**Type of Structure \***

Mine shaft

**Estimated Area \***

Square Meters (if not applicable = 0)

**Estimated Vertical Height \***

Meters (if not applicable = 0)

**Number of Floors \***

If not applicable = 0

**Material used in the construction of the Structure \***

Concrete

**Use of Structure \***

Commercial

**Classification of Structure \***

Permanent

**Contact Person \***

Name of Contact (Full Name, Middle Initial, Last Name)

John A. Della Casa

**Image \***

Image Photo of the structure

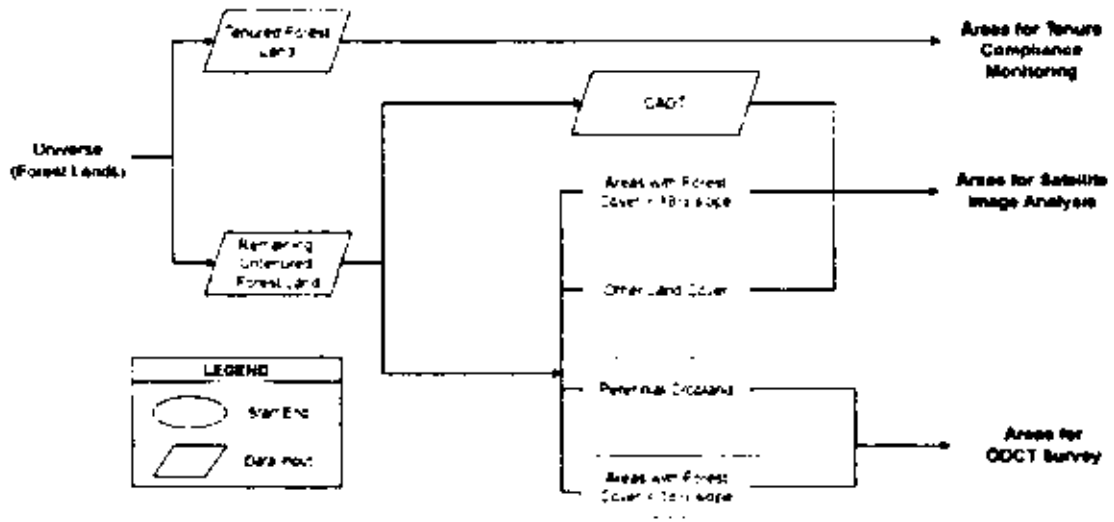


**Remarks**

\_\_\_\_\_ ✓

\_\_\_\_\_ ✓

### Annex 3. Methodology to be used



#### Annex 4. Data Attribution

The data attribution recommended below is included in the FSD Guidebook. All information shall be provided for structures within forest lands gathered using the ArcGIS Survey123 (Table 1) and Tenure Compliance Monitoring (Table 2). For data on structures gathered from satellite imagery only applicable attributes in Table 1 shall be provided.

Table 1. Data attribution for Structures collected through Survey123 and Satellite Image

FIELD NAME	TYPE	FIELD LENGTH	DESCRIPTION
REGION	Text	10	Name of Regional Jurisdiction
PENRO	Long Integer		Name of PENRO Jurisdiction
CENRO	Text	50	Name of GENRO Jurisdiction
DISTRICT	Text	10	Name of Congressional District
MUN_CITY	Text	100	Name of Municipality or City
PSGC	Text	10	Philippine standard geographic code of the municipality
TEAM_NO	Text	4	Team Number
ENU_CODE	Text	100	Enumerator Code
LOC_STRUC	Text	50	Refers to the location of Structures provided in Section 5.1 of the DAO
STRUCT_TYP	Text	100	Refers to the type of structures found in the area
YEAR_CONST	Short Integer	5	Refers to the year of construction.
NO_FLOORS	Text	5	Vertical height of the structure in terms of building
AREA_SQM	Text	50	Estimated area of the structure in square meters
MAT_USED	Text	100	Refers to the type of materials used in the construction of the structure
USE_STRUC	Text	50	Refers to the use of the structure
NORTHINGS	Double		Y Coordinates based on PRS 1992 UTM Zone 51 N
EASTINGS	Double		X Coordinates based on PRS 1992 UTM Zone 51 N
CLASS_STRU	Text	100	Refers to whether the identified structure is permanent or temporary
CONT_PERS	Text	50	Refers to the name of the owner or contact person of structure if available
BASE_OCCU	Text	255	Basis of occupation (transfer certificate of title, tax declaration, business permit, others)
LC_NO	Text	100	Refers to the land classification map number covering the area
FAO_NO	Text	100	Refers to the Forestry Administrative Order No. of the land classification map
METHOD	Text	50	Methodology used in identifying structures
REMARKS	Text	255	Description of the area or other relevant information

For Tenured forest lands, structures with geographical locations as specified in the compliance monitoring reports vis-a-vis their CDMP shall be submitted with complete attribution as shown below:

Table 2. Data attribution for Tenure Datasets

FIELD NAME	TYPE	FIELD LENGTH	DESCRIPTION
REGION	Text	10	Name of Regional Jurisdiction
PENRO	Long Integer		Name of PENRO Jurisdiction
CENRO	Text	50	Name of CENRO Jurisdiction
DISTRICT	Text	10	Name of Congressional District
MUN_CITY	Text	100	Name of Municipality or City
PSGC	Text	10	Philippine standard geographic code of the municipality
NAME_ENU	Text	100	Name of the Monitoring Officer
LOC_STRUC	Text	50	Refers to the location of Structures provided in Section 5.1 of the DAO
TENURE	Text	50	Type of Tenure Instrument
TEN_NO	Text	25	Refers to Agreement control number (official control number given by Region)
STRUCT_TYP	Text	100	Refers to the type of structures found in the area
YEAR_CONST	Short Integer	5	Refers to the year of construction.
NO_FLOORS	Text	5	Refers to the vertical height of the structure in terms of building
AREA_SQM	Text	60	Refers to estimated area of the structure in square meters
MAT_USED	Text	100	Refers to the materials used in the construction of the structure
USE_STRUC	Text	50	Refers to the use of the structure
NORTHINGS	Double		Y Coordinates based on PRS 1992 UTM Zone 51 N
EASTINGS	Double		X Coordinates based on PRS 1992 UTM Zone 51 N
CLASS_STRU	Text	100	Refers to whether the identified structure is permanent or temporary
CONT_PERS	Text	50	Refers to the Name of Tenure Holder
LC_NO	Text	100	Refers to the land classification map number covering the area
FAO_NO	Text	100	Refers to the Forestry Administrative Order No. of the land classification map
METHOD	Text	50	Methodology used in identifying structures
REMARKS	Text	255	Description of the area or other relevant information



**Annex 6. Template Format of Interim Progress Report (to be submitted to the RED on a monthly basis)**

**MEMORANDUM**

**FOR** : The Regional Executive Director

**THRU** : The Assistant Regional Director for Technical Services  
The Chief, Surveys and Mapping Division

**FROM** : The PENR Officer  
PENRO \_\_\_\_\_

**SUBJECT** : **INTERIM PROGRESS REPORT OF THE CONDUCT OF INVENTORY OF STRUCTURES WITHIN FOREST LANDS FOR THE MONTH OF \_\_\_\_\_ WITHIN THE MUNICIPALITY OF \_\_\_\_\_, PROVINCE OF \_\_\_\_\_**

**DOCUMENT/S ATTACHED** : 1. MOV for the uploading of geospatial data on structures with complete attribute information; and  
2. Other supporting documents

**DATE** :

**I. Introduction**

- Brief overview and description of the area
- Total extent of forest lands
- other relevant information

**II. Inventory Status**

Location	CENRO/ Implementing PENRO	Indicative Target Area <sup>2</sup> (in hectares)	Total Area Covered (in hectares)	Percent Accomplishment (%)	Equivalent (No. of Grids (No)	No. of Structures Identified (No)	Remarks
Maragondon, Cavite	Cavite	1000	20	2%	20	65	
Ternate, Cavite	Cavite	300	10		10	15	On-going

Note: Area in hectares shall be calculated using WGS 1984 UTM Zone 51 N

<sup>2</sup> Total target area of CENRO

**III. Issues and Challenges**

*This shall include issues/concerns encountered during the conduct of the activity with the corresponding actions taken.*

Issues and Challenges	Mitigation Actions implemented
Entry in the area is not feasible	UAV survey conducted; Forwarded to RTWG for Satellite Imagery Analysis
Illegal occupancy within Barangay _____, Municipality of _____, Province of _____	Conducted Information, Education, and Communication Campaign; Referred to the Monitoring and Enforcement Section for hearing and further deliberation

**IV. Recommendations and Next Steps**

*This shall provide proposed activities/programs/projects for the structures inventoried. This shall also include justification in areas which entry is not feasible or UAV survey is not possible.*

*Detailed plan for the next reporting.*

**V. Appendices**

*Additional data, charts, or maps as needed.*

For your information, consideration and further instruction/s.

