

Republic of the Philippines
PROVINCE OF LEYTE
PROVINCIAL LAND USE COMMITTEE

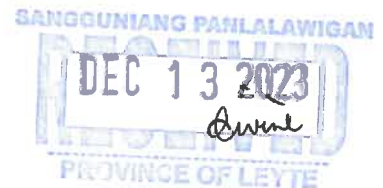
Item No.: 02

Date: 14 2023 DEC



December 12, 2023

THE HONORABLE MEMBERS
The Sangguniang Panlalawigan
Province of Leyte
Palo West Bypass Road, Palo, Leyte



Thru: Hon. Leonardo M. Javier
Vice Governor and Presiding Officer

Dear Ladies and Gentlemen:

Greetings! This pertains to the Comprehensive Land Use Plan and Zoning Ordinance (ZO) of Capoocan, Leyte for Calendar Years 2018-2028 which you good office endorsed to the Provincial Planning and Development Office (PPDO) for review by the Provincial Land Use Committee (PLUC).

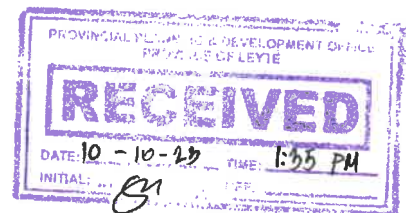
Relative thereto, the PLUC deliberated the aforementioned CLUP and ZO on November 17, 2023 at the Municipal Hall of Capoocan, Leyte. As a result thereof, I wish to respectfully furnish a copy of PLUC Resolution 2023-02, Series of 2023, endorsing the 2019-2028 Comprehensive Land Use Plan (CLUP) and Zoning Ordinance (ZO) of Capoocan, Leyte to the Sangguniang Panlalawigan (SP) of the Province of Leyte for appropriate action. Said endorsement is subject to compliance of the comments and recommendations of PLUC by the Municipal Technical Working Group for CLUP preparation. Thank you.

Very truly yours,


AGNES C. RAFON
Provincial Planning and
Development Coordinator,
PLUC Chairperson

encl./ as stated

Republic of the Philippines
PROVINCE OF LEYTE
Palo, Leyte



OFFICE OF THE SANGGUNIANG PANLALAWIGAN

1ST INDORSEMENT
of 10 October 2023

The Provincial Planning and Development Office is respectfully requested to review and submit recommendations on the herein enclosed **Endorsement of Final Comprehensive Land Use Plan (CLUP) and Zoning Ordinance (ZO) for the planning year 2018-2028 of Capoocan, Leyte**, from Department of Human Settlements and Urban Development (DHSUD), Regional Office 8.

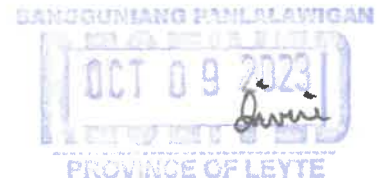

FLORINDA VILL'S UYVICO
Secretary to the Sanggunian

Hand:
-> USB
7 Copy of Issued Invitation
7 Resolution Sheet - Pub. Hearing
7 CLUP Communication Plan
7 List of Invited Sec. Rep.
7 Minutes of Pub. Hearing
7 Sec. Cert. of Pub. Hearing
7 Exec. Summary - Condensed
7 CLUP (2 sets) - Vol. I - 2 copies
7 Zoning Ord. - Vol. II - 2 copies
7 Sectional Environmental - 2 copies
7 Special Study
7 Maps - 4.5 sheets



REPUBLIC OF THE PHILIPPINES
Department of Human Settlements and Urban Development
Kagawaran ng Pananahang Pantao at Pagpapalunad ng Kalunsuran
Regional Office 8

October 9, 2023



FLORINDA JILL S. UYVICO
SP Secretary
Office of the Sangguniang Panlalawigan
Province of Leyte
Palo, Leyte

Subject: Endorsement of Final Draft Comprehensive Land Use Plan (CLUP) and Zoning Ordinance (ZO) for the planning year 2018-2028 of Capoocan, Leyte

Dear **Secretary Uyvico**,

Endorsing herewith the following specified set of documents for the review, approval, and adoption of the final draft CLUP and ZO of the Municipality of Capoocan, Leyte for the planning year 2018-2028, to wit;

1. 3 - copies of Final Draft of CLUP and ZO & CDRA
 - a. Volume I – Comprehensive Land Use Plan
 - b. Volume II - Local Zoning Ordinance
 - c. Volume III - Sectoral and Special Area Studies with CDRA
2. 1 set of Presentation Maps (A0 size),
 - a. Existing Land Use Maps
 - b. Proposed Land Use Maps
 - c. Zoning Maps with Overlay Zone Maps
3. 1 copy of the Executive Summary of the CLUP,
4. 1 copy of the Communication Plan
5. 1 copy of:
 - a. Sangguniang Bayan (SB) Secretary's Certificate of Public Hearing conducted;
 - b. Minutes of Public Hearing/Consultation;
 - c. Copy of issued Invitation Letters/Notice of Public Hearing; and
 - d. Copy of Attendance Sheet;
6. 1 - Flash Disk containing:
 - a. Digital copy of the draft CLUP and ZO documents and presentation maps (e.g., PDF, PNG, JPEG format); and
 - b. Vector file data of the presentation maps (e.g., shp/kml, dxf/dwg, tab formats).

We are happy to inform you that this set of documents has been checked by our office and was found complete with respect to our checklist for the above subject purpose. Please see attached, the checklist of required documents for CLUP and ZO Review.




REPUBLIC OF THE PHILIPPINES
Department of Human Settlements and Urban Development
Kagowaran ng Pananahanang Pantao at Pagpapaunlad ng Kalunsuran
Regional Office 8

We will highly appreciate your prompt transmission of this set of documents to the Provincial Land Use Committee (PLUC) of Leyte for the conduct of technical review.

Furthermore, we respectfully request feedback on the details of action taken on this subject set of documents by your office. For inquiries, please contact Ms. Anna Marie Camille L. Bantaculo of Environment, Land Use, and Urban Development Division (ELUPDD), DHSUD VIII at cellphone number 0977 840 1712 or email address at elupdd.r8@gmail.com

Thank you very much and regards.

Very truly yours,


ATTY. MICHAEL VICTOR C. TEZON
Regional Director



REPUBLIC OF THE PHILIPPINES

Department of Human Settlements and Urban Development

Kagawaran ng Pananahang Pantao at Pagpapaunlad ng Kalunsuran

Regional Office 8

LGU Name: Capoocan Province: Leyte Region: VIII
LGU Contact Person: Engr. Benito C. Procia Position: MPDC
Contact Details: 0905 298 8873 / bprocia@yahoo.com

Planning Period of Submitted Plan: 2018 - 2028

CHECKLIST OF REQUIRED DOCUMENTS FOR CLUP AND ZO REVIEW

Documents	Status (Put <input checked="" type="checkbox"/> if yes)	Remarks
1. At least three (3) copies of the draft CLUP and ZO which includes the following documents: a. Comprehensive Land Use Plan b. Zoning Ordinance c. Sectoral Studies/Eco profile d. Climate and Disaster Risk (CDRA) Report, if separate document	<input checked="" type="checkbox"/>	Complete
2. One (1) set of presentation maps in A0 size paper. Includes the following maps: a. Existing Land Use Map b. Proposed Land Use Map c. Zoning Map d. Overlay Zone maps	<input checked="" type="checkbox"/>	Complete
3. Digital copy of draft CLUP and ZO documents and presentation maps (e.g. pdf, jpeg, or png formats)	<input checked="" type="checkbox"/>	Complete
4. Vector file data of the presentation maps (e.g. shp for ESRI shapefiles, kml/kmz for Google Earth files, dxf/dwg for CAD files, tab for MapInfo, or other vector formats)	<input checked="" type="checkbox"/>	Complete
5. Executive Summary of the CLUP	<input checked="" type="checkbox"/>	Complete
6. Sangguniang Panlungsod (SP) Secretary's Certificate of Public Hearing/Consultation Conducted	<input checked="" type="checkbox"/>	Complete
7. Minutes of Public Hearing/Consultation	<input checked="" type="checkbox"/>	Complete
8. List of Invitees and Sector Represented	<input checked="" type="checkbox"/>	Complete
9. Copy of Issued Invitation Letter/Notice of Public Hearing/Consultation	<input checked="" type="checkbox"/>	Complete
10. Copy of Attendance Sheet	<input checked="" type="checkbox"/>	Complete
11. CLUP Communication Plan as per DSHUD DO No. 2022-004 s. of 2022	<input checked="" type="checkbox"/>	Complete
12. Information/section on the areas proposed for agricultural land reclassification (ensure compliance to limits set under Section 20 of LGC and MC 54)	<input checked="" type="checkbox"/>	Complete

Reviewed by:

ANNA MARIE CAMILLE L. BANTACULO
Chief, ELUPDD



PROVINCIAL LAND USE COMMITTEE

2nd Floor, Leyte Provincial Government Complex, Palo West Bypass Road, Palo, Leyte

Email Address: plucleyte@gmail.com

EXCERPTS FROM THE HIGHLIGHTS OF THE MEETING OF THE PROVINCIAL LAND USE COMMITTEE (PLUC) OF THE PROVINCE OF LEYTE HELD ON NOVEMBER 17, 2023 AT 9:00 A.M. AT THE MUNICIPAL HALL, CAPOOCAN, LEYTE

RESOLUTION NO. 2023-02 Series of 2023

RESOLUTION ENDORSING THE COMPREHENSIVE LAND USE PLAN (CLUP) AND ITS ZONING ORDINANCE (ZO) OF THE MUNICIPALITY OF CAPOOCAN, LEYTE FOR CALENDAR YEARS 2018 TO 2028 TO THE SANGGUNIANG PANLALAWIGAN (SP) OF THE PROVINCE OF LEYTE FOR APPROVAL/APPROPRIATE ACTION SUBJECT TO COMPLIANCE ON THE COMMENTS AND RECOMMENDATIONS OF THE PROVINCIAL LAND USE COMMITTEE (PLUC) BY THE MUNICIPAL TECHNICAL WORKING (MTWG) INVOLVED IN THE CLUP PREPARATION

WHEREAS, Section 20 (a) of Republic Act (RA) 7160, otherwise known as the Local Government Code of 1991, provides that Local Government Units (LGUs) shall, in conformity with existing laws, continue to prepare their respective Comprehensive Land Use Plans (CLUPs) enacted through Zoning Ordinances (ZOs) which shall be the primary and dominant bases for future use of land resources;

WHEREAS, Section 2 (b) of Executive Order No. 72, issued by President Fidel V. Ramos on March 25, 1993, mandates the Provincial Land Use Committee (PLUC) to assist the Sangguniang Panlalawigan (SP) in reviewing the CLUPs of component cities and municipalities;

WHEREAS, the Municipality of Capoocan, Leyte has prepared its CLUP and ZO for CYs 2018 to 2028 and same was subjected to a public hearing on December 09, 2020 at the Poblacion Zone 1, Capoocan, Leyte, Covered Court ;

WHEREAS, the Department of Human Settlements and Urban Development Regional Office VIII (DHSUD (RO VIII), reviewed the said Plan and its supporting documents, to determine its completeness in accordance with DHSUD Memorandum Circular 2021-005 on the Revised Review and Approval Processes of Comprehensive Land Use Plans and Zoning Ordinances of Highly Urbanized Cities (HUCs), Independent Component Cities (ICCs), Component Cities and Municipalities (CCMs) and Metro Manila Cities and Municipality (MMCMs) issued on August 06, 2021;

WHEREAS, the CLUP and Zoning Ordinance of the municipality of Capoocan was forwarded by the DHSUD Regional Office to the Sangguniang Panlalawigan (SP) of the Province of Leyte on October 09, 2023, and same was endorsed to the Provincial Land Use Committee (PLUC) for review;

WHEREAS, on November 17, 2023, the PLUC convened to deliberate the draft CLUP and ZO of the municipality of Capoocan, Leyte, wherein the members of the PLUC reviewed and presented the following comments and recommendations on the said draft CLUP and ZO, to wit:

1. In page 6 of the Zoning Ordinance (paragraph 4), it is suggested that the Provincial Comprehensive Land Use Plan be changed to the Provincial Development and Physical Framework Plan (PDPFP) when referring to the planning document of the province.


- 2. That the CLUP and ZO planning period which is 2018-2028 be changed to 2019-2028 to adhere to the 10-year planning period in the CLUP and ZO Formulation Guidelines.
- 3. Please refer to the attached 13 sheets for additional comments and recommendations of the PLUC.

WHEREFORE, on motion of Engr. Nida B. dela Cruz, Local Government Operations VII/Cluster Head, DILG Leyte and duly seconded by Engr. Winston N. Solite, Chief of the Technical Services Division, PENRO Leyte;

RESOLVED, as it is hereby resolved, to endorse the Comprehensive Land Use Plan (CLUP) and its Zoning Ordinance (ZO) of the Municipality of Capoocan, Leyte, for Calendar Years 2019 to 2028 to the Sangguniang Panlalawigan (SP) of the Province of Leyte for approval/appropriate action subject to compliance on the comments and recommendations of the Provincial Land Use Committee (PLUC) by the Municipal Technical Working Group (MTWG) involved in the CLUP preparation;

APPROVED UNANIMOUSLY.

WE HEREBY CERTIFY to the correctness of the foregoing resolution.


IMELDA G. SIEVERT
 Provincial Agriculturist
 Office of the Provincial Agriculture
 Province of Leyte

ANNABELLE V. DE ASIS
 Provincial Director
 Department of the Interior and Local
 Government- Leyte

By:


ENGR. NIDA B. DELA CRUZ
 LGOO VII/Cluster Head

ATTY. MICHAEL VICTOR C. TEZON
 Regional Director
 Department of Human Settlement
 and Urban Development (DHSUD)
 Region VIII

ALEJANDRO K. BAUTISTA
 Provincial Environment and Natural
 Resources Officer (PENRO)
 Department of Environment and
 Natural Resources (DENR)
 Province of Leyte

By:


ANNA MARIE CAMILLE L. BANTACULO, EnP
 OIC Chief, Environmental, Land Use and
 Urban Planning & Development (ELUPD) Division

By:


ENGR. WINSTON N. SOLITE
 Division Chief
 Technical Services Division


ATTY. DANIEL E. PEN
 Provincial Agrarian Reform Officer II
 Department Agrarian Reform
 Province of Leyte

ENGR. LEO EDWARD L. OPPURA
 District Engineer
 Department of Public Works
 and Highways
 2ND Leyte Engineering District

By:


MARISSA C. ESTOLANO
 Acting Chief Agrarian Reform Program Officer

By:


ARCH. ARSHIMEDES R. VERGARA
 Architect IV

ARACELI D. LARRAGA
Provincial Director
Department of Trade and Industry
Province of Leyte

ENGR. ARVIN M. MONGE
PDRRM Officer
Provincial Disaster Risk Reduction and
Management Office
Province of Leyte

By:

By:


DIANA M. QUIZA
Sr. Trade and Industry Development
Specialist


GLORNA VANESSA D. VILLASIN
Local Disaster Risk Reduction and
Management Officer II

Attested by:



AGNES C. RAFON
Officer-in-Charge, Provincial Planning and Development Coordinator
Chairperson, Provincial Land Use Committee

REVIEW OF CAPOOCAN CLUP

Volume 1	Description	COMMENTS/SUGGESTIONS
Page 186, 3 rd to the last line	Typographical error: "toad"	Change to road
Page 189, Table 16	Estimated Date of Completion: 4 th Qtr 2013	It has been nearly a decade. Can this Table be updated?
X Page 192, Tables 62 and 63	Source: year 2010 as reference	More recent data not available?
Page 194, 2 nd paragraph, 3 rd and 4 th line	Years cited are inconsistent with Table 65	Pls check
Page 194, 3 rd and 4 th paragraphs	Inconsistent with Table 66	Pls check
Page 197, 2 nd paragraph	Inconsistent with Table 71	Pls check
Page 204	Incomplete data on no. of classrooms for 2 schools	Complete data
Page 206	Incomplete data on no. of classrooms for 2 schools, and status in 1 school	Complete data
Page 207	Incomplete data on no. of classrooms	Complete data
Page 210, 1 st paragraph, last sentence	Sentence construction	Pls revise
Page 233, 2 nd paragraph, 3 rd sentence	500-seat capacity warehouses	Change seat to sack
X Page 233, Table 111	2010 data (before Yolanda)	Pls update to most recent
Page 239, Tables 122 & 123	incomplete	Pls complete
X Page 242, Table 125	Source: year 2010 as reference	More recent data not available?
Page 243, Table 126	Source year	Pls state
X Page 243, Table 127	2010 data	Use the latest
Other tables in Volume 1	Year of data source not stated	Pls state
Page 267 and 268, Figures 78 and 79	Legend for blue-gray with white rings (adjacent to mariculture) is not stated	Pls state
Pages 267 and 268, Figures 78 and 79	Agriculture Zone: agricultural lands not to be subject to and non-negotiable to conversion is not shown in Figure 78 thus Figure 79 cannot be checked if it follows RA 9700, AO No. 20, Series of 1992	
Page 270, Figure 79-B	Legend for green with white dots is not stated	Pls state
Page 284, Figure 79-P; Page 285, Figure 79-Q	Legend for gray with 3 horizontal blue lines is not stated	Pls state

Volume 2		
Page 34, 2 nd and 3 rd to the last bullets	Mentioned LRT, MRT and MMDA	Not applicable to Capoocan
Page 35, 2 nd and 3 rd bullet	Mentioned MMDA again and Metro Manila	Not applicable to Capoocan
Volume 3		
X Page 5, Table 1, etc. Population In discussion and tables	Latest data shown is 2015 Generally, data used are of 2010 or 2015 or at times, no source year at all	Pls update to year 2020 census More recent data should be available; pls put source year
Page 89, No. 2 Fisheries, 4 th paragraph	Typographical error, resouc	Change to resource
X Page 90, Table 69	Update based 2020 census and per capita consumption	Revise discussion on updated table
X Page 104, Table 83	Source year is 2010	Pls update
Page 105, Table 84	Will part of these areas with irrigation be target for conversion?	Clarify pls
Page 272, Table 130	Policy/intervention: flood resistance varieties	Pls correct to flood-resistant varieties
Storm surge hazard for carline brygs	Information dissemination and flood as policy/intervention	Pls consider establishing coastal greenbelt (mangrove planting)

Prepared by:


 IMELDA G. SIEVERT
 Provincial Agriculturist

Note: Exclude those with X



Republic of the Philippines
Province of Leyte
Provincial Disaster Risk Reduction and Management Council
PROVINCIAL DISASTER RISK REDUCTION AND MANAGEMENT OFFICE
 Leyte Academic Center, Pawing, Palo Leyte
0917-707-3787



November 20, 2023

The Provincial Disaster Risk Reduction and Management Office, as one of the member of the Provincial Land Use Committee (PLUC) has duly reviewed the **draft Comprehensive Land Use Plan (CLUP) CY 2018-2028** of the **Municipality of Capoocan, Leyte** on **November 17, 2023** at the Municipal Hall, Capoocan, Leyte.

Based on the assessment in the Disaster Risk Reduction and Management (DRRM) criteria, the following observation and recommendations are hereby provided:

Item	Areas to consider
Risk Assessment	<ul style="list-style-type: none"> ➤ Update data source (Project-NOAH) - page 81 ➤ Include capacities of the LGU such as assets and other programs and protocols for disaster operations.
Hazard Maps	<ul style="list-style-type: none"> ➤ Update data source - consider using MGB or DOST-PHIVOLCS and other updated and reliable data sources ➤ Use larger scale to highlight Barangay boundaries and to identify clearly those at high risk areas.

We hope that the aforementioned observation and recommendations will be given due consideration.

Thank you very much.


