



November 23, 2023

**MEMORANDUM**

**FOR** : The Director  
Biodiversity Management Bureau

**THRU** : The Regional Executive Director  
DENR MIMAROPA

**FROM** : The OIC PENR Officer

**SUBJECT** : **IDENTIFICATION OF LGUs TO BE PRIORITIZED TO ICM MAINSTREAMING TO CLUP IN THE PROVINCE OF MARINDUQUE**

Forwarded is the Memorandum dated October 27, 2023 from the Coastal and Foreshore Management Unit of Conservation and Development Section, Technical Services Division submitting the names of identified LGUs in mainstreaming the Integrated Coastal Management (ICM) to Comprehensive Land Use Plan (CLUP) in the province of Marinduque.

Pleased be informed that this office identified six (6) municipalities and the municipality of Boac is the priority for C.Y. 2024 ICM mainstreaming to LGUs' CLUP for the Province of Marinduque. Be informed further that said LGU has been notified thru a notification letter dated October 26, 2023 and has been responded with an intention to be provided with technical assistance for C.Y. 2024 Integrated Coastal Management (ICM) mainstreaming to LGU Comprehensive Land Use Plan (CLUP). *See attached letter of intent from LGU Boac, Marinduque dated November 17, 2023.*

Attached is the said Memorandum report including the matrix containing the names of LGUs with corresponding scores based on the criteria provided by the BMB Technical Bulletin No. 2022-02.

This serves as Means of Verification (MoV) on the target activity under the Management of Coastal and Marine Resources/Areas- Technical Assistance on Integrated Coastal Management (ICM).

For information and record.

  
Digitally  
signed  
by Diaz  
Imelda  
Mendoza

**IMELDA M. DIAZ**  
OIC, PENR Officer



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For information and record.

**IMELDA M. DIAZ**  
OIC, PENR Officer



November 16, 2023

**MEMORANDUM**

**FOR** : The OIC-PENR Officer

**THRU** : The Chief, Technical Services Division

**ATTENTION** : The Chief, Conservation and Development Section

**FROM** : The CRFM Unit

**SUBJECT** : **FINAL REPORT ON INCEPTION PHASE AS PART OF MAINSTREAMING OF ICM TO THE CLUP OF THE LGUS WITHIN THE MAJOR WATERSHED (RIVER SYSTEM) CONTRIBUTINNG TO THE NIPAS MPA IN PENRO MARINDUQUE**

**1. EXECUTIVE SUMMARY**

The Coastal Resource and Foreshore Management Unit of the Conservation and Development Section under Technical Services Division of PENRO Marinduque accomplished the activities in the inception phase of the Integrated Coastal Management (ICM) mainstreaming to Comprehensive Land Use Plan of the LGUs in the province of Marinduque. As reported earlier, accomplishments were enumerated base on the BMB Technical Bulletin 2022-02 or the “Guide in mainstreaming the Integrated Coastal Management (ICM) approach to the Local Government Unit’s Comprehensive Land Use Plan (CLUP)”. All concerned LGUs were notified through dissemination of the inception phase results via notification letter sent to the six municipalities’ province wide. Among the six municipalities, the MLGU Boac was the targeted to be prioritized since this municipality got the highest scores to all of the criterions for prioritization for ICM mainstreaming to CLUP.

Relatively, the said Unit consulted the chief Conservation and Development Section and the Chief, Technical Services Division of this Office for further instructions relative to the foregoing activities to be done such as entering to the mainstreaming phase. The undersigned conducted the step 1 of mainstreaming phase which is “*Organize*”. The CRFMU coordinated with MLGU Boac thru the Municipal Planning and Development Office (MPDO) regarding the activity. LGU Boac committed their response to the said letter and agreed that the ICM mainstreaming will be formalized in collaboration not only with the DENR but also with all concerned stakeholders to ensure the full integration in the planning process in CY 2024. Attached is the initial letter of MLGU that will serve as reference and Means of Verification (MOV)s on the target activity under the Management of Coastal and Marine Resources/ Areas-Technical Assistance on Integrated Coastal Management (ICM).

## II. INCEPTION PHASE

The Inception Phase of ICM mainstreaming comprised of the different activities enumerated in the BMB Technical Bulletin 2022-02 (Guide in mainstreaming the Integrated Coastal Management (ICM) Approach to the Local Government Units' Comprehensive Land Use Plan (CLUP) that must be undertaken within the span of one (1) year period. Primarily it serve as guide for DENR Field Offices in extending Technical Assistance to the LGUs on mainstreaming ICM into the 12 steps CLUP develop planning process. Listed below are the activities conducted/accomplished in the inception phase, and a partial step of ICM mainstreaming phase to wit;

### A. Mapping of River Systems

Mapping of river system influencing locally managed MPA was undertaken with the help of PENRO Marinduque GIS focal. The following maps show the location of inventoried rivers and creeks subjected to ground validation for each municipality in the province of Marinduque.

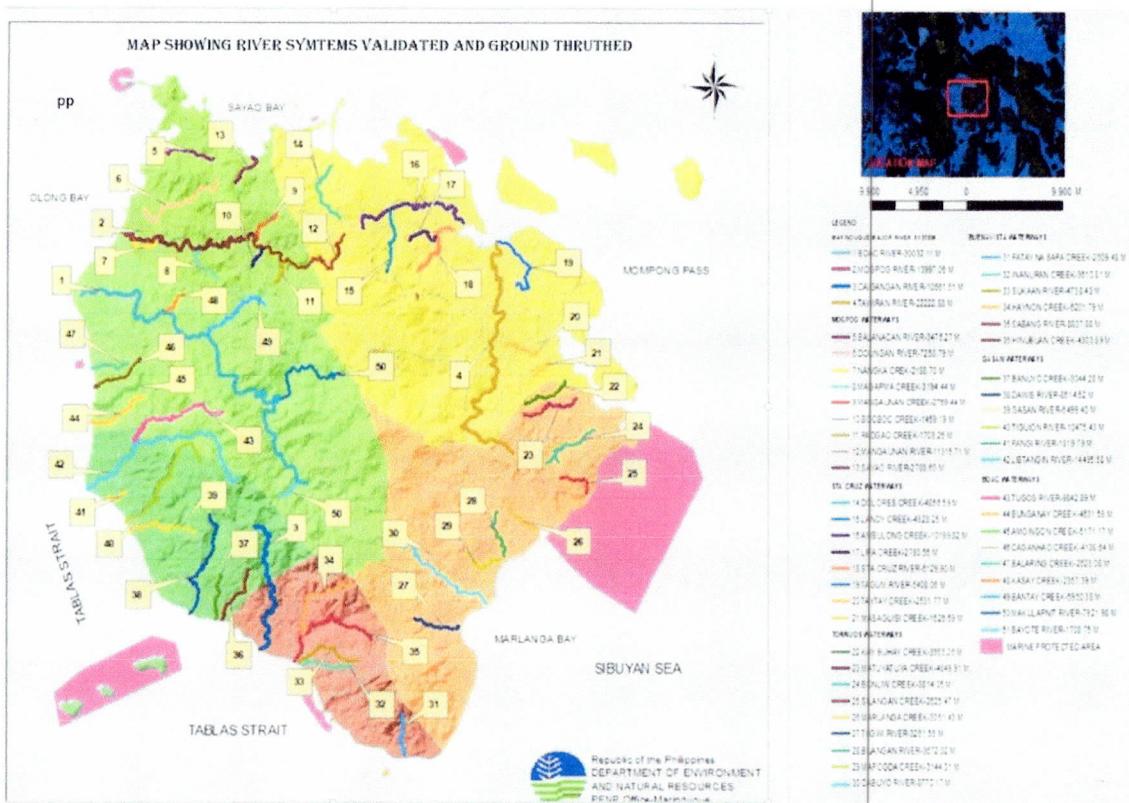


Figure 1. Map showing the inventoried river systems in the province of Marinduque re: Mapping of River Systems \_ICM Mainstreaming\_Inception Phase