**PENR Officer**



**Annex 7. Template Format of Progress Report (to be submitted to FMB Director in a semi-annual basis)**

**MEMORANDUM**

**FOR** : The Director  
Forest Management Bureau

**FROM** : The Regional Executive Director  
DENR Region \_\_\_\_

**SUBJECT** : **PROGRESS REPORT OF THE CONDUCT OF INVENTORY FOR THE PERIOD OF JANUARY - JUNE, 20XX WITHIN REGION \_\_\_\_**

**DOCUMENT/S ATTACHED** :

**DATE** :

**I. Introduction/ Background**

*This shall provide information and overview of the activities conducted in the implementation of the activity.*

**II. Statistical Report**

**A. Physical Target vs. Accomplishment**

*This shall include province-wide accomplishments. As a reminder, if the survey for a particular province is still ongoing at the time of reporting, the report shall include the percentage of accomplishment and target completion in writing and there is no need to submit incomplete data yet.*

**Table 1. Physical Accomplishment per Office**

Office/ Activity	1st Quarter			2nd Quarter			Remarks/ Justification <sup>3</sup>
	Target	Accomplishment	% Accom.	Target	Accomplishment	% Accom.	
<b>TOTAL (REGION)</b>							
<b>Satellite Image</b>							
<b>ODCT</b>							
<b>PENRO xxx</b>							

<sup>3</sup> Justification for unaccomplished target

Official/ Activity	1st Quarter			2nd Quarter			Remarks/ Justification <sup>3</sup>
	Target	Accomplish- ment	% Accom	Target	Accomplish- ment	% Accom	
CENRO 1							
CENRO 2							

Table 2 Inventory of Structures within Tenure

Type of Tenure/ Name of PO	Area (in hectares)	No. of Structures			Remarks
		Based on CDMP	Based on Actual Inventory		
			Permanent	Temporary	
<b>TOTAL</b>					
<b>1. Community-based Forest Management Agreement (CBFMA)</b>					
<i>People's Organization XXX</i>					
<i>People's Organization XXX</i>					
<b>2. Forest Land Use Agreement (FLAg, SPLULA, OLPLA)</b>					
<i>People's Organization XXX</i>					
<i>People's Organization XXX</i>					

### III. Analysis

*Analysis of structures within forest lands in relation to population, land cover, and environmental impact.*

- a. Distribution of structures (type of structures, density and spatial distribution within FL)
- b. Relationship between population density and distribution of structures
- c. Forest and land cover changes
- d. Environmental impact - extent of deforestation and forest degradation due to presence of structures
- e. others

#### IV. Budget Utilization

Office	Allotment ('000)	Obligation ('000)	Disbursement ('000)	Percent Utilization (%)
REGION	1,000	500	400	80%
PENRO/ CENRO	XXX	XXX	XXX	XX
Batangas	XXX	XXX	XXX	XX
Calaca				
Lipa				

#### V. Issues and Challenges

*This shall include issues/concerns encountered during the conduct of activity corresponding with the actions taken.*

Table 3. Issues and Concerns

Issues/Challenges	Mitigation Actions Implemented

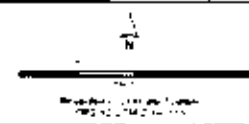
#### VI. Recommendation and Next Steps

*This shall provide proposed activities/programs/projects for the structures inventoried.*

#### VII. Attachments

1. Shapefiles with complete attributes (Google Drive etc.).
2. Photo Documentation of the conduct of the activity.
3. Map lay-out per province per boundary (digital copy).

MAP TITLE



LEGEND

Approved by  
Regional Geology Director



**Annex 8. Template Format of Final Report**

*Final report is the activity completion report which shall contain the three-year accomplishment of the DENR Regional and Field Offices using geospatial technologies in conducting inventory of structures.*

**MEMORANDUM**

**FOR** : The Director  
Forest Management Bureau

**FROM** : The Regional Executive Director  
DENR Region \_\_\_\_

**SUBJECT** : **FINAL REPORT IN THE CONDUCT OF INVENTORY OF STRUCTURES WITHIN FOREST LANDS IN REGION \_\_\_\_ FOR FY 20XX - 20XX**

**DOCUMENT/S ATTACHED** :

**DATE** :

---

**I. Executive Summary**

*This shall provide an overview of the physical and financial accomplishments of the conduct of the activity.*

**II. Physical and Financial Report per year per province**  
(Target vs. Accomplishment)  
(Include justification for unaccomplished target)

Table \_\_. Physical and Financial Statistical Report per Province

Region/ Office	Universe	Year 1		Year 2		Year 3	
		Target	Accomp	Target	Accomp	Target	Accomp
Region							
PENRO							
CENRO							

**III. Complete Staff Work (Rationale, Legal Basis, etc)**

---

*This section shall provide the chronological order of activities conducted in the implementation of the activity.*

#### **IV. Analysis**

*Summary of analysis of structures within forest lands in relation to population, land cover, and environmental impact.*

- a. Distribution of structures (type of structures, density and spatial distribution within FL)
- b. Relationship between population density and distribution of structures
- c. Forest and land cover changes
- d. Environmental impact - extent of deforestation and forest degradation due to presence of structures
- e. Projection on the progress of structures through time

#### **V. Issues and Challenges**

Issues and Challenges	Mitigation Action Implemented

#### **VI. Recommendations and Next Steps**

*This section shall provide policy, program and project recommendations regarding the inventory of structures. This shall also provide a possible course of actions that may resolve the current situation of the Region regarding the structures within forest lands.*

#### **VII. Attachments**

1. Regional Special Order re: Creation and Composition of Regional Technical Working Group and Ground Validation Team
2. Photo Documentation of the conduct of activity
3. Shapefiles with complete attributes (FSD Portal, Google Drive etc.).

*Structures collected through ODCT shall provide all the information in the data attribution while structures digitized in satellite images shall only applicable attributes shall be provided. For information that can not be determined in satellite images, NA ("Not Applicable") shall be entered.*

*For Tenure Datasets, structures with geographical locations shall be submitted with complete attributes.*

4. Excel file/ CSV file;
5. Map layout (digital copy)

Provision/Section	Original	Revised
<p>Prefatory Statement</p>	<p>Pursuant to Presidential Decree (P.D.) No. 705, as amended, otherwise known as the "Revised Forestry Code of the Philippines", Executive Order (E.O.) No. 192, series of 1987, "Providing for the Reorganization of the Department of Environment, Energy and Natural Resources, renaming it as the Department of Environment and Natural Resources, and for Other Purposes", E.O. No. 263, series of 1985, "Adopting Community-based Forest Management as the National Strategy to Ensure the Sustainable Development of the Country's Forestlands Resources and Providing Mechanisms for Its Implementation", R.A. No. 7586 as amended by R.A. No. 11038, known as the "Expanded National Integrated Protected Area System (ENIPAS) Act of 2018, R.A. No. 8371 known as the "The Indigenous Peoples' Rights Act (IPRA) of 1987, Memorandum from the Undersecretary for Field Operations dated 21 September 2021 with the subject "Inventory of All Structures inside the Classified Forest Lands and Issuance of Appropriate Tenorial Instruments Thereof", and other pertinent laws, rules, and regulations, the following guidelines and procedures on the inventory of structures in forest lands are hereby promulgated for the guidance and compliance of all concerned.</p>	<p>Pursuant to Presidential Decree (P.D.) No. 705, as amended, otherwise known as the "Revised Forestry Code of the Philippines", Executive Order (E.O.) No. 192, series of 1987, "Providing for the Reorganization of the Department of Environment, Energy and Natural Resources, renaming it as the Department of Environment and Natural Resources, and for Other Purposes", E.O. No. 263, series of 1985, "Adopting Community-Based Forest Management as the National Strategy to Ensure the Sustainable Development of the Country's Forestlands Resources and Providing Mechanisms for Its Implementation", R.A. No. 7586 as amended by R.A. No. 11038, known as the "Expanded National Integrated Protected Area System (ENIPAS) Act of 2018, R.A. No. 8371 known as the "The Indigenous Peoples' Rights Act (IPRA) of 1997, and other pertinent laws, rules, and regulations, the following guidelines and procedures on the inventory of structures in forest lands are hereby promulgated for the guidance and compliance of all concerned.</p>

Complete the matrix

Provision/Section	Original	Revised
SECTION 1. Basic Policy	<p>It is the policy of the state to protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature through the inventory of structures in forestlands, in order to ensure the sustainable development.</p>	<p>It is the policy of the state to ensure the sustainable use, management, protection, conservation, and enhancement of the country's environment and natural resources as well as to ensure equitable sharing of the benefits derived therefrom for the welfare of the present and future generations. Towards this end, the State shall pursue the development of the country's forest lands through the advancement of science and technology.</p>
SECTION 2. Objectives	<p>This Order aims to provide guidance for the conduct of inventory of structures within forest lands using geospatial technologies such as Geographic Information System and Remote Sensing; and in situ validation using offline data collection tool. Specifically, this Order aims to:</p> <p>2.1 Systematically identify and document all existing structures within forest lands, including their type, size, and status to produce baseline data and information;</p> <p>2.2 To integrate inventory data with Geographic Information Systems (GIS) and remote sensing technologies for better visualization, and analysis;</p> <p>2.3 Ensure that inventory findings are documented and data analysis are reported transparently, facilitating informed decision-making;</p>	<p>This Order aims to provide guidance for the conduct of inventory of structures within forest lands using geospatial technologies such as Geographic Information System and Remote Sensing; and in situ validation using offline data collection tool. Specifically, this Order aims to:</p> <p>2.1 Systematically identify and document all existing structures within forest lands, including their type, size, and status to produce baseline data and information;</p> <p>2.2 To integrate inventory data with Geographic Information Systems (GIS) and remote sensing technologies for better visualization, and analysis;</p> <p>2.3 Ensure that inventory findings are documented and reported transparently, facilitating informed decision-making.</p>