Glorna Vanessa D. Villasin
 Planning Officer

Approved by:


Engr. Arvin M. Monge
 PDRRM Officer

CLUP REVIEW

MUNICIPALITY OF CAPOOCAN, LEYTE

Annex 4. Parameters for the Review of Comprehensive Land Use Plans (CLUPs) and Zoning Ordinances (Zos) of Component Cities and Municipalities (CCMs), Highly-Urbanized Cities (HUCs) and Independent Component Cities (ICCs)

Responsible Party	Parameters for CCMs		Details of Compliance including page No.
<p>Department of the Interior and Local Government (DILG)</p>	<p>a. Checks the institutional capacity and structure of the LGU to implement the CLUP and enforce the ZO such as presence of offices such as Zoning Office, Building Official, ENRO, Staff/manpower, clearance and permits systems, and monitoring systems/schemes.</p>	<p>There are offices such as Zoning Office and designated Zoning Officer, Building Official, GE, ENRO, Staff/manpower, clearance and permits systems (Sections 36-39 in ZO).</p>	
		<p>Monitoring systems/schemes (Put next to Section 59-Implementing mechanism as Section 60). Sections 61-63 for the Separability, Repaealing and Effectivity Clauses should be next</p>	
		<p>The Table of Contents include Sections 1-60 only. Please revisit and include Sections 61-63 in accordance to the corresponding titles.</p>	
		<p>Institutionalize the Monitoring and Evaluation with strategies, clear structure, duties and functions and funding requirements. (see Section 47-52) under Article IX on Administration and Enforcement</p>	

Annex 4. Parameters for the Review of Comprehensive Land Use Plans (CLUPs) and Zoning Ordinances (Zos) of Component Cities and Municipalities (CCMs), Highly-Urbanized Cities (HUCs) and Independent Component Cities (ICCs)

Responsible Party	Parameters for CCMs		Details of Compliance including page No.
		<p>In the Resolution as introductory to the Zoning Ordinance, particularly paragraph 4, last line, for consistency of the use of technical terms, use the term Provincial Development and Physical Framework Plan (PDPFP) instead of <i>Provincial Comprehensive Development Plan</i>. Also please refer to Section 447. Section 447. Powers, Duties, Functions and Compensation. -</p> <p><i>(a) The sangguniang bayan, as the legislative body of the municipality, shall enact ordinances, approve resolutions and appropriate funds for the general welfare of the municipality and its inhabitants pursuant to Section 16 of this Code and in the proper exercise of the corporate powers of the municipality as provided for under Section 22 of this Code, and shall: (2) Generate and maximize the use of resources and revenues for the development plans, program objectives and priorities of the municipality as provided for under Section 18 of this Code with particular attention to agro-industrial development and countryside growth and progress, and relative thereto, shall:(vii) Adopt a comprehensive land use plan for the municipality: Provided, That the formulation, adoption, or modification of said plan shall be in coordination with the approved provincial comprehensive land use plan; and/or the Provincial Development and Physical Framework Plan</i></p>	
	<p>b. Checks if the proposed implementing and monitoring schemes are consistent with the Local Government Code.</p>	<p>Implementing and monitoring schemes should include the clear structures, duties and responsibilities.</p>	

Annex 4. Parameters for the Review of Comprehensive Land Use Plans (CLUPs) and Zoning Ordinances (Zos) of Component Cities and Municipalities (CCMs), Highly-Urbanized Cities (HUCs) and Independent Component Cities (ICCs)


Responsible Party	Parameters for CCMs		Details of Compliance including page No.
		<p>In Section 59, kindly revisit the duties and responsibilities of the Local Investment and Incentives Council...<i>tasked to shall be made responsible for the overall policy direction and proactive coordination with agencies and investors, and implementation of the programs and projects feasible and suitable to the designated and proposed land uses herein identified in this ZO in close coordination with the Zoning Administrator</i>. Please check the duties and responsibilities of the LIIC, or another structure might be better.</p>	
	<p>c. Evaluates the CLUP vis-à-vis approved agency's land use-related policies, plans and programs.</p>	<p align="center">Compliant.</p>	



Republic of the Philippines
Department of Environment and Natural Resources
PROVINCIAL ENVIRONMENT AND NATURAL RESOURCES OFFICE
Brgy. Baras, Palo, Leyte

November 22, 2023

Ms. AGNES C. RAFFON
Chairperson
Provincial Land Use Committee (PLUC)
Province of Leyte

DENR PENRO LEYTE
RELEASED
DATE: 11/23/23
TIME: 9:12
BY: 

Dear Ms. Raffon:

ISANG MAKAKALIKASANG PAGBATI.

Respectfully indorsed herewith the comments made by Engr. Winston N. Solite of this Office in regard to the final draft of the Comprehensive Land Use Plan (CLUP) CY 2019–2028 of the municipality of Capoocan, Leyte. This was based on the review made by the PLUC last 17 November 2023 at the Social Hall of Capoocan, Leyte.

For your information, record and reference.

Very truly yours,


ALEJANDRO R. BAUTISTA
OIC PENRO Officer 

Enclosed.

- As stated

Copy furnished:

- The Municipal Mayor of Capoocan Leyte

Comments on the Draft CLUP of Capoocan Leyte from DENR's Point of View

1. On Page 17 Volume I.

The critical watersheds covering portions of the municipality must be identified including its area covered in hectares. This information is found in the FLUP which was already approved by DENR. The importance of bringing this up-front in the narration is because the watershed concept is the typical example of a ridge to reef approach in ecosystem management planning approach. In particular, please refer to page 31 where the table contains the list of critical watershed and its area.

2. On Page 19 Volume 1: The Total Land area of Capoocan, Leyte

The municipal land area must be consistent with the LMB certified data which is basically based on the approved cadastral survey of Capoocan, Leyte. The total land area must be based on the LMB certification. In case, the LGU insist on the area as used in the draft CLUP, there must be an explanation on how they arrive with such data and the circumstances why it differs from the result of the cadastral survey of the municipality. Likewise, the additional area claimed must be clearly identified and what adjoining municipality is affected by such claim.

3. On Page 20 Volume 1: Table 13

The area breakdown per barangay will not add up to the total area as claimed by the MLGU. It must be explained that the area per barangay was referred to the area based on the approved cadastral survey which will only total to 14,478 hectares and this figure was the one being used in the allocation of area per land use classification. Also, based on the table presented, the largest barangay is not Brgy. Culanisan as described in the narration before Table 13. This must be corrected based on the tabular presentation of the area per barangay including its corresponding percentages based on the total area of the municipality.

4. On Page 22 Volume 1: Data sources of all attached thematic maps

The data map source indicated in the boundary/administrative map of the municipality was DENR cadastral survey 2021. Please delete the figures 2021 considering that the cadastral survey of Capoocan was made and approved earlier than year 2021. The survey made by CENRO Ormoc on the poblacion proper is just a subdivision of the residential lots which remained as big mother lots after the municipal wide survey of the municipality through PLS/Cadastral survey where only agricultural lands were being surveyed. The poblacion proper being non-agricultural lands or residential lots were surveyed as one big lot. Data sources of all thematic maps must be from the original or primary source such as MGB, Phivolcs, DENR Political Boundary Maps, etc. and not from DENR ~~PENRO~~ Leyte as indicated because we are also mere users of these maps and not the original source.

5. **On Page 180 -182 Volume 1: Table 52 and Figure 74 On the zoning of the forest and forest lands (FFL) per barangay.**

The forest lands should already be zoned into two: Protection and Production forest areas. Such zoning should be based on the approved FLUP of the municipality. This is also true to all forest areas based on the existing and proposed land use in all barangays with forestlands.

6. **On Pages 237-238 Volume I: Table 118 on Water Classification**

All existing surface waters within the municipality has "Class B" water body classification. This must be cleared and verified with EMB which is the authorized agency to classify water bodies.

7. **On Table 133: Existing and Proposed Land Use**

The existing and proposed land use specifically for forest areas must be indicated either as Protection or production forest. This must be consistent with the approved FLUP of the municipality. There should be a narration that the FLUP was already approved by DENR and the LGU has already adopted the same pursuant to the SB resolution No. ___ and the date it was issued. Moreover, the FLUP should be integrated into the CLUP pursuant to existing laws, rules and regulations.

8. **In Volume 3: Definition of Terms**


Please include in the definition of terms the following:

- a. Protection Forest
- b. Production Forest
- c. FLUP

9. **On Foreshore Areas:**

Foreshore areas must be zoned according to the approved Provincial Foreshore Development and Management Plan which was already approved by the Province of Leyte. The coastline of Capoocan has already its zonification over foreshore areas in the approved PFDMP.

Prepared/submitted by


ENGR. WINSTON N. SOLITE
Chief, Technical Services Division
PENRO Leyte

Copy furnished.

- The Municipal Mayor of Capoocan Leyte



REPUBLIC OF THE PHILIPPINES
Department of Human Settlements and Urban Development

Kagawaran ng Pananahang Pantao at Pagpapaunlad ng Kalunsuran

Regional Office 8

LGU Name: Capoocan **Province:** Leyte **Region:** VIII

LGU Contact Person: Benito Procia **Position:** MPDC

Contact Details: 09052988878 **Planning Period of Submitted Plan:** 2018-2028

RESPONSIBLE AGENCY (DHSUD)	VOLUME AND PAGE #	COMMENTS/FINDINGS	RECOMMENDATIONS
<p><i>Parameters</i></p> <p>a. Checks whether LGU clearly identified its functional role and whether the proposed land use plan and development strategies are consistent with its vision.</p> <p>b. Evaluates if the plan is in harmony with the land use plans of adjacent cities and municipalities, and takes into account existing and potential conflicting land uses, and shared climate and disaster risks, with other municipalities.</p> <p>c. Evaluates the CLUP if it is in accordance with the development policies of the Region and Province.</p> <p>d. Evaluates if the land/space requirements for basic services and facilities are identified, quantified and properly delineated.</p> <p>e. Evaluates if the locations of different land uses are suitable, properly allocated, and delineated, such as forest and coastal/marine ecosystems, including required easements along inland water, coastal and marine bodies; and buffer areas to reduce land use conflicts and risks.</p> <p>f. Evaluates if proposed socio-cultural and other infrastructure support facilities are adequate and supportive of the city's/municipality's functional role and development thrust.</p> <p>g. Checks if sites for socialized housing are identified and properly delineated pursuant to</p>	<p><u>Volume 1</u></p> <p>The Comprehensive Land Use Plan</p>	<p>Existing Land Use</p> <ol style="list-style-type: none"> 1. No tables and maps per barangay 2. No year reflected in which the existing land uses were assessed in the map title. <p>Structure Plan Map</p> <ol style="list-style-type: none"> 3. Structure Plan Map reflecting the development thrusts and strategies is lacking. <p>Proposed Land Use</p> <ol style="list-style-type: none"> 4. The matrices showing the existing and proposed area of each land and water uses per barangay are lacking. 5. For Forest Land Use, Protection and Production sub-categories are not identified. 6. For Agriculture, only Production sub-category is identified. 7. No legal easements reflected along water bodies per the Water 	<ol style="list-style-type: none"> 1. Provide existing land use tables and maps per barangay 2. Reflect in the map title the year in which the land uses were generated. 3. Provide Structure Plan Map 4. Provide comparative matrices per barangay of the existing and proposed land and water uses. 5. Categorize Forest Land Use into Protection and Production sub-categories. 6. Include Agriculture Protection as a sub-category for prime agriculture areas such as rice lands, irrigated, irrigable and with firm funding for irrigation. 7. Provide legal easements along rivers and creeks, and also other water bodies



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<p>R.A. 7279 (Urban Development and Housing Act of 1992).</p> <p>h. Checks if inventory of potential lands for housing (housing sub-sector table) are identified and properly delineated pursuant to R.A. 7279 (Urban Development and Housing Act of 1992).</p> <p>i. Checks if the locality has other programs and projects to address the squatting problems.</p> <p>j. Checks consistency with and compliance to MC 54 (...Reclassification of Agricultural Lands to Non-agricultural Uses).</p> <p>k. Checks whether the land use plan is translated into the requisite Zoning Ordinance with clear zone boundaries.</p> <p>l. Checks integration/mainstreaming of biodiversity, heritage conservation, ancestral domain and green growth in the CLUP and ZO.</p> <p>m. Checks integration/mainstreaming of climate change and disaster risk reduction and management in the CLUP and ZO by ascertaining that the following key elements are present:</p> <ul style="list-style-type: none"> • Hazard profiling (e.g. flood, storm surge, landslide, severe wind, ground shaking, liquefaction, ground rupture, tsunami and volcanic hazards, among others) including analysis of climate and hazard data and information (e.g. projections, maps, tables, and discussion) from official sources; • Identification of decision and/or priority areas in 		<p>Code of the Philippines</p> <p>8. No proposed roads reflected in the maps</p> <p>9. No planning year reflected in the proposed land use maps</p> <p>10. There is a decrease in area for Municipal Fishing and Foreshore land.</p> <p>11. For Barangay Balud, there is no buffer area in between mangrove area and residential areas, as well as the cemetery and residential area.</p> <p>12. For Barangay Culasian, there is an agri-industrial area within the residential area.</p> <p>13. For the proposed reclamation area in Barangays Poblacion Zone 1 and Pinamopoan, are the permits and clearances for this have been secured already?</p>	<p>following the standards of the Water Code such as 3 meters for Urban Use Areas, 20 meters for Agriculture Areas and 40 meters for Forest Areas.</p> <p>8. Reflect proposed roads in the land use plan maps as gray broken lines to distinguish them from the existing roads.</p> <p>9. Reflect the planning year in all the land use plan maps per barangay and for the whole municipality.</p> <p>10. Include in the write-up the justification for the decrease.</p> <p>11. Provide buffer area in between mangroves and residential area to prevent encroachment. For the proposed cemetery, provide 25 meters buffer to dwelling units.</p> <p>12. Transfer the agri-industrial area at least 200 meters away from residential area.</p> <p>13. Include in the discussions if permits and clearances have been secured for the proposed reclamation. Also, in reflecting the proposed reclamation in the land use map, reflect the proposed</p>



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<p>need of intervention based on its risks (high or moderate) on the population, urban and built-up areas, critical facilities, lifeline utilities, production areas, and natural resources/ecosystems;</p> <ul style="list-style-type: none"> • Identification of climate adaptation/risk mitigation strategies and measures of programs and projects; and • Land use policies and zoning regulations that will lessen and manage the risks and vulnerabilities on existing land uses and proposed development <p>n. Evaluates the CLUP vis-à-vis approved agency related policies, plans and programs.</p>		<p>Land and Water Use Policies</p> <p>14. Policies listed are too vague.</p> <p>15. No Policies for CCA-DRRM as well as Green Growth</p>	<p>use (e.g. commercial, open space, etc).</p> <p>14. Provide policies for areas such as Protection, Production, Residential, and Infrastructure areas.</p> <p>15. Provide CCA-DRR Policies based on the results from the CDRA.</p>
	<p><u>Volume 2</u></p> <p>The Integrated Zoning Ordinance</p>	<p>Zone Classifications</p> <p>1. For Commercial Zone, mixed-use and CBD are the sub-zones. This is not consistent with the regulations for commercial zone since it's only for General Commercial.</p> <p>Zoning Maps</p> <p>2. No planning year reflected in the maps</p> <p>3. No overlay zones reflected</p> <p>4. Zoning blocks are not labelled.</p>	<p>1. Revise the commercial sub-zones in the zone classifications to be consistent with the one indicated in the zone regulations.</p> <p>2. Reflect planning year in all the zoning maps</p> <p>3. Reflect overlay zones in the map and should be consistent with the ones listed in the zone classifications and regulations</p> <p>4. Label each zone block depending on the zone and sub-zone classifications. For example, General Residential is GRZ-B1,</p>



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RESPONSIBLE AGENCY (DHSUD)	VOLUME AND PAGE #	COMMENTS/FINDINGS	RECOMMENDATIONS
	<p>Volume 3</p> <p>The Sectoral, Ecosystem and Special Area Studies</p>	<p>Zone Boundaries</p> <p>5. Zone boundaries per barangay and per block are not included in the draft ZO</p> <p>Ecosystem Analysis</p> <p>1. For Forest sub-sector, the data and discussion is not comprehensive.</p> <p>Social Sector</p> <p>2. For housing sub-sector, data on housing backlog is lacking. Also, affordability and resource analysis are also not included in the discussion.</p>	<p>GRZ-B2, GRZ-B3 and so on.</p> <p>5. Provide zone boundaries per block and per barangay</p> <p>1. Since the LGU already has an approved FLUP, please integrate your data and discussion to this sub-sector.</p> <p>2. Since the approval of the DHSUD Department Order on Mainstreaming the Local Shelter Plan to the CLUP, there is a need to include the Affordability and Resource Analysis to the Housing sub-sector. Please provide data and analysis on these.</p>

Reviewed by:

ANNA MARIE CAMILLE L BANTACULO, ENP

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Noted by:

ATTY. MICHAEL VICTOR C. TEZON

Regional Director



COMPREHENSIVE LAND USE PLAN VOLUME 1

A study and proposal on how land may be allocated and managed by use in the next ten years for the sustainable development of Capoocan

2018-2028

MUNICIPALITY OF CAPOOCAN

*Resource
Management Tool
and Strategic
Framework*

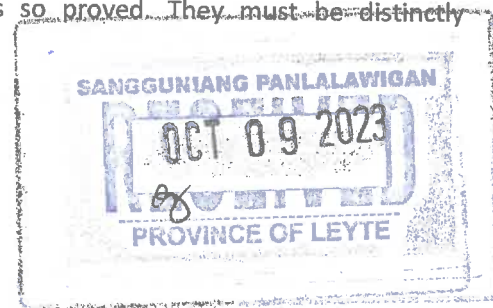
ACKNOWLEDGEMENT AND PREFACE

Decision and will have been the two vital factors for the formulation and preparation of this policy material to start. They owe to the enlightened leadership of the local government unit of the Municipality of Capoocan, Mayor Fe Claire P. Carolino-Paragatos. The course and what went with it needed her imprimatur and signatures. It got them flawlessly.

The approval of the project including its resource requirements to do the Comprehensive Land Use Plan of the municipality did not have to go through rough straits. Under other LGUs it had to lobby and cajole for action. The Sangguniang Bayan in smooth unanimous concurrence gave it.

Harmonious relations indeed can do wonders. The synergy that went with the process of making the CLUP endeavour take-off, between the Local Chief Executive, the critical departments under her office – the Municipal Planning and Development Office (MPDO) for one, the Municipal Interior and Local Government Operations Officer (MILGOO), and the SB dads so proved. They must be distinctly acknowledged and thanked for:

- Hon. Vice Mayor Federico H. Carolino, Sr. presiding
- Hon. Councilor Jongie Q. Madriaga
- Hon. Councilor Lani D. Cantalejo
- Hon. Councilor Roberta C. Peñaranda
- Hon. Councilor Lina B. Egano-Lipasana
- Hon. Councilor Gleceria D. Apuya
- Hon. Councilor Emmanuel D. Arboso
- Hon. Councilor Jaime A. Dalde, Jr.
- Hon. Councilor Angeles P. Madriaga
- Hon. Councilor Florence C. Misagal



MPDC Benito Procia led and facilitated the needed tasks at every step towards getting the finished product done. To the main person responsible for the whole formulation and preparation effort, and the focal staff of the Core Planning Support Team, he gave support in real time.

Municipal staff Roger Mitmit with the CPST did a man's job on the maps. Excellent work. Hyacinth Nicole assisted on the technical chores including the co-facilitation of group processes among participants in the conference-workshop with barangay LGU reps and stakeholders. Not to be forgotten is Marvie Millomeda who also helped in various ways especially at shuttling between offices and desks for signatures. He pushed the paper hard.

Yes, the prodding appearance of MILGOO compelled to fulfil the promised schedules. Who could have better monitored and looked into what has already been done and was being done yet?

The section heads composing the Municipal Technical Working Group (MTWG) made more than be aware. Thanks to their helpful attitude, inputs and sectoral data.

The Capoocan CLUP is a work, not only for many months, but years. The culling of data and writing of report pieces began seven years earlier. All that long time compressed in the hectic and hurried activity of the seven months of March to September, 2017.

There were instances when there seemed no time to blink an eye, to just focus on work speeds faster perhaps than light in the rush towards deadline, for seven months were all it got. The compulsion and pressure did not come from slave masters, but from dogged commitment to finish the job. In fairness, laziness was allowed. But it did not come to pass.

The fruit came off. This, volume 1 in 264 pages, and it doesn't count the other two volumes yet for the Zoning Ordinance and Sectoral Studies. Concentration on the job by the assigned main workers may also be acknowledged and thanked for.