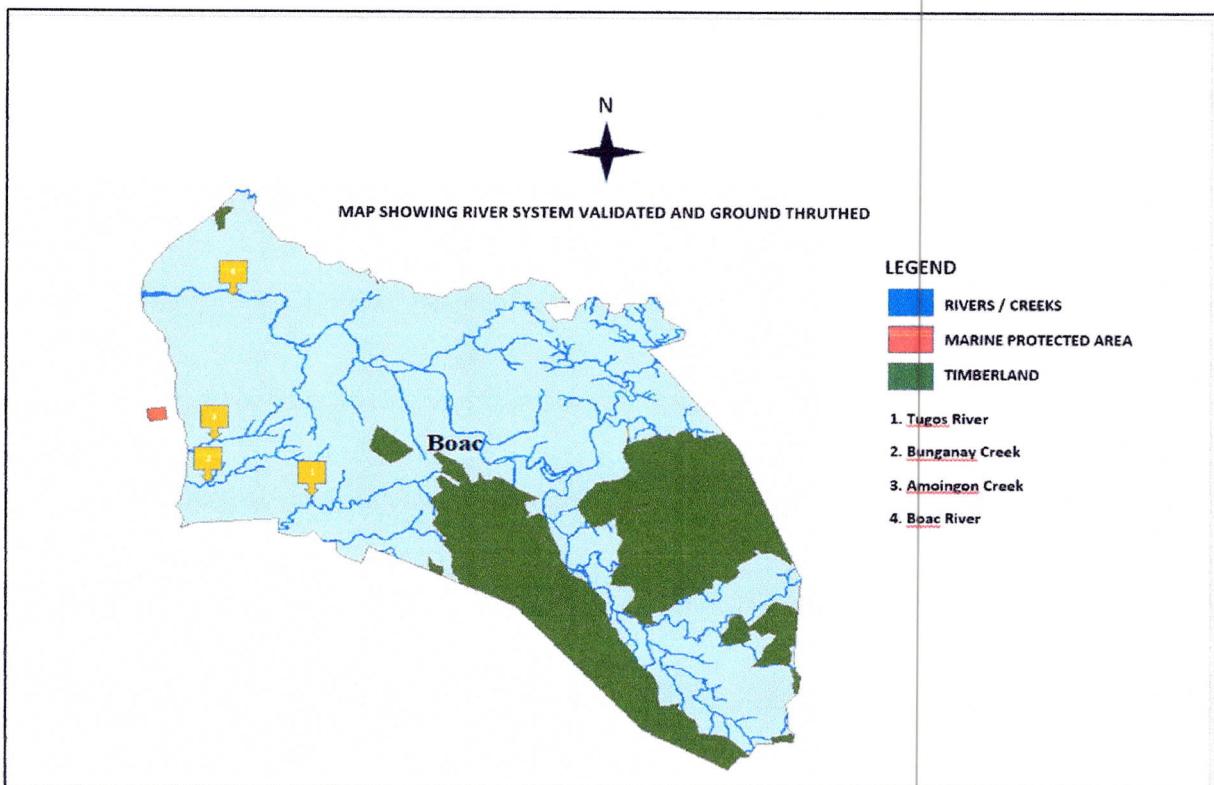


Figure 2. Map of the river system in the Municipality of Boac

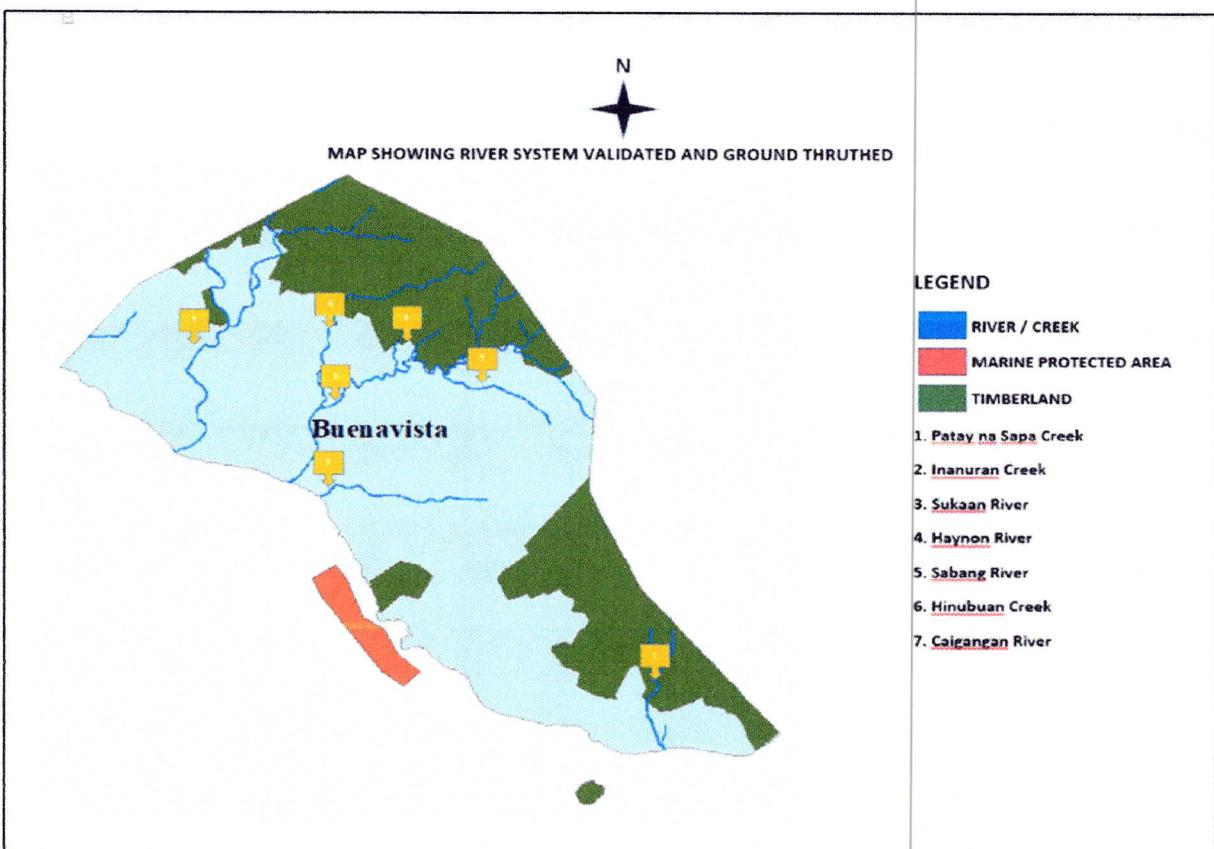


Figure 3. Map of the river system in the Municipality of Buenavista

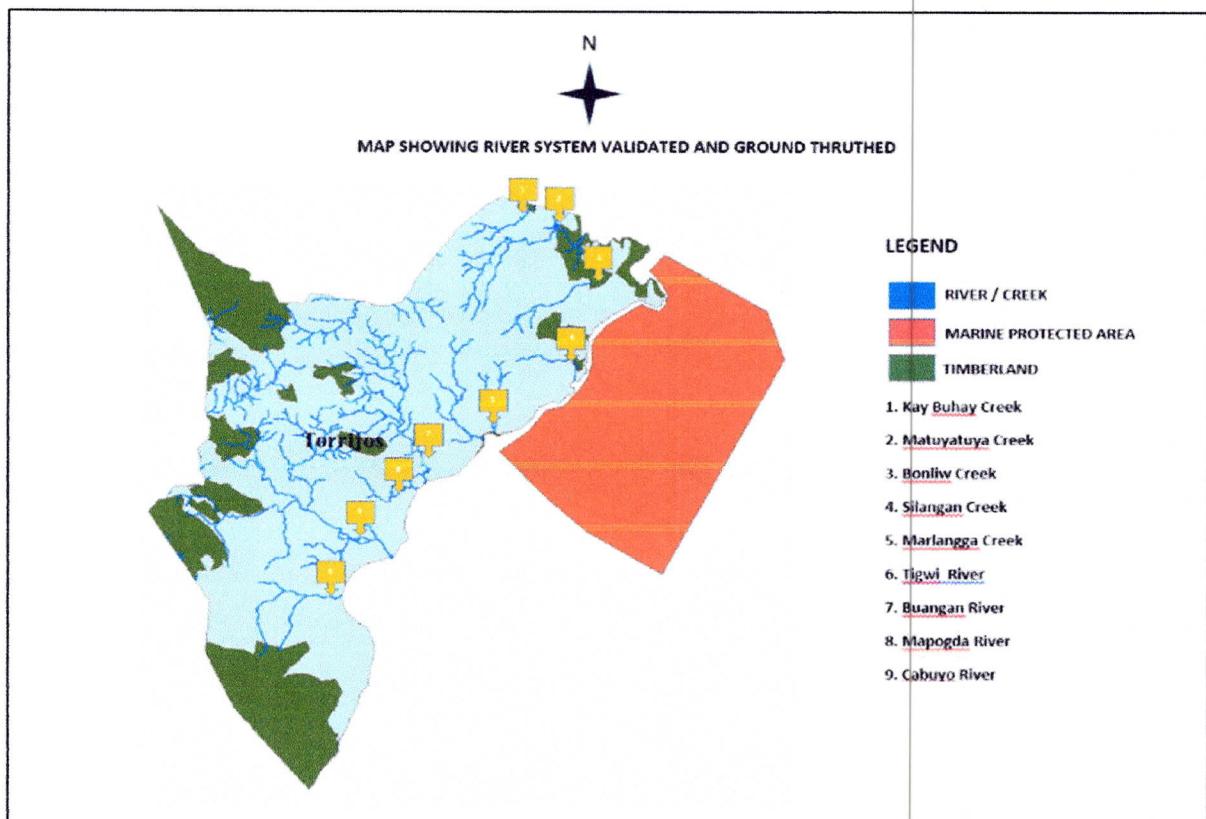


Figure 4. Map of the river system in the Municipality of *Torrijos*.

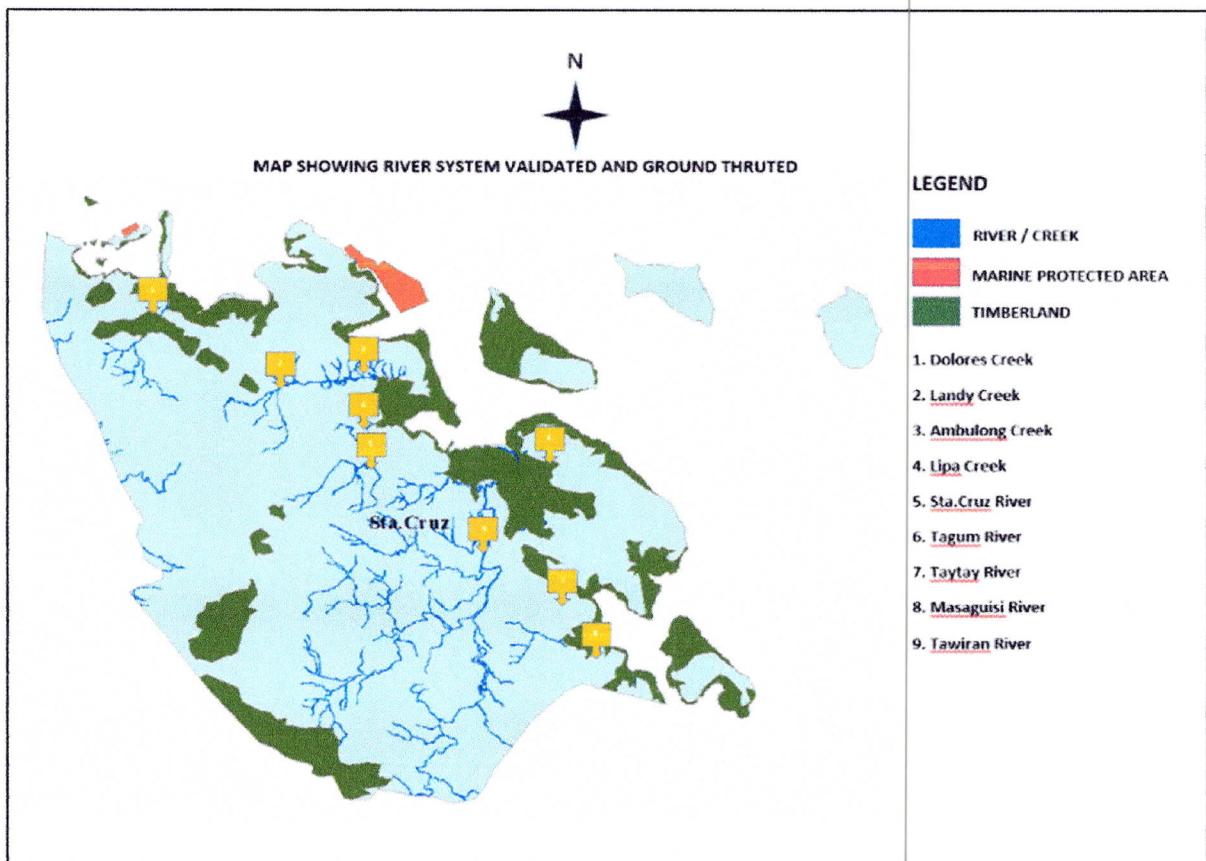


Figure 5. Map of the river system in the Municipality of *Sta. Cruz*.

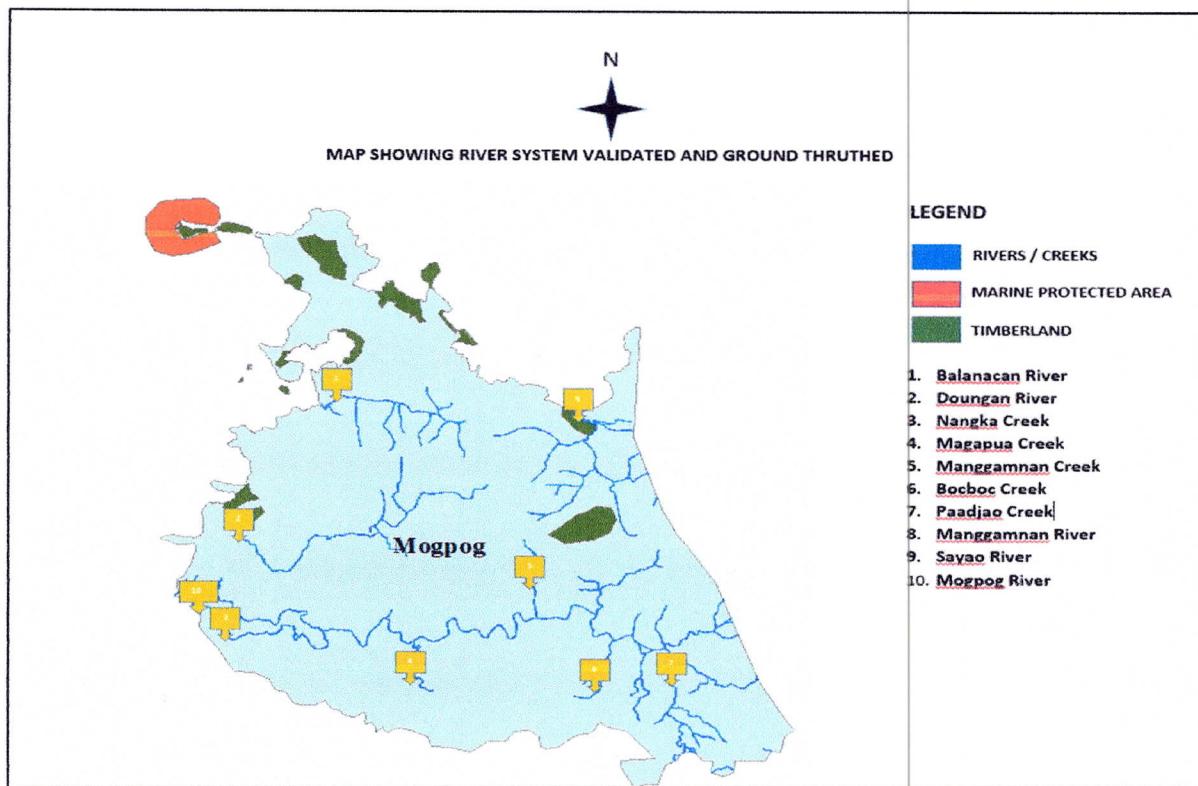


Figure 6. Map of the river system in the Municipality of Mogpog.

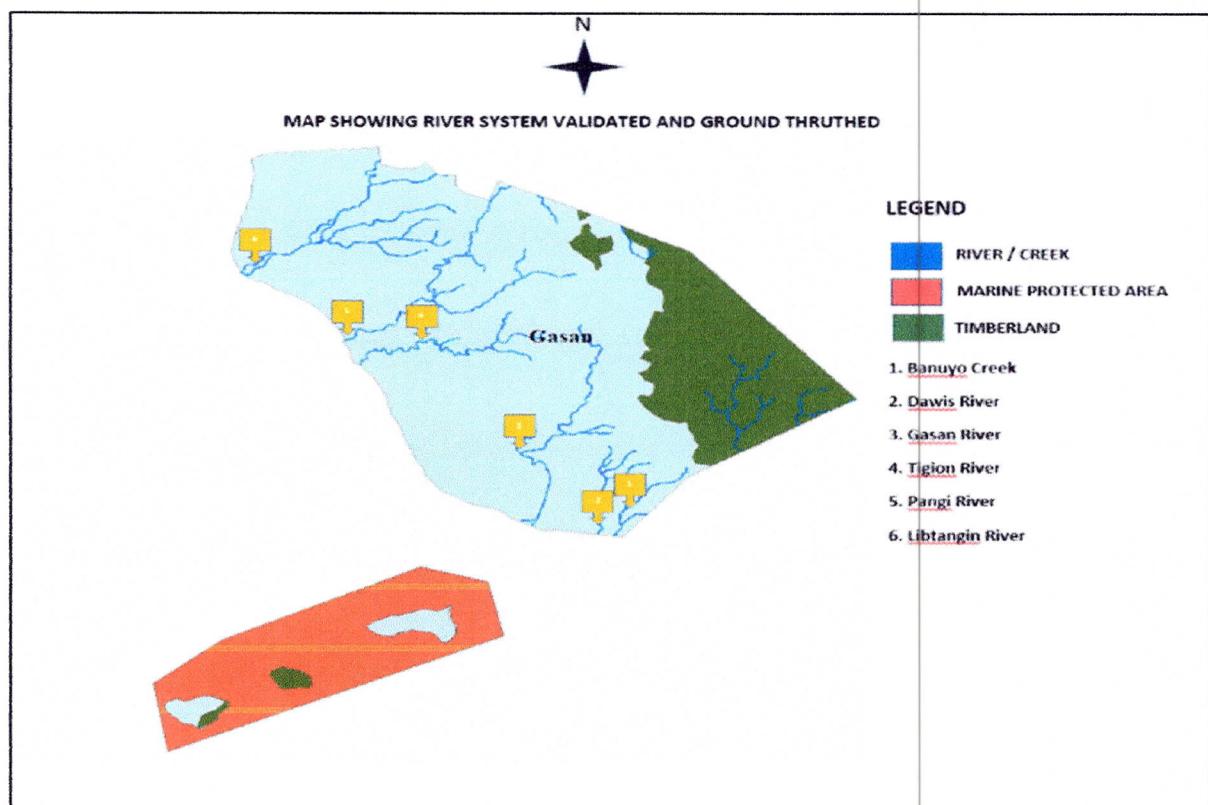


Figure 7. Map of the river system in the Municipality of Gasan.