Provision/Section	Original	Revised
	<p>2.3. Provide basis for developing or updating policies and guidelines related to proper management, conservation, and protection of forest lands.</p> <p>2.4 Ensure that all structures comply with existing forestry policies, regulations and tenure agreements; and</p> <p>2.5 Ensure that inventory findings are documented and reported transparently, facilitating informed decision-making</p>	
SECTION 3. Scope and Coverage	<p>This Order shall cover the inventory of all structures, both vertical and horizontal, within forest lands. It shall collect data on the structure, status, the type of material used in construction, basis of occupation, the owner/ holder or any person responsible for the establishment of the structure, geographical location, and geotagged photos, among others.</p>	<p>This Order shall cover the inventory of all structures, both vertical and horizontal, within forest lands. It shall collect data on the structure's type, status, the material used in construction, basis of occupation, the owner/ holder or any person responsible for the establishment of the structure, geographical location, and geotagged photos, among others.</p>
SECTION 4. Definition of Terms	<p>b. Certificate of Ancestral Domain Title (CADT) Areas - refers to the areas covered by a title formally recognizing the rights of possession and ownership of Indigenous Peoples (ICCs/IPs) over their ancestral domains identified and delineated in accordance with the IPRA law. [IPRA Law]</p>	<p>b. Certificate of Ancestral Domain Title (CADT) - refers to the areas covered by a title formally recognizing the rights of possession and ownership of Indigenous Cultural Communities/Indigenous Peoples (ICCs/IPs) over their ancestral domains identified and delineated in accordance with the IPRA law. [IPRA Law]</p>

Provision/Section	Original	Revised
	<p>d. Forest lands - refer to the lands of the public domain which includes the public forest, the permanent forest or forest reserves, and forest reservations. [Forestry Reform Code].</p> <p>n.1. Other land cover - refers to the land classified as built-up, open/ barren, shrubs, grassland, annual crop, marshland, mangrove forest, fishponds and inland water by land cover map of NAMRIA</p> <p>n.2. Forest cover - for the purpose of this DAO, this refers to land classified as closed and open forest by the land cover map of NAMRIA.</p>	<p>c. Certificate of Ancestral Lands Title (CALT) - refers to a title formally recognizing the rights of ICCs/IPs over their ancestral lands. Any issued CALT shall be subject to the condition that the said ancestral land cannot be sold, disposed or destroyed except with respect to the ICCs/IPs' right to transfer land or their property rights to/among members of the same ICCs/IPs in accordance with their customary laws and traditions, as provided for under Section 8A of IPRA and its IRR.</p> <p>e. Forest Lands - refer to the lands of the public domain which includes the public forest, the permanent forest or forest reserves, and forest reservations [Revised Forestry Code]. For the purpose of this Order, forest lands shall include unclassified public forests.</p> <p>n.1. Other land cover - refers to the land classified as built-up, open/ barren, shrubs, grassland, annual crop, marshland, mangrove forest, fishponds and inland water [land cover map of NAMRIA]</p> <p>n.2. Forest cover - for the purpose of this DAO, this refers to land classified as closed and open forest [land cover map of NAMRIA]</p>

Provision/Section	Original	Revised
SECTION 5. Inventory of Structures within Forest Lands	<p>n.2.1 <b>Open Forest</b> - refers to land classified as open forests by the land cover map of NAMRIA. These are formations with discontinuous tree layers with a coverage of at least 10 percent and less than 40 percent. [DENR MC 2005-05]</p> <p>n.2.2 <b>Closed Forest</b> - refers to land classified as closed forests by the land cover map of NAMRIA. These are formations where trees in the various storeys and the undergrowth cover a high proportion (&gt;40percent) of the ground and do not have a continuous dense grass layer. [DENR MC 2005-05]</p> <p>5.1. <b>Location of Structures.</b> Structures within forest lands are classified into six (6) categories based on location:</p> <ul style="list-style-type: none"> <li>a. Structures within untenured forest lands and within perennial croplands;</li> <li>b. Structures within untenured forest lands with forest cover and 0-18% slope;</li> <li>c. Structures within untenured forest lands with forest cover and above 18% slope;</li> <li>d. Structures within untenured forest lands with other land cover types;</li> <li>e. Structures within untenured forest lands and CADT/CALT areas; and</li> </ul>	<p>n.2.1 <b>Open Forest</b> - These are formations with discontinuous tree layers with a coverage of at least 10 percent and less than 40 percent. [DENR MC 2005-05]</p> <p>n.2.2 <b>Closed Forest</b> - These are formations where trees in the various storeys and the undergrowth cover a high proportion greater than or equal to 40 percent (&gt;40percent) of the ground and do not have a continuous dense grass layer. [DENR MC 2005-05]</p> <p>5.1. <b>Location of Structures.</b> Structures within forest lands are classified into six (6) categories based on location:</p> <ul style="list-style-type: none"> <li>a. Untenured forest lands and within perennial croplands;</li> <li>b. Untenured forest lands with forest cover and 0-18% slope;</li> <li>c. Untenured forest lands with forest cover and above 18% slope;</li> <li>d. Untenured forest lands with other land cover types;</li> <li>e. Untenured forest lands and CADT/CALT areas; and</li> </ul>

Provision/Section	Original	Revised
	<p>f. Structures within tenured forest lands.</p> <p><b>5.2. Initial Data Requirements.</b> The following are the minimum spatial data needed in the inventory of structures within forest lands:</p> <p>a. Forest land boundary using the harmonized land classification maps of the National Mapping and Resource Information Authority (NAMRIA);</p> <p>b. Forestry Tenure instruments from FMB and DENR Regional Offices;</p> <p>c. Latest land cover map from NAMRIA;</p> <p>d. Ancestral lands with Certificate of Ancestral Domain Title (CADT) from the National Commission on Indigenous Peoples;</p> <p>e. LAMS database;</p> <p>f. Unclassified public forests from NAMRIA; and</p> <p>g. Legislated protected areas from the Biodiversity Management Bureau.</p> <p><b>5.3 Information on Collection Requirements.</b> The following are the minimum information required for the ground survey as shown in the</p>	<p>f. Tenured forest lands.</p> <p><b>5.2. Initial Data Requirements.</b> The following are the minimum spatial data needed in the inventory of structures within forest lands:</p> <p>a. Forest land boundary using the legal land classification maps of the National Mapping and Resource Information Authority (NAMRIA);</p> <p>b. Unclassified public forests from NAMRIA;</p> <p>c. Forestry Tenure instruments from FMB and DENR Regional Offices;</p> <p>d. Latest land cover map from NAMRIA;</p> <p>e. Ancestral lands with Certificate of Ancestral Domain Title (CADTY CALT) from the National Commission on Indigenous Peoples;</p> <p>f. Land Administration and Management System (LAMS) data from the Land Management Bureau;</p> <p>g. Mining tenements from the Mines and Geosciences Bureau;</p> <p>h. Legislated protected areas from the Biodiversity Management Bureau.</p> <p><b>5.3 Information on Collection Requirements.</b> The following are the minimum information required for the ground survey as shown in the survey</p>

Provision/Section	Original	Revised
	<p>survey questionnaire provided in the offline data collection tool.</p> <ul style="list-style-type: none"> <li>a. Name of Regional Jurisdiction</li> <li>b. Name of PENRO Jurisdiction</li> <li>c. Name of CENRO Jurisdiction</li> <li>d. Name of Congressional District</li> <li>e. Name of Municipality/City Jurisdiction</li> <li>f. Team Number</li> <li>g. Enumerator Code</li> <li>h. Methodology used in identifying structures (Satellite Imagery, ODCI and/or drone survey, tenure compliance monitoring)</li> <li>i. Location of Structures provided in Section 5.1</li> <li>j. Type of structure (house, power lines, storage facility, etc.)</li> <li>k. Vertical height in terms of no. of floors</li> <li>l. Estimated area of the structures in square meters</li> <li>m. Type of material used in construction (brick, wood, mixed, etc)</li> <li>n. Use (e.g. abandoned, residential, commercial, residential and commercial, industrial, institutional)</li> <li>o. Geographical Location of the structure</li> </ul>	<p>questionnaire provided in the offline data collection tool.</p> <ul style="list-style-type: none"> <li>a. Name of Regional Jurisdiction</li> <li>b. Name of PENRO Jurisdiction</li> <li>c. Name of CENRO Jurisdiction</li> <li>d. Name of Congressional District</li> <li>e. Name of Municipality/City Jurisdiction</li> <li>f. Team Number</li> <li>g. Enumerator Code</li> <li>h. Methodology used in identifying structures (Satellite Imagery, ODCI and/or drone survey, tenure compliance monitoring)</li> <li>i. Location of Structures provided in Section 5.1</li> <li>j. Type of structure (house, power lines, storage facility, etc.)</li> <li>k. Reference Year/Year Constructed</li> <li>l. Vertical height in terms of no. of floors</li> <li>m. Estimated area of the structures in square meters</li> <li>n. Type of material used in construction (brick, wood, mixed, etc)</li> <li>o. Structure's Use (e.g. abandoned, residential, commercial, residential and commercial, industrial, institutional)</li> </ul>