Decision makers, responsible and key persons, monitorers, team players, THIS IS IT, THE COMPREHENSIVE LAND USE PLAN OF THE MUNICIPALITY OF CAPOOCAN, 2018-2028.

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INTRODUCTION

The Comprehensive Land Use Plan (CLUP) is an effective tool in the management of resources for development. How land is allocated and classified according to use sets the biophysical and geographical parameters in which socio-economic as well as human development can take place. The aspiration of the Municipality of Capoocan to reach high levels of growth and achieve significant social and economic progress over the next twenty years keeping in mind environmental sustainability takes cognizance of this.

The local government unit has an existing CLUP that goes back to 1982. The extraordinary interval of 35 years to date since its formulation and enactment highlights the need to update the tool. A new Comprehensive Land Use Plan reflecting the difference in realities, concerns and urgencies of the present is not only timely, but has long been overdue.

Development does not occur in a socio-political vacuum. On the other hand, outdated legislation and enunciated strategies may already hinder instead of boost progress. In recent years, shifts in major legislative thrusts at the national level as well as the status of the environment could not but affect use, allocation and management of land resource. To respond to this change and embark on further development, Capoocan took the initiative to update its CLUP.

At the same time, the LGU recognizes the need to address the impact of climate change, and catastrophes brought about by worsening natural disasters. Thus the formulation and preparation of the Capoocan CLUP anchor on the mainstreaming of climate change adaptation and disaster risk reduction strategies. It is no longer purely development focused. It also addresses the call for resilience and the mitigation of disaster among communities in the face of destructive hazard events.

In most areas of the country, like Capoocan, resources have reached a critical point. The concern is not appropriately dealt with by existing local policies and planning processes. But the use and management of resources in the concerned areas continue to affect albeit negatively their local communities' economic, social and cultural productivity. The new Capoocan CLUP satisfies the need to integrate planning for critically impacted resources, such as upland, coastal, ancestral domain, biodiversity area, heritage and urban green zones.

The biophysical environment contains the needed systems in support of life from generation to generation. But unmindful of ecological impact, development would inflict irreparable damage to it. Because of the threat to the very survival of societies themselves caused by the continued destruction of the environment, environmental issues and concerns must now be given equal if not more attention along with economic, political and social ones in charting the course of development.

The Capoocan CLUP upholds the principle that development must not compromise the capability of future generations to meet their needs and sustain progress. Hence it must be ecologically benign. For the CLUP, this means emphasizing the central interrelationship between the municipality's upland, lowland and coastal ecosystems. The municipality thereby adopts the ridge-to-reef or integrated watershed ecosystems management framework.

The principle of sustainability essentially makes land use allocation and land resource management attuned, adaptive and responsive to the rapidly changing conditions of land and water resources ensuring their conservation and availability for the benefit of future generations.

The planning process hence observed the following:

- The integration of climate change adaptation and disaster risk reduction;
- Application of the ridge-to-reef or integrated watershed ecosystems management platform emphasizing centrality of the dynamic interaction between the upland, lowland and coastal landscape components;

Plan, subject existing laws, rules and regulations...” It further adds in Sec. 444(b)(3)(vii) that they shall “adopt measures to safeguard and conserve land, mineral, marine, forest and other resources of the municipality.”

Presidential issuances also are explicit on the mandate for the formulation and legislation of the CLUP. Executive Order No. 72 provides for the preparation and implementation of the CLUP by the local government units and for the review and approval thereof by the HLURB and the Sangguniang Panlalawigan. Section 1 (a, c) and 2 (a,e,f) states: “Cities and municipalities shall continue to prepare or update their Comprehensive Land Use Plans, in conformity with the land use planning standards and guidelines prescribed by the HLURB and to national policies.”

Another presidential directive on Reorganizing the Human Settlements Regulatory Commission mandates LGUs in Section 5, Article II of EO 648 “(a) to promulgate zoning and other land use control standards and guidelines which shall govern land use plans and zoning ordinances of local governments.”

Later congressional acts relating to the formulation of updated CLUP are on climate change and disaster risk reduction and management. Setting the basis for mainstreaming the former, the Climate Change Act of 2009 (RA 9729) provides: “The LGUs shall be the frontline agencies in the formulation, planning and implementation of climate change action plans in their respective areas, consistent with the provisions of the Local Government Code, the Framework, and the National Climate Change Action Plan (2010-2022).” (Section 14)

The National Disaster Risk Reduction and Management Act (RA 10121) declares that it is the policy of the government to mainstream disaster risk reduction and climate change in development processes such as policy formulation, socio-economic development planning, budgeting, and governance, particularly in the areas of the environment, agriculture, water, energy, health, education, poverty reduction, land use and urban planning, and public infrastructure and housing, among others. Under RA 9729, LGUs are mandated to establish a Local Disaster Risk Reduction and Management Office whose functions include the identification and assessment of hazards, among others.

Link to National Plans and Programmes

The Capoocan CLUP adheres to approaches, strategies, methodologies, criteria or philosophy that makes development sustainable. This means it is ecologically sound, economically viable, socially just and equitable, culturally appropriate, and based on holistic science. In terms of guiding national framework or strategy, the Capoocan CLUP aligns with the Philippine Agenda 21.

PA 21 is a national blueprint for sustainable development. It charts the bearings on how the country will confront the challenges and issues of the 21st century and define its vision. Topmost is the “building of a just, morally ascendant, spiritually enriched, economically vibrant, caring, and cohesive though culturally diverse society realizing a better quality of life for all.” The framework agenda prescribes appropriate productivity, participatory and democratic governance, and social progress harmonized with the limits of the carrying capacity of nature and the imperative of preserving the integrity of creation.

Sustainable development as defined by PA 21 is the “harmonious integration of a sound and viable economy, responsible governance, social cohesion and ecological integrity, to ensure that development is a life-sustaining process.” It incorporates:

- 1) *Poverty Reduction*. This is the enhancement of the capacity of every family to meet basic needs above the bare minimum requirements to live, and improve choices in life.

In the drawing of the Capoocan CLUP, the analysis and assessment of the watershed or its sub-watershed areas, either within the territorial jurisdiction of the LGU and/or its adjacent LGUs, start from the uplands to the lowland areas down to the coastal areas, including municipal waters. They determine specific land uses and development controls. Prioritization of critical watershed areas, including impact and affected communities/barangays, is ascertained based on use values – economic, social, ecological, cultural, historical, institutional or infrastructural, at the community and LGU levels.

B. Inclusive and expansive governance

The principle ensures that all three actors in governance, namely – government (state), civil society, and private sector, are actively involved in the enhanced CLUP process. Good governance promotes collaborative partnerships among the local government, business and civil society. It is described as sustainable, participatory, transparent, accountable, legitimate and acceptable to the people. It promotes equity and equality.

C. Co-management

Section 3 of the Local Government Code provides that “local government units shall share with the national government the responsibility in the management and maintenance of ecological balance within their territorial jurisdiction.” The LG and NG are mandated by RA 7160 to act as co-managers of the national territory and patrimony.

D. Gender responsiveness and sensitivity

The Capoocan CLUP emphasizes beforehand sex disaggregation of data. Sectoral studies take up the specific issues and concerns of women, resource access and control, and the delineation of measures/directions in line with the goals of gender equality and women empowerment. The entire planning process – plan formulation, plan implementation, monitoring and evaluation, integrates gender explicit consideration of development and population interrelationships.

E. Bottom-up approach, the integration of BDPs

From appraisal and information processing to the charting of the roadmap of action and determination of projects/programs/initiatives, activities are participatory. They see to it that the critical sectors and stakeholders are drawn into the process. In tandem with the technical assessments and the making of resolutions based on technical findings, the formulation of the Capoocan CLUP absorbs essential inputs at the grassroots. Finally, it blends in the Barangay Development Plans.

An exceptional case is when inputs or participation from the community level are not possible. The instance, especially the absence of BDP, necessitates skipping the bottom-up approach and shifting to the top-to-bottom approach.,

Process

The formulation and preparation of the Comprehensive Land Use Plan of the Municipality of Capoocan involve the following steps in sequential order:

1. *Organize.* The first step is assembling the staff to form the core planning support team. At this stage, the group primarily responsible for the CLUP together with the CPST mobilizes the needed resources and institutes the required management systems.
2. *Enlist stakeholders.* The stakeholders are persons, groups or institutions that have interest in the decisions and actions resulting from the plan. The next step is to identify them and plan out their involvement in the planning course.
3. *Analyse the situation.* A functional study of the demographic and geographical conditions, the state of the natural-physical environment, vulnerability to climate change and disaster risks, the status of social services, local administration and the situation per economic sector of the locality comes next.

PART I – PROFILE OF THE MUNICIPALITY

A. BRIEF HISTORY

The name Capoocan has been drawn from the local word “kapook.” In English, it means full of obstructions. The place was then choked by jungle growths.

Before the Spanish colonial rulers made it an administrative unit, Capoocan was covered by thick forests. Folks from other environs, who travelled here on foot, had difficulty passing through the place. The trail was so narrow and laced by brushes travellers would murmur “Kapook,” a sigh at having no leeway or space to move. The persistent complaint of the visitors, whenever they negotiated the narrow trails hemmed by mangroves and knotted by forest growths, led to the calling of the place Capoocan.

Capoocan briefly became a municipality in the early 18th century. But not long after, it again reverted to a barrio of Carigara, Leyte.

Prior to gaining permanent municipal status in 1918, the barrio was a lethargic community far off the mother town of Carigara. Development was nil, constrained by hardships in cultivation and the remoteness of the place from the hubs of commerce and industry. The place was virtually isolated with no provincial or national road links to the other busy towns east and south. Its means of transportation then was the waters of the Carigara Bay.

Geographic and natural physical limitations initially slowed the area’s progress. The farmers had difficulty trading produce and earning cash. Transporting agricultural goods to Carigara and other markets was a big problem and at times impossible. The obstacles crippled the local economy and stamped Capoocan in perennial underdevelopment.

Still during the Philippine commonwealth period, on November 23, 1917 American Gov. Gen. Francis Burton Harrison issued Executive Order 87 weaning Capoocan from Carigara. The administrative separation reorganized it into a municipality. The decree took effect on January 01, 1918. With the milestone, the barrio became a full-fledge town.

As a young 6th class municipality then, Capoocan ran into overwhelming difficulties at providing basic services, food, health care, education, shelter, infrastructure, and livelihood. Hardships in obtaining basic needs were aggravated by the frequent attacks of Moro marauders dating back to the 18th century, and continuing up to the Japanese invasion in 1943.

The outbreak of World War II and the heavy-handed occupation of the Japanese imperial forces worsened the hapless and impoverished condition of the municipality. Violence and bestiality ran over the populace as the cruelty of war rose into full display with most of the houses razed to the ground, and the people castigated, abused and enslaved or put to death by the invaders. In the midst of war, Capoocan reeled under the full impact of destruction. It reeked with the foul smell of decay from strewn animal carcasses all over the place.

The grim situation compelled evacuation to the interior barrios. Frightened residents took refuge in hinterlands. The center of Capoocan became “no man’s land” throughout the latter part of the conflict. Urbanizing areas in that time of development were depopulated. The local economy beached or beat back to the Stone Age.

After the Japanese defeat, in the dawn of peace, Capoocan slowly recuperated. It took the faltering steps at first in rebuilding infrastructure and revitalizing the economy. But the steps were nevertheless determined. The local folks got together to reconstruct houses, plant the fields scarred by war, grew crops, like palay and corn, and rose to a new day. Communal fishing returned. Enterprising individuals pursued business. Industry chalked ground.

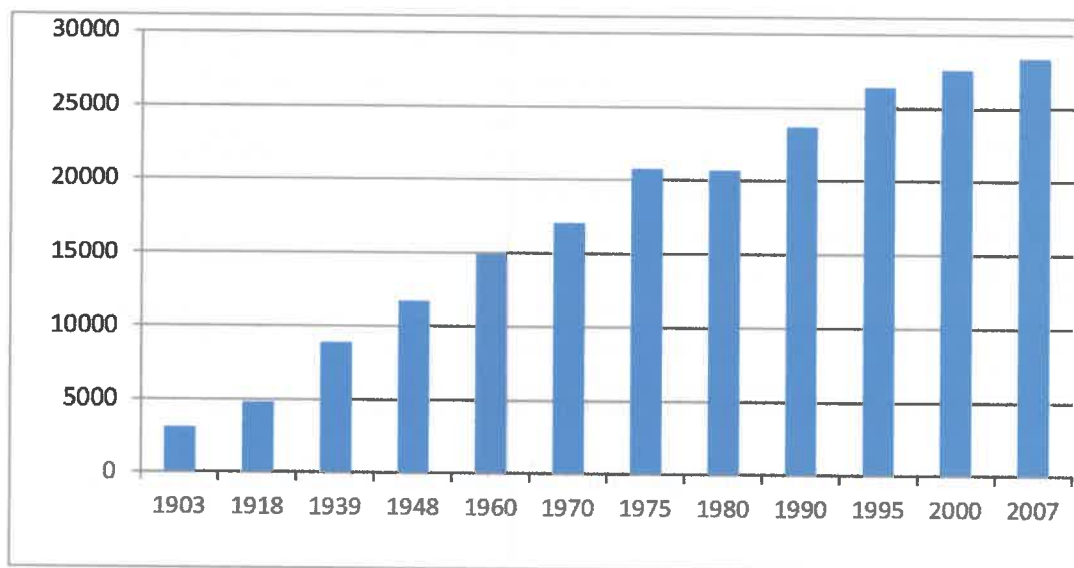
Table 2: Historical Growth of the Population of Capoocan 1903-2007

Census Year	Total Population	Increase/Decrease in Pop.	Average Annual Growth Rate
1903	3,106	----	----
1918	4,772	1,666	2.90%
1939	8,907	4,135	3.02%
1948	11,753	2,846	3.13%
1960	14,948	3,195	2.02%
1970	17,077	2,129	1.34%
1975	20,783	3,706	4.01%
1980	20,726	-57	-0.05%
1990	23,687	2,904	1.34%
1995	26,384	2,697	2.04%
2000	25,593	1,209	0.97%
2007	28,388	795	0.41%

Data Source: Philippine Statistics Authority

The pattern of population growth over a century is shown in the chart below:

Figure 1: Population Growth Trend



Level of Urbanization and Geographical Distribution

The urban areas of the municipality at present are Bgy. Poblacion Zone I with a population of 2,348 and Bgy. Poblacion Zone II with a population of 4,731. Both urban communities have a combined population of 7,079 individuals. They constitute 21.05% of total population.

The rest of the 19 barangays of Capoocan are classified rural areas. They have a combined population of 26,538 individuals and constitute 78.55% of the total municipal population. In its distribution, the municipality is predominantly rural. It has a ratio of four to one (4:1) rural versus urban population. The level of urbanization is 21 percent.

As of 2015 though, the population distribution showed a trend towards urban expansion. This was prominent in the four emerging local economies strategically located along the Tacloban-Ormoc growth corridor, namely Balud registering a population of 2,835, Culasian registering a population of 2,957, Pinamopoan with the largest population of 3,010 and Lemon, a thriving commercial crossroad

Households

The aggregate number of households for the whole of Capoocan is 6,642. Each household has an average size of five (5.07) members. Households in the barangays classified as urban areas, namely Poblacion Zone I and Poblacion Zone II, total 1,387. The largest barangay in number of households as well as individual population is Poblacion Zone II also known as Daraupay. Among rural barangays, Pinamopooan has the largest number of households as well as individuals.

Table 4: Population and Average Size of Household per Barangay as of Year 2015

Barangay	Households		Population		Average Size of Household
	Number	Proportion	Number	Proportion	
CAPOOCAN	6,642	100	33,617	100	5.0
Poblacion I	460	6.92	2,348	6.98	5.1
Poblacion II	927	14.01	4,731	14.00	5.1
Balucanad	342	5.15	1,621	4.82	5.0
Balud	567	8.53	2,835	8.43	5.0
Balugo	74	1.11	369	1.10	5.0
Cabul-an	383	5.76	1,955	5.81	5.1
Culasi-an	591	8.90	2,957	8.80	5.0
Gayad	149	2.24	763	2.27	5.1
Guinadiong	125	1.90	649	1.93	5.2
Lemon	545	8.20	2,783	8.27	5.1
Libertad	227	3.41	1,136	3.38	5.0
Manloy	138	2.08	693	2.06	5.0
Nauguisan	72	1.08	359	1.07	5.0
Pinamopooan	590	8.90	3,010	8.95	5.1
Potot	167	2.51	853	2.54	5.1
San Joaquin	282	4.24	1,466	4.36	5.2
Sto, Nino	258	3.90	1,289	3.83	5.0
Talairan	185	2.78	943	2.80	5.1
Talisay	128	1.92	642	2.00	5.0
Tolibao	131	1.97	708	2.10	5.4
Visares	301	4.53	1,507	4.48	5.0

Data Source: MPDO – Municipality of Capoocan

Population Density

On the whole, the municipality has a low population density of 1.81 or around two persons per hectare. Among Capoocan's 21 barangays Bgy. Balud has the highest population density with 4.75 or around five persons per hectare. Although Poblacion Zone II has the biggest population with a total of 4,731 individuals, it has a population density of only 4.17. With a population of only 369 individuals, the interior mountain barangay of Balugo has the lowest density of .24 or barely a person per hectare. Yet, compared to Balud with a total population of 2,835, it covers an area of 1,546.59 hectares. The latter covers an area of only 596.50 hectares.

The communities with high population densities are located along the Maharlika Highway, where the municipality's residents are mostly concentrated. This stretches from Bgy. Balud at the boundary with the Municipality of Carigara east of the town, to the poblacion zones in the town proper, to Culasian, Pinamopooan, Lemon, San Joaquin, Visares and Sto. Nino. These settlement clusters along the national highway are referred to as carline barangays.

proportions hew closely to facts on the ground. From them, comparative figures could already be derived carrying forward growth projections year on year.

The set of data on Table 6 in the next page show the pattern of distribution of the population of the municipality by age group and sex.

Table 6: Household Population by Age Group and Sex, Municipality of Capoccan, Census Year 2010

Age Group	Both Sexes	Male	Female
All Ages	29,689	15,477	14,212
Under 1	758	383	375
1 – 4	2,999	1,588	1,411
5 – 9	3,884	1,979	1,905
10 – 14	4,075	2,110	1,965
15 – 19	3,314	1,842	1,472
20 – 24	2,188	1,262	926
25 – 29	1,825	960	865
30 – 34	1,730	895	835
35 – 39	1,637	852	785
40 – 44	1,517	787	730
45 – 49	1,327	693	634
50 – 54	1,225	628	597
55 – 59	961	469	492
60 – 64	723	343	380
65 – 69	550	258	292
70 – 74	432	200	232
75 – 79	280	126	154
80 years old and over	264	102	162
0 – 17	13,877	7,268	6,609
18 years old and over	15,812	8,209	7,603

Data Source: PSA 2010 Actual Census

Males outnumber females. The former totals 15,477 or 52.13 percent of whole population. The latter totals 14,212 or 47.87 percent. The sex ratio is 1.09 or 109 males to 100 females. This goes with almost all age categories. Male predominance in numbers shows. The variance is important to determine participation in work especially wage-earning, occupational structure or arrangements, time allocation, how resources are being managed, spatial mobility (the more prospect of out-migration in big numbers), and even mortality, factoring crime and violence.

More men than women put greater pressure on the maintenance of peace and order. The tendency towards anti-social behaviour and proneness to violence among the menfolk especially the youth require augmentation of protective services. Lack of economic advancement exacerbates them. With the data on population distribution by age and sex, the municipality has at least a peek at priority concerns in, for instance, peace and order and economic revitalization.

School-Going Age

The goal of 100 percent re the provision of universal primary education targets those in the school-going age. The school-going age brackets start with 5-9 years old. What are the figures on these groups in the municipality? A part of them – that is, five years old and over, enters elementary/grade school. They number 13,049 or 50.32 percent of the overall school-going population of 25,932 individuals. Out of this, 7,385 or 56.60 percent are in 1st-4th grade, 2,320 or 17.78 percent are in 5th-6th grade, 3,344 or 25.62 percent are graduates. Male elementary enrolees number 7,202 or 55.20, while the female elementary enrolees number 5,847 or 44.80. for a ratio of 1.23 – that is, 123 male to 100 female elementary enrolees.