## **B. Ground Validation and Inventory of River Systems and ENR Profiling**

### **1. LGU Sta. Cruz**

Several rivers and creeks found in Barangay's Dolores, Landy, Lipa, Lapu-lapu, Tagum, Taytay and Masaguisi which are directly and indirectly draining into the sea were subjected to the said activity. Among the rivers and creeks that have been validated was Lapu-Lapu creek. It was observed to have the different pollutants coming from several drainage outlets of households, livestock facilities, solid wastes, other concomitants, treated water from fishponds, disturbed river beds due to passing of fishing and passenger vessels as well as the influence of tides. Causing brown to black coloration of water of the river. In addition, crowded residential area and unusual waste disposal especially plastics were found along canals and mangrove area. This are a clear threats to the marine ecosystem and habitats within the barangay and adjacent areas. All contaminants and pollutants were probably carried along the way to the sea affecting water quality and will be resulted onto coastal and marine resources degradation in the long run.

### **2. LGU Torrijos**

Amomg river and creeks ground transected/ validated in the municipality of Torrijos is the Marlangga creek traversing public market and nearby residential areas. It was observed that the creek was threatened by waste coming from the public market and residential area. The water quality can be characterized as poor due to water discoloration and the presence of algae at the surface. This indicates that the creek is nearly polluted. Mosta likely observedon the other hand were presence of solid wastes such as plastics, organic waste such as tree trunks, coconut husk and bamboo twigs and other trashes at small sizes.

### **3. LGU Buenavista**

Observations were noted that majority of rivers and creeks have solid wastes that are immediately seen especially in the mouth of these rivers either floating in the surface or clogging along with other trashes. A presence of slash and burn was noted in private land in Brgy. Bagtingon as well as agricultural areas/ rice fields in Brgy. Malbog and Poblacion, Buenavista. In addition livestock such as piggery were observed in some adjacent residential areas. Moreover, quarrying activities were also observed in major rivers of the municipalities. It was further observed that, large volume of sand and gravel and boulders were currently stocked at the upper part of Caigangan river. The quarrying still continue-up to this moment.

### **4. LGU Gasan**

Tiguion River in the municipality of Gasan drained toward the coastal area of Poblacion and is traversing along the municipal public market. Drainage secreting

discharge from commercial areas were observed with tainted water and other pollutants. Plastic wastes along with twigs/tree branches leaves and other organic debris were accumulated at the base of the bridge. This is similarly observes in Dawis River.

### 5. LGU's Boac and Mogpog

For the municipalities of Mogpog and Boac, rivers and creeks validated were observed to have the same in terms of organic trashes/wastes and the common issue is the water coloration of its major rivers (Mogpog River, Boac River). It has greenish to blue coloration of water but were observed with existence of aquatic life species such as fish, shrimps and snails. It was also observed that residents used to wash their clothes in the river as well as a reactional area. Aside from these observations, there was also a quarrying at the upper part of Boac River especially in areas of Brgy. Sawi.

Table 1. List of rivers and creeks validated/ground truthed in 6 municipalities of Marinduque province.

No.	Name of River/Creek	Mun	Length (Km)	Outflow	Characteristics	Observed Threats
1	Dolores Creek	Sta. Cruz	4.35	Sayao Bay	Wet/flowing	Silted
2	Landy Creek	Sta. Cruz	4.32	Mongpong Pass	Wet/flowing	Households discharges
3	Ambulong Creek	Sta. Cruz	10.19	Mongpong Pass	Dry and vegetated	Erosion
4	Lipa Creek	Sta. Cruz	2.78	Mongpong Pass	Dry	None observed
5	Sta. Cruz River	Sta. Cruz	5.12	Mongpong Pass	Wet/flowing	Contaminated water from livestock facilities, public market, cemetery and residential areas. Scattered solid wastes (plastics)
6	Tagum River	Sta. Cruz	5.4	Sayao Bay	Wet/flowing	Agriculture and Acuaculture wastes
7	Taytay Creek	Sta. Cruz	2.53	Mongpong Pass	Dry	None observed
8	Masaguisi Creek	Sta. Cruz	1.52	Mongpong Pass	Dry	None observed
9	Tawiran River	Sta. Cruz	22.22	Mongpong Pass	Wet/flowing	Erosion, Agricultural wastes, households wastes, Quarrying
10	Balanacan River	Mogpog	3.47	Olong Bay	Wet/flowing	Contaminated water from livestock facilities and residential areas. Scattered plastic

11	Duungan River	Mogpog	7.25	Olong Bay	Wet/flowing	Agriculture wastes
12	Nangka Creek	Mogpog	2.18	Olong Bay	Wet/flowing	Solid wastes
13	Mangamnan Creek	Mogpog	2.75	Olong Bay	Wet/flowing	Agricultural wastes
14	Bocboc Creek	Mogpog	1.45	Olong Bay	Wet/flowing	Households discharges
15	Paadjao Creek	Mogpog	1.7	Olong Bay	Wet/flowing	None observed
16	Sayao River	Mogpog	2.78	Mongpong Pass	Wet/flowing	Solid wastes, wastes water from residential area
17	Magapua Creek	Mogpog	3.15	Olong Bay	Wet/flowing	Agircultural wastes
18	Mangamnan River	Mogpog	11.31	Olong Bay	Wet/flowing	Agircultural wastes
19	Bunganay Creek	Boac	4.53	Olong Bay	Wet/flowing	Solid wastes
21	Caganhao Creek	Boac	4.13	Olong Bay	Wet/flowing	Solid wastes
22	Balaring Creek	Boac	2.52	Olong Bay	Wet/flowing	Solid wastes
23	Boac River	Boac	30.03	Olong Bay	Wet/flowing	Erosion
24	Kay Buhay Creek	Torrijos	3.55	Marlanga Bay	Wet/flowing	Agriculture wastes
25	Matuya-tuya creek	Torrijos	4.34	Marlanga Bay	Wet/flowing	Agriculture wastes
26	Bonliw Creek	Torrijos	3.51	Marlanga Bay	Dry	None observed
27	Silangan Creek	Torrijos	2.82	Marlanga Bay	Dry	None observed
28	Marlangga Creek	Torrijos	3.05	Marlanga Bay	Wet/flowing	Solid wastes, wastes water from residential area
29	Tigwi River	Torrijos	3.25	Marlanga Bay	Wet/flowing	Solid wastes, wastes water from residential area
30	Buangan River	Torrijos	3.67	Marlanga Bay	Wet/flowing	Solid wastes, wastes water from residential area
31	Mapugda Creek	Torrijos	3.14	Marlanga Bay	Wet/flowing	Solid wastes
32	Cabuyo River	Torrijos	8.77	Marlanga Bay	Wet/flowing	Solid wastes, wastes water from residential area, livestock wastes
33	Banuyo Creek	Gasan	3.04	Tablas Straight	Wet/flowing	Agriultural waste
34	Dawis River	Gasan	8.51	Tablas Straight	Wet/flowing	Agricultural and solid waste
35	Gasan River	Gasan	8.49	Tablas Straight	Wet/flowing	Solid waste, Agricultural

						waste, livestock waste
36	Tiguion River	Gasan	10.47	Tablas Straight	Wet/flowing	Solid waste, Agricultural waste, livestock waste
37	Pangi river	Gasan	1.81	Tablas Straight	Wet/flowing	Solid waste
38	Libtangin river	Gasan	14.43	Tablas Straight	Wet/flowing	Agricultural wastes
39	Patay na sapa creek	Bueanavista	2.5	Tablas Straight	Dry	Agricultural wastes
40	Inanuran Creek	Bueanavista	3.51	Tablas Straight	Wet/flowing	Agricultural wastes and Solid waste
41	Sukaan River	Bueanavista	4.73	Tablas Straight	Wet/flowing	Agricultural waste
42	Haynon Creek	Bueanavista	5.2	Tablas Straight	Dry	Agricultural waste, solid waste
43	Sabang River	Bueanavista	8.83	Tablas Straight	Wet/flowing	Agricultural waste, solid waste
44	Hinubuan Creek	Bueanavista	4.3	Tablas Straight	Dry	Agricultural waste, solid waste
45	Caigangan River	Bueanavista	10.58	Tablas Straight	Dry	Agricultural waste, solid waste, quarrying. Caingin

### C. Identification of LGU to be prioritized for ICM Mainstreaming

Considering the criteria for prioritization to identify the Local Government Unit (LGU) for ICM mainstreaming, it was identified that the Municipality of Boac will be the target LGU for C.Y 2024 technical assistance. The said municipality is currently updating their Comprehensive Land Use Plan (CLUP). Though this LGU haven't updated its ICM plan unlike with other LGUs, They are actively involved and engaged on the priority programs and environmental management interventions launched by the PENRO Marinduque.

**Table 2. Status of LGU's Plans**

Name of the LGU	Plans	Status	Remarks
Gasan	CLUP	Updating (Already endorsed by Provincial Land Use Committee to Sangguniang Panlalawigan	No ICM activities integrated/ incorporated to the plan
	CDP	Adopted	Plan approved covering 2022-2028
	ICM	Draft	Undated (2017-2020)
Buenavista	CLUP	Adopted	Approved thru M.O No. 227 series of 2020
	CDP	None	
	ICM	Updating	
Torrijos	CLUP	Adopted	Plan approved covering 2019-2028
	CDP		-
	ICM		-
Boac	ICM	No ICM plan	CRM training tentatively scheduled on April, 2023/
	CLUP	Updating	-
	CDP	-	-
Mogpog	CLUP		No ICM activities integrated/ incorporated to the plan

		Updating (Already endorsed by Provincial Land Use Committee to Sangguniang Panlalawigan		
	ICM	No ICM	No ICM Plan	
	CDP	-	-	
<b>Sta. Cruz</b>	CLUP	Updating	Updating	
	CDP	-	-	
	ICM	No ICM	No ICM Plan	

**Table 3. Prioritization of LGU in the ICM mainstreaming in the province of Marinduque**

Identified LGUs	Status of CLUP (30%)	Status of ICM Plan (15%)	No. of River Systems (30%)	Database (10%)	LGU Partnership (15%)	Total Score
	Outdated (0.3%)	Adopted ICM Plan (.15%)	>5-4 (0.3%)	Updated annually (10%)	7-10 engaging (.15%)	
	Updating (0.2%)	Drafted ICM Plan (.10%)	3 (0.2%)	Updated every 5 years (.05%)	4-6 engaging (.10%)	
	Updated (0.1%)	No ICM Plan (0%)	0-2 (0.1%)	No database (0%)	1-3 engaging (.05%)	
Boac	0.2	0.1	0.3	0.05	0.15	80%
Gasan	0.1	0.1	0.3	0.05	0.15	70%
Buenavista	0.1	0.1	0.2	0.05	0.15	60%
Torrijos	0.1	0.1	0.2	0.05	0.15	60%
Sta. Cruz	0.2	0.1	0.2	0.05	0.15	70%
Mogpog	0.1	0.1	0.3	0.05	0.15	70%

**Table 4. Schedule of the LGU**

ROADMAP ON THE PRIORITIZATION OF LGUs IN MAINSTREAMING ICM INTO CLUP IN THE PROVINCE OF MARINDUQUE						
Target year	2024	2025	2026	2027	2028	2029
Target LGUs	Boac	Gasan	Mogpog	Sta. Cruz	Buenavista	Torrijos

### III. MAINSTREAMING PHASE

#### *Step 1. Organize*

The mainstreaming phase specify the Technical Assistance to be provided by the DENR Field Offices ensuing the 12-steps CLUP development process as indicated in Volume 2 of the CLUP Guide Books.

For Step 1. Organize. A letter with attached report on the conducted inception phase was distributed and received by the six municipalities in the province of Marinduque. They were informed on the new direction of DENR on ICM TA support especially on LGUs plan to update their CLUPs. The roadmap on the prioritization of LGUs in mainstreaming ICM shows that LGUs Boac is scheduled on CY 2024. Relative to this, coordination to the Municipal Planning and Development Officer (MPDO) was conducted to ensure that the integration of Integrated Coastal Management (ICM) Approach will be mainstreamed to CLUP. A letter of confirmation was received from LGU Boac regarding their plan to update their CLUP in CY 2024.

Attached are the photos of rivers and creeks validated/ground thruthed and other activities conducted such as coordination with the concerns LGUs and among others for information and ready references.