Provision/Section	Original	Revised
SECTION 6. General Procedure in the Conduct of Inventory	<p>The field validation shall undergo the following main activities:</p> <p>6.1 Processing of Universe and Development of Survey Tool. The first method involves the extraction of legislated protected areas under RA 11038 (the Expanded National Integrated Protected Areas System Act) from the Harmonized Forest Land Boundary provided by NAMRIA, to generate the total forest land areas. The generated forest land area shall then be divided into two categories: tenured and untenured forest lands. Additionally, the CADT/CALT areas shall be extracted from the tenured forest lands to create a separate shapefile. The next step involves overlaying the land cover map and slope map from NAMRIA with the untenured forest lands (as shown in Annex</p>	<p>p. Geographical Location of the structure</p> <p>q. Classification of Structure (permanent, temporary)</p> <p>r. Name of owner or contact person</p> <p>s. Photo/Image of structure</p> <p>t. Other relevant information</p> <p>u. Basis of occupation and reference year (i.e. tax declaration, TCT, Business permit)</p> <p>v. LC Map and FAO Number.</p> <p>The inventory shall undergo the following main activities:</p> <p>6.1 Determination of Universe and Development of Survey Tool. The universe for the inventory shall be the total forest land area of the country. The forest land area data shall be processed using GIS to determine the method of data collection (satellite imagery analysis, in-situ data collection and drone survey, and secondary data collection from tenure compliance reports).</p> <p>Data processing shall involve the inclusion of Unclassified Public Forest (UPF) and the exclusion of legislated protected areas under RA 11038 (the Expanded National Integrated Protected Areas System Act) from the Forest Land Boundary provided by BMB, and mining tenements from the</p>

Provision/Section	Original	Revised
	<p>1.1). By disaggregating the untenured forest lands based on land cover types (such as forest, grassland, etc.), we establish the basis for assigning the method of data collection. The indicative universe from FMB shall be vetted by the Regional Office (RO) for the determination of the final universe (Annex 1.2).</p> <p>The ODCI for field validation shall be designed using ArcGIS Survey123. This survey tool is a complete, form-centric solution for creating and sharing surveys, getting answers, and analyzing results.</p>	<p>MGB to generate the total forest land area or the universe. The generated forest land area shall then be divided into two categories: tenured and untenured forest lands.</p> <p>The untenured forest lands shall be divided further into five categories by overlaying the CADT/CALT map from NCIP and the land cover and slope map from NAMRIA (Annex 1.1). The disaggregated untenured forest lands shall be inventoried using two methodologies as discussed in Section 6.2 and 6.3. The tenured forest lands shall be inventoried using secondary data from tenure compliance monitoring reports.</p> <p>The FMB shall produce an indicative universe from the aforementioned process and it shall be vetted by the Regional Office (RO). This shall serve as the final universe (Annex 1.2).</p> <p>Additionally, the FMB shall develop and design the survey tool using ArcGIS Survey123.</p>
	<p>6.2. <i>Satellite Image Analysis</i>. This approach entails analyzing satellite image sourced from open repositories. The goal is to identify and characterize structures within various land cover types, including built-up areas, open and closed forests with slopes exceeding 18%, and CADT/CALT (Certificate of Ancestral Domain</p>	<p>6.2. <i>Satellite Imagery Analysis</i>. This approach entails analyzing satellite imagery sourced from open image repositories. The Regional Technical Working Group (RTWG) is to identify and characterize structures within various land cover types, including built-up areas, open and closed forests with slopes exceeding 18%, and CADT/CALT areas within forest</p>

Provision/Section	Original	Revised
	<p>Title) areas within forest lands (Annex 1.3). For each visible structure, points are generated based on the information extracted from the satellite imagery.</p> <p>6.3 <i>In-Situ Data Collection and Validation and Drone Image Analysis</i>. The final approach involves the gathering of data and information from the ground using ArcGIS Survey123 in untenured forest lands specifically within perennial croplands, open and closed forests with below 18% slope (Annex 1.3). ODCT provides smartforms that can be installed on Android/iOS devices that require no internet connection during the survey. The data required in Section 5.3 and the smartforms are specified in Section 5.3 and the user interface can be found in Annex 2.</p> <p>It shall collect data on the structure's status, the type of material used in construction, the owner/holder or any person responsible for the establishment of the structure, geographical location, and geotagged photos. The desired accuracy for the location point shall be within the range of 5-10 m.</p> <p>In situations where conducting an on-site survey is not feasible due to inaccessibility (i.e ravine or cliff areas), drone image analysis shall be employed. The ortho-mosaic images shall be</p>	<p>lands (Annex 1.3). For each visible structure, points and polygons are generated based on the information extracted from the satellite imagery. Include land cover change analysis</p> <p>6.3 <i>In-Situ Data Collection and Validation and Drone Imagery Analysis</i>. The final approach involves the gathering of data and information from the ground by the Ground Validation Team using ArcGIS Survey123 in untenured forest lands specifically within perennial croplands, open and closed forests with below 18% slope (Annex 1.3). ODCT provides smartforms that can be installed on Android/iOS devices that require no internet connection during the survey. The data requirements included in the smartforms are specified in Section 5.3 and the user interface can be found in Annex 2.</p> <p>It shall collect data on the structure's type, use, status, material used in construction, the owner/holder or any person responsible for the establishment of the structure, basis of occupation, geographical location, and geotagged photos. The desired accuracy for the location point shall be within the range of 5-10 m.</p> <p>In situations where conducting an on-site survey is not feasible due to inaccessibility (i.e ravine or cliff areas), drone imagery analysis shall be employed. The ortho-mosaic images shall be used to count and</p>



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	<p>used to count and digitize the structures considering the steps on satellite image analysis.</p> <p>The identified methodology to be used for Section 5.1 is presented in Annex 3. As the need arises, the Forest Management Bureau shall develop a field implementation manual.</p> <p>6.4 Prioritization of inventory. The inventory process will prioritize structures within untenured forest lands and those outside of CADT/ CALT areas. For structures within perennial croplands and forested areas (both closed and open forests) with slopes below 18%, the ODCT survey tool and/or drones will be used for data collection. On the other hand, structures within other land cover types, open and closed forests with slopes above 18%, as well as those within built-up and CADT/CALT areas, will be assessed using</p>	<p>digitize the structures considering the steps on satellite imagery analysis.</p> <p>6.4 Inventory of Structures within Tenured Areas. Available geospatial data and information related to structures within tenured areas will be obtained from the compliance monitoring of the Enforcement Division vis-a-vis the submitted Conservation Development Management Plans (CDMP) from Licenses, Patents, and Deeds Division.</p> <p>The FMB shall provide supplementary guidelines on the inventory of structures within tenured areas, if the need arises.</p> <p>The identified methodology to be used is presented in Annex 3.</p> <p>6.5 Prioritization of Inventory. The inventory process will prioritize structures within untenured forest lands and those outside of CADT/CALT areas. For structures within perennial croplands and forested areas (both closed and open forests) with slopes below 18%, the ODCT survey tool and/or drones will be used for data collection. On the other hand, structures within other land cover types, open and closed forests with slopes above 18%, as well as those within built-up and CADT/CALT areas, will be assessed using satellite imagery.</p>

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	<p>satellite imagery. Data related to structures within tenured areas will be obtained from the Enforcement Division and Licenses, Patents, and Deeds Division. Tenure Compliance Monitoring Reports provided by the Enforcement Division.</p>	
<p><b>SECTION 7. Creation of Regional Technical Working Group (TWG) and Ground Validation Teams</b></p>	<p><b>8.1 Regional TWG</b></p> <p><b>Overall Lead:</b> Assistant Regional Director for Technical Services</p> <p><b>Assistant Lead:</b> Chief, Surveys and Mapping Division</p> <p><b>Members:</b> Chiefs and Technical Staff from the following Divisions:</p> <ul style="list-style-type: none"> <li>Enforcement Division</li> <li>Licenses, Patents, and Deeds Division</li> <li>Planning &amp; Management Division</li> <li>Conservation and Development Division</li> <li>Surveys and Mapping Division</li> <li>MGB Regional Office</li> <li>Regional GIS Focal and/or Control Map Focal</li> </ul>	<p><b>7.1 Regional TWG</b></p> <p><b>Overall Lead:</b> Assistant Regional Director for Technical Services</p> <p><b>Assistant Lead:</b> Chief, Surveys and Mapping Division</p> <p><b>Members:</b> Chiefs and Technical Staff from the following Divisions:</p> <ul style="list-style-type: none"> <li>Enforcement Division</li> <li>Licenses, Patents, and Deeds Division</li> <li>Planning &amp; Management Division</li> <li>Conservation and Development Division</li> <li>Surveys and Mapping Division</li> <li>Legal Division</li> <li>Regional NGP Coordinator</li> <li>Regional GIS Focal and/or Control Map Focal</li> </ul> <p>The Regional TWG may invite other representatives as deemed necessary.</p>