Labor Force

The labor force is the segment of the population that starts at the cut-off age of 15 years old. Its age ceiling is 64 years old. Belonging to the category are persons who can already work for earnings either through wage or through profit in enterprise as means of livelihood. The labor force constitutes the productive individuals on whom economic activity and growth depend.

The categories of the working age and their numbers in the municipality of Capoocan are detailed in the table below.

**Table 8: Household Population by Age Groups 15 – 64 years Old and Sex,
Municipality of Capoocan, Year 2010**

Age Group	Both Sexes	Male	Female
All Age Groups	16,447	8,731	7,716
15 – 19	3,314	1,842	1,472
20 – 24	2,188	1,262	926
25 – 29	1,825	960	865
30 – 34	1,730	895	835
35 – 39	1,637	852	785
40 – 44	1,517	787	730
45 – 49	1,327	693	634
50 – 54	1,225	628	597
55 – 59	961	469	492
60 – 64	723	343	380

Data Source: PSA

The overall labor force of the municipality totals 16,447 individuals, 8,731 of them or 53.10 percent are male, while 7,716 or 46.90 percent are female. The total number makes up 55.40 percent of the whole population. Out of it, those considered ready for work or at work called the actual labor force total 13,362, deducting those in school for higher education and persons with disability. Members of the actual labor force are the people who are concretely or potentially able to earn a living and support the whole population.

Data gleaned from Participatory Rural Appraisal counterchecked with comparative data from the province pegs the unemployed of Capoocan at 29 percent, underemployed 40 percent. Full labor participation is estimated to be 5,098 or 31 percent. The big figures on unemployment and underemployment are a priority concern of the municipality.

Dependency

Dependents are the segment of the population too young or too old to earn a living. They live on the support of those who work. Their age groups are from under 1 to 14 years old, and from 65 to over 80 years old. Although there are cases of individuals over 65 years old who still participate in labor for a means of living, they are technically already out of the labor force.

Information on dependency is very important in order to determine how much or to what extent is the segment of the population that works and earns able or not able to support the entire population. A high dependency ratio puts a heavy pressure on the working population to be most productive and earn more. It also strains the economy, since not only are there many people depending on a few, but resources and potentials are in a state of stagnation with a large segment of the population idle and unproductive.

The next set of data shows the municipality's dependency status with figures on household population 1-14 years old, and 65 years old above by sex.

C. GEOGRAPHIC LOCATION

Capoocan is a political-administrative subdivision of the Province of Leyte. It is a fourth class municipality. The town fronts the Carigara Bay and the Samar island of Daram father north. It straddles 31 kilometers of the 111-kilometer Tacloban-Ormoc National Highway, mostly at the highway's winding portions. The road is a semi-urbanized economic corridor linking Tacloban and Ormoc and the growth nodes of Carigara and Naval, Biliran.

The Municipality of Capoocan is located 59 kilometers northwest of Tacloban, a highly urbanized city in the island of Leyte, prime business estate, and commercial hub of the Eastern Visayas Region. It is 52 kilometers northeast of Ormoc on the western side of the province, a port city connecting to the major urban center of Cebu. The place lies 962 kilometers southeast of the National Capital Region, starting at zero kilometer in the Luneta Park's Agrifina Circle. It has coordinates of 11°71'41.1" latitude, and 124°38'29.6" longitude.

1. Watershed and Sub-Watershed Profile

The Municipality of Capoocan has four dynamically interactive landscape components: ridge, upland/slopes, plains and coastal flats. It is hemmed by two ridge systems. One straddles the upper portion of the coastal barangays on the northwestern part of the municipality, along the border with the Municipality of Leyte-Leyte. The other stitches the mountainous parts along its southern barangays at the border with the Municipality of Kananga. The two adjacent systems cascade into hilly and undulating topography that descend towards the coastal strip curving along the Carigara Bay.

Capoocan's ridges and uplands contain numerous springs that feed the water arteries crisscrossing the municipality. One major artery is the Dakong Tubig River which snakes through the area's southwestern barangays. The river originates from two headwaters atop the southern peak of Brgy. Manloy. The sources flow into Brgy. Sto. Niño where the Dakong Tubig River begins and is fed as it journeys downstream by other tributaries. Becoming bigger, it winds through Brgys. Visares and San Joaquin, traverses the national highway, and joins the Leyte-Leyte River in exiting to the Carigara Bay.

The Dakong Tubig river basin spans one of the municipality's interconnected watershed ecosystems from ridge to reef. It strings up biodiverse landscapes that base a most important portion of Capoocan's rich life support. The dynamically interactive landscape components by and large comprise the municipality's main rural system.

Central east of the municipality are two more major water arteries that join up at its border alongside the Municipality of Carigara. These are the Balucanad River and the Nauguisan River. The Balucanad River originates from many source tributaries along the mountainous portions of Poblacion Zone II and Poblacion Zone I. It snakes through Brgy. Balucanad, crosses Brgy. Nauguisan and fuses with the Nauguisan River along the municipal boundary with Carigara before pouring into the bay.

The Nauguisan River originates from two springs atop Mount Minoro at Brgy. Manloy. Towering at 1,000 feet above the sea level, Mount Minoro forms a sub-ridge of the range of highlands bordering the municipality along its southeastwest. The Nauguisan River descends from here and flows downstream through almost half of Bgy. Manloy towards the boundary of Brgy. Nauguisan where it is joined later by the Balucanad River.

The two major river basins integrate the watershed ecosystems from ridge to reef in the greater eastern section of the municipality facing the Carigara Bay to the north. Alongside these two arteries courses the Pamintuan Creek, a minor water body constituting a subsystem of watershed in the area along the boundary of Brgys. Balud and Poblacion Zone I. Feed by different tributaries originating from the forestal portions of Poblacion Zone II and Poblacion Zone I, the Pamintuan Creek also makes up a significant contributor to the municipality's ecological balance

Westward is the large midsection of the municipality where an interweaving network of inland waters concentrate. Most of them flows in and from sources within Bgy. Culasian, the biggest barangay of Capoocan by area. They course through several viens slithering across the breadth of the land down into the Carigara Bay. The streams and rivers have sustained Capoocan's rich agricultural base and rural system along its central parts, anchoring livelihoods of the local folks for many generations.

Another significant water body originating from two sources up the forested portion of Pinamopoo flows through the midsection of the barangay, hems its main housing cluster after the bridge, and pours out into the Carigara Bay. Since time immemorial, the watershed along the river basin has been a wellspring of biophysical life support to the immediate community for many generations.

From the forested ridge along the municipality's northwestern section bordering the municipality of Leyte-Leyte, multiple water arteries stream down eastward to the lowlands, rugged shorelines and mudflats of the "ligiron" (coastal) barangays beside the Carigara Bay. They flow and branch in several points throughout the entire area that includes: Talairan, Gayad, Potot, Libertad, Guinadiongan, Tolibao, Talisay and Cabul-an. The residents here draw their supply of water for drinking, domestic use and agriculture from these inland bodies.

The string of highlands up the ridge, the various slopes cascading and undulating towards the strip of plains, agricultural flatlands, coastlines, and expansive municipal waters comprising the greater part of the Carigara Bay have made Capoocan an enviable ecological haven. The natural biophysical environment is enriched with biodiverse flora and fauna buttressed by highly dynamic watershed components from ridge to reef. These qualities project the municipality both as an ideal habitat for man as well as a host of myriad species, and also potential generator of rapid economic and social growth.

Capoocan is richly endowed with inland waters, interlapping landscapes and highly dynamic ecosystems from ridge to reef. In brief, it hoists a strong biophysical platform for higher levels of progress and sustainable development. This can be over the next ten years.

2. Territory and Barangays

The Municipality of Capoocan is bounded on the north by the Carigara Bay; on the east by the Municipality of Carigara, Leyte; west by the Municipality of Leyte, Leyte; and south by the Municipality of Kananga, Leyte and Ormoc City.

The town comprises a total land area of 18,540 hectares or 185.4 square kilometres. It is subdivided into 21 barangays, 13 of which coastal, namely: Balud, Poblacion Zone I, Poblacion Zone II, Culasian, Pinamopoo, Cabul-an, Talisay, Tolibao, Guinadiongan, Libertad, Potot, Gayad and Talairan. The other eight (8) are inland barangays, namely: Balucanad, Nauguisan, Manloy, Lemon, Visares, San Joaquin, Sto. Nino and Balugo.

The coastal barangays may be sectioned into two: those located along the Tacloban-Ormoc national highway or the "carline," and those located in the shores northwest of the Carigara Bay locally referred to as the "ligiron." The former are Bgys. Balud, Poblacion Zone I, Poblacion Zone II, Culasian and Pinamopoo. The latter, accessible by sea, are Cabul-an, Talisay, Tolibao, Guinadiongan, Libertad, Potot, Gayad and Talairan.

The two barangays Poblacion Zone I and Poblacion Zone II are classified urban areas. They are contiguously located at the town proper with a combined area of 2,135.50 hectares. Adjacent to the town center towards east at the boundary with the Municipality of Carigara is Barangay Balud. It may be noted that the latter already exhibits the characteristics of an urban area with a large built-up space and concentration of population.

Figure 3: Map of the Philippines

Municipality of Capoocan: 962 kilometers southeast of the National Capital Region, from zero Agrifina Circle, Luneta Park, Manila;
Coordinates 11°71'41.1" latitude, and 124°38'29.6" longitude

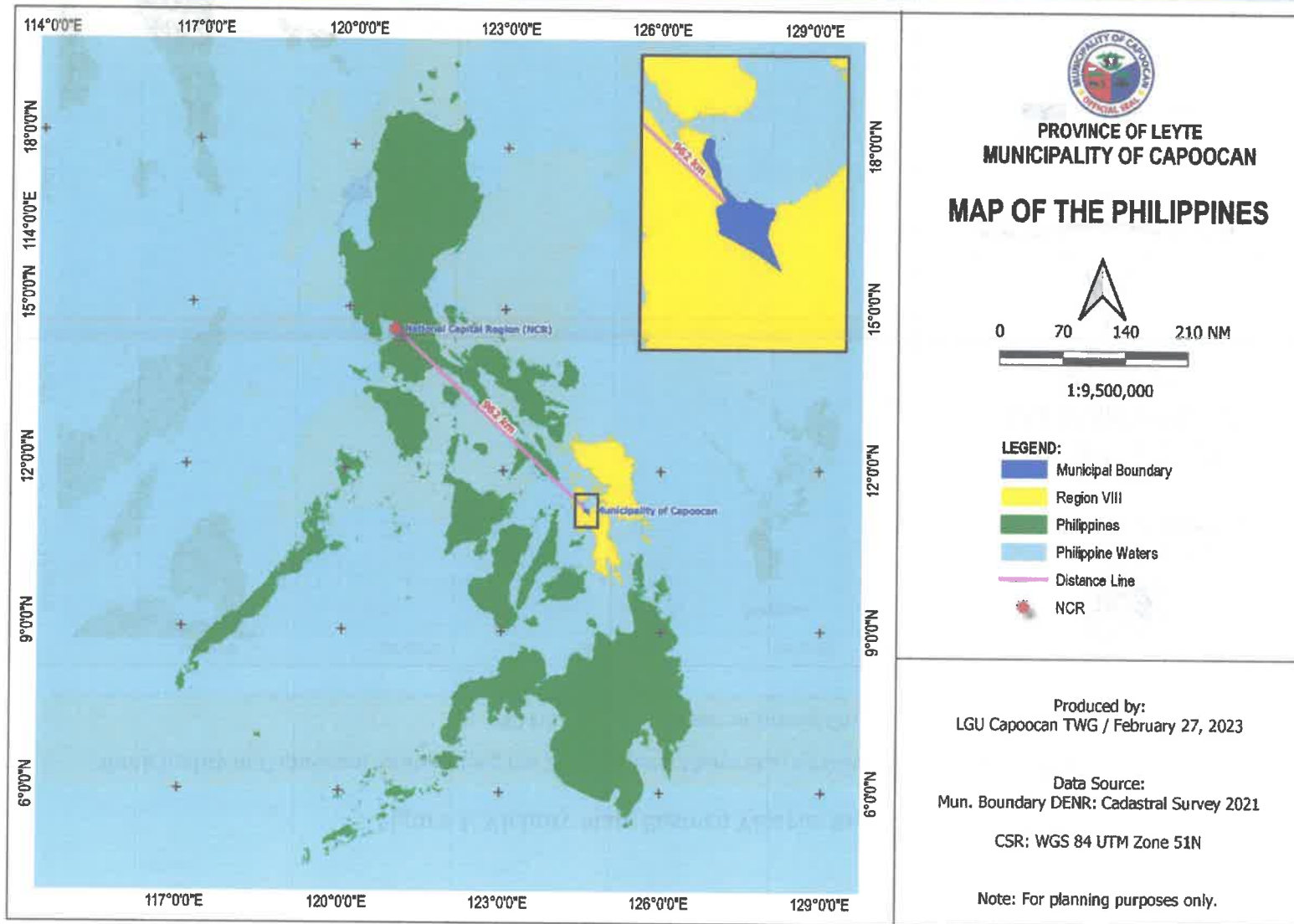


Figure 5: Administrative Map of the Municipality of Capoocan

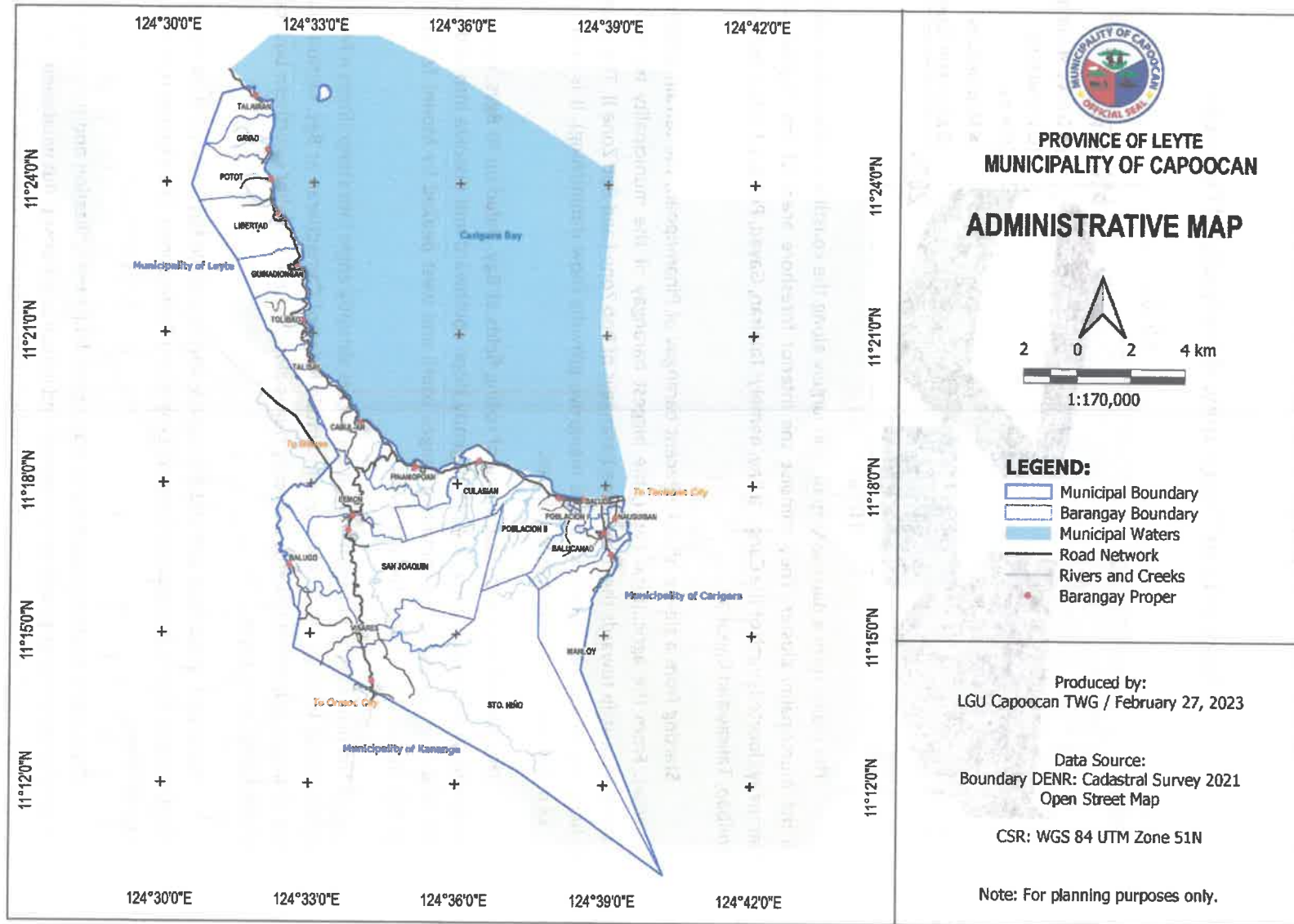
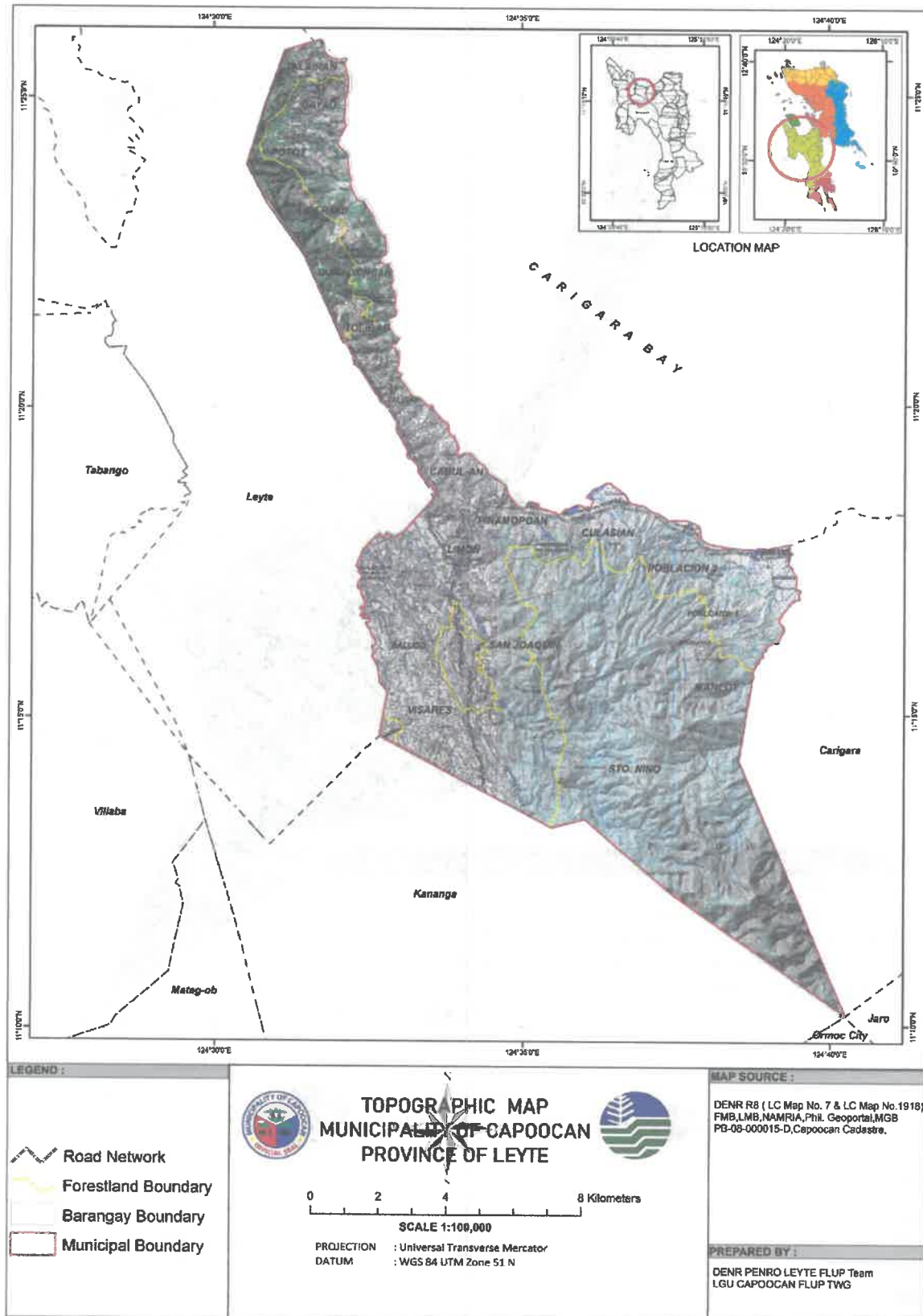


Figure 7: Topographic Map of the Municipality of Capoocan



2. Vegetative Cover

Satellite imaging shows Capoocan to be dominantly green. Although quite sizeable, the built-up portion of the municipality covers only a little more than one fifth of its total area. Capoocan is still mostly open space. A total of 13,758.83 hectares or 74.21% of the area is eaten up by vegetative cover. The biggest portions of these are forestal and agricultural.