#### **IV. ANNEXES**

*Annex 1. LGUs ENR Profile*

*Annex 2. Copy of the receiving letter distributed to MLGUs*

*Annex 3. Confirmation letter of LGU Boac.*

*Annex 4. Photo Documentation*

Prepared by:

  
**BRIAN INIGO F. LEANO**  
Forest Technician I

  
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Reviewed by:

  
**MARIA ELENA M. PARANAQUE**  
Chief, Conservation and Development Section

Noted by:

  
**Engr. CYNTHIA U. UOZANO**  
Chief, Technical Services Division

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Name of Municipality/City: **MUNICIPALITY OF BOAC**

ENR Parameters	Data Requirements	Map Requirements	Status (Present/Absent)
Geography	Total Land area, area by barangay No. of barangays and sitios Relative Location Absolute location Number of barangays and sitios Boundaries with respect to the province	Topographic Map, Cadastral maps, tax maps Provincial map Administrative Map	Present
Geology and Geomorphology	Major geologic structures Land formation Slope stability Landslide potential Hazard potential Areas within fault lines	Geologic Map Geomorphic or Landform Map	Present
Topography, Slope Aspect and Elevation	General topography of the area Slope Slope Aspect Elevation	Topographic Map Slope Map Slope Aspect Map Elevation Map	Present
Soils	Type of soils Soil type characteristics Area coverage of soil type Land capability classes Characteristics of land capability Classes Area coverage of land capability Classes basis for capability classification soil erosion	Soil Map Land Capability Map Soil Suitability Map Soil Erosion Map	Present
Drainage, tributary patters and catchment areas	Types of drainage pattern Drainage Density Name and location of drainage Basins	Drainage Map	Present
Land Classification and Regulatory Status	Types of land classification and Regulatory status Total land area of: Certified A & D land Unclassified forestland Classified forestland as Established forest reservation Established timberland National parks Reservations covered by Proclamations, DENR projects, other protected areas	Land Classification and Regulatory Map  Legal Status Map	Present

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	Games refuge & bird sanctuary Protected Areas Military & Naval reservation Civil reservations Fishpond Number, location and land area of the ff: Timber license agreements Pasture permits and leases Industrial tree plantations Tree farm lease Agroforestry farm lease Stewardship contracts Other licenses, permits and leases		Absent
Land Use/Cover	Existing land use and extent of coverage Agriculture: highly restricted conditionally restricted for conversion areas marginal to agriculture Areas suitable to agricultural expansion and the recommended crops or activities for each area Forest: old growth forest secondary forest mossy agroforestry reforestation Protected areas Tourism areas Residential Commercial Institutional Industrial Utilities Infrastructure	Land Use Map (general and urban) Vegetation Cover Map Protected Areas for Agriculture Map Key Production Areas Map	Present
Land Ownership Pattern	Average area of landholding by type of land use List landowners with landholdings 10 hectares and above	Location map of large landholdings	Present
Mineral Resource and Reserves	Type and location of deposits Type and location of mining sites Mineral resources surveys Occurrences of earthquake	Mineral Location Map	Absent
Natural Disasters	Occurrences of landslides Occurrences of volcanic	Typhoon Prone Areas Map Flood prone Areas Map Fault lines	Present

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Location and Extent of Surface Freshwater Bodies	eruptions	Water Resources Map	Present
	Occurrences of floods Occurrences of droughts Flood prone areas Type, location & extent of the following		
Location and Extent/Size of Marine and Coastal Resources	Lakes and rivers Reservoirs Main irrigation canals  Wetlands Location & extent of the following Marine and coastal resources Wetlands Seagrass Coral reefs Fishpond resources	Hydrologic Map Map Showing River Map Showing Actual Stream Quality Fishpond Resources Map Coastal Resources Map	Present
General Groundwater Information	Water Table Location of wells and springs Aquifer recharge & discharge rates  Groundwater yield Groundwater quality	Groundwater Map Groundwater Well Logs	Absent
Water Use and Regulation	Water usage of springs and surface water by the population		Absent
Watershed Importance	Important uses of the watersheds		Absent
Surface Water/Stream Conditions	Water quality Sedimentation Surface water runoff rate Streamflow variations		Absent
Prevailing Tidal Fluctuations	Tidal fluctuations Tide gauging stations General climate type Rainfall Air temperature Wind velocity Wind patterns Relative humidity Soil & water evaporation rates		Absent
General Climate Type	Sulfur dioxide content of the atmosphere Carbon dioxide content of the Atmosphere		Absent
Air Quality			

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Biodiversity/Vegetation/Flora of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced species, endangered species medical species and species of aesthetic species Population densities and species distribution Species diversity Distribution of vegetation types Standing crop Rate of biomass production Ecological species indicators Commercially valued species	Vegetation Cover Map Aerial Photographs	Absent
Biodiversity/Fauna of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced species, endangered species: migratory species of scientific and aesthetic interest Population densities and Distribution Species diversity Biomass production/ productivity Ecological/species indicators Commercially valued species		Absent
Bacteria and Fungi  Dumpsites & Sewerage Systems	Beneficial bacteria and fungi Harmful bacteria and fungi No. and location of dumpsites  Rate of solid waste generation Type of solid waste mgt. system Type, no. and location of sewerage and waste disposal systems	Location Map of dumpsites  Sewerage Layout	Absent  Present
ENR Cooperatives and NGOs	Type, name, address & type of services of cooperatives Name, address and services of NGOs		Present
Ancestral Domain	Location and classification of tribal group residing in ancestral domain  Conflicting landclaims land uses and issue over ancestral domain	Ancestral Domain Map	Present
Legal Institutional Jurisdiction of Natural Resources	Institutional jurisdiction of government agencies over natural resources		

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Legislation on ENR planning, development and management	National, provincial and municipal legislations on environment and natural resources relevant to the LGU			
Plans, programs and projects	Topics of provincial and municipal LNG development and management plans and program/project profile*.			

## Annex 2. CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Name of Municipality/City: **MUNICIPALITY OF STA. CRUZ**

ENR Parameters	Data Requirements	Map Requirements	Status (Present/ Absent)
Geography	Total Land area, area by barangay No. of barangays and sitios Relative Location Absolute location Number of barangays and sitios Boundaries with respect to the province	Topographic Map, Cadastral maps, tax maps Provincial map Administrative Map	PRESENT
Geology and Geomorphology	Major geologic structures Land formation Slope stability Landslide potential Hazard potential Areas within fault lines	Geologic Map Geomorphic or Landform Map	PRESENT
Topography, Slope Aspect and Elevation	General topography of the area Slope Slope Aspect Elevation	Topographic Map Slope Map Slope Aspect Map Elevation Map	PRESENT
Soils	Type of soils Soil type characteristics Area coverage of soil type Land capability classes Characteristics of land capability Classes Area coverage of land capability Classes basis for capability classification soil erosion	Soil Map Land Capability Map Soil Suitability Map Soil Erosion Map	PRESENT
Drainage, tributary patters and catchment areas	Types of drainage pattern Drainage Density Name and location of drainage Basins	Drainage Map	ABSENT
Land Classification and Regulatory Status	Types of land classification and Regulatory status Total land area of: Certified A & D land Unclassified forestland Classified forestland as Established forest reservation Established timberland National parks Reservations covered by Proclamations, DENR projects, other protected areas	Land Classification and Regulatory Map  Legal Status Map	ABSENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	Games refuge & bird sanctuary Protected Areas Military & Naval reservation		
	Civil reservations Fishpond Number, location and land area of the ff: Timber license agreements Pasture permits and leases Industrial tree plantations Tree farm lease Agroforestry farm lease Stewardship contracts Other licenses, permits and leases		ABSENT
Land Use/Cover	Existing land use and extent of coverage Agriculture: highly restricted conditionally restricted for conversion areas marginal to agriculture Areas suitable to agricultural expansion and the recommended crops or activities for each area Forest: old growth forest secondary forest mossy agroforestry reforestation Protected areas Tourism areas Residential Commercial Institutional Industrial Utilities Infrastructure	Land Use Map (general and urban) Vegetation Cover Map Protected Areas for Agriculture Map Key Production Areas Map	ABSENT
Land Ownership Pattern	Average area of landholding by type of land use List landowners with landholdings 10 hectares and above	Location map of large landholdings	PRESENT
Mineral Resource and Reserves	Type and location of deposits Type and location of mining sites Mineral resources surveys Occurrences of earthquake	Mineral Location Map	PRESENT
Natural Disasters	Occurrences of landslides Occurrences of volcanic	Typhoon Prone Areas Map Flood prone Areas Map Fault lines	PRESENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	eruptions Occurrences of floods Occurrences of droughts Flood prone areas		
Location and Extent of Surface Freshwater Bodies	Type, location & extent of the following  Lakes and rivers Reservoirs	Water Resources Map  Hydrologic Map Map Showing River	PRESENT
	Main irrigation canals  Wetlands	Map Showing Actual Stream Quality	PRESENT
Location and Extent/Size of Marine and Coastal Resources	Location & extent of the following  Marine and coastal resources Wetlands Seagrass Coral reefs Fishpond resources	Fishpond Resources Map  Coastal Resources Map	ABSENT
General Groundwater Information	Water Table Location of wells and springs Aquifer recharge & discharge rates Groundwater yield Groundwater quality	Groundwater Map Groundwater Well Logs	ABSENT
Water Use and Regulation	Water usage of springs and surface water by the population		ABSENT
Watershed Importance	Important uses of the watersheds		ABSENT
Surface Water/Stream Conditions	Water quality Sedimentation Surface water runoff rate Streamflow variations		ABSENT
Prevailing Tidal Fluctuations	Tidal fluctuations Tide gauging stations		ABSENT
General Climate Type	General climate type Rainfall Air temperature Wind velocity Wind patterns Relative humidity Soil & water evaporation rates		ABSENT
Air Quality	Sulfur dioxide content of the atmosphere Carbon dioxide content of the Atmosphere		ABSENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Biodiversity/Vegetation/Flora of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced species, endangered species medical species and species of aesthetic species Population densities and species distribution Species diversity Distribution of vegetation types Standing crop Rate of biomass production Ecological species indicators Commercially valued species	Vegetation Cover Map Aerial Photographs	ABSENT
Biodiversity/Fauna of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced species, endangered species: migratory species of scientific and aesthetic interest Population densities and distribution Species diversity Biomass production/ productivity Ecological/species indicators Commercially valued species		ABSENT
Bacteria and Fungi	Beneficial bacteria and fungi Harmful bacteria and fungi		ABSENT
Dumpsites & Sewerage Systems	No. and location of dumpsites  Rate of solid waste generation Type of solid waste mgt. system Type, no. and location of sewerage and waste disposal systems	Location Map of dumpsites  Sewerage Layout	PRESENT  PRESENT
ENR Cooperatives and NGOs	Type, name, address & type of services of cooperatives Name, address and services of NGOs		ABSENT
Ancestral Domain	Location of and classification of tribal group residing in ancestral domain  Conflicting landclaims land uses and issue over ancestral domain	Ancestral Domain Map	ABSENT
Legal Institutional Jurisdiction of Natural Resources	Institutional jurisdiction of government agencies over natural resources		

**CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE**

Legislation on ENR planning, development and management	National, provincial and municipal legislations on environment and natural resources relevant to the LGU			ABSENT
Plans, programs and projects	Contains provincial and municipal LNG development and management plans and program/project profile*.			ABSENT

## Annex 2. CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Name of Municipality/City: **MUNICIPALITY OF CASAN**

ENR Parameters	Data Requirements	Map Requirements	Status (Present/Absent)
Geography	Total Land area, area by barangay No. of barangays and sitios Relative Location Absolute location Number of barangays and sitios Boundaries with respect to the province	Topographic Map, Cadastral maps, tax maps Provincial map Administrative Map	PRESENT
Geology and Geomorphology	Major geologic structures Land formation Slope stability Landslide potential Hazard potential Areas within fault lines	Geologic Map Geomorphic or Landform Map	PRESENT
Topography, Slope Aspect and Elevation	General topography of the area Slope Slope Aspect Elevation	Topographic Map Slope Map Slope Aspect Map Elevation Map	PRESENT
Soils	Type of soils Soil type characteristics Area coverage of soil type Land capability classes Characteristics of land capability Classes Area coverage of land capability Classes basis for capability classification soil erosion	Soil Map Land Capability Map Soil Suitability Map Soil Erosion Map	PRESENT
Drainage, tributary patters and catchment areas	Types of drainage pattern Drainage Density Name and location of drainage Basins	Drainage Map	PRESENT
Land Classification and Regulatory Status	Types of land classification and Regulatory status Total land area of: Certified A & D land Unclassified forestland Classified forestland as Established forest reservation Established timberland National parks Reservations covered by Proclamations, DENR projects, other protected areas	Land Classification and Regulatory Map Legal Status Map	PRESENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	Games refuge & bird sanctuary Protected Areas Military & Naval reservation		
	Civil reservations Fishpond Number, location and land area of the ff: Timber license agreements Pasture permits and leases Industrial tree plantations Tree farm lease Agroforestry farm lease Stewardship contracts Other licenses, permits and leases		ABSENT
Land Use/Cover	Existing land use and extent of coverage Agriculture: highly restricted conditionally restricted for conversion areas marginal to agriculture Areas suitable to agricultural expansion and the recommended crops or activities for each area Forest: old growth forest secondary forest mossy agroforestry reforestation Protected areas Tourism areas Residential Commercial Institutional Industrial Utilities Infrastructure	Land Use Map (general and urban) Vegetation Cover Map Protected Areas for Agriculture Map Key Production Areas Map	PRESENT
Land Ownership Pattern	Average area of landholding by type of land use List landowners with landholdings 10 hectares and above	Location map of large landholdings	ABSENT
Mineral Resource and Reserves	Type and location of deposits Type and location of mining sites Mineral resources surveys Occurrences of earthquake	Mineral Location Map	ABSENT
Natural Disasters	Occurrences of landslides Occurrences of volcanic	Typhoon Prone Areas Map Flood prone Areas Map Fault lines	PRESENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	eruptions Occurrences of floods Occurrences of droughts Flood prone areas		
Location and Extent of Surface Freshwater Bodies	Type, location & extent of the following  Lakes and rivers Reservoirs Main irrigation canals  Wetlands	Water Resources Map  Hydrologic Map Map Showing River Map Showing Actual Stream Quality	PRESENT  PRESENT
Location and Extent/Size of Marine and Coastal Resources	Location & extent of the following  Marine and coastal resources Wetlands Seagrass Coral reefs Fishpond resources	Fishpond Resources Map Coastal Resources Map	ABSENT
General Groundwater Information	Water Table Location of wells and springs Aquifer recharge & discharge rates  Groundwater yield Groundwater quality	Groundwater Map Groundwater Well Logs	ABSENT
Water Use and Regulation	Water usage of springs and surface water by the population		ABSENT
Watershed Importance	Important uses of the watersheds		ABSENT
Surface Water/Stream Conditions	Water quality Sedimentation Surface water runoff rate Streamflow variations		PRESENT
Prevailing Tidal Fluctuations	Tidal fluctuations Tide gauging stations General climate type Rainfall Air temperature Wind velocity Wind patterns Relative humidity Soil & water evaporation rates		ABSENT
General Climate Type	Sulfur dioxide content of the atmosphere Carbon dioxide content of the Atmosphere		ABSENT
Air Quality			