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	<p>8.2 Ground Validation Teams</p> <p>The Ground Validation Teams shall compose of the following: In the case of Supervising PENRO/s, the CENRO concerned shall lead the inventory.</p>	<p>7.2 Ground Validation Teams</p> <p>The Ground Validation Teams shall compose of the following:.</p>
<p>SECTION 8. Roles and Responsibilities</p>	<p>9.1. The Forest Management Bureau (FMB) shall conduct the initial analysis of the universe and categorize the structures according to the location of structures as per Section 5.1. of this Order. The FMB shall provide the analyzed data to the Regional Offices. The FMB shall also design and provide the ODCT smartforms to the CENRO/Implementing PENRO.</p> <p>a. Determination of boundaries based on Section 5.1. The FMB shall provide the indicative boundaries for tenured forest lands, CADT areas and untenured forest lands to the Regional Offices and shall ensure that these three (3) major boundaries are exported separately since the inventory of structures within these areas of interest vary.</p> <p>b. Creation of the universe of the Inventory. Using the data derived from Section 6.1, the FMB shall create the initial universe of the inventory ensuring no overlaps among the boundaries. The</p>	<p>8.1. The Forest Management Bureau (FMB) shall conduct the initial analysis of the universe and categorize the structures according to the location of structures as per Section 5.1. of this Order. The FMB shall provide the analyzed data to the Regional Offices. The FMB shall also develop, design and provide the ODCT smartforms to the CENRO/Implementing PENROs.</p> <p>a. Determination of boundaries based on Section 5.1. The FMB shall provide the indicative boundaries for tenured forest lands, CADT/CALT areas and untenured forest lands to the Regional Offices and shall ensure that these three (3) major boundaries are exported separately since the inventory methodology of structures within these areas of interest vary.</p> <p>b. Creation of the universe of the Inventory. Using the data derived from Section 6.1, the FMB shall create the initial universe of the inventory ensuring no overlaps among the boundaries. The regional boundaries shall be</p>

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	<p>regional boundaries shall be derived from the land cover map of NAMRIA. The FMB together with the Regional Offices shall reconcile their respective data and finalize the universe.</p> <p>The finalized universe vetted by FMB and the RO shall be the basis for planning the three-year implementation of the inventory.</p> <p>9.2. The Regional TWG shall be responsible in the consolidation and submission of data on structures and in the identification of structures within other land cover types, forest cover with above 18% slope, and CADT/CALT areas using satellite image analysis.</p> <p>a. Designation of Lead Division. The Assistant Regional Director for Technical Services shall be responsible for the designation of the Lead Division. The Lead Division shall be responsible for the consolidation of data on structures and shall mobilize the identified members in Section 8.1;</p> <p>b. Consolidation of data on structures. The Regional TWG shall consolidate all spatial data on structures which shall include the data gathered using ODCT</p>	<p>derived from the land cover map of NAMRIA. The FMB together with the Regional Offices shall reconcile their respective data and finalize the universe.</p> <p>The final universe vetted by the FMB and the RO shall be the basis for planning the three-year implementation of the inventory.</p> <p>8.2. The Regional TWG shall be responsible for the consolidation and submission of data on the inventory of structures. The Regional TWG shall also be responsible in the identification of structures within other land cover types, forest cover with above 18% slope, and CADT/CALT areas using satellite imagery analysis.</p> <p>a. Designation of Lead Division. The Surveys and Mapping Division shall be designated as the Lead Division. The Lead Division shall facilitate the consolidation of data on structures and shall mobilize the identified ground validation team members in Section 7.1;</p> <p>c. Consolidation of inventory data. The Regional TWG shall consolidate all spatial data on structures which shall include the data gathered using ODCT and/or drone survey.</p>

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	<p>and/or drone survey, satellite image analysis, and tenure compliance reports;</p> <p>c. Identification of structures within other land cover types, CADT areas and forest cover above 18% slope. The Regional TWG shall conduct satellite image analysis within the boundaries of other land cover types outside tenure, closed and open forests above 18% slope and CADT areas, to identify structures within these areas. Points shall be created for each visible structure using satellite images. Information to be gathered shall only be limited to the number of structures and other known information that can be identified.</p> <p>9.3. The Ground Validation Team</p> <p>a. Inventory of structures using ODCT. The Ground Validation Team shall be responsible for gathering first-hand data and information about structures as identified in Section 5.3 of this Order. The inventory shall implement the smartforms created and provided by FMB.</p> <p>The team shall ensure that the inventory is properly coordinated with the concerned LGU. The Team may also gather other relevant</p>	<p>and satellite imagery analysis, and tenured forest lands;</p> <p>d. Identification of structures within other land cover types, CADT areas and forest cover above 18% slope. The Regional TWG shall conduct satellite imagery analysis within the boundaries of other land cover types outside tenure, closed and open forests above 18% slope and CADT/ CALT areas, to identify structures within these areas. Points and polygons shall be created for each visible structure using satellite images. Information to be gathered shall only be limited to the number of structures and other relevant information that can be identified.</p> <p>8.3. The Ground Validation Team.</p> <p>a. Inventory of structures using ODCT. The Ground Validation Team shall be responsible for gathering first-hand data and information about structures as identified in Section 5.3 of this Order. The inventory shall implement the smartform created and provided by FMB.</p> <p>The team shall conduct the survey by municipality and shall ensure the completion prior to moving to another municipality. The team shall ensure</p>

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	<p>information from the LGUs, such as business permits, tax maps, land use maps, among others.</p> <p>b. <b>Aerial validation using drones.</b> The Ground Validation Team may opt to use aerial validation using drones for areas where entry is not feasible (such as presence of ravines and creeks). The team shall conduct the planning of drone flight validation adopting the protocols set in FMB Technical Bulletin No. 35.</p> <p>b.1. <b>Drone Survey.</b> The existing Protocol on the Use of Quadcopter Remotely Piloted Aircraft (RPA) in the Monitoring and Assessment of Natural Resources Programs and Projects is hereby adopted as the official methodology from pre-flight, in-flight, and post-flight operations, as well as the image processing of the aerial photographs acquired in the drone survey.</p> <p>The efficiency of the drone survey will depend on well-thought information, education, and communication (IEC) dissemination of the project to the community involved. The</p>	<p>that the inventory is properly coordinated with the concerned LGU. The Team may also gather other relevant information from the LGUs, such as business permits, tax maps, land use maps, among others.</p> <p>b. <b>Aerial validation using drones.</b> The Team may opt to use aerial validation using drones for areas where entry is not feasible (such as presence of ravines and creeks). The team shall conduct the planning of drone flight validation adopting the protocols set in FMB Technical Bulletin No. 35.</p> <p>b.1. <b>Drone Survey.</b> The existing Protocol on the Use of Quadcopter Remotely Piloted Aircraft (RPA) in the Monitoring and Assessment of Forestry, Environment, and Natural Resources Programs and Projects is hereby adopted as the official methodology from pre-flight, in-flight, and post-flight operations, as well as the image processing of the aerial photographs acquired in the drone survey.</p>

Provision/Section	Original	Revised
	<p>weather and terrain shall also be taken into consideration.</p> <p>b.3. <i>Areas Restricted to Drone Surveys.</i> Drone surveys cannot be operated within a 10-kilometer radius of the airport. Hence, no drone surveys shall be conducted within a 10kilometer radius of the airport, and only the inventory using an ODCCT Survey be performed in these areas.</p> <p>c. <b>Submission of ODCCT Survey output.</b> The ground validation team shall submit the gathered information to the concerned PENRO.</p> <p>In case of Implementing PENRO, they shall directly submit to the Regional TWG.</p> <p>The CENRO/S shall be consolidation and responsible for the review and consolidation of the submitted outputs from the ground validation team.</p> <p>d. <b>Data Review and Consolidation.</b> The PENRO/s shall be responsible for the review and consolidation of the submitted outputs from the ground validation team. The PENRO/s shall be respectively.</p>	<p>b.3. <i>Areas Restricted to Drone Surveys.</i> No drone surveys shall be conducted within a 10kilometer radius of the airport. Only the inventory using an ODCCT Survey shall be performed in these areas.</p> <p>c. <b>Review, Consolidation, and Submission of ODCCT Survey Report.</b> The ground validation team shall submit the gathered data and information with analysis and recommendations for immediate appropriate actions (if any) to the concerned PENRO. The concerned PENRO shall review, consolidate, and submit the same to the Regional TWG.</p> <p>In case of Implementing PENRO, they shall directly submit to the Regional TWG.</p> <p>Data collected (in shapefiles) shall be uploaded through the FSD Portal.</p>