The agricultural lands of the municipality or lands planted with rice, coconut, bananas, pineapple, sugar, corn and root crops cover an area of 6,610.00 hectares or 35.65% of total. Existing forests cover 3,290.68 hectares or 17.75% of total. Cultivated public land covers 805.62 hectares or 4.33% of total, while forest reserves cover 2,729.84 hectares or 14.72% of total. Grasslands or pasture lands cover 322.69 hectares or 1.74 percent of total municipal land area.

Below are data on the municipality's land/vegetative cover by area and percentage to total.

Table 14: Land/Vegetative Cover, Municipality of Capoocan

Land/Vegetative Cover	Area (in Has.)	Percentage of Total
Annual Crops	457.30	3.16
Brush/Shrubs	1,733.78	11.98
Built-up	116.50	0.80
Fishpond	1.62	0.01
Grassland	463.12	3.20
Inland Water	61.95	0.43
Mangrove Forest	9.48	0.07
Open Forest	4,389.94	30.32
Perennial Crop	7,244.00	50.03
Total	14,478.00	100.00

3. Geologic and Soil Composition

The area has a rock composition of late Miocene to Pliocene agglomerate. This is typically made up of large boulders of the first geologic epoch extending from 23.03 to 5.33 million years ago. It also contains tuff, calcareous and tuffaceous sandstone conglomerate of one meter or larger boulders, shale, clastic limestone 3°-55° dips, with 800 meter thickness, NA NED Western Leyte. The whole of the municipality has fine sedimentary rocks.

The soil of Capoocan is quarternary, a top layer of 0 to 24 meters, representing the most recent geological time scale, that is, from about two million year ago to the present. It consists of unconsolidated alluvial deposits of lenticular clayey, sandy, gravelly, talus, and coastal and coral components.

On the valleys inland, the soil is commonly clay loam. Upwards, on the gentle slopes, hills and forested high elevations, it varies from rust-red sticky clay, especially in portions that are heavily eroded, to rich friable mixture of sand, clay and organic mass.

Although the dominant rock formation in many parts hinders cultivation, it nonetheless provides a solid and firm structure to the earth. This is advantageous to built-up development. On the other hand, farming can be optimized on yet vast lands to meet local needs and sustainably drive economic growth by the adoption of diversified and integrated production systems.

Capoocan's geologic attributes endow it with the natural-physical characteristics favourable to socio-economic development.

Figure 10: Forest Cover Map, Municipality of Capoocan

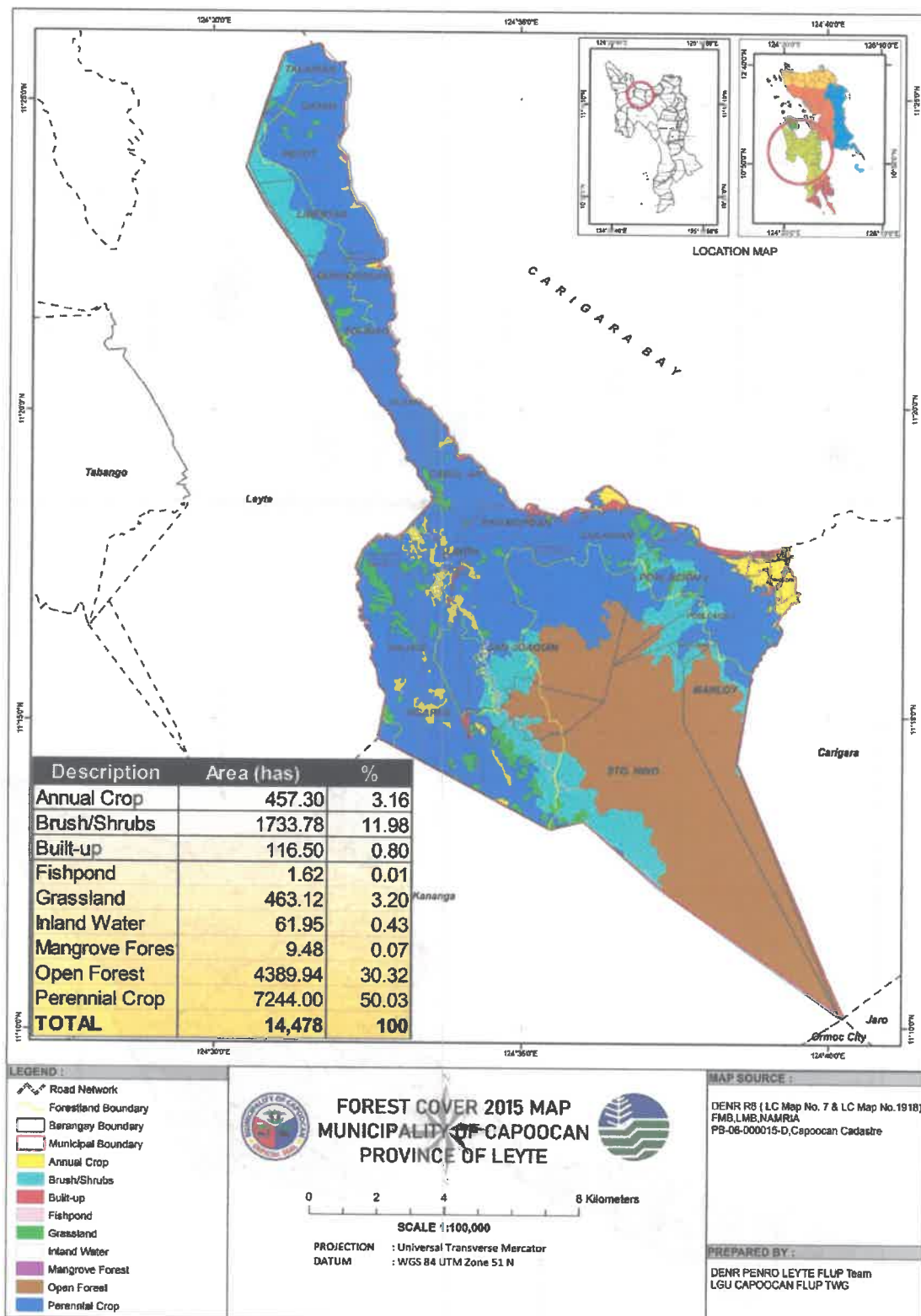
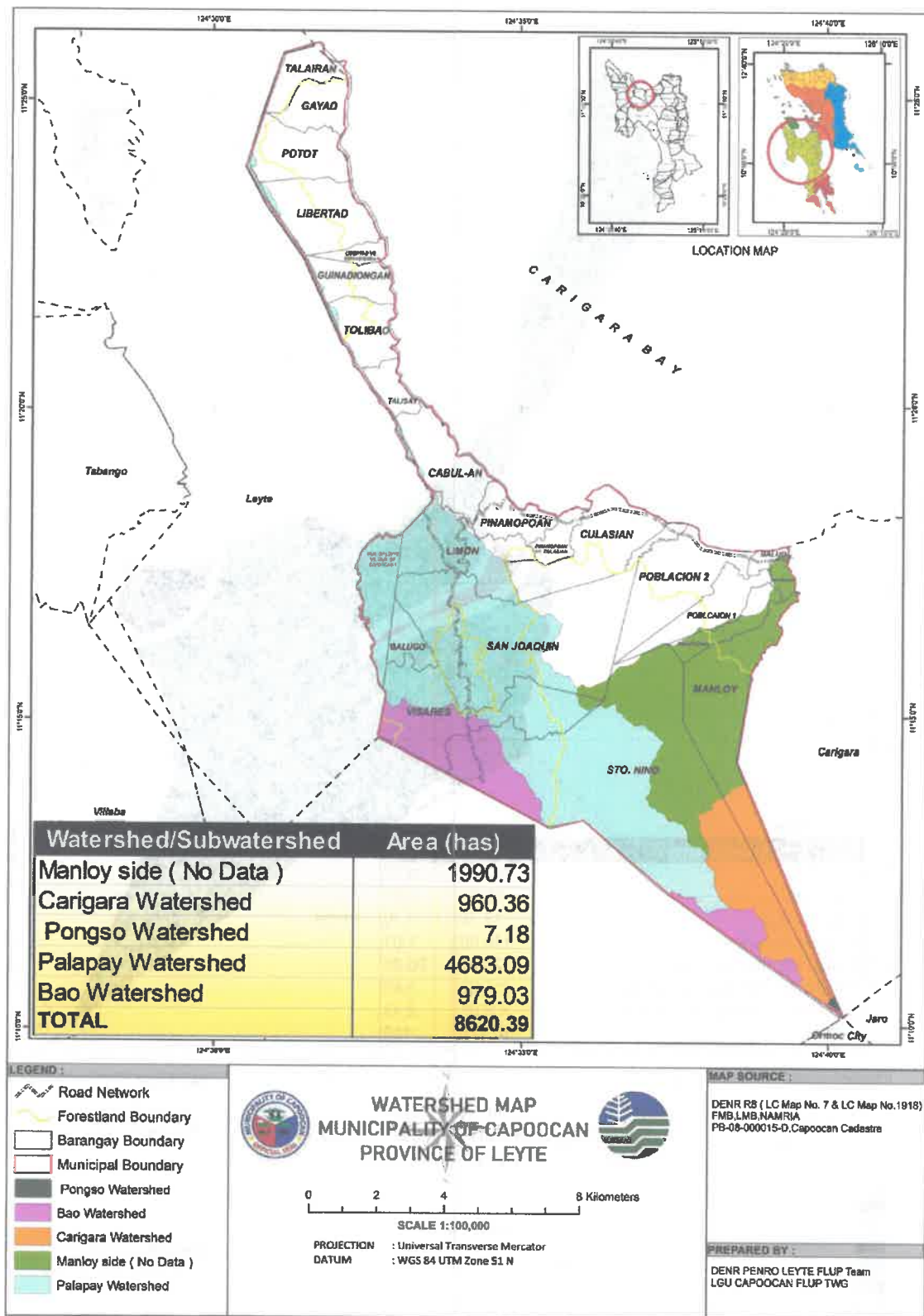


Figure 12: Surface Water/Drainage Map of the Municipality of Capoocan

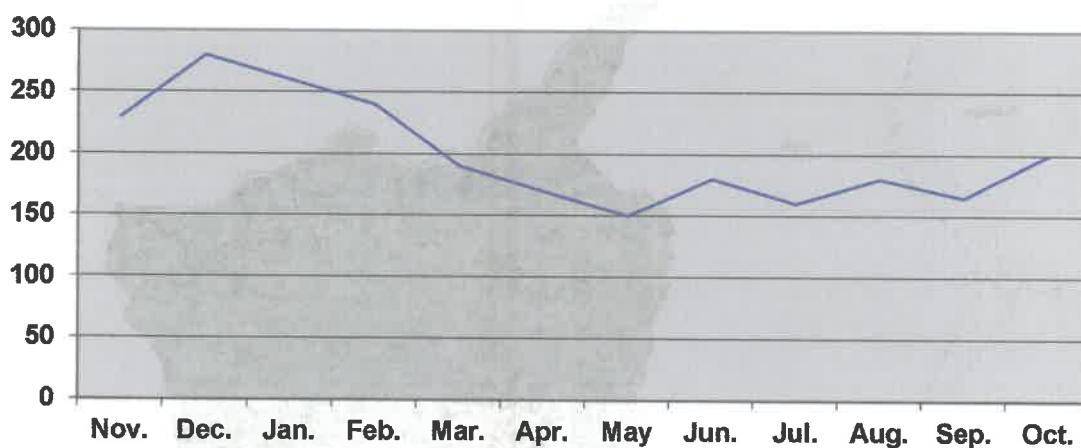


4. Climate

The locality's climate is categorized Type E. it is marked by the prevalence of dry weather with occasional rainfall. Temperature peaks during the hot summer days of March, April and May. The dry season spills over to June. The type consists of a seasonal period of heavy rainfall occurring after September up to the low-sun period from November to January, the month of heaviest precipitation.

The wet season is in the months of July, August and September. Brief spells of sunny days may occur at this period. But prolonged rains brought by the southwest monsoon dominate. During these months, Capoocan absorbs the onslaughts of tropical depressions and typhoons. The rains intensify in the months of October, November and December. The biggest amount of rain occurs in January. Afternoons and nights at this time of the year are chilled by wintry temperatures coming from the northern hemisphere blown southward by the northeast monsoon.

Figure 3: Rainfall Pattern



Data Source: PAGASA

The climate of Capoocan blesses it with weather systems favourable to seasonal crop production. It also supports the economic activities of the townsfolk, like harvest, drying of crops, planting and fishing at certain times of the year. It has influenced customs, practices and traditions for decades that would enrich the life of the Capoocanons. Climate has been inseparably woven into their means of living, modes of production, observance of rites, belief, and enjoyment of romantic moments.

E. CLIMATE CHANGE VULNERABILITY AND DISASTER RISK

The Philippines is considered the third most at-risk country in the world (UN 2015). The geographic location, topography and climatic conditions of the archipelago make it a hotbed of disasters. It is a magnet to typhoons, storm surges, tsunamis, earthquakes and volcanic eruption.

An average of 20 tropical cyclones enters the Philippine Area of Responsibility every year, nine of which hit land. The country is a string of 7,100 islands laid along the eastern continental rim of Asia, facing the immense Pacific Ocean. The insular maritime characteristic subjects it to the direct impact of extreme weather events bred in the open sea. This exposes it to different hydro-meteorological hazards, such as flooding, landslides, and storm surges, among others.

Meanwhile, the archipelago sits astride the Pacific ring of fire. Most of its islands host active volcanoes that erupt from time to time. A recent volcano that had a most powerful eruption is Mt. Pinatubo. The Pinatubo eruption in 1991 disturbed weather systems throughout the world.

But besides active volcanoes, the Philippines is also crisscrossed by tectonic fault lines that can at any time generate earthquakes with disastrous impacts.

Meanwhile, because of its archipelagic and maritime character, the Philippines is expected to suffer from calamities related to climate change. Warmer ocean temperature puts it, for instance, in the path of highly calamitous weather events, like Supertyphoon Yolanda. The latter caused around 8,000 deaths in Leyte due to storm surge. With a combined shoreline even much longer than that of the United States, rising sea levels threaten to inundate many of its communities in the near future.

To keep various localities continuingly safe, and ensure the sustainable development of areas, strategies for growth must integrate disaster risk reduction and management frameworks. They should also inject climate adaptation and mitigation frameworks. The preparation and formulation of the Comprehensive Land Use Plan of the Municipality of Capoocan thus made Climate Change Vulnerability and Disaster Risk Assessment essential to the whole process. The Capoocan CLUP is guided by two reference laws: the Climate Change Act of 2009 (RA 9729), and the Philippine Disaster Risk Reduction and Management Act of 2010 (RA 10121).

The CDRA studies the risks and vulnerabilities of exposed elements, such as the people, urban areas, agriculture, forestry and fishery production areas, critical point facilities, and lifeline infrastructure associated with natural hazards and climate change. The specific study of climate and disaster risk of Capoocan establishes its risk and vulnerable areas, analysing the hazard, exposure, vulnerability/sensitivity and adaptive capacities of the said elements. This identifies the areas for priority decision that need to be addressed given the acceptable and tolerable levels of risks.

Lastly, the study enables planning extended to the drafting of ordinance that allocates and regulates land use in such a way as to minimize, if not prevent, the exposure and vulnerability of the population, infrastructure, economic activities and the environment to the destructive impact of natural hazards and climate change.

1. Hazards Affecting the Municipality

Hazards are inevitable. They are a part of everyday life. It seems almost impossible to live in a risk-free environment as far as hazards are concerned.

A hazard may either be a natural occurrence or human-induced event. Both have the potential to create loss. Many types of hazards threaten to directly and adversely affect humans, their necessities, and valuable possessions. Unmitigated, they can cause great damage or loss of life (Smith, 2013).

The dataset next page sums up the potential hazards affecting the Municipality of Capoocan.

mountains forming valleys and offset streams (Tsutsumi and Perez, 2013). The PFZ exits the island in the town of Saint Bernard, Southern Leyte.

The Philippine Fault, Leyte Segment traverses the south-western side of the municipality of Capoocan which may cause surface rupture. Twenty-four percent of the locality's total number of barangays is susceptible to ground rupture.

Ground Shaking

Ground shaking is the vibration on the Earth's crust. It happens during an earthquake. The strength of an earthquake depends on the depth of source, distance to the epicenter, seismic magnitude, and local subsurface conditions (Zielinski, 2011). Direct effects of ground shaking are falling debris from dismantling structures, especially in highly urbanized areas. Thus, the resistance of structures to ground shaking will rely heavily on architectural and engineering design (Zielinski, 2011). Ground shaking is expressed in relation to the value of g , the Earth's acceleration due to gravity constant 9.8 m/s^2 .

The Philippine Institute of Volcanology and Seismology came up with an intensity scale known as PHIVOLCS Earthquake Intensity Scale (PEIS) (see Table B.2 of Annex B). PEIS characterizes different degrees of impact for each level of intensity. This scale is divided into ten parts: (I) Scarcely Perceptible, (II) Slightly felt, (III) Weak, (IV) Moderately Strong, (V) Strong, (VI) Very Strong, (VII) Destructive, (VIII) Very Destructive, (IX) Devastating, (X) Completely Devastating.

Because the municipality of Capoocan is traversed by the Philippine Fault Leyte Segment, it is prone to ground shaking. Thirty-three percent of affected barangays can have an intensity of VII, 33 percent of affected barangays can have an intensity of VIII, and 33 percent of affected barangays can have an intensity of both VII and VIII.

Tsunami

A tsunami is a series of waves from a large body of water caused by sudden displacement of a large volume of water, commonly caused by offshore vertical fault movement. Tsunamis can also be generated by submarine or coastal landslide, submarine volcanic eruption, and meteor impact.

There is no available tsunami map from PHIVOLCS for the municipality of Capoocan. However, storm surge map from Project NOAH can be used as a substitute to determine the extent of sea water intrusion, in case the municipality is hit by a tsunami.

Liquefaction

Liquefaction occurs when water-saturated and unconsolidated soil loses its cohesion during earthquakes. Loose clay to sand-sized sediments located near the surface of shallow groundwater table is most vulnerable (Tarbuck and Lutgens, 2015). This phenomenon occurs near riverbanks and coastal areas and induces loss of bearing or strength of the ground, differential settlement, ground oscillations, lateral spreading, and flow failures or slump (USGS, 2006).

Based on the analysis of ground material, the municipality of Capoocan is prone to liquefaction. Thirty-eight percent of its total number of barangays is exposed and may experience high hazard.

Flood

Flooding refers to the inundation of land due to the rise or overflow of rivers, streams, creeks and lakes, or other bodies of water. It is caused by heavy precipitation exceeding capacities (National Weather Service, 2016). In the Philippines, floods are caused by tropical cyclones, monsoons and thunderstorms. Although mainly caused by natural causes, the flood problem in the country is aggravated by anthropogenic causes, including deforestation, sprawl of urban concrete, and clogged drainage due to improper waste disposal (Lagmay et al, 2015).