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Biodiversity/Vegetation/Flora of the following ecosystems: Forest Grassland	Species composition as to endemic species, introduced species, endangered species medical species and species of aesthetic species	Vegetation Cover Map Aerial Photographs	
Cropland/agricultural Urban Lakes & rivers Coastal	Population densities and species distribution Species diversity Distribution of vegetation types Standing crop Rate of biomass production Ecological species indicators Commercially valued species		ABSENT
Biodiversity/Fauna of the following ecosystems: Forest Grassland	Species composition as to endemic species, introduced species, endangered species: migratory species of scientific and aesthetic interest		
Cropland/agricultural Urban Lakes & rivers Coastal	Population densities and Distribution Species diversity Biomass production/ productivity Ecological/species indicators Commercially valued species		ABSENT
Bacteria and Fungi	Beneficial bacteria and fungi Harmful bacteria and fungi		ABSENT
Dumpsites & Sewerage Systems	No. and location of dumpsites  Rate of solid waste generation Type of solid waste mgt. system Type, no. and location of sewerage and waste disposal systems	Location Map of dumpsites  Sewerage Layout	PRESENT
ENR Cooperatives and NGOs	Type, name, address & type of services of cooperatives Name, address and services of NGOs		PRESENT
Ancestral Domain	Location of and classification of tribal group residing in ancestral domain  Conflicting land claims land uses and issue over ancestral domain	Ancestral Domain Map	ABSENT
Legal Institutional Jurisdiction of Natural Resources	Institutional jurisdiction of government agencies over natural resources		

**CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE**

Legislation on ENR planning, development and management	National, provincial and municipal legislations on environment and natural resources relevant to the LGU			ABSENT
Plans, programs and projects	Copies of provincial and municipal LNG development and management plans and program/project profile*.			ABSENT

## Annex 2. CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Name of Municipality/City: **MUNICIPALITY OF TORRIJOS**

ENR Parameters	Data Requirements	Map Requirements	Status (Present/Absent)
Geography	Total Land area, area by barangay No. of barangays and sitios Relative Location Absolute location Number of barangays and sitios Boundaries with respect to the province	Topographic Map, Cadastral maps, tax maps Provincial map Administrative Map	PRES <sup>ENT</sup>
Geology and Geomorphology	Major geologic structures Land formation Slope stability Landslide potential Hazard potential Areas within fault lines	Geologic Map Geomorphic or Landform Map	PRES <sup>ENT</sup>
Topography, Slope Aspect and Elevation	General topography of the area Slope Slope Aspect Elevation	Topographic Map Slope Map Slope Aspect Map Elevation Map	PRES <sup>ENT</sup>
Soils	Type of soils Soil type characteristics Area coverage of soil type Land capability classes Characteristics of land capability Classes Area coverage of land capability Classes basis for capability classification soil erosion	Soil Map Land Capability Map Soil Suitability Map Soil Erosion Map	PRES <sup>ENT</sup>
Drainage, tributary patters and catchment areas	Types of drainage pattern Drainage Density Name and location of drainage Basins	Drainage Map	PRES <sup>ENT</sup>
Land Classification and Regulatory Status	Types of land classification and Regulatory status Total land area of: Certified A & D land Unclassified forestland Classified forestland as Established forest reservation Established timberland National parks Reservations covered by Proclamations, DENR projects, other protected areas	Land Classification and Regulatory Map Legal Status Map	PRES <sup>ENT</sup>

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	Games refuge & bird sanctuary Protected Areas Military & Naval reservation Civil reservations Fishpond Number, location and land area of the ff: Timber license agreements Pasture permits and leases Industrial tree plantations Tree farm lease Agroforestry farm lease Stewardship contracts Other licenses, permits and leases		PRESENT
Land Use/Cover	Existing land use and extent of coverage Agriculture: highly restricted conditionally restricted for conversion areas marginal to agriculture Areas suitable to agricultural expansion and the recommended crops or activities for each area Forest: old growth forest secondary forest mossy agroforestry reforestation Protected areas Tourism areas Residential Commercial Institutional Industrial Utilities Infrastructure	Land Use Map (general and urban) Vegetation Cover Map Protected Areas for Agriculture Map Key Production Areas Map	PRESENT
Land Ownership Pattern	Average area of landholding by type of land use List landowners with landholdings 10 hectares and above	Location map of large landholdings	PRESENT
Mineral Resource and Reserves	Type and location of deposits Type and location of mining sites Mineral resources surveys Occurrences of earthquake	Mineral Location Map	ABSENT
Natural Disasters	Occurrences of landslides Occurrences of volcanic	Typhoon Prone Areas Map Flood prone Areas Map Fault lines	PRESENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	eruptions Occurrences of floods Occurrences of droughts Flood prone areas	
Location and Extent of Surface Freshwater Bodies	Type, location & extent of the following  Lakes and rivers Reservoirs Main irrigation canals  Wetlands Location & extent of the following Marine and coastal resources Wetlands Seagrass Coral reefs Fishpond resources	Water Resources Map  Hydrologic Map Map Showing River Map Showing Actual Stream Quality Fishpond Resources Map Coastal Resources Map
Location and Extent/Size of Marine and Coastal Resources		PRESENT  PRESENT
General Groundwater Information	Water Table Location of wells and springs Aquifer recharge & discharge rates  Groundwater yield Groundwater quality Water usage of springs and surface water by the population	Groundwater Map Groundwater Well Logs  PRESENT
Water Use and Regulation		ABSENT
Watershed Importance	Important uses of the watersheds	
Surface Water/Stream Conditions	Water quality Sedimentation Surface water runoff rate Streamflow variations	PRESENT
Prevailing Tidal Fluctuations	Tidal fluctuations Tide gauging stations General climate type Rainfall	
General Climate Type	Air temperature Wind velocity Wind patterns Relative humidity Soil & water evaporation rates	ABSENT
Air Quality	Sulfur dioxide content of the atmosphere Carbon dioxide content of the Atmosphere	ABSENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Biodiversity/Vegetation/Flora of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced species, endangered species medical species and species of aesthetic species Population densities and species distribution Species diversity Distribution of vegetation types Standing crop Rate of biomass production Ecological species indicators Commercially valued species	Vegetation Cover Map Aerial Photographs	ABSENT
Biodiversity/Fauna of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced species, endangered species: migratory species of scientific and aesthetic interest Population densities and Distribution Species diversity Biomass production/ productivity Ecological/species indicators Commercially valued species		ABSENT
Bacteria and Fungi	Beneficial bacteria and fungi Harmful bacteria and fungi		ABSENT
Dumpsites & Sewerage Systems	No. and location of dumpsites  Rate of solid waste generation Type of solid waste mgt. system Type, no. and location of sewerage and waste disposal systems	Location Map of dumpsites  Sewerage Layout	PRESENT
ENR Cooperatives and NGOs	Type, name, address & type of services of cooperatives Name, address and services of NGOs		PRES
Ancestral Domain	Location of and classification of tribal group residing in ancestral domain  Conflicting landclaims land uses and issue over ancestral domain	Ancestral Domain Map	ABSENT
Legal Institutional Jurisdiction of Natural Resources	Institutional jurisdiction of government agencies over natural resources		PRES

**CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE**

Legislation on ENR planning, development and management	National, provincial and municipal legislations on environment and natural resources relevant to the LGU		Present
Plans, programs and projects	Copies of provincial and municipal LNG development and management plans and program/project profile*.		Present

## Annex 2. CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Name of Municipality/City: **MUNICIPALITY OF MOGPOG**

ENR Parameters	Data Requirements	Map Requirements	Status (Present/Absent)
Geography	Total Land area, area by barangay No. of barangays and sitios Relative Location Absolute location Number of barangays and sitios Boundaries with respect to the province	Topographic Map, Cadastral maps, tax maps Provincial map Administrative Map	PRESENT
Geology and Geomorphology	Major geologic structures Land formation Slope stability Landslide potential Hazard potential Areas within fault lines	Geologic Map Geomorphic or Landform Map	PRESENT
Topography, Slope Aspect and Elevation	General topography of the area Slope Slope Aspect Elevation	Topographic Map Slope Map Slope Aspect Map Elevation Map	PRESENT
Soils	Type of soils Soil type characteristics Area coverage of soil type Land capability classes Characteristics of land capability Classes Area coverage of land capability Classes basis for capability classification soil erosion	Soil Map Land Capability Map Soil Suitability Map Soil Erosion Map	PRESENT
Drainage, tributary patterns and catchment areas	Types of drainage pattern Drainage Density Name and location of drainage Basins	Drainage Map	PRESENT
Land Classification and Regulatory Status	Types of land classification and Regulatory status Total land area of: Certified A & D land Unclassified forestland Classified forestland as Established forest reservation Established timberland National parks Reservations covered by Proclamations, DENR projects, other protected areas	Land Classification and Regulatory Map Legal Status Map	ABSENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	Games refuge & bird sanctuary Protected Areas Military & Naval reservation Civil reservations Fishpond Number, location and land area of the ff: Timber license agreements Pasture permits and leases Industrial tree plantations Tree farm lease Agroforestry farm lease Stewardship contracts Other licenses, permits and leases		
			ABSENT
Land Use/Cover	Existing land use and extent of coverage Agriculture: highly restricted conditionally restricted for conversion areas marginal to agriculture Areas suitable to agricultural expansion and the recommended crops or activities for each area Forest: old growth forest secondary forest mossy agroforestry reforestation Protected areas Tourism areas Residential Commercial Institutional Industrial Utilities Infrastructure	Land Use Map (general and urban) Vegetation Cover Map Protected Areas for Agriculture Map Key Production Areas Map	PRESENT
Land Ownership Pattern	Average area of landholding by type of land use List landowners with landholdings 10 hectares and above	Location map of large landholdings	PRESENT
Mineral Resource and Reserves	Type and location of deposits Type and location of mining sites Mineral resources surveys	Mineral Location Map	PRESENT
Natural Disasters	Occurrences of earthquake Occurrences of landslides Occurrences of volcanic	Typhoon Prone Areas Map Flood prone Areas Map Fault lines	PRESENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	eruptions Occurrences of floods Occurrences of droughts Flood prone areas		
Location and Extent of Surface Freshwater Bodies	Type, location & extent of the following  Lakes and rivers Reservoirs Main irrigation canals  Wetlands	Water Resources Map  Hydrologic Map Map Showing River Map Showing Actual Stream Quality	PRESENT
Location and Extent/Size of Marine and Coastal Resources	Location & extent of the following  Marine and coastal resources Wetlands Seagrass Coral reefs Fishpond resources	Fishpond Resources Map Coastal Resources Map	ABSENT
General Groundwater Information	Water Table Location of wells and springs Aquifer recharge & discharge rates  Groundwater yield Groundwater quality	Groundwater Map Groundwater Well Logs	PRESENT
Water Use and Regulation	Water usage of springs and surface water by the population		ABSENT
Watershed Importance	Important uses of the watersheds		ABSENT
Surface Water/Stream Conditions	Water quality Sedimentation Surface water runoff rate Streamflow variations		ABSENT
Prevailing Tidal Fluctuations	Tidal fluctuations Tide gauging stations		ABSENT
General Climate Type	General climate type Rainfall Air temperature Wind velocity Wind patterns Relative humidity		ABSENT
Air Quality	Soil & water evaporation rates Sulfur dioxide content of the atmosphere Carbon dioxide content of the Atmosphere		ABSENT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Biodiversity/Vegetation/Flora of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced species, endangered species medical species and species of aesthetic species Population densities and species distribution Species diversity Distribution of vegetation types Standing crop Rate of biomass production Ecological species indicators Commercially valued species	Vegetation Cover Map Aerial Photographs	ABSENT
Biodiversity/Fauna of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced: species, endangered species: migratory species of scientific and aesthetic interest Population densities and Distribution Species diversity Biomass production/ productivity Ecological/species indicators Commercially valued species		ABSENT
Bacteria and Fungi	Beneficial bacteria and fungi Harmful bacteria and fungi		ABSENT
Dumpsites & Sewerage Systems	No. and location of dumpsites  Rate of solid waste generation Type of solid waste mgt. system Type, no. and location of sewerage and waste disposal systems	Location Map of dumpsites  Sewerage Layout	PRESENT  ABSENT
ENR Cooperatives and NGOs	Type, name, address & type of services of cooperatives Name, address and services of NGOs		ABSENT
Ancestral Domain	Location of and classification of tribal group residing in ancestral domain  Conflicting landclaims land uses and issue over ancestral domain	Ancestral Domain Map	ABSENT
Legal Institutional Jurisdiction of Natural Resources	Institutional jurisdiction of government agencies over natural resources		ABSENT

**CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE**

Legislation on ENR planning, development and management	National, provincial and municipal legislations on environment and natural resources relevant to the LGU			ABSENT
Plans, programs and projects	Copies of provincial and municipal LNG development and management plans and program/project profile*.			ABSENT

**LIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE**

Municipality/City: **MUNICIPALITY OF BUENAVISTA**

ENR Parameters	Data Requirements	Map Requirements	Status (Present/ Absent)
Geography	Total Land area, area by barangay No. of barangays and sitios Relative Location Absolute location Number of barangays and sitios Boundaries with respect to the province	Topographic Map, Cadastral maps, tax maps Provincial map Administrative Map	P <small>RESENT</small>
Geology and Geomorphology	Major geologic structures Land formation Slope stability Landslide potential Hazard potential Areas within fault lines	Geologic Map Geomorphic or Landform Map	P <small>RESENT</small>
Topography, Slope Aspect and Elevation	General topography of the area Slope Slope Aspect Elevation	Topographic Map Slope Map Slope Aspect Map Elevation Map	P <small>RESENT</small>
Soils	Type of soils Soil type characteristics Area coverage of soil type Land capability classes Characteristics of land capability Classes Area coverage of land capability Classes basis for capability classification soil erosion	Soil Map Land Capability Map Soil Suitability Map Soil Erosion Map	P <small>RESENT</small>
Drainage, tributary patterns and catchment areas	Types of drainage pattern Drainage Density Name and location of drainage Basins	Drainage Map	P <small>RESENT</small>
Land Classification and Regulatory Status	Types of land classification and Regulatory status Total land area of: Certified A & D land Unclassified forestland Classified forestland as Established forest reservation Established timberland National parks Reservations covered by Proclamations, DENR projects, other protected areas	Land Classification and Regulatory Map  Legal Status Map	P <small>RESENT</small>

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

Biodiversity/Vegetation/Flora of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced species, endangered species medical species and species of aesthetic species Population densities and species distribution Species diversity Distribution of vegetation types Standing crop Rate of biomass production Ecological species indicators Commercially valued species	Vegetation Cover Map Aerial Photographs	ABSENT
Biodiversity/Fauna of the following ecosystems: Forest Grassland Cropland/agricultural Urban Lakes & rivers Coastal	Species composition as to endemic species, introduced species, endangered species: migratory species of scientific and aesthetic interest Population densities and Distribution Species diversity Biomass production/ productivity Ecological/species indicators Commercially valued species		PRESNT
Bacteria and Fungi	Beneficial bacteria and fungi Harmful bacteria and fungi		ABSENT
Dumpsites & Sewerage Systems	No. and location of dumpsites  Rate of solid waste generation Type of solid waste mgt. system Type, no. and location of sewerage and waste disposal systems	Location Map of dumpsites  Sewerage Layout	PRESNT
ENR Cooperatives and NGOs	Type, name, address & type of services of cooperatives Name, address and services of NGOs		ABSENT
Ancestral Domain	Location of and classification of tribal group residing in ancestral domain  Conflicting land claims land uses and issue over ancestral domain	Ancestral Domain Map	ABSENT
Legal Institutional Jurisdiction of Natural Resources	Institutional jurisdiction of government agencies over natural resources		PRESNT

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	eruptions Occurrences of floods Occurrences of droughts Flood prone areas		
Location and Extent of Surface Freshwater Bodies	Type, location & extent of the following  Lakes and rivers Reservoirs Main irrigation canals  Wetlands	Water Resources Map  Hydrologic Map Map Showing River Map Showing Actual Stream Quality	PRESNT
Location and Extent/Size of Marine and Coastal Resources	Location & extent of the following  Marine and coastal resources Wetlands Seagrass Coral reefs Fishpond resources	Fishpond Resources Map Coastal Resources Map	PRESNT
General Groundwater Information	Water Table Location of wells and springs Aquifer recharge & discharge rates  Groundwater yield Groundwater quality	Groundwater Map Groundwater Well Logs	PRESNT
Water Use and Regulation	Water usage of springs and surface water by the population		PRESNT
Watershed Importance	Important uses of the watersheds		
Surface Water/Stream Conditions	Water quality Sedimentation Surface water runoff rate Streamflow variations		PRESNT
Prevailing Tidal Fluctuations	Tidal fluctuations Tide gauging stations General climate type Rainfall  Air temperature Wind velocity Wind patterns Relative humidity		ABSENT
General Climate Type	Soil & water evaporation rates Sulfur dioxide content of the atmosphere Carbon dioxide content of the Atmosphere		ABSENT
Air Quality			

## CHECKLIST OF DATA AND MAP REQUIREMENTS FOR ENR PROFILE

	Games refuge & bird sanctuary Protected Areas Military & Naval reservation  Civil reservations Fishpond Number, location and land area of the ff: Timber license agreements Pasture permits and leases Industrial tree plantations Tree farm lease Agroforestry farm lease Stewardship contracts Other licenses, permits and leases		ABSENT
Land Use/Cover	Existing land use and extent of coverage Agriculture: highly restricted conditionally restricted for conversion areas marginal to agriculture Areas suitable to agricultural expansion and the recommended crops or activities for each area Forest: old growth forest secondary forest mossy agroforestry reforestation Protected areas Tourism areas Residential Commercial Institutional Industrial Utilities Infrastructure	Land Use Map (general and urban) Vegetation Cover Map Protected Areas for Agriculture Map Key Production Areas Map	PRESNT
Land Ownership Pattern	Average area of landholding by type of land use List landowners with landholdings 10 hectares and above	Location map of large landholdings	PRESNT
Mineral Resource and Reserves	Type and location of deposits Type and location of mining sites Mineral resources surveys Occurrences of earthquake	Mineral Location Map	ABSENT
Natural Disasters	Occurrences of landslides Occurrences of volcanic	Typhoon Prone Areas Map Flood prone Areas Map Fault lines	PRESNT



Republic of the Philippines  
Department of Environment and Natural Resources  
**PENRO MARINDUQUE**

OFFICE OF THE MAYER  
BOAC, MARINDUQUE  
**RECEIVED**  
By \_\_\_\_\_  
Date 10/26/23 Time 10:17

October 26, 2023

**HON. ARMI DC. CARRION**  
Municipal Mayor  
Boac, Marinduque

Dear Mayor Carrion,

Isang makakalikasang araw!

Relative to the mandates of the Department of Environment and Natural Resources (DENR) to conserve, manage, develop and properly use of the country's environment and natural resources, its Field Offices are extending Technical Assistance to LGUs within their area of jurisdiction in any concerns related to the environment. As such, one of the priority programs of DENR is the Coastal and Marine Ecosystem Management Program (CMEMP) which aims to address the drivers and threats of degradation of the coastal and marine ecosystems. This program uses the Integrated Coastal Management (ICM) approach to holistically manage the ecosystems by looking the interconnectivity of the activities from the ridge down to coastal areas.

In addition, the DENR through its Biodiversity Management Bureau which is the implementer of CMEMP, consulted the Department of the Interior and Local Government through its Bureau of Local Government and Development (DILG-BLGD) and the Department of Human Settlement and Urban Development (DSHUD) to discuss the mainstreaming of the ICM approach into the Comprehensive Land Use Plan (CLUP) as part of the rationalization of the planning system

In this regard, this office would like to commit our technical capabilities, available data and knowledge by being a member of the Technical Working Group on the development of your Comprehensive Land Use Plan. We are looking forward to receiving your invitation in the future TWG meetings.

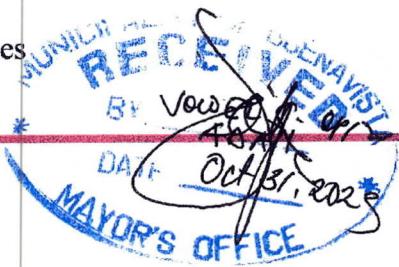
Attached is the matrix of criteria for LGU prioritization for ICM mainstreaming into CLUP including other documents such as river and creeks validation result and status of LGU plans for your reference.

Very truly yours,

  
**IMELDA M. DIAZ**  
OIC PENR Officer



Republic of the Philippines  
Department of Environment and Natural Resources  
**PENRO MARINDUQUE**



October 26, 2023

**HON. EDUARD L. SIENA**  
Municipal Mayor  
Buenavista, Marinduque

Dear **Mayor SIENA**,

Isang makakalikasang araw!

Relative to the mandates of the Department of Environment and Natural Resources (DENR) to conserve, manage, develop and properly use of the country's environment and natural resources, its Field Offices are extending Technical Assistance to LGUs within their area of jurisdiction in any concerns related to the environment. As such, one of the priority programs of DENR is the Coastal and Marine Ecosystem Management Program (CMEMP) which aims to address the drivers and threats of degradation of the coastal and marine ecosystems. This program uses the Integrated Coastal Management (ICM) approach to holistically manage the ecosystems by looking the interconnectivity of the activities from the ridge down to coastal areas.

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In this regard, this office would like to commit our technical capabilities, available data and knowledge by being a member of the Technical Working Group on the development of your Comprehensive Land Use Plan. We are looking forward to receiving your invitation in the future TWG meetings.

Attached is the matrix of criteria for LGU prioritization for ICM mainstreaming into CLUP including other documents such as river and creeks validation result and status of LGU plans for your reference.

Very truly yours,

  
**IMELDA M. DIAZ**  
OIC PENR Officer



Republic of the Philippines  
Department of Environment and Natural Resources  
**PENRO MARINDUQUE**

October 26, 2023

**HON. ROLANDO O. TOLENTINO**  
Municipal Mayor  
Gasan, Marinduque

Dear Mayor Tolentino,

Isang makakalikasang araw!

Office of the Mayor  
Gasan, Marinduque  
**R E C E I V E D**

Date - 31-10-2023

By - *AY*

Relative to the mandates of the Department of Environment and Natural Resources (DENR) to conserve, manage, develop and properly use of the country's environment and natural resources, its Field Offices are extending Technical Assistance to LGUs within their area of jurisdiction in any concerns related to the environment. As such, one of the priority programs of DENR is the Coastal and Marine Ecosystem Management Program (CMEMP) which aims to address the drivers and threats of degradation of the coastal and marine ecosystems. This program uses the Integrated Coastal Management (ICM) approach to holistically manage the ecosystems by looking the interconnectivity of the activities from the ridge down to coastal areas.

In addition, the DENR through its Biodiversity Management Bureau which is the implementer of CMEMP, consulted the Department of the Interior and Local Government through its Bureau of Local Government and Development (DILG-BLGD) and the Department of Human Settlement and Urban Development (DSHUD) to discuss the mainstreaming of the ICM approach into the Comprehensive Land Use Plan (CLUP) as part of the rationalization of the planning system

In this regard, this office would like to commit our technical capabilities, available data and knowledge by being a member of the Technical Working Group on the development of your Comprehensive Land Use Plan. We are looking forward to receiving your invitation in the future TWG meetings.

Attached is the matrix of criteria for LGU prioritization for ICM mainstreaming into CLUP including other documents such as river and creeks validation result and status of LGU plans for your reference.

Very truly yours,

*IMELDA M. DIAZ*  
IMELDA M. DIAZ  
OIC PENR Officer



Republic of the Philippines  
Department of Environment and Natural Resources  
**PENRO MARINDUQUE**

October 26, 2023

**HON. AUGUSTO LEO M. LIVELO**  
Municipal Mayor  
Mogpog, Marinduque

Dear Mayor Livelo,

Isang makakalikasang araw!

Relative to the mandates of the Department of Environment and Natural Resources (DENR) to conserve, manage, develop and properly use of the country's environment and natural resources, its Field Offices are extending Technical Assistance to LGUs within their area of jurisdiction in any concerns related to the environment. As such, one of the priority programs of DENR is the Coastal and Marine Ecosystem Management Program (CMEMP) which aims to address the drivers and threats of degradation of the coastal and marine ecosystems. This program uses the Integrated Coastal Management (ICM) approach to holistically manage the ecosystems by looking the interconnectivity of the activities from the ridge down to coastal areas.