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<p>SECTION 9. Reporting and Uploading of Inventory Data to the FSD Portal and the DENR Control Map</p>	<p>SECTION 10. Reporting and Integration of the Inventory in the FSD Portal and the DENR Control Map. The inventory output will form part of the Regional Offices' FSD submission (Annex 5). The Regional FSD Management Team and the FMB Geospatial Data Management Team (GDMT) shall be responsible for conducting the quality control and quality assurance of the submitted data. The submission of output shall be done by the Supervising and Implementing PENRO/s.</p> <p>10.1 Reporting</p> <p>a. Progress Report. The Regional TWG shall submit a progress report semi-annually through a Memorandum every 30th of June and 30th of December which details their accomplishment from January to June and July to December, respectively. This shall include shapefiles and kml files of accomplished provinces. The merged validation data from the ODCI and/or drone surveys, satellite image analysis, and tenure shall be uploaded to the FSD Portal and submitted to the FMB Director duly signed by the Regional Executive Director (RED).</p>	<p>SECTION 9. Reporting and Uploading of Inventory Data to the FSD Portal and the DENR Control Map. The inventory output will form part of the Regional Offices' FSD submission (Annex 5). The submission of output shall be done by the Supervising and Implementing PENRO/s. The Regional FSD Management Team and the FMB Geospatial Data Management Team (GDMT) shall be responsible for conducting the quality control and quality assurance of the submitted data. The timeline of report submission shall be as follows:</p> <p>See attached table for the timeline of submission in Section 9.1 Reporting.</p> <p>9.1 Reporting</p> <p>a. Progress Report. The Regional TWG shall submit a progress report semi-annually through a Memorandum every end of July January which details their accomplishment from January to June and July to December, respectively. The report shall provide a comprehensive view of the project's current status to include detailed information on the completed and ongoing tasks, data and compiled findings, challenges and mitigation strategies, stakeholder engagement, financial, and recommendations.</p> <p>If the survey for a particular province is still ongoing at the time of reporting, the RTWG shall</p>



Provision/Section	Original	Revised
	<p>If the survey for a particular province is still ongoing at the time of reporting, the RTWG shall include the percentage of accomplishment and target completion in writing and there is no need to submit incomplete data yet.</p> <p>The progress report format is shown in Annex 6.</p> <p>c. <b>Final Report.</b> The Regional TWG shall submit the final report through a Memorandum at the end of three (3) years which details their accomplishment of the inventory of structures. This shall include shapefiles and kml files of all accomplished provinces. The consolidated data from the satellite image inventory and the ODCI and/or drone surveys, and tenure shall be uploaded to the FSD Portal and submitted to FMB duly signed by the Regional Executive Director (RED).</p> <p>The final report format is shown in Annex 7.</p>	<p>include the percentage of accomplishment and target completion.</p> <p>The progress report format is shown in Annex 7.</p> <p>c. <b>Final Report.</b> The Regional TWG shall submit the final report through a Memorandum at the end of three (3) years which summarizes the entire inventory upon completion, providing a comprehensive overview of all activities, findings and outcomes.</p> <p>The final report format is shown in Annex 8.</p>
SECTION 10. Capacity Building	SECTION 11. Capacity Building. The FMB shall conduct the roll-out and provide capacity-building activities to the DENR Regional and Field Offices to ensure that the activities in the field shall be	SECTION 10. Capacity Building. The FMB, in coordination with Geospatial Database Office, shall conduct the roll-out and provide capacity-building activities to the DENR Regional and Field Offices to ensure that the activities in the field shall be

Provision/Section	Original	Revised
	conducted correctly and efficiently relative to the operations stated herewith.	conducted correctly and efficiently relative to the operations stated herewith.
SECTION 11. Duration	SECTION 12. Timeline. Within three (3) years of the effectivity of this Order, the FMB and the RO shall complete the baseline inventory of structures within forest lands. The inventory shall be included in the regular monitoring of the regional offices and shall be updated every year thereafter. In the event that the target area cannot be accomplished within the three (3) year activity, the Regional Office through a Memorandum addressed to the FMB Director shall officially request for extension including the area coverage and justification.	SECTION 11. Duration. Within three (3) years of the effectivity of this Order, the FMB and the RO shall complete the baseline inventory of structures within forest lands. In the event that the target area cannot be accomplished within the three (3) year activity, the Regional Office through a Memorandum addressed to the FMB Director shall officially request for extension including the area coverage and justification.  For the succeeding years, the inventory shall be included in the regular monitoring activities of the regional offices as part of the evidence-based enforcement process and shall be updated annually.
SECTION 12. Funding	SECTION 13. Funding	SECTION 12. Funding
SECTION 13. Separability Clause	SECTION 14. Separability Clause	SECTION 13. Separability Clause
SECTION 14. Repealing Clause	SECTION 15. Repealing Clause.	SECTION 14. Repealing Clause.
SECTION 15. Effectivity	SECTION 16. Effectivity.	SECTION 15. Effectivity.

### 9.1 Reporting

There are three (3) reports required under this Order. The timeline of submission shall be as follows:

Report	Focus	Content	Timeline of Submission	Responsible
Interim Progress	Initial progress and early observations	Summary of early activities, preliminary data, recommended course of actions in general terms	Monthly (every 10th of the ensuing month)	Ground Validation Team to Regional Executive Director thru the RTWG
Progress	Comprehensive view of current status/ Detailed ongoing update	Detailed tasks, data, challenges, stakeholder engagement, financials, next steps	Semi-annual (every end of July and end of January)	RTWG to RED; RED to FMB
Final	Entire project lifecycle and outcomes	Summary of all activities, final data, challenges, financials, conclusions, recommendations	End of activity	RTWG to RED; RED to FMB



**DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
KAGAWARAN NG KAPALIGIRAN AT LIKAS NA YAMAN**



Signed  
GEM  
PRC 2024-10

**MEMORANDUM**

**FOR/TO :** Director, Knowledge and Information Systems Service  
Director, Climate Change Service  
Director, Foreign-Assisted and Special Projects Service  
Director, Strategic Communication and Initiatives Service  
Director, Biodiversity Management Bureau  
Director, Ecosystems Research and Development Bureau  
Director, Environmental Management Bureau  
Director, Forest Management Bureau  
Director, Land Management Bureau  
Director, Mines and Geosciences Bureau  
Executive Director, National Water Resources Board  
Chief of Staff/HEA, Office of the Undersecretary for Legal and Administration  
Chief of Staff/HEA, Office of the Undersecretary for Finance, Information Systems and Climate Change  
Chief of Staff/HEA, Office of the Undersecretary Policy, Planning and International Affairs  
Chief of Staff/HEA, Office of the Undersecretary for Field Operations (FO) - Luzon, Visayas, MGB and EMB  
Chief of Staff/HEA, Office of the Undersecretary for FO – Mindanao, MGB and EMB  
Chief of Staff/HEA, Office of the Undersecretary for Organizational Transformation and Human Resources  
Chief of Staff/HEA, Office of the Undersecretary for Integrated Environmental Science  
Chief of Staff/HEA, Office of the Undersecretary for Special Concerns and Legislative Affairs  
Chief of Staff/HEA, Office of the Supervising Undersecretary for Water Resources Management Office  
Chief of Staff/HEA, Office of the Assistant Secretary for Policy, Planning, International Affairs, and Climate Change  
Chief of Staff/HEA, Office of the Assistant Secretary for Legal Affairs  
Chief of Staff/HEA, Office of the Assistant Secretary for FO - Luzon and Visayas  
Chief of Staff/HEA, Office of the Assistant Secretary for FO - Eastern Mindanao  
Chief of Staff/HEA, Office of the Assistant Secretary for FO - Western Mindanao  
Chief of Staff/HEA, Geospatial Database Office  
Division Chief, PPS-Program Monitoring and Evaluation Division

**FROM :** Assistant Secretary for Legal Affairs and Enforcement

**SUBJECT: SUMMARY OF AGREEMENTS DURING POLICY TECHNICAL  
WORKING GROUP (PTWG) MEETING NO. 2024-10**

**DATE : 30 SEP 2024**

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We are furnishing herewith the summary of agreements (SOA) during the PTWG Meeting No. 2024-09 held on 12 September 2024, 9:00 AM at the Conference Room of the Assistant Secretary for International Affairs, 5th Floor, DENR Central Office and via Zoom, which tackled the proposed policies from the Forest Management Bureau (FMB).

Please be informed that the SOA has been circulated through email for further comments on 19 September 2024. The Field Operations Group and FMB's comments had been incorporated in the said SOA dated 24 September 2024. Moreover, there are no other substantial inputs received by the deadline hence, the SOA is hereby considered as concurred by the PTWG members who attended the said meeting.

Further, as agreed upon, the proposed policies shall be circulated to the PTWG members for final vetting, once revised by the proponent.

For your information and consideration, please.