Table 16: Hazard Inventory, Municipality of Capoocan, Leyte

Barangay	Hazard Type														
	Flood (5yr)	Flood (25yr)	Flood (50yr)	Flood (100yr)	Rain-Induced Landslide	Storm Surge (2m)	Storm Surge (3m)	Storm Surge (4m)	Storm Surge (5m)	Earthquake-Induced Landslide	Ground Rupture	Ground Shaking*	Tsunami	Volcanic Hazard	Liquefaction
Balucanad	L,M,H	L,M,H	L,M,H	L,M,H	M,H				L,M,H	0.3 MMI-IX; PEIS-VIII & Not Susceptible		VII,VIII			H
Balud	L,M,H	L,M,H	L,M,H	L,M,H	M,H	L,M,H	M,H	M,H	M,H	Not Susceptible		VII,VIII			H
Balugo	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H					0.07 MMI-VII; PEIS-VII,0.15 MMI-VIII; PEIS-VIII & Not Susceptible	Susceptible	VII			
Cabul-an	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	M,H	M,H	M,H	L,M,H	0.3 MMI-IX; PEIS-VIII & Not Susceptible		VII			
Culasian	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VIII			
Gayad	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	M	M,H	M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VII			
Guinadiongan	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	M,H	M,H	M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII & Not Susceptible		VIII			
Lemon	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H					0.07 MMI-VII; PEIS-VII,0.15 MMI-VIII; PEIS-VIII & 0.3 MMI-IX; PEIS-VIII	Susceptible	VIII			
Libertad	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	M,H	M,H	M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VIII			
Manloy	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H					0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VII,VIII			H
Nauguisan	L,M,H	L,M,H	L,M,H	L,M,H	M,H	M	M,H	M,H	L,M,H	Not Susceptible		VII			H

2. Climate Change Vulnerability

Exposed Units and Sensitivities

In the study of the municipality's vulnerability to climate change, the first thing done was assess exposed units and sensitivities. These were determined by overlaying the maps of the systems of interest (residential, agricultural and forest production, commercial, industrial, tourism, parks and recreation, cemetery, other urban uses, institutional, and lifeline utilities land use maps) with the map of the impact areas of the climate stimuli, in GIS. Once overlain, the resulting map showed the areas where the number of elements exposed can be computed.

In addition to the above, exposure data from each exposed unit database were used. Sensitivity is the degree to which a built natural or human system is directly or indirectly affected by particular climate stimuli (e.g., changes in seasonal temperature and precipitation, sea level rise). The tables below sum up the exposure and sensitivity score for the municipality of Capoocan.

**Table 17: Exposure Level and Number of Barangays Exposed to Flood Hazard
Municipality of Capoocan, Leyte**

EXPOSURE UNIT	EXPOSURE					% of Barangay Exposed	SENSITIVITY				
	N	L	M	H	VH		N	L	M	H	VH
Population	1	1	0	1	18	95%	0	0	18	3	0
Natural Resource-Based Production	0	2	15	2	2	100%	0	2	1	11	7
Urban Use Areas*	3	2	1	0	4	70%	0	0	21	1	0
Critical Point Facilities	6	1	0	0	11	67%	15	0	0	3	3
Lifeline Utilities	1	3	6	4	2	94%	1	0	0	8	12

Note: N=None, L=Low, M=Moderate, H=High, VH=Very High

*Urban Use Areas exposure and sensitivity refers to the number of urban use categories and not barangay count.

**Table 18: Exposure Level and Number of Barangays Exposed to Storm Surge Hazard
Municipality of Capoocan, Leyte**

EXPOSURE UNIT	EXPOSURE					% of Barangay Exposed	SENSITIVITY				
	N	L	M	H	VH		N	L	M	H	VH
Population	7	0	1	0	13	67%	0	0	18	3	0
Natural Resource-Based Production	6	11	2	1	1	71%	0	2	1	11	7
Urban Use Areas*	6	0	0	0	4	40%	0	0	21	1	0
Critical Point Facilities	9	1	1	0	7	50%	15	0	0	3	3
Lifeline Utilities	7	4	1	2	2	56%	1	0	0	8	12

Note: N=None, L=Low, M=Moderate, H=High, VH=Very High

*Urban Use Areas exposure and sensitivity refers to the number of urban use categories and not barangay count.

For population exposure unit, 95 percent of the barangays are exposed to flooding with sensitivity ranging from moderate to high, while natural resource-based production areas of 100 percent of the barangays are exposed to flooding with low to very high sensitivity. There are 21 barangays in the municipality with urban use areas that have exposure ranging from 0 to 0.41 hectare (12 barangays not included due to the lack of data).

Seventy percent (70%) of the identified urban use categories are exposed to flooding with moderate to high sensitivity. Critical point facilities have 67 percent exposure (three barangays not included due to the lack of data), while lifeline utilities have 94 percent (five barangays not included due to the lack of data). Their sensitivities range from none to very high.

Table 21: Population Climate Change Vulnerability Assessment to Flood Hazard - Capooan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
EXPOSURE									SENSITIVITY																			IMPACT		ADAPTIVE CAPACITY					VULNERABILITY							
Barangay	Population	No. of households	Residential area per barangay allocation (ha)	Population Density (persons/ha)	Exposed Area (ha)	Exposed Population	Exposure Percentage	Exposure Score	Wall construction materials							Number of Children	Percentage of Children	Number of Senior Citizens	Percentage of Senior Citizens	Number of Households with Disabilities	Percentage of Households with Persons with Disabilities	Informal Settler Households	Percentage of Households with Informal Settlers	Number of Poor Households	Percentage of Poor Households	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Household capacities to relocate	Government Resources	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category						
									Strong Materials	Light Materials	Salvaged Makeshift Materials	Mixed but predominantly strong materials	Mixed but predominantly light materials	Mixed but predominantly salvaged materials	Percentage of HI living with walls made from predominantly light, salvaged makeshift type materials																						Score	(S/C) X100	Score	(V/C) X 100	Score	(Y/D) X 100
Balucanad	1,621	264	9.98	162.4	6.10	990	61.1	4	53	136	9	48	17	1	61.74	4	217	13.39	3	111	6.85	2	6	2.27	1	0	0.00	0	145	54.9	4	2.33	6.33	3	No	Flood Control	2	1	2	1.67	5.00	Moderate
Balud	2,835	516	13.53	209.5	4.94	1036	36.5	4	137	187	23	80	78	11	57.95	4	404	14.25	3	199	7.02	2	23	4.46	1	0	0.00	0	224	43.4	4	2.33	6.33	3	No	Seawall	2	1	2	1.67	5.00	Moderate
Balugo	369	52	0.24	1526.3	0.00	0	0.0	0	7	40	0	2	2	1	82.69	4	63	17.07	3	16	4.34	1	1	1.92	1	0	0.00	0	43	82.7	4	2.17	2.17	1	No	Pathway	3	3	3	3.00	3.00	Low
Cabul-an	1,955	372	8.46	231.0	3.55	820	41.9	4	107	172	5	58	27	3	55.65	4	266	13.61	3	117	5.98	2	12	3.23	1	0	0.00	0	215	57.8	4	2.33	6.33	3	No	Flood Control, Pathway	2	1	2	1.67	5.00	Moderate
Culasian	2,957	554	18.36	161.1	5.91	952	32.2	4	131	195	25	89	110	4	60.29	4	406	13.73	3	66	2.23	1	40	7.22	2	0	0.00	0	243	43.9	4	2.33	6.33	3	No	Flood Control	2	1	2	1.67	5.00	Moderate
Gayad	763	154	7.63	100.0	1.55	155	20.3	4	58	68	0	16	9	3	51.95	4	115	15.07	3	206	27.00	4	1	0.65	1	0	0.00	0	80	51.9	4	2.67	6.67	3	No	Flood Control, Pathway	2	2	2	2.00	6.00	Moderate
Guinadiongan	649	150	5.90	110.1	1.91	210	32.4	4	23	72	10	22	23	0	70.00	4	65	10.02	3	54	8.32	2	5	3.33	1	0	0.00	0	90	60.0	4	2.33	6.33	3	No	Flood Control, Footbridg	2	2	2	2.00	6.00	Moderate
Lemon	2,783	463	16.19	171.9	5.09	875	31.4	4	146	151	8	91	57	10	48.81	4	358	12.86	3	146	5.25	2	19	4.10	1	0	0.00	0	237	51.2	4	2.33	6.33	3	No	Lemon Evc Center	1	1	1	1.00	3.00	Low
Libertad	1,136	194	3.93	288.9	3.24	935	82.3	4	39	72	24	35	23	1	61.86	4	143	12.59	3	84	7.39	2	9	4.64	1	0	0.00	0	112	57.7	4	2.33	6.33	3	No	Seawall, Pathway	1	2	2	1.67	5.00	Moderate
Manloy	693	109	11.08	62.5	2.63	165	23.8	4	27	63	1	12	5	1	64.22	4	123	17.75	3	53	7.65	2	2	1.83	1	0	0.00	0	75	68.8	4	2.33	6.33	3	No	Flood Control	3	3	3	3.00	9.00	High
Nauguisan	359	78	1.61	223.1	1.61	359	100.0	4	15	24	0	15	24	0	61.54	4	55	15.32	3	34	9.47	2	4	5.13	2	0	0.00	0	49	62.8	4	2.50	6.50	3	No	Flood Control	2	2	3	2.33	7.00	High
Pinamopao	3,010	571	35.50	84.8	12.1	1028	34.2	4	170	210	40	76	61	14	56.92	4	353	11.73	3	255	8.47	2	25	4.38	1	0	0.00	0	266	46.6	4	2.33	6.33	3	No	Flood Control	1	1	2	1.33	4.00	Moderate

Table 22. Natural Resource-Based Production Areas Climate Change Vulnerability Assessment to Flood Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
EXPOSURE									SENSITIVITY						IMPACT			ADAPTIVE CAPACITY						VULNERABILITY		
Barangay	Product Classification	Annual production output (metric tons)	Production area size (ha)	Number of farming dependent households	Total Agriculture Area (GIS-derived in ha)	Exposed area (ha)	Exposure Percentage	Exposure Score	Percent of farmers without access to climate information	Score	Percent of farmers / areas not employing sustainable production techniques	Score	Percent of farmers / areas without access to irrigation	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Access to financing	Alternative livelihood	Government Extension Programs	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H/G) X100								$(L+N+P)/3$	J+Q								$(W+X+Y)/3$	$(J+Q)/3$	
Balucanad	Rice	664	83	105	882.20	94.07	10.66	2	60.00	4	73.61	4	15.66	2	3.33	5.33	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Copra	FFS-Techno Demo	2	2	2	2.00	4.00	Moderate
Balud	Rice	64	8	20	75.04	46.07	61.40	4	50.00	4	0.00	0	0.00	0	1.33	5.33	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	None	FFS-Rice	2	2	2	2.00	4.00	Moderate
Balugo	Rice	168	24	30	419.60	39.70	9.46	2	70.00	4	0.00	0	100	4	2.67	4.67	2	PHCCI, OCCCI	None	FFS	3	2	3	2.67	5.33	Moderate
	Corn	90	10	25																						
	Root Crops	45	5	45																						
Cabu-an	Root Crops	54	6	35	299.00	21.65	7.24	2	60.00	4	23.33	3	72.22	4	3.67	5.67	2	PHCCI, OCCCI	Fishing	FFS-Techno Demo	2	2	2	2.00	4.00	Moderate
	Banana	240	20	50																						
	Rice	408	51	48																						
Culasian	Rice	552	69	85	1273.00	155.73	12.23	2	50.00	4	27.50	3	52.90	4	3.67	5.67	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Fishing	Techno-Demo	2	2	2	2.00	4.00	Moderate
	Banana	204	17	45																						

Table 22. Natural Resource-Based Production Areas Climate Change Vulnerability Assessment to Flood Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	
EXPOSURE									SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY				
Barangay	Product Classification	Annual production output (metric tons)	Production area size (ha)	Number of farming dependent households	Total Agriculture Area (GIS-derived in ha)	Exposed area (ha)	Exposure Percentage	Exposure Score	Percent of farmers without access to climate information	Score	Percent of farmers / areas not employing sustainable production techniques	Score	Percent of farmers / areas without access to irrigation	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Access to financing	Alternative livelihood	Government Extension Programs	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category	
							(H/G) X100								$(L+N+P)/3$	J+Q									$(W+X+Y)/3$		
Nauguisan	Rice	544	68	80	70.48	53.37	75.73	4	70.00	4	20.59	3	51.47	4	3.67	7.67	3	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	None	FFS-Demo	2	2	2	2.00	6.00	Moderate	
Pinamopoan	Pineapple	390	65	75	610.20	56.73	9.30	2	60.00	4	24.62	3	100.00	4	3.67	5.67	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Fishing	None	2	2	2	2.00	4.00	Moderate	
	Banana	216	18	40												0.00											
Pob. Zone 1	Rice	304	38	45	291.40	52.83	18.13	2	60.00	4	0.00	0	0.00	0	1.33	3.33	1	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Fishing	Farmers Training	2	2	2	2.00	2.00	Low	
Pob. Zone 2	Rice	272	34	25	1123.00	88.89	7.92	2	60.00	4	0.00	0	11.76	2	2.00	4.00	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Fishing	Farmers Training	2	2	2	2.00	4.00	Moderate	

Table 22. Natural Resource-Based Production Areas Climate Change Vulnerability Assessment to Flood Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	
EXPOSURE									SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY				
Barangay	Product Classification	Annual production output (metric tons)	Production area size (ha)	Number of farming dependent households	Total Agriculture Area (GIS-derived in ha)	Exposed area (ha)	Exposure Percentage	Exposure Score	Percent of farmers without access to climate information	Score	Percent of farmers / areas not employing sustainable production techniques	Score	Percent of farmers / areas without access to irrigation	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Access to financing	Alternative livelihood	Government Extension Programs	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category	
							(H/G) X100								$\frac{L+N+P}{3}$	J+Q									$\frac{W+X+Y}{3}$	$\frac{AA}{2}$	
Tolibao	Banana	1,476	123	83														PHCCI, OCCCI	Fishing	none	2	2	2	2.00	4.00	Moderate	
	Copra	1,320	165	85	353.00	66.47	18.83	2	55.00	4	12.99	2	100.00	4	3.33	5.33	2										
	Banana	552	46	56																							
	Root Crops	132	11	45																							
Visares	Rice	431	59	28	941.90	107.58	11.42	2	65.00	4	14.81	2	86.44	4	3.33	5.33	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Backyard Native Chicken	FFS-Palay Check, FFS-Vegetable	2	2	2	2.00	4.00	Moderate	
	Root Crops	216	18	35																							
	Vegetable	60	5	20																							

Table 23: Urban Use Areas Climate Change Vulnerability Assessment to Flood Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
EXPOSURE						SENSITIVITY						IMPACT		ADAPTIVE CAPACITY					VULNERABILITY		
Barangay	Land Use Category	Total Area Allocation per Land Use (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Percentage of structures classified as dilapidated or condemned	Score	Structure employing hazard mitigation design	Percentage of structures not employing site preparation, hazard resistant, and/or climate proofed design standards	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Government regulations	Available alternative sites	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
				(E/D) X 100							(I+L)/2	G+M							(R+S+T)/3		
Lemon	Commercial	0.95	0.38	40.05	4	0.00	0	none	100.00	4	2.00	6.00	3	yes	none	2	2	2	2.00	6.00	Moderate
<i>Libertad</i>	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		
Manloy	Commercial	4.59	0.26	5.66	1	0.00	0	none	100.00	4	2.00	3.00	1	yes	none	2	2	2	2.00	2.00	Low
<i>Nauguisan</i>	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		
Pinamopoan	Commercial	0.52	0.41	78.50	4	0.00	0	none	100.00	4	2.00	6.00	3	yes	none	2	2	2	2.00	6.00	Moderate
Poblacion Zone I	Commercial	0.26	0.23	86.27	4	0.00	0	none	100.00	4	2.00	6.00	3	yes	none	2	2	2	2.00	6.00	Moderate
Poblacion Zone II	Commercial	0.69	0.41	59.49	4	0.00	0	none	100.00	4	2.00	6.00	3	yes	none	2	2	2	2.00	6.00	Moderate
	Cemetery	1.78	0.00	0.00	0	20.00	2	none	100.00	4	3.00	3.00	1	yes	none	2	2	2	2.00	2.00	Low
<i>Potot</i>	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		
<i>San Joaquin</i>	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		
<i>Santo Niño</i>	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		
<i>Talairan</i>	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		
<i>Talisay</i>	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		
<i>Tolibao</i>	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		
<i>Visares</i>	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		

Table 24: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capooan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit/relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
						(G / F) X 100								$\frac{(L+O)}{2}$	$\frac{P}{2}$								$\frac{(V+W+X)}{3}$	$\frac{EY}{3}$	
	School	Brgy. Hall/DCC, ASMNHS						Good			yes														
Balucanad	Sports Facilities	Basketball Court	325.00					Good	0.00	0	yes	0.00	0	0.00			Yes	Yes	Yes	2	2	2	2.00		
	Government Building	Brgy. Hall						Good			yes														
	School	DCC						Good			yes														
	Hospital	Brgy. Health Center						Good			yes														
	Other CPF	Waiting Shed						Good			yes														
Balud	Sports Facilities	Basketball Court	350.00	0.03	0.02	61.13	4	Good	16.67	3	yes	0.00	0	3.00	7.00	3	Yes	Yes	Yes	2	2	2	2.00	6.00	Moderate
	Other CPF	Wet Market						Poor			yes														
	Government Building	Brgy. Hall/DCC						Good			yes														

Table 24: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capooan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
						(G / F) X 100								(L+O) / 2	I+P								(V+W+X) / 3	RXY	
Culasian	Sports Facilities	Basketball Court, School Playground	814.00	0.41	0.20	47.29	4	Good	0.00	0	yes	0.00	0	0.00	4.00	2	Yes	Yes	No	2	2	2	2.00	4.00	Moderate
	School	Culasian ES, DCC						Good			yes														
	Hospital	Brgy. Health Center						Good			yes														
	Government Building	Basketball Court/EC						Good			yes														
	Other CPF	Brgy. Stage, Waiting Shed	160.00					Good			yes														
Gayad	Sports Facilities	Basketball Court, School Playground	390.00	0.18	0.00	0.00	0	Good	0.00	0	yes	0.00	0	0.00	0.00	1	Yes	Yes	No	2	2	2	2.00	2.00	Low
	School	Gayad ES, DCC						Good			yes														
	Hospital	Brgy. Hall/Health Center						Good			yes														
	Government Building	Brgy. Hall/Health Center	450.00					Good			yes														
Guinadongan	Sports Facilities	Basketball Court	364.00	0.20	0.18	91.04	4	Good	0.00	0	yes	0.00	0	0.00	4.00	2	Yes	Yes	No	2	2	2	2.00	4.00	Moderate

Table 24: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capooan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE							SENSITIVITY							IMPACT		ADAPTIVE CAPACITY					VULNERABILITY				
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
						(G / F) X 100								$\frac{(L+O)}{2}$	$I+P$								$\frac{(V+W+X)}{3}$	RXY	
Libertad	Sports Facilities	Basketball Court, School Playground	364.00	0.14	0.14	97.84	4	Good	0.00	0	yes	0.00	0	0.00	4.00	2	Yes	Yes	No	2	2	2	2.00	4.00	Moderate
	School	Libertad NHS, Libertad ES, DCC						Good			yes														
	Government Building	Brgy. Hall	160.00					Good			yes														
Nauguisan	Sports Facilities	Basketball Court	240.00					Good	0.00	0	yes	0.00	0	0.00			Yes	Yes	No	2	2	2	2.00		
	Government Building	Brgy. Hall						Good			yes														
	School	Nauguisan ES						Good			yes														
	Other CPF	Stage						Good			yes														
Manloy	Sports Facilities	Basketball Court	250.00					Good	0.00	0	yes	0.00	0	0.00			Yes	Yes	No	2	2	2	2.00		