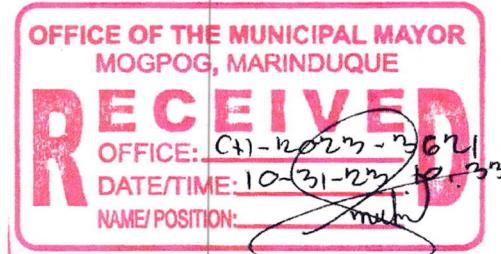
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**IMELDA M. DIAZ**  
OIC PENR Officer





Republic of the Philippines  
Department of Environment and Natural Resources  
**PENRO MARINDUQUE**

October 26, 2023

**HON. MARRISA RED-MARTINEZ**  
Municipal Mayor  
Sta.Cruz, Marinduque



OFFICE OF THE MAYOR  
MUNICIPALITY OF  
SANTA CRUZ, MARINDUQUE  
**RECEIVED**  
By: *Elgarine Correa*  
Date: 10-21-2023 Time: 11:16

Dear Mayor Martinez,

Isang makakalikasang araw!

Relative to the mandates of the Department of Environment and Natural Resources (DENR) to conserve, manage, develop and properly use of the country's environment and natural resources, its Field Offices are extending Technical Assistance to LGUs within their area of jurisdiction in any concerns related to the environment. As such, one of the priority programs of DENR is the Coastal and Marine Ecosystem Management Program (CMEMP) which aims to address the drivers and threats of degradation of the coastal and marine ecosystems. This program uses the Integrated Coastal Management (ICM) approach to holistically manage the ecosystems by looking the interconnectivity of the activities from the ridge down to coastal areas.

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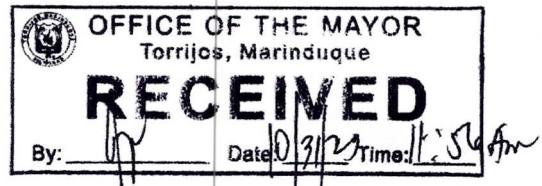
  
**IMELDA M. DIAZ**  
OIC PENR Officer



Republic of the Philippines  
Department of Environment and Natural Resources  
**PENRO MARINDUQUE**

October 26, 2023

**HON. LORNA Q. VELASCO**  
Municipal Mayor  
Torrijos, Marinduque



Dear Mayor Velasco,

Isang makakalikasang araw!

Relative to the mandates of the Department of Environment and Natural Resources (DENR) to conserve, manage, develop and properly use of the country's environment and natural resources, its Field Offices are extending Technical Assistance to LGUs within their area of jurisdiction in any concerns related to the environment. As such, one of the priority programs of DENR is the Coastal and Marine Ecosystem Management Program (CMEMP) which aims to address the drivers and threats of degradation of the coastal and marine ecosystems. This program uses the Integrated Coastal Management (ICM) approach to holistically manage the ecosystems by looking the interconnectivity of the activities from the ridge down to coastal areas.

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Very truly yours,

  
**IMELDA M. DIAZ**  
OIC PENR Officer



Republic of the Philippines  
Province of Marinduque  
Municipality of Boac

## MUNICIPAL PLANNING AND DEVELOPMENT OFFICE



November 17, 2023

**IMELDA M. DIAZ**  
OIC, PENR Officer  
DENR-PENRO  
Capitol Compound, Boac  
Marinduque

Dear PENRO Diaz:

Greetings!

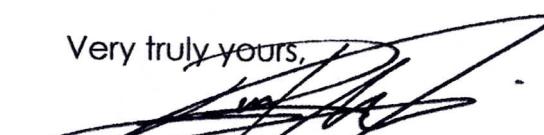
This is to acknowledge receipt of your letter dated October 26, 2023 that was received by the Office of the Mayor last November 10, 2023 and indorsed to this office regarding your Field Offices extending technical assistance to LGUs.

The Municipal Government of Boac under this Office will review its Comprehensive Land and Water Use Plan (CLWUP) by next year as the same is bound to lapse and expire by the year 2025. In our updating, we will consider the integration of Coastal Management and other drivers and threats of degradation of the coastal and marine ecosystems.

Please be assured that your Field Office will be tapped to provide Technical Assistance in our Updating of our CLWUP. We will create a Technical Working Group for this and you will be furnished a copy of the Executive Order formulated for the purpose.

We are looking forward to our continuing partnership.

Very truly yours,

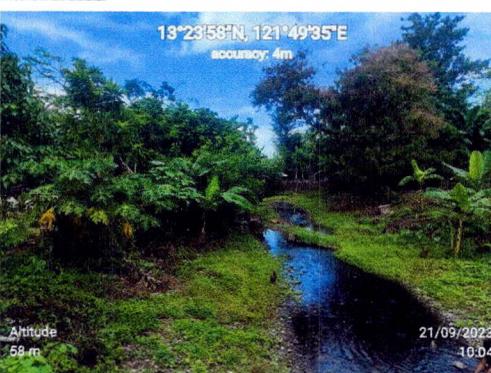
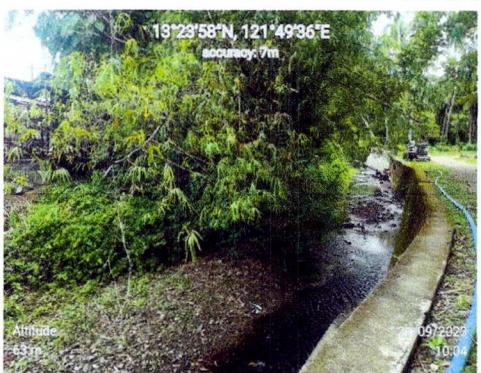
  
**LUNA EULOGIO R. MANRIQUE, EnP, MNSA, CESE**  
Municipal Planning and Development Coordinator

Noted:

  
**ARMI DC. CARRION**  
Municipal Mayor



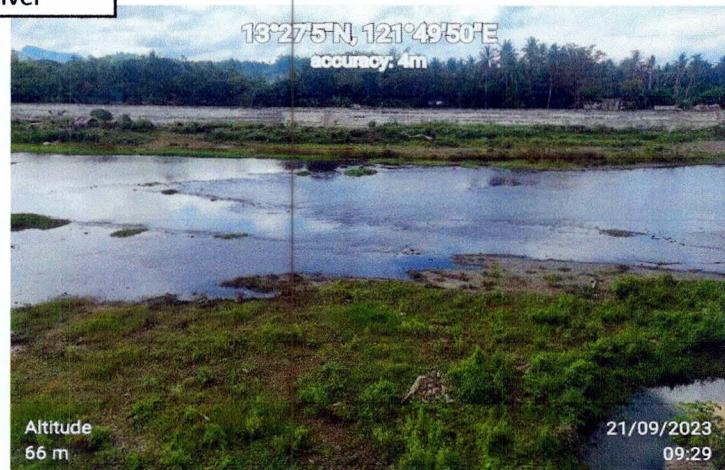
**Cawit Creek**



**Ihatub Creek**



**Amiongon Creek**



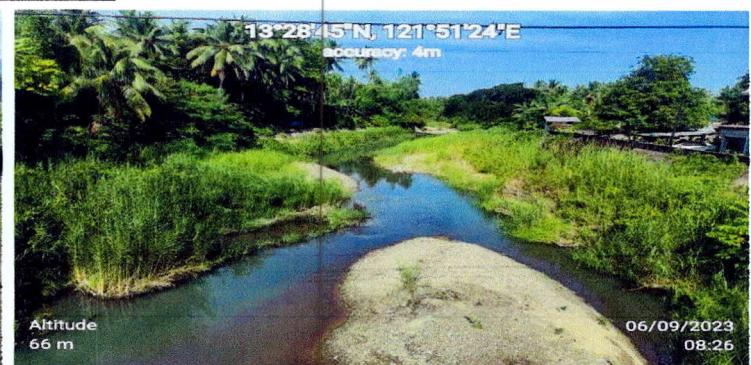
**Bunganay Creek**

**Boac River**

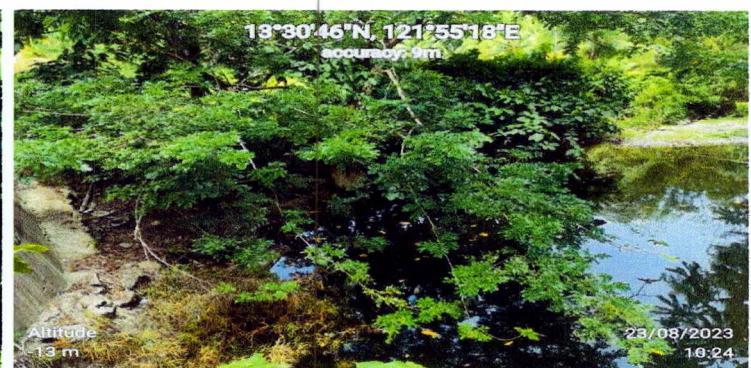
Geo-tagged photos of rivers/creeks during ground validation/thruthing within municipality of Boac, Marinduque.



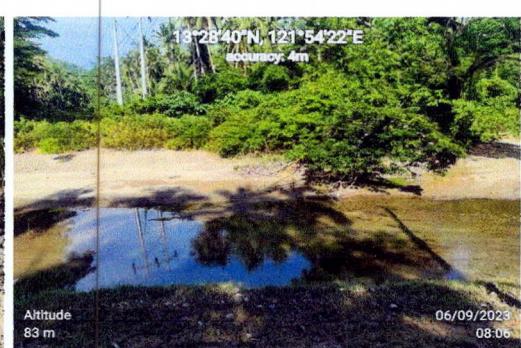
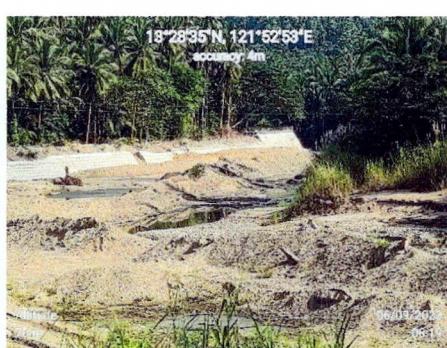
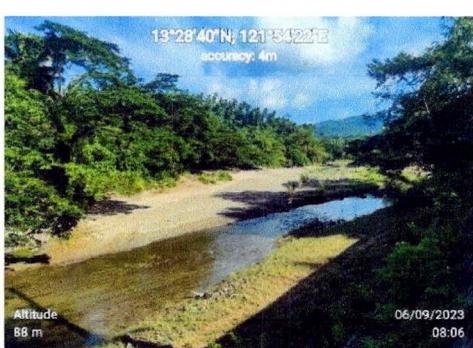
Magapua Creek



Nangka Creek

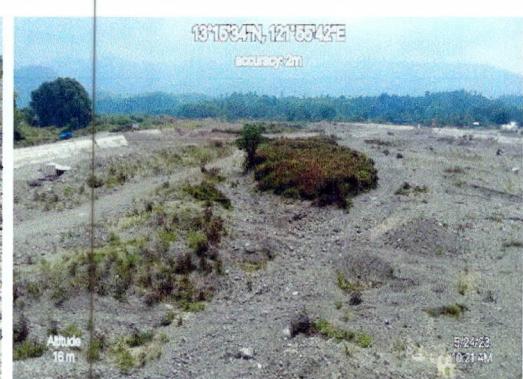


Savao River

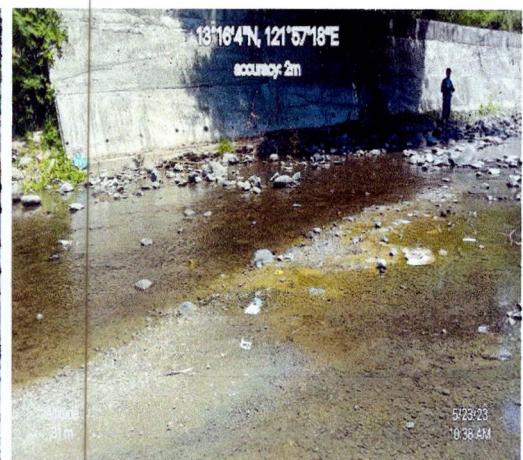
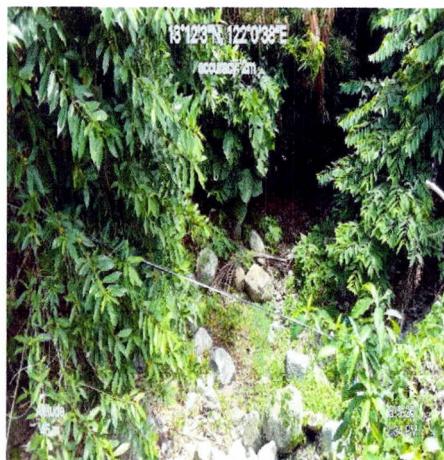


Mogpog River

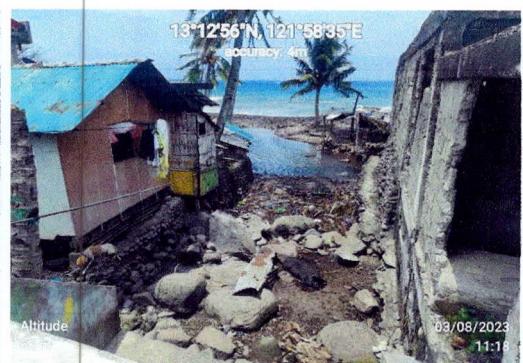
Geo-tagged photos of rivers/creeks during ground validation/thruthing within municipality of Mogpog, Marinduque.