  
ATTY. NORLITO A. ENERAN



**DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
KAGAWARAN NG KAPALIGIRAN AT LIKAS NA YAMAN**



**PTWG Meeting No. 2024-10  
SUMMARY OF AGREEMENTS**

12 September 2024 | 9:00 AM | OASB Conference Room, 5/F DENR Bldg.

**I. Call to Order**

The meeting was called to order by the PTWG Chairperson, Director Cheryl Loise T. Leal at 9:15 AM. She recognized the PTWG meeting attendees. The Secretariat called the roll of the attendees, wherein, below is the list of the participants:

<b>Chairperson:</b> Director Cheryl Loise T. Leal	
<b>Vice Chairperson:</b> Assistant Secretary Norfilito A. Eneran	
<b>Members:</b>	
<b>FMB</b> AD Edna Nuestro For. Laryn Faith Aggabao For. Kenneth Tabliga For. Claudett Endozo	<b>MGB</b> For. Christian Kevin Latiza Engr. Jenetta Ponce Engr. Danny Berches For. Teodorico Marquez
<b>BMB</b> For. Rachel Abenir	<b>LMB</b> For. Lovella Galindon
<b>EMB</b> Mr. Ross Ian M. Avino Mr. Janus Alpano Mr. Alvin Jay Robel	<b>GDO</b> Ms. Layla Sevilla
<b>RBCO</b> Mr. John Cj Bilolo	<b>FASPS</b> Ms. Hazel Joyce P. Alcantara
<b>IAS</b> Mr. Laurence Papina For. Jake Lorenz Aldovino	<b>SCMRD-FO</b> Engr. Ernestina Jose
<b>OUFISCC</b> Ms. Irene Manaog-Gono	<b>OULA</b> Ms. Lolita Presbitero
<b>OASFOLV</b> For. Josefina Ocampo	<b>OUPPIA</b> For. Jeremy Christian Q. Rola
<b>OSEC/OCOS</b> For. Ivy Nicole G. Angeles	<b>OUFOM</b> Ms. Hearteen R. Albajera
<b>OUFISCC</b> Atty. Irene Cristina M. Gono	<b>OUPPIA</b> For. Jeremy Christian Q. Rola Mr. Eric John Badong
<b>OUFOLVE</b> For. Maria Angela J. Tamoria	<b>PPS</b> For. Llarina Mojica
<b>Secretariat:</b>	
For. Amisol Talania	Ms. Debra Tante
For. Jezreelyn Milar	For. Raphael Celestino Baskinas

## I. Adoption of the Provisional Agenda

The provisional agenda was adopted by the PTWG Members and as part of the topic on the Inventory of structures, the Geospatial Database Office was allowed to present the output of undertakings on the Inventory of structures in Protected Areas.

## II. Discussions on Proposed Policies

### A. DRAFT DAO RE: GUIDELINES ON THE INVENTORY OF STRUCTURES WITHIN FOREST LANDS

FMB Assistant Director Edna D. Nuestro provided the brief background of the draft DAO entitled "Inventory of Structures within Forest Lands". The rationale and other salient features of the draft DAO were then presented by For. Kenneth Tabliga, Chief of the Forest Policy, Planning and Knowledge Management Division.

As per request of the Undersecretary for Integrated Environmental Science, Ms. Layla Sevilla of the Geospatial Database Office presented the 2024 building footprints with protected areas.

The presentation focused on the output of table inventory of buildings within protected areas in Regions 1,2,3, and 4a using data from Google Open Buildings, Grab Maps, Google Maps, Google Street View, Wikimapia, Geoportal, and ECC points coordinates from EMB. Hence, the outputs shall be validated on the ground.

GDO presented the said methodology in the inventory of buildings in PA, for the proponent to take consideration on the proposed DAO and methodologies of inventory of structures within Forest Lands.

Proposed	Comments/Agreements
Preliminary Discussions	<ul style="list-style-type: none"><li>• Asec Eneran inquired about the scope of the draft DAO, if it covers the aspect of forest protection. He clarified if the output of the inventory of structures in forest lands (FL) can be a basis for build-ups cases.</li></ul> <p>AD Nuestro responded that the focus of the draft DAO is on the inventory of the structures in FL. She also cited that we cannot implicate police power using the DAO. In such cases, there are existing laws and policies on enforcement that can serve as reference.</p>
Subject/Title	<ul style="list-style-type: none"><li>• Asec. Eneran asks if the activities to be covered by the draft DAO is for inventory purposes only. He asked if validation and analysis of data are some of the major</li></ul>

	<p>activities to be performed. Likewise, he suggested revisiting the title of the policy.</p>
<b>Prefatory Statement</b>	<ul style="list-style-type: none"> <li>● Check formatting and rewrite the words (i.e. re-organization, for other purposes, Community-based in CBFM).</li> <li>● Retain the relevant laws related to the draft policy, and delete the Memorandum from Undersecretary for Field Operations dated September 21, 2021.</li> <li>● On the use of the word "forest lands", aside from quoting the title of old policies, it should be written as forest lands instead of "forestland."</li> </ul>
<b>SECTION 1. Basic Policy</b>	<ul style="list-style-type: none"> <li>● Retain the basic policy clause, and add applicable terms/components such as sustainable development.</li> </ul>
<b>SECTION 2. Objectives</b>	<ul style="list-style-type: none"> <li>● Format the objectives and make it in bullet form. Specify the general objective/s as well as the specific objectives.</li> <li>● Specify the contents of the report, and include the post inventory activities such as evaluation and analysis in the draft DAO.</li> </ul>
<b>SECTION 3. Scope and Coverage</b>	<ul style="list-style-type: none"> <li>● Add the basis of the occupation in the list of data to be collected (i.e. tax declaration, tenure, title etc.).</li> </ul>
<b>SECTION 4. Definition of Terms</b>	<ul style="list-style-type: none"> <li>● On item d- reference of the term forest lands, revise it to "Revised Forestry Code."</li> <li>● FMB to coordinate with GDO on other possible definitions of Remotely Piloted Aircraft (RPA).</li> <li>● On item J (Structures), cross check the definitions of temporary structures. Check if it's appropriate to define it separately from permanent structures. Refer to the definition of structures used in the Civil Code and DPWH policies. Also, consult the Legal Office on the matter.</li> <li>● On item n.1., n.2. and n.3. put inside the bracket the <i>land cover map of NAMRIA</i> as reference.</li> <li>● On item n.2.1. Open Forest, revise the coverage of discontinuous tree layers to at least 10 percent and greater than or equal to 40 percent.</li> </ul>
<b>SECTION 5. Inventory of Structures within Forestlands</b>	<ul style="list-style-type: none"> <li>● For consistency, change the word Forestland to Forest Lands.</li> <li>● Adopted.</li> </ul>



<p><b>Section 5.1. Location of Structures</b></p>	<ul style="list-style-type: none"> <li>● Add unclassified public forest in the enumeration.</li> <li>● Simplify item 5.1. Location of structures, delete the sentence "Structures within forest lands are classified xxx" and proceed with the enumeration.</li> <li>● On item e (structures within untenured forest lands and CADT areas). For. Galindon suggested deleting "untenured forest lands" as these areas are considered outside CADT areas. For. Aggabao, explained that there are overlaps within CADT areas and forest lands and the purpose of including "untenured forest lands" is to qualify the data that they are not mutually exclusive. Retain the CADT on item e. The output of the inventory including CADT can be used for coming up with a general analysis of satellite image of CADT areas. The proponent highlighted that there will be no field validation for this activity, only an aerial survey. However, Asec. Eneran recommended considering including the field validation of the structures within CADT areas, pursuant to the Section 58 of the IPRA Law.</li> <li>● Consider the budget allocation for the field validation and related activities.</li> <li>● The activities shall go beyond the three (3) years proposed duration in order to perform recommended related activities.</li> </ul>
<p><b>Section 5.2. Initial Data Requirements</b></p>	<ul style="list-style-type: none"> <li>● Include the LAMS data and mining tenements in the list of data requirements.</li> <li>● MGB to provide relevant files and data of mining tenements within forest lands (i.e. shapefiles) to FMB.</li> <li>● Ms. Presbitero recommended using legal land classification maps instead of harmonized land classification maps.</li> </ul> <p>Thus, it was agreed not to reflect the on the policy instead provide LC Map number in the attribute as reference.</p> <ul style="list-style-type: none"> <li>● Revise to include unclassified public forests and provide colatilla provisions on areas without issued FAOs within Forest Lands.</li> </ul>
<p><b>5.3. Information on Collection Requirements</b></p>	<ul style="list-style-type: none"> <li>● Revise to include LC Map number, basis of occupation, reference year and FAO No..</li> <li>● For consistency use the terms in Section 3</li> </ul>