Table 24: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capooacan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
						(G / F) X 100								$\frac{(L+O)}{2}$	$\frac{I+P}{2}$								$\frac{(V+W+X)}{3}$	$\frac{R+Y}{2}$	
	Hospital	Potot Health Center						Good			yes														
	School	Potot ES, DCC						Good			yes														
	Government Building	Brgy. Hall						Good			yes														
	Other CPF	Waiting Shed						Good			yes														
San Joaquin	Sports Facilities	Basketball Court	450.00	0.86	0.76	87.92	4	Good	0.00	0	yes	0.00	0	0.00	4.00	2	Yes	Yes	No	2	2	2	2.00	4.00	Moderate
	Hospital	San Joaquin Health Center						Good			yes														
	Government Building	Brgy. Hall						Good			yes														
	School	Lemon San Joaquin ES, DCC						Good			yes														
Sto. Niño	Sports Facilities	Basketball Court	390.00	0.29	0.07	23.01	4	Good	0.00	0	yes	0.00	0	0.00	4.00	2	Yes	Yes	No	2	2	2	2.00	4.00	Moderate
	Government Building	Brgy. Hall						Good			yes														
	Hospital	Sto. Niño Health Center						Good			yes														
	School	DCC						Good			yes														
	Other CPF	Brgy. Stage						Good			yes														

Table 24: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capooan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage (G / F) X 100	Exposure Score	Building condition	Percent of lifeline utilities with poor condition Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score (L+O) 2	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score (V+W+X) / 3	Vulnerability Index RXY	Vulnerability Category	
	CPF	Waiting Shed						Good		yes															
	Other CPF	Brgy. Stage						Good		yes															

Table 25: Lifeline Utilities Climate Change Vulnerability Assessment to Flood Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY			VULNERABILITY			
Barangay	Classification	Name	Length / Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H/G) X 100				M+J							(Q+R+S)/3	OXT	
Gayad	Road	Provincial Road	24.55	29,460,000.00					Poor	66.67	4			No	2.33	2.33	2.33	2.33		
	Power Line	LEYECO III	24.55						Good					No						
	Water Line	Gayad Water Spring	24.55						Poor					No						
Culasian	Road	National Road	3.00	3,600,000.00	2.25	0.82	36.30	3	Good	25.00	3	6	3	No	2.25	2.25	2.25	2.25	6.75	High
	Power Line	LEYECO III	3.00						Good					No						
	Water Line	NAWASA Carigara	3.00						Good					No						
	Water Line	Cuasian Water Spring	3.00						Poor					No						
Guinadiongan	Road	Provincial Road	18.05	21,660,000.00	3.02	0.17	5.62	1	Poor	75.00	4	5	2	No	2.25	2.25	2.25	2.25	4.50	Moderate
	Road	Brgy. Road	18.05						Poor					No						
	Power Line	LEYECO III	18.05						Good					No						
	Water Line	Guinadiongan Water Spring	18.05						Poor					No						
Lemon	Road	National Road	14.00	16,800,000.00	5.10	0.98	19.20	2	Good	33.33	3	5	2	No	2.50	2.50	2.50	2.50	5.00	Moderate
	Road	Brgy. Road	14.00						Poor					No						
	Power Line	LEYECO III	14.00						Good					No						
	Water Line	Lemon Water Spring	14.00						Poor					No						

Table 25: Lifeline Utilities Climate Change Vulnerability Assessment to Flood Hazard - Capooacan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY			VULNERABILITY			
Barangay	Classification	Name	Length / Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H/G) X 100					M + J						(Q+R+S)/3	DXT	
	Road	Brgy. Road	1.50						Poor					No						
	Power Line	LEYECO III	1.50						Good					No						
	Water Line	Manloy Spring Development.	1.50						Poor					No						
Pinamopaoan	Road	National Road	7.50	9,000,000.00	3.52	1.14	32.25	3	Good	25.00	3	6	3	No	2.40	2.40	2.40	2.40	7.20	High
	Road	Brgy. Road	7.50						Good					No						
	Power Line	LEYECO III	7.50						Good					No						
	Water Line	Pinamopaoan Spring Water	7.50						Poor					No						
	Communication Line	Globe Cell Site	7.50						Good					No						
Poblacion Zone I	Road	National Road	0.00	0.00	2.27	1.91	83.96	4	Good	0.00	0	4	2	No	2.60	2.60	2.60	2.60	5.20	Moderate
	Power Line	LEYECO III	0.00						Good					No						
	Water Line	NAWASA Carigara	0.00						Good					No						
	Communication Line	Globe Cell Site	0.00						Good					No						
	Communication Line	Smart Cell Site	0.00						Good					No						
Poblacion Zone II	Road	National Road	0.50	600,000.00	1.08	0.43	39.48	3	Good	25.00	3	6	3	No	2.25	2.25	2.25	2.25	6.75	High

Table 25: Lifeline Utilities Climate Change Vulnerability Assessment to Flood Hazard - Capooan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY			VULNERABILITY			
Barangay	Classification	Name	Length / Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H/G) X 100					M + J						(Q+R+S) / 3	DXT	
	Road	Brgy. Road	27.00						Poor					No						
	Power Line	LEYECO III	27.00						Good					No						
	Water Line	Talairan Water Spring	27.00						Poor					No						
Talisay	Road	Provincial Road	12.85	15,420,000.00	4.55	1.35	29.76	3	Good	50.00	4	7	3	No	2.25	2.25	2.25	2.25	6.75	High
	Road	Brgy. Road	12.85						Poor					No						
	Power Line	LEYECO III	12.85						Good					No						
	Water Line	Cabulan Water Spring	12.85						Poor					No						
Tolibao	Road	Provincial Road	15.20	18,240,000.00	1.86	0.22	11.77	2	Poor	80.00	4	6	3	No	2.40	2.40	2.40	2.40	7.20	High
	Road	Brgy. Road	15.20						Poor					No						
	Power Line	LEYECO III	15.20						Good					No						
	Water Line	Tolibao Water Spring	15.20						Poor					No						
	Communication Line	RCPI Communication Line	15.20						Poor					No						
Visares	Road	National Road	19.00	22,800,000.00	0.97	0.00	0.00	0	Good	40.00	4	4	2	No	2.40	2.40	2.40	2.40	4.80	Moderate
	Road	Provincial Road	19.00						Poor					No						
	Power Line	LEYECO III	19.00						Good					No						
	Water Line	Visares Water Pump	19.00						Poor					No						

Table 26: Population Climate Change Vulnerability Assessment to Storm Surge Hazard - Capocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
EXPOSURE										SENSITIVITY																		IMPACT		ADAPTIVE CAPACITY			VULNERABILITY									
Barangay	Population	No. of households	Residential area per barangay (Hectares/ha)	Population Density (persons/ha)	Exposed Area (ha)	Exposed Population	Exposure Percentage	Exposure Score	Wall construction materials							Number of Children	Percentage of Children	Score	Number of Senior Citizens	Percentage of Senior Citizens	Score	Number of Households with Disabilities	Percentage of Households with Persons with Disabilities	Score	Informal Settler Households	Percentage of Households with Informal Settlers	Score	Number of Poor Households	Percentage of Poor Households	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Household capacities to relocate or retrofit	Government Resources	Group 1	Group 2	Group 3	Adaptive Capacity Score	Multi-criteria index	Vulnerability Category	
									Strong Materials	Light Materials	Salvaged Makeshift Materials	Mixed but predominantly strong materials	Mixed but predominantly light materials	Mixed but predominantly light materials	Percentage of HH living with sal walls made from predominantly light.																											Score
Balud	2,835	516	13.5	209.5	13.3	2795	98.6	4	137	187	23	80	78	11	57.9	4	404	14.3	3	199	7.0	2	23	4.5	1	0	0.00	0	224	43.4	4	2.33	6.3	3	No	Seawall	2	1	2	1.7	5.0	Moderate
Cabulan	1,955	372	8.5	231.0	4.7	1075	55.0	4	107	172	5	58	27	3	55.6	4	266	13.6	3	117	6.0	2	12	3.2	1	0	0.00	0	215	57.8	4	2.33	6.3	3	No	Flood Control, Pathway	2	1	2	1.7	5.0	Moderate
Culasian	2,957	554	18.4	161.1	0.9	153	5.2	2	131	195	25	89	110	4	60.3	4	406	13.7	3	66	2.2	1	40	7.2	2	0	0.00	0	243	43.9	4	2.33	4.3	2	No	Flood Control	2	1	2	1.7	3.3	Moderate
Gayad	763	154	7.6	100.0	3.8	384	50.3	4	58	68	0	16	9	3	51.9	4	115	15.1	3	206	27.0	4	1	0.6	1	0	0.00	0	80	51.9	4	2.67	6.7	3	No	Flood Control, Pathway	2	2	2	2.0	6.0	Moderate
Guinadiongan	649	150	5.9	110.1	2.3	256	39.5	4	23	72	10	22	23	0	70.0	4	65	10.0	3	54	8.3	2	5	3.3	1	0	0.00	0	90	60.0	4	2.33	6.3	3	No	Flood Control, Footbridge	2	2	2	2.0	6.0	Moderate
Libertad	1,136	194	3.9	288.9	2.8	797	70.1	4	39	72	24	35	23	1	61.9	4	143	12.6	3	84	7.4	2	9	4.6	1	0	0.00	0	112	57.7	4	2.33	6.3	3	No	Seawall, Pathway	1	2	2	1.7	5.0	Moderate
Nauguisan	359	78	1.6	223.1	0.8	168	46.7	4	15	24	0	15	24	0	61.5	4	55	15.3	3	34	9.5	2	4	5.1	2	0	0.00	0	49	62.8	4	2.50	6.5	3	No	Flood Control	2	2	3	2.3	7.0	High
Pob. Zone I	2,348	443	32.1	73.1	29.1	2127	90.6	4	185	151	14	48	39	6	47.4	4	193	8.2	2	249	10.6	3	27	6.1	2	0	0.00	0	163	36.8	4	2.50	6.5	3	No	Mun. Public Market, Gym	1	1	1	1.0	3.0	Low
Pob. Zone II	4,731	929	12.4	382.1	7.0	2678	56.6	4	265	353	61	129	109	12	57.6	4	372	7.9	2	182	3.8	1	38	4.1	1	0	0.00	0	442	47.6	4	2.00	6.0	3	No	Seawall, Flood Control	1	1	1	1.0	3.0	Low
Potot	853	160	7.9	108.5	6.6	717	84.1	4	34	87	5	14	19	1	70.0	4	116	13.6	3	63	7.4	2	4	2.5	1	0	0.00	0	102	63.8	4	2.33	6.3	3	No	Flood Control	2	2	2	2.0	6.0	Moderate
Talairan	943	166	4.2	224.2	1.6	360	38.1	4	61	60	0	23	12	10	49.4	4	117	12.4	3	48	5.1	2	4	2.4	1	0	0.00	0	93	56.0	4	2.33	6.3	3	No	Seawall	2	2	2	2.0	6.0	Moderate
Talisay	642	130	20.4	31.5	6.6	209	32.6	4	35	59	5	14	12	5	62.3	4	88	13.7	3	59	9.2	2	3	2.3	1	0	0.00	0	70	53.8	4	2.33	6.3	3	No	Flood Control, Seawall	2	2	2	2.0	6.0	Moderate
Tolibao	708	121	5.9	119.9	1.5	180	25.5	4	22	57	0	12	29	1	71.9	4	97	13.7	3	52	7.3	2	2	1.7	1	0	0.00	0	84	69.4	4	2.33	6.3	3	No	Pathway	2	2	2	2.0	6.0	Moderate

Table 27: Natural Resource-Based Production Areas Climate Change Vulnerability Assessment to Storm Surge Hazard - Capooan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB		
EXPOSURE										SENSITIVITY						IMPACT			ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Product Classification	Annual production output (metric tons)	Production area size (ha)	Number of farming dependent households	Total Agriculture Area (GIS-derived in ha)	Exposed area (ha)	Exposure Percentage	Exposure Score	Percent of farmers without access to climate information	Score	Percent of farmers / areas not employing sustainable production techniques	Score	Percent of farmers / areas without access to irrigation	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Access to financing	Alternative livelihood	Government Extension Programs	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category		
							(H/G) X 100								$\frac{I+N+P}{3}$	J+Q									$\frac{W+X+Y}{3}$			
	Banana	540	60	80																								
	Rice	120	15	11																								
Nauguisan	Rice	544	68	80	70.5	18.6	26.3	3	70.0	4	20.6	3	51.5	4	3.7	6.7	3	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	None	FFS-Demo	2	2	2	2.0	6.0	Moderate		
Pinamopao	Pineapple	390	65	75	610.2	12.2	2.0	1	60.0	4	24.6	3	100	4	3.7	4.7	2		Fishing	None		2	2	2	2.0	4.0	Moderate	
	Banana	216	18	40												0.0												
Pob. Zone 1	Rice	304	38	45	291.4	23.7	8.1	2	60.0	4	0.0	0	0.0	0	1.3	3.3	1			Fishing	Farmers Training	2	2	2	2.0	2.0	Low	
Pob. Zone 2	Rice	272	34	25	1123.0	22.9	2.0	1	60.0	4	0.0	0	11.8	2	2.0	3.0	1			Fishing	Farmers Training	2	2	2	2.0	2.0	Low	
Potot	Copra	1,072	134	85	452.6	5.5	1.2	1	65.0	4	13.4	2	98.8	4	3.3	4.3	2	PHCCI, OCCCI	Fishing	GAP Banana Trng	2	2	2	2.0	4.0	Moderate		
	Banana	840	70	150																								
	Rice	77	11	8																								
Talisay	Copra	1,464	183	45	494.0	2.6	0.5	1	55.0	4	6.7	2	100	4	3.3	4.3	2	PHCCI, OCCCI	Fishing	GAP Banana	2	2	2	2.0	4.0	Moderate		
	Banana	120	10	20																								
	Root Crops	135	15	35																								
Talairan	Copra	1,980	165	95	687.6	4.1	0.6	1	60.0	4	20.2	3	100	4	3.7	4.7	2	PHCCI, OCCCI	Fishing	GAP Banana	2	2	2	2.0	4.0	Moderate		
	Banana	1,476	123	83																								
Tolibao	Copra	1,320	165	85	353.0	2.4	0.7	1	55.0	4	13.0	2	100	4	3.3	4.3	2	PHCCI, OCCCI	Fishing	none	2	2	2	2.0	4.0	Moderate		
	Banana	552	46	56																								
	Root Crops	132	11	45																								

Table 29: Critical Point Facilities Climate Change Vulnerability Assessment to Storm Surge Hazard - Capooacan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE							SENSITIVITY						IMPACT			ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage (G/F)X100	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing hazard mitigation	Score	Sensitivity Average Score (L+O)/2	Exposure + Sensitivity Score I+P	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score (V+W+X)/3	Vulnerability Index R/I	Vulnerability Category
Pob. Zone 1	Hospital	Capooacan RHU	120.8	4.3	4.3	100.0	4	Poor	12.5	3	yes	0.00	0	3.0	7.0	3	Yes	Yes	Yes	2	2	2	2.0	6.0	Moderate
	School	Capooacan CS						Good			yes														
	School	DCC						Good			yes														
	Social Welfare Facilities	DSWD, Senior Citizen						Good			yes														
	Government Building	Municipal Building, Gymnasium/EC, RHU, BFP, GAD, Market, Brgy. Hall						Good			yes														
	Protective Service	PNP						Good			yes														
	Sports Facilities	Multipurpose Gymnasium/ Basketball Court	750.0					Good			yes														
	Other CPF	Waiting Shed						Good			yes														
Balucanad	Sports Facilities	Basketball Court	325.0					Good	0.0	0	yes	0.00	0	0.0			Yes	Yes	Yes	2	2	2	2.0		
	Government Building	Brgy. Hall						Good			yes														
	School	DCC						Good			yes														
	Hospital	Brgy. Health Center						Good			yes														

Table 29: Critical Point Facilities Climate Change Vulnerability Assessment to Storm Surge Hazard - Capooacan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	
EXPOSURE			SENSITIVITY								IMPACT		ADAPTIVE CAPACITY						VULNERABILITY							
Barangay	Classification	Name	Floor Area (sq m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing hazard mitigation design	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category	
						(G/F)X100								(L+O)/2	I + P									(V+W+X)/3	R x Y	
	Other CPF	Waiting Shed						Good			yes															
Libertad	Sports Facilities	Basketball Court, School Playground	364.0	0.1	0.1	92.9	4	Good	0.0	0	yes	0.00	0	0.0	4.0	2	Yes	Yes	No	2	2	2	2.0	4.0	Moderate	
	School	Libertad NHS, Libertad ES, DCC						Good			yes															
	Government Building	Brgy. Hall	160.0					Good			yes															
<i>Nauguisan</i>	<i>Sports Facilities</i>	<i>Basketball Court</i>	<i>240.0</i>					<i>Good</i>	<i>0.0</i>	<i>0</i>	<i>yes</i>	<i>0.00</i>	<i>0</i>	<i>0.0</i>			<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.0</i>			
	<i>Government Building</i>	<i>Brgy. Hall</i>						<i>Good</i>			<i>yes</i>															
	<i>School</i>	<i>Nauguisan ES</i>						<i>Good</i>			<i>yes</i>															
	<i>Other CPF</i>	<i>Stage</i>						<i>Good</i>			<i>yes</i>															
<i>Manloy</i>	<i>Sports Facilities</i>	<i>Basketball Court</i>	<i>250.0</i>					<i>Good</i>	<i>0.0</i>	<i>0</i>	<i>yes</i>	<i>0.00</i>	<i>0</i>	<i>0.0</i>			<i>Yes</i>	<i>Yes</i>	<i>No</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.0</i>			
	<i>Government Building</i>	<i>Brgy. Hall</i>						<i>Good</i>			<i>yes</i>															
	<i>School</i>	<i>Manloy ES</i>						<i>Good</i>			<i>yes</i>															
	<i>Other CPF</i>	<i>Waiting Shed</i>						<i>Good</i>			<i>yes</i>															

Table 30: Lifeline Utilities Climate Change Vulnerability Assessment to Storm Surge Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY			VULNERABILITY			
Barangay	Classification	Name	Length/Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage (H/G)X100	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure related Investment	Group 1	Group 2	Group 3	Adaptive Capacity Score (Q+R+S)/3	Vulnerability Index (I+J+K)	Vulnerability Category
Balud	Road	National Road	1.00	1,200,000.0	1.5	1.4	95.3	4	Good	40.0	4	8	3	No	2.2	2.2	2.2	2.2	6.6	High
	Road	Brgy. Road	1.00						Poor					No						
	Power Line	LEYECO III	1.00						Good					No						
	Water Line	Manloy Devt. Spring	1.00						Poor					No						
	Water Line	NAWASA Carigara	1.00						Good					No						
Balugo	Road	Farm to Market Road	25.50	30,600,000.0					Poor	66.7	4			No	2.3	2.3	2.3	2.3		
	Power Line	LEYECO III	25.50						Good					No						
	Water Line	Balugo Water Spring	25.50						Poor					No						
Cabul-an	Road	Provincial Road	9.50	11,400,000.0	3.0	0.2	8.1	1	Good	33.3	3	4	2	No	2.3	2.3	2.3	2.3	4.7	Moderate
	Power Line	LEYECO III	9.50						Good					No						
	Water Line	Cabul-an Water Spring	9.50						Poor					No						
Gayad	Road	Provincial Road	24.55	29,460,000.0					Poor	66.7	4			No	2.3	2.3	2.3	2.3		

Table 30: Lifeline Utilities Climate Change Vulnerability Assessment to Storm Surge Hazard - Capooacan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY			VULNERABILITY			
Barangay	Classification	Name	Length/Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure related Investment	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H/G)X100					M+J						(Q+R+S)/3	M x T	
	Road	Brgy. Road	1.50						Poor					No						
	Power Line	LEYECO III	1.50						Good					No						
	Water Line	Manloy Devt. Spring	1.50						Poor					No						
Pinamopoan	Road	National Road	7.50	9,000,000.0	3.5	0.9	25.2	3	Good	25.0	3	6	3	No	2.4	2.4	2.4	2.4	7.2	High
	Road	Brgy. Road	7.50						Good					No						
	Power Line	LEYECO III	7.50						Good					No						
	Water Line	Pinamopoan Water Spring	7.50						Poor					No						
	Communication Line	Globe Cell Site	7.50						Good					No						
Pob. Zone I	Road	National Road	0.00	0.0	2.3	2.3	100.0	4	Good	0.0	0	4	2	No	2.6	2.6	2.6	2.6	5.2	Moderate
	Power Line	LEYECO III	0.00						Good					No						
	Water Line	NAWASA Carigara	0.00						Good					No						
	Communication Line	Globe Cell Site	0.00						Good					No						
	Communication Line	Smart Cell Site	0.00						Good					No						
Pob. Zone II	Road	National Road	0.50	600,000.0	1.1	0.3	28.8	3	Good	25.0	3	6	3	No	2.3	2.3	2.3	2.3	6.8	High
	Power Line	LEYECO III	0.50						Good					No						

3. Risk Assessment

The assessment of risk for the municipality of Capooan considered different scenarios of hazard event outbreaks, and anticipated the different level of impacts from natural hazards and climate change. The scenario-based risk assessment was intended to provide a comprehensive baseline in the development of mitigation plans and adaptation strategies. The goal is to identify areas at risk that is defined as a function of severity of consequence and likelihood of occurrence (HLURB, 2015). Assigning the likelihood of occurrence values to exposure units and evaluating severity of consequence, risk scores are estimated by cross-tabulating the values.