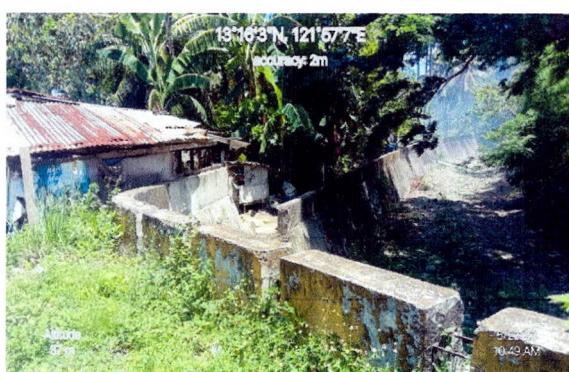
Caigangan River



Patay na Sapa Creek



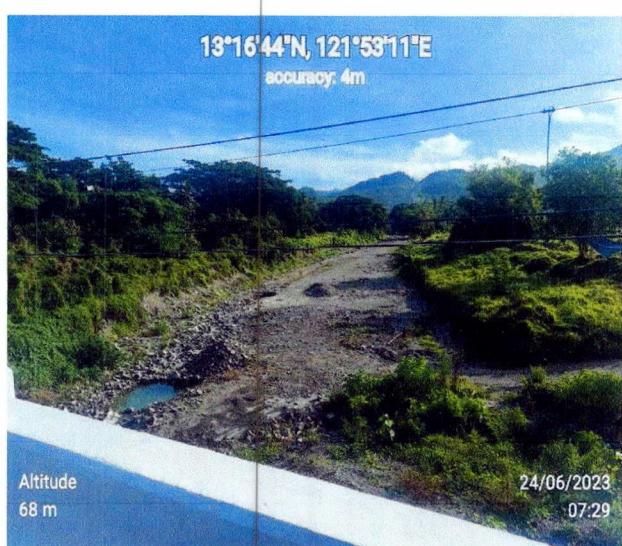
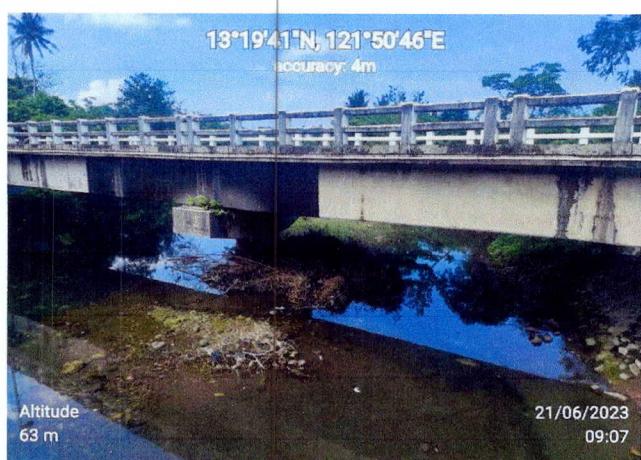
Inanuran Creek



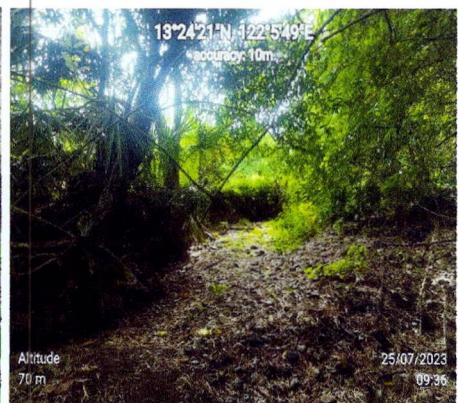
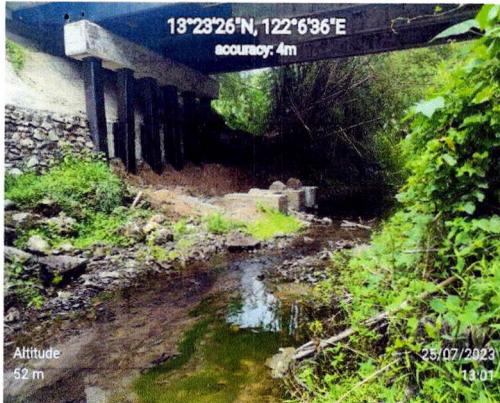
Hinubuan Creek

Haynon Creek

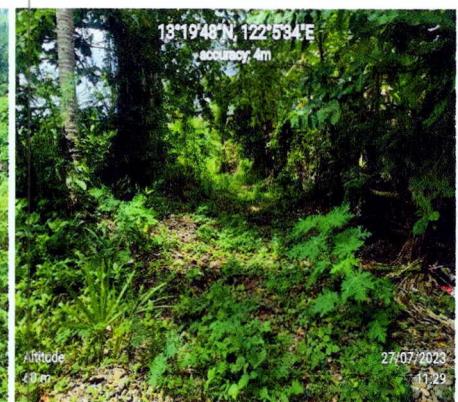
Geo-tagged photos of rivers/creeks during ground validation/thruthing within municipality of Buenavista, Marinduque.



Geo-tagged photos of rivers/creeks during ground validation/thruthing within municipality of Gasan, Marinduque.

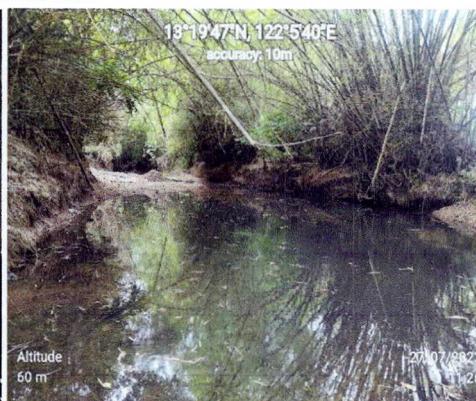


Matuyatua Creek



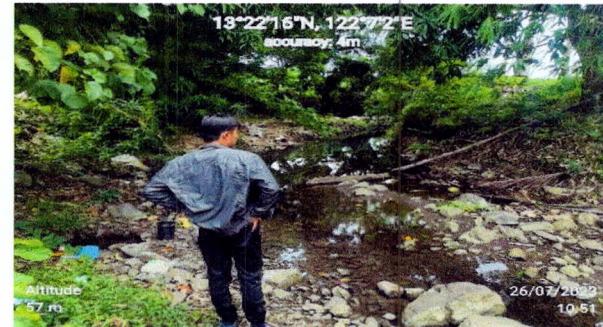
Kay Buhay Creek

Marlangga Creek



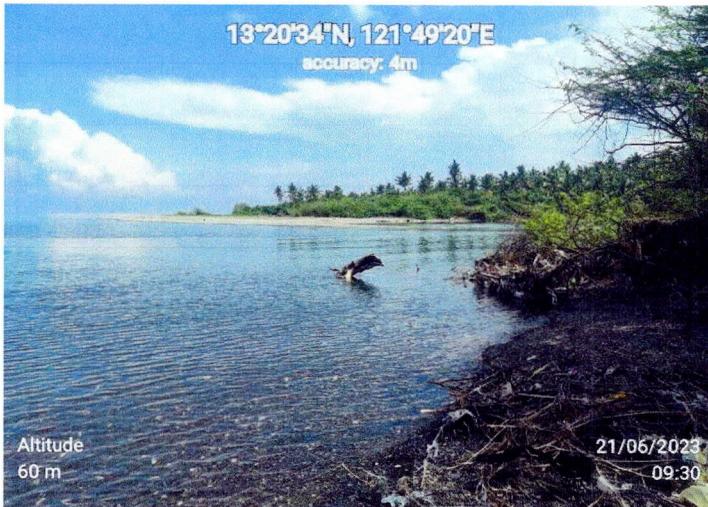
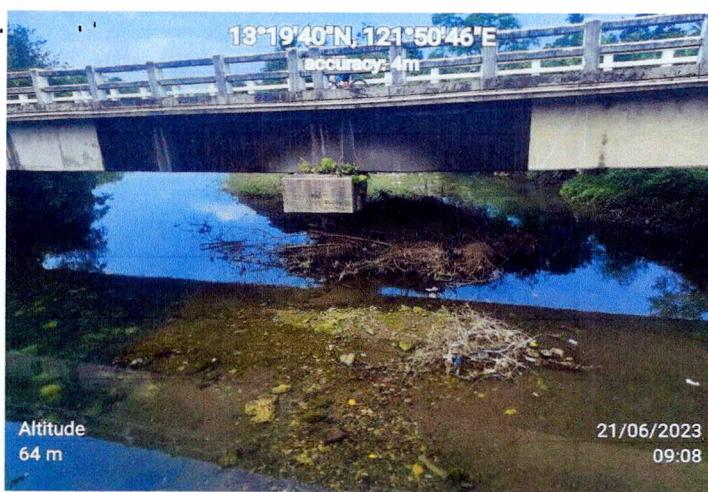
Wood U Creek

Silangan Creek



Bonliw Creek

Geo-tagged photos of rivers/creeks during ground validation/thruthing within municipality of Torrijos, Marinduque.



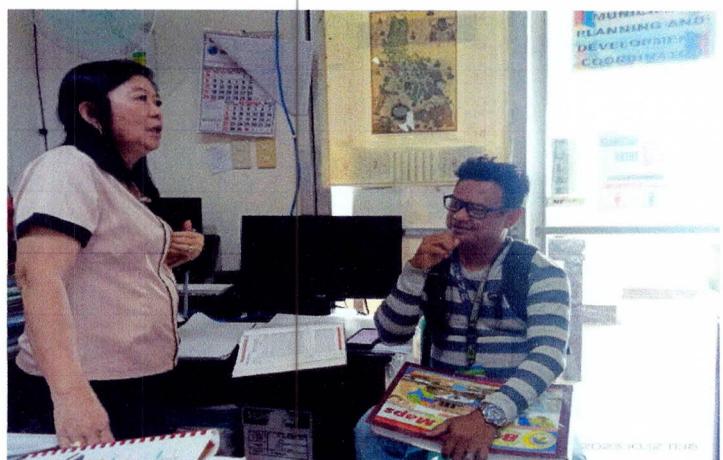
Geo-tagged photos of rivers/creeks during ground validation/thruthing within municipality of Gasan, Marinduque.



Photos taken during the coordination with the Municipal Planning and Development Officer Luna Eulogio Manrique re: updates on the sent notification letter informing their municipality to be prioritized in ICM mainstreaming into CLUP.



Photos taken during the conduct of ENR Profiling within the Municipal Planning and Development Office (MPDO) Torrijos, Marinduque.



Photos taken during the conduct of ENR Profiling within the Municipal Planning and Development Office (MPDO) Sta.Cruz, Marinduque.



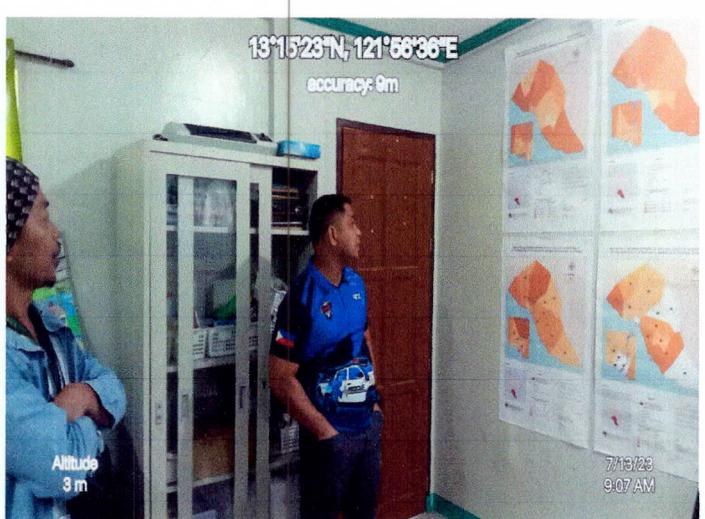
Photos taken during the conduct of ENR Profiling within the Municipal Planning and Development Office (MPDO) Gasan, Marinduque.



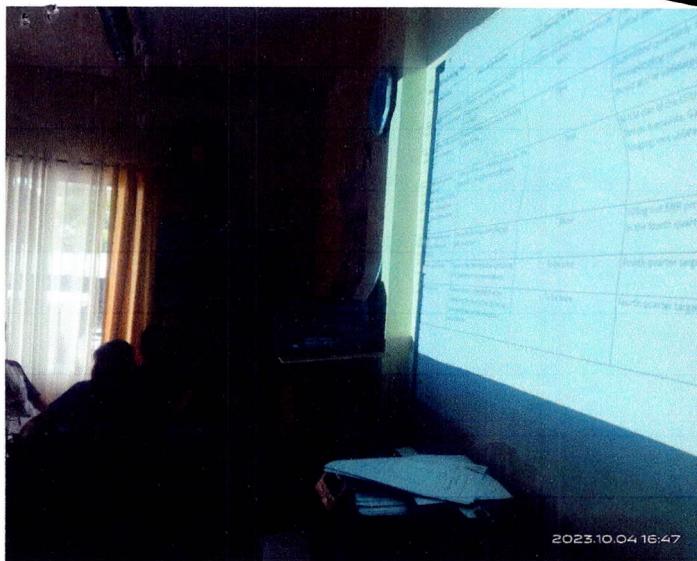
Photos taken during the conduct of ENR Profiling within the Municipal Planning and Development Office (MPDO) Boac, Marinduque.



Photos taken during the conduct of ENR Profiling within the Municipal Planning and Development Office (MPDO) Mogpog, Marinduque.



Geo-tagged photos taken during the conduct of ENR Profiling within the Municipal Planning and Development Office (MDRRMO) Buenavista, Marinduque.



Photos of meeting with CDD-Regional Staffs on the preparatory activities of ICM mainstreaming into CLUP.