	<ul style="list-style-type: none"> <li>re: structure's status, revise items n and p.</li> </ul>
<b>SECTION 6. General procedure in the Conduct of Inventory</b>	<ul style="list-style-type: none"> <li>Replace "field validation" with "inventory."</li> </ul>
<b>6.1. Processing of Universe and Development of Survey Tool</b>	<ul style="list-style-type: none"> <li>On item 6.1, revise to include extraction of specific data (explicitly boundaries) on Mining areas to generate the total land forest. Likewise, FMB shall coordinate/level-off with MGB re: data requirements on Proclaimed Mineral Reservations. The MGB shall submit shapefiles to FMB.</li> <li>Include agricultural areas in the data extraction.</li> <li>On item 6.1., move the last paragraph in item 6.3. (In-situ Data Collection and Validation and Drone Image Analysis).</li> </ul>
<b>6.2. Satellite Imagery Analysis</b>	<ul style="list-style-type: none"> <li>Include the Land Cover Change Analysis.</li> <li>Change "Satellite Image Analysis" to <i>Satellite Imagery Analysis</i>. The said changes shall apply to the succeeding provisions of the DAO with any mentions of Satellite Image Analysis.</li> </ul>
<b>6.3. In-Situ Data Collection and Validation and Drone Image Analysis</b>	<ul style="list-style-type: none"> <li>Delete the clause <i>"As the need arises, the Forest Management Bureau shall develop a field implementation manual."</i></li> </ul>
<b>SECTION 7. Prioritization of structures</b>	<ul style="list-style-type: none"> <li>Revise the title to Prioritization of Inventory.</li> <li>Include Section 7, as another subsection in Section 6.</li> <li>Add CALT to any mentions of CADT in the draft DAO.</li> <li>Revise to obtain source of data, FMB to validate if Tenure Compliance Monitoring Reports will be sourced out from LPDD instead of Enforcement Division.</li> </ul>
<b>SECTION 8. Creation of Regional Technical Working Group and Ground Validation Teams</b>	<ul style="list-style-type: none"> <li>Adopted.</li> </ul>
<b>Section 8.1. Regional TWG</b>	<ul style="list-style-type: none"> <li>On item 8.1., include Legal as member and add a clause that <i>"The RTWG may invite MGB in the Regional Technical Working Group"</i></li> </ul>
<b>Section 8.2. Ground Validation Teams</b>	<ul style="list-style-type: none"> <li>Delete the 2nd sentence <i>"In the case of the supervising PENROs the CENROs shall lead the inventory."</i></li> <li>FMB to check the structural composition of PENRO Laguna for consideration of the creation of ground validation teams.</li> </ul>

<b>SECTION 9. Roles and Responsibilities</b>	
<b>Section 9.1. The Forest Management Bureau</b>	<ul style="list-style-type: none"> <li>• Adopted.</li> </ul>
<b>Section 9.2. The Regional TWG</b>	<ul style="list-style-type: none"> <li>• On Item 9.2.a., revise the provision regarding designation of Lead Division, and recommend the Surveys and Mapping Division as the lead division.</li> <li>• On 9.2 b, delete "and tenure compliance reports".</li> <li>• Revise the "other known information" to "other relevant information".</li> </ul>
<b>Section 9.3. Ground Validation Team</b>	<ul style="list-style-type: none"> <li>• Add in the last part of the second paragraph of 9.3.a (Inventory of structures using ODCI) "The team shall further coordinate with the LGU concerned on other relevant information."</li> <li>• On Item 9.3. b.1, delete the second paragraph: "The efficiency of the drone survey xxx".</li> <li>• On item 9.3. b.3.delete 1st sentence: "Drone surveys cannot be operated within a 10-kilometer radius of the airport" since it is already included in the existing drone protocols.</li> <li>• On item 9.3.c. (Submission of the output of the ODCI survey), revise the last sentence and clarify the Office responsible for the consolidation. Include also the immediate appropriate action of concerned Offices on illegal activities.</li> </ul>
<b>SECTION 10. Reporting and Integration of the Inventory in the FSD Portal and the DENR Control Map</b>	<ul style="list-style-type: none"> <li>• Revise the last sentence to include implementing PENROs.</li> <li>• Revise numbering of annexes from annex 5 onwards.</li> </ul>
<b>Section 10.1. Data Attribution</b>	<ul style="list-style-type: none"> <li>• Adopted.</li> </ul>
<b>Section 10.2. Data Uploaded and Monitoring</b>	<ul style="list-style-type: none"> <li>• Adopted.</li> </ul>
<b>Section 10.3. Progress Report</b>	<ul style="list-style-type: none"> <li>• Revise the submission of the progress report to every end of July.</li> <li>• FMB to discuss the provisions on the real time submission of progress reports and to include real time validation reports for submission to the Regional Office as part of evidence-based enforcement process.</li> </ul>
<b>Section 10.4. Final Report</b>	<ul style="list-style-type: none"> <li>• Revise the submission of the Final Report and FMB to identify proper time period to accomplish all proposed activities in the</li> </ul>

	<ul style="list-style-type: none"> <li>provision of the draft DAO.</li> <li>FMB shall revise the reporting system as well as the appropriate timeline for each progress report.</li> <li>FMB to conduct another round of consultations with the Regional Offices on the submission of the Progress and Final Reports.</li> </ul>
<b>SECTION 11. Capacity Building</b>	<ul style="list-style-type: none"> <li>FMB to consult with GDO on capacity building.</li> </ul>
<b>SECTION 12. Timeline</b>	<ul style="list-style-type: none"> <li>FMB to revise and pattern with the agreements made in Section 10.</li> <li>Instead of timeline, revise as mainstreaming/institutionalization of Program and Activity.</li> </ul>
<b>SECTION 13. Funding</b>	<ul style="list-style-type: none"> <li>Adopted.</li> </ul>
<b>SECTION 14. Separability Clause</b>	<ul style="list-style-type: none"> <li>Adopted.</li> </ul>
<b>SECTION 15. Repealing Clause</b>	<ul style="list-style-type: none"> <li>Adopted.</li> </ul>
<b>SECTION 16. Effectivity</b>	<ul style="list-style-type: none"> <li>Adopted.</li> </ul>
<b>General Comment</b>	<ul style="list-style-type: none"> <li>Add provisions on data security protocol.</li> </ul>

The proposed policy was moved for approval of the PTWG, subject to the revisions based on comments made during the discussion. Director Leal mentioned that PTWG Secretariat will share the revised version of the policy to the PTWG members for comments, and if no further comments are received by the set deadline (end of September 2024), it is assumed that the policy is concurred with. The PPS will then endorse the policy for vetting of the Undersecretaries.

The PTWG meeting was adjourned at 12:45 PM.

Prepared by the PTWG Secretariat

Noted by:

  
**ATTY. NORLITO A. ENERAN**  
 Assistant Secretary for Legal Affairs and Enforcement  
 and Director for Legal Affairs Service



**DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES  
KAGAWARAN NG KAPALIGIRAN AT LIKAS NA YAMAN**



**MEMORANDUM**

**FOR/TO :** Assistant Secretary, Legal Affairs and Enforcement  
Director, Knowledge and Information Systems Service  
Director, Climate Change Service  
Director, Foreign-Assisted and Special Projects Service  
Director, Strategic Communication and Initiatives Service  
Director, Biodiversity Management Bureau  
Director, Ecosystems Research and Development Bureau  
Director, Environmental Management Bureau  
Director, Land Management Bureau  
Director, Mines and Geosciences Bureau  
Executive Director, National Water Resources Board  
Chief of Staff/HEA, Office of the Undersecretary for Legal and Administration  
Chief of Staff/HEA, Office of the Undersecretary for Finance, Information Systems and Climate Change  
Chief of Staff/HEA, Office of the Undersecretary Policy, Planning and International Affairs  
Chief of Staff/HEA, Office of the Undersecretary for Field Operations (FO) - Luzon, Visayas, MGB and EMB  
Chief of Staff/HEA, Office of the Undersecretary for FO – Mindanao, MGB and EMB  
Chief of Staff/HEA, Office of the Undersecretary for Organizational Transformation and Human Resources  
Chief of Staff/HEA, Office of the Undersecretary for Integrated Environmental Science  
Chief of Staff/HEA, Office of the Undersecretary for Special Concerns and Legislative Affairs  
Chief of Staff/HEA, Office of the Supervising Undersecretary for Water Resources Management Office  
Chief of Staff/HEA, Office of the Assistant Secretary for Policy, Planning, International Affairs, and Climate Change  
Chief of Staff/HEA, Office of the Assistant Secretary for Legal Affairs  
Chief of Staff/HEA, Office of the Assistant Secretary for FO - Luzon and Visayas  
Chief of Staff/HEA, Office of the Assistant Secretary for FO – Eastern Mindanao  
Chief of Staff/HEA, Office of the Assistant Secretary for FO – Western Mindanao  
Chief of Staff/HEA, Geospatial Database Office  
Division Chief, PPS-Program Monitoring and Evaluation Division

**FROM :** Director, Policy and Planning Service

**SUBJECT: REQUEST FOR CONCURRENCE/COMMENT ON THE REVISED  
DRAFT DENR ADMINISTRATIVE ORDER (DAO) RE:  
GUIDELINES ON THE INVENTORY OF STRUCTURES WITHIN  
FOREST LANDS**

DATE :


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This refers to the Memorandum from the OIC- Assistant Secretary for Field Operations Mindanao and Director, in concurrent capacity, Forest Management Bureau (FMB) dated 04 October 2024, submitting the above-cited revised draft DAO which was subject of review during the PTWG Meeting No. 2024-10 held on 12 September 2024 at the OASB Conference Room. As agreed during the said meeting, the revised draft policy shall be circulated to the PTWG members for final vetting.

In this regard, may we request your concurrence or comments, if any on the revised draft policy. We will appreciate receiving your feedback on or before **19 October 2024**. If we do not receive any response from you by the said deadline, we will consider this as your endorsement of the proposed policy.

We have attached a copy of the revised draft DAO, Summary of Agreements as well as the comparative matrix of revisions, for your reference.

For your consideration, please.

  
CHERYL LOISE T. LEAL, EnP.  
*ll leal pw*