Likelihood of Occurrence (LOO)

The likelihood of the hazard is an approximate calculation of the amount of time a hazard is likely to happen again. This computation is important to have an idea on how frequent the hazards may be expected. To take advantage of the available multi-scenario maps from DOST-Project NOAH, a scoring matrix was developed translating the hazard levels for the different scenario maps. The method resulted to an integrated scoring.

For flood hazard return period gives an idea of the timeframe for a magnitude of flooding to recur (i.e. 5-year has a $1/5 = 0.2$ or 20 percent chance of being exceeded in any one year). A higher return period entails a larger level of risk in terms of scale or magnitude. Following the logic, likelihood scores are assigned to each hazard rating for different scenarios giving higher scores for hazard ratings that occur on shorter return periods because they happen more often. The same processes are applied to a storm surge's likelihood of occurrence.

The chart below scores the likelihood of occurrence (LOO) for NOAH flood hazard maps by the period in years it is assumed to return, the hazard rating – i.e. high, moderate or low, and likelihood – i.e. frequent, moderate or occasional.

Table 31: LOO for NOAH Flood Hazard Maps

Return Period in Years	Hazard Rating	LOO Score	Likelihood
5	High	5	Frequent
	Moderate	4	Moderate
	Low	3	Occasional
25	High	4	Moderate
	Moderate	3	Occasional
	Low	2	Improbable
100	High	3	Occasional
	Moderate	2	Improbable
	Low	1	Rare

In the case of landslide hazard maps, the areas are classified into High, Moderate and Low probability areas. The high probability area corresponds to more landslide occurrence for the same amount of area of moderate probability and much more of low probability. This translates to lower chances of landslides happening in areas classified low probability versus high probability area. The chart below scores the likelihood of occurrence for NOAH rain-induced landslide hazard maps by hazard rating or probability.

Table 32: LOO for NOAH Rain-Induced Landslide Hazard Maps

Hazard Rating / Probability	Likelihood Score
High	3
Moderate	2
Low	1

Table 35: Percentage of Area at Risk per Exposure Unit

Exposure Unit	Flood	Storm Surge	Rain-Induced Landslide
Population	37.38%	38.93%	11.03%
Natural Resource-Based Production	11.80%	1.75%	7.97%
Urban Use Areas	17.55%	13.57%	38.38%
Critical Point Facilities	26.45%	14.28%	48.68%
Lifeline Utilities	97.44%	15.59%	29.55%

In the foregoing assessment, maps have been drawn to render a more graphic portrayal of the hazards, the levels of vulnerability of the various exposure units, scale of impact, and adaptive capacity of the different areas in the municipality. With a base map of Capooacan, imaging of the details set in the tables was done by physically overlaying color codes and symbols to represent them. Participatory workshops among stakeholders and concerned sectors took care of this.

The use of the probabilistic maps in the climate change vulnerability and disaster risk assessment paves the way for the preparation of the place athwart events that previously devastated it and are most likely to recur. This also helps in anticipating scenarios about future disasters. Appropriate plans for disaster risk reduction and mitigation along such scenarios foster the corollary effect of developing a culture of preparedness. Habituation to such culture provides the best hope of resiliency in the face of disasters.

The next pages contain the sets of data that chart the assessment of risk for the different exposed elements, scale of exposure, sensitivity and severity of consequence. The study is by barangays including such details as residential area, vulnerable households and segments of the population likely to absorb the direst effects/consequences of the particular disaster occurrence. The tables show the factual findings laid on the hazard maps.

Table 36: Population Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
	2	18.36	0.76	4.12	0.00	60.00	13.73	2.00	7.00	44.00	2	2	2	2.00	4.00	Low
	3	18.36	1.38	7.51	0.00	60.00	13.73	2.00	7.00	44.00	2	2	2	2.00	6.00	Moderate
	4	18.36	2.44	13.27	0.00	60.00	13.73	2.00	7.00	44.00	2	2	2	2.00	8.00	Moderate
	5	18.36	0.83	4.54	0.00	60.00	13.73	2.00	7.00	44.00	2	2	2	2.00	10.00	High
Guinadiongan	1	5.90	0.14	2.46	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	2.00	Low
	2	5.90	0.26	4.45	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	4.00	Low
	3	5.90	0.79	13.36	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	6.00	Moderate
	4	5.90	0.72	12.16	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	8.00	Moderate
Lemon	1	16.19	0.44	2.72	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	2.00	Low
	2	16.19	0.60	3.70	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	4.00	Low
	3	16.19	1.27	7.84	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	6.00	Moderate
	4	16.19	1.18	7.27	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	8.00	Moderate
	5	16.19	1.60	9.90	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	10.00	High
Libertad	1	3.93	0.08	2.01	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	2.00	Low
	2	3.93	0.10	2.63	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	4.00	Low
	3	3.93	0.50	12.79	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	6.00	Moderate
	4	3.93	2.55	64.78	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	8.00	Moderate
	5	3.93	0.003	0.07	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	10.00	High
Manloy	1	11.08	0.24	2.19	0.00	64.00	17.75	8.00	2.00	69.00	2	2	2	2.00	2.00	Low
	2	11.08	0.60	5.45	0.00	64.00	17.75	8.00	2.00	69.00	2	2	2	2.00	4.00	Low
	3	11.08	1.27	11.45	0.00	64.00	17.75	8.00	2.00	69.00	2	2	2	2.00	6.00	Moderate

Table 36: Population Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
	3	7.86	1.44	18.31	0.00	70.00	13.60	7.00	3.00	64.00	2	2	2	2.00	6.00	Moderate
	4	7.86	0.73	9.33	0.00	70.00	13.60	7.00	3.00	64.00	2	2	2	2.00	8.00	Moderate
	5	7.86	0.001	0.01	0.00	70.00	13.60	7.00	3.00	64.00	2	2	2	2.00	10.00	High
San Joaquin	1	10.20	0.16	1.55	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	2.00	Low
	2	10.20	0.34	3.37	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	4.00	Low
	3	10.20	0.93	9.11	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	6.00	Moderate
	4	10.20	1.63	16.01	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	8.00	Moderate
	5	10.20	1.44	14.09	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	10.00	High
Santo Niño	1	7.46	0.18	2.46	0.00	63.00	10.86	7.00	2.00	60.00	2	2	2	2.00	2.00	Low
	2	7.46	0.24	3.18	0.00	63.00	10.86	7.00	2.00	60.00	2	2	2	2.00	4.00	Low
	3	7.46	0.37	4.98	0.00	63.00	10.86	7.00	2.00	60.00	2	2	2	2.00	6.00	Moderate
	4	7.46	0.004	0.05	0.00	63.00	10.86	7.00	2.00	60.00	2	2	2	2.00	8.00	Moderate
Talairan	1	4.21	0.19	4.47	0.00	49.00	12.41	5.00	2.00	56.00	2	2	2	2.00	2.00	Low
	2	4.21	0.22	5.29	0.00	49.00	12.41	5.00	2.00	56.00	2	2	2	2.00	4.00	Low
	3	4.21	0.51	12.20	0.00	49.00	12.41	5.00	2.00	56.00	2	2	2	2.00	6.00	Moderate
	4	4.21	0.49	11.54	0.00	49.00	12.41	5.00	2.00	56.00	2	2	2	2.00	8.00	Moderate
Talisay	2	20.38	1.09	5.35	0.00	62.00	13.71	9.00	2.00	54.00	2	2	2	2.00	4.00	Low
	3	20.38	2.42	11.88	0.00	62.00	13.71	9.00	2.00	54.00	2	2	2	2.00	6.00	Moderate
	4	20.38	1.58	7.75	0.00	62.00	13.71	9.00	2.00	54.00	2	2	2	2.00	8.00	Moderate
	5	20.38	0.01	0.04	0.00	62.00	13.71	9.00	2.00	54.00	2	2	2	2.00	10.00	High
Tolibao	1	5.90	0.19	3.23	0.00	72.00	13.70	7.00	2.00	69.00	2	2	2	2.00	2.00	Low

Table 37: Urban Use Areas Risk Assessment to Flood Hazard – Capooan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure				Sensitivity		Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Land Use Category	Total Area Allocation per Land Use (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of structures classified as dilapidated or condemned	Percentage of structures not employing site preparation, hazard resistant, and/or climate proofed design standards	Group 1	Group 2	Group 3	Average	Score	Rating
					(E / D) X 100						(I + J + K) / 3	B X L	
Balucanad	1	Commercial	0.41	0.002	0.54	0.00	100.00	2	2	2	2.00	2.00	Low
Balud	2	Commercial	0.12	0.02	16.40	0.00	100.00	2	2	2	2.00	4.00	Low
<i>Balugo</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Cabul-an	0	Commercial	0.36	0.00	0.00	0.00	100.00						
<i>Gayad</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Culasian	0	Cemetery	0.08	0.00	0.00	0.00	100.00						
<i>Guinadiongan</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Lemon	1	Commercial	0.95	0.02	2.15	0.00	100.00	2	2	2	2.00	2.00	Low
	2	Commercial	0.95	0.06	6.28	0.00	100.00	2	2	2	2.00	4.00	Low
	3	Commercial	0.95	0.03	2.85	0.00	100.00	2	2	2	2.00	6.00	Moderate
	4	Commercial	0.95	0.13	13.69	0.00	100.00	2	2	2	2.00	8.00	Moderate
	5	Commercial	0.95	0.14	15.08	0.00	100.00	2	2	2	2.00	10.00	High
<i>Libertad</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Manloy	1	Commercial	4.59	0.06	1.33	0.00	100.00	2	2	2	2.00	2.00	Low
	2	Commercial	4.59	0.07	1.42	0.00	100.00	2	2	2	2.00	4.00	Low
	3	Commercial	4.59	0.11	2.47	0.00	100.00	2	2	2	2.00	6.00	Moderate
	4	Commercial	4.59	0.02	0.43	0.00	100.00	2	2	2	2.00	8.00	Moderate
<i>Nauguisan</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Pinamopoan	1	Commercial	0.52	0.05	9.57	0.00	100.00	2	2	2	2.00	2.00	Low

Table 38: Natural Resource-Based Production Areas Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100							(I + J + K) / 3	B X L	
Balucanad	1	882.20	10.79	1.22	60.00	73.61	15.66	2	2	2	2.00	2.00	Low
	2	882.20	15.76	1.79	60.00	73.61	15.66	2	2	2	2.00	4.00	Low
	3	882.20	30.10	3.41	60.00	73.61	15.66	2	2	2	2.00	6.00	Moderate
	4	882.20	18.37	2.08	60.00	73.61	15.66	2	2	2	2.00	8.00	Moderate
	5	882.20	19.05	2.16	60.00	73.61	15.66	2	2	2	2.00	10.00	High
Balud	1	75.04	3.54	4.71	50.00	0.00	0.00	2	2	2	2.00	2.00	Low
	2	75.04	7.68	10.23	50.00	0.00	0.00	2	2	2	2.00	4.00	Low
	3	75.04	12.99	17.31	50.00	0.00	0.00	2	2	2	2.00	6.00	Moderate
	4	75.04	13.62	18.15	50.00	0.00	0.00	2	2	2	2.00	8.00	Moderate
	5	75.04	8.25	10.99	50.00	0.00	0.00	2	2	2	2.00	10.00	High
Balugo	1	419.60	3.47	0.83	70.00	0.00	100.00	1	1	1	1.00	1.00	Low
	2	419.60	5.29	1.26	70.00	0.00	100.00	1	1	1	1.00	2.00	Low
	3	419.60	12.31	2.93	70.00	0.00	100.00	1	1	1	1.00	3.00	Low
	4	419.60	10.40	2.48	70.00	0.00	100.00	1	1	1	1.00	4.00	Low
	5	419.60	8.24	1.96	70.00	0.00	100.00	1	1	1	1.00	5.00	Moderate
Cabulan	1	299.00	2.72	0.91	60.00	23.33	72.22	2	2	2	2.00	2.00	Low
	2	299.00	4.18	1.40	60.00	23.33	72.22	2	2	2	2.00	4.00	Low
	3	299.00	8.20	2.74	60.00	23.33	72.22	2	2	2	2.00	6.00	Moderate
	4	299.00	5.72	1.91	60.00	23.33	72.22	2	2	2	2.00	8.00	Moderate
	5	299.00	0.83	0.28	60.00	23.33	72.22	2	2	2	2.00	10.00	High
Culasian	1	1,273.00	14.59	1.15	50.00	27.50	52.90	2	2	2	2.00	2.00	Low

Table 38: Natural Resource-Based Production Areas Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100							(I + J + K) / 3	B X L	
	3	264.70	7.71	2.91	55.00	20.00	77.78	3	3	3	3.00	9.00	Moderate
	4	264.70	5.82	2.20	55.00	20.00	77.78	3	3	3	3.00	12.00	High
	5	264.70	1.66	0.63	55.00	20.00	77.78	3	3	3	3.00	15.00	High
Manloy	1	1,080.00	10.83	1.00	60.00	25.00	72.22	3	2	3	3.00	3.00	Low
	2	1,080.00	17.79	1.65	60.00	25.00	72.22	3	2	3	3.00	6.00	Moderate
	3	1,080.00	29.76	2.76	60.00	25.00	72.22	3	2	3	3.00	9.00	Moderate
	4	1,080.00	21.03	1.95	60.00	25.00	72.22	3	2	3	3.00	12.00	High
	5	1,080.00	22.91	2.12	60.00	25.00	72.22	3	2	3	3.00	15.00	High
Nauguisan	1	70.48	5.63	7.99	70.00	20.59	51.47	2	2	3	2.00	2.00	Low
	2	70.48	10.70	15.19	70.00	20.59	51.47	2	2	3	2.00	4.00	Low
	3	70.48	12.94	18.36	70.00	20.59	51.47	2	2	3	2.00	6.00	Moderate
	4	70.48	15.20	21.56	70.00	20.59	51.47	2	2	3	2.00	8.00	Moderate
	5	70.48	8.90	12.63	70.00	20.59	51.47	2	2	3	2.00	10.00	High
Pinamopoan	1	610.20	5.99	0.98	60.00	24.62	100.00	2	2	2	2.00	2.00	Low
	2	610.20	9.34	1.53	60.00	24.62	100.00	2	2	2	2.00	4.00	Low
	3	610.20	22.93	3.76	60.00	24.62	100.00	2	2	2	2.00	6.00	Moderate
	4	610.20	11.11	1.82	60.00	24.62	100.00	2	2	2	2.00	8.00	Moderate
	5	610.20	7.35	1.21	60.00	24.62	100.00	2	2	2	2.00	10.00	High
Pob. Zone 1	1	291.40	4.33	1.49	60.00	0.00	0.00	2	2	2	2.00	2.00	Low
	2	291.40	7.80	2.68	60.00	0.00	0.00	2	2	2	2.00	4.00	Low
	3	291.40	15.07	5.17	60.00	0.00	0.00	2	2	2	2.00	6.00	Moderate

Table 38: Natural Resource-Based Production Areas Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100							(I + J + K) / 3	B X L	
Talisay	5	1,573.00	26.85	1.71	65.00	19.81	62.26	3	3	2	3.00	15.00	High
	1	494.00	9.64	1.95	55.00	6.74	100.00	3	3	3	3.00	3.00	Low
	2	494.00	14.35	2.91	55.00	6.74	100.00	3	3	3	3.00	6.00	Moderate
	3	494.00	30.30	6.13	55.00	6.74	100.00	3	3	3	3.00	9.00	Moderate
	4	494.00	30.27	6.13	55.00	6.74	100.00	3	3	3	3.00	12.00	High
Talairan	5	494.00	24.13	4.88	55.00	6.74	100.00	3	3	3	3.00	15.00	High
	1	687.60	4.56	0.66	60.00	20.16	100.00	3	3	3	3.00	3.00	Low
	2	687.60	6.78	0.99	60.00	20.16	100.00	3	3	3	3.00	6.00	Moderate
	3	687.60	12.66	1.84	60.00	20.16	100.00	3	3	3	3.00	9.00	Moderate
	4	687.60	6.81	0.99	60.00	20.16	100.00	3	3	3	3.00	12.00	High
Tolibao	5	687.60	2.14	0.31	60.00	20.16	100.00	3	3	3	3.00	15.00	High
	1	353.00	9.50	2.69	55.00	12.99	100.00	3	3	3	3.00	3.00	Low
	2	353.00	16.36	4.64	55.00	12.99	100.00	3	3	3	3.00	6.00	Moderate
	3	353.00	27.56	7.81	55.00	12.99	100.00	3	3	3	3.00	9.00	Moderate
	4	353.00	12.44	3.52	55.00	12.99	100.00	3	3	3	3.00	12.00	High
Visares	5	353.00	0.61	0.17	55.00	12.99	100.00	3	3	3	3.00	15.00	High
	1	941.90	9.12	0.97	65.00	14.81	86.44	3	3	3	3.00	3.00	Low
	2	941.90	15.10	1.60	65.00	14.81	86.44	3	3	3	3.00	6.00	Moderate
	3	941.90	29.18	3.10	65.00	14.81	86.44	3	3	3	3.00	9.00	Moderate
	4	941.90	32.38	3.44	65.00	14.81	86.44	3	3	3	3.00	12.00	High
	5	941.90	21.80	2.31	65.00	14.81	86.44	3	3	3	3.00	15.00	High

Table 39: Critical Point Facilities Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M
Hazard		Exposure			Sensitivity		Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Percent of structures in poor condition	Percent of structures not employing hazard mitigation design	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100						(H + I + J) / 3	B X K	
	4	0.95	0.002	0.22	25.00	0.00	1	2	1	1.00	4.00	Low
	5	0.95	0.04	4.29	25.00	0.00	1	2	1	1.00	5.00	Moderate
Libertad	4	0.14	0.14	97.84	0.00	0.00	1	2	1	1.00	4.00	Low
Manloy					0.00	0.00						
Nauguisan					0.00	0.00						
Pinamopoan	1	2.78	0.004	0.14	0.00	0.00	1	1	1	1.00	1.00	Low
	2	2.78	0.02	0.63	0.00	0.00	1	1	1	1.00	2.00	Low
	3	2.78	0.03	0.98	0.00	0.00	1	1	1	1.00	3.00	Low
	4	2.78	0.002	0.07	0.00	0.00	1	1	1	1.00	4.00	Low
Pob. Zone 1	1	4.31	0.36	8.37	12.50	0.00	1	1	1	1.00	1.00	Low
	2	4.31	0.43	9.97	12.50	0.00	1	1	1	1.00	2.00	Low
	3	4.31	0.60	13.95	12.50	0.00	1	1	1	1.00	3.00	Low
	4	4.31	0.61	14.21	12.50	0.00	1	1	1	1.00	4.00	Low
Pob. Zone 2	1	23.75	0.46	1.95	0.00	0.00	1	1	1	1.00	1.00	Low
	2	23.75	0.39	1.66	0.00	0.00	1	1	1	1.00	2.00	Low
	3	23.75	0.70	2.96	0.00	0.00	1	1	1	1.00	3.00	Low
	4	23.75	1.07	4.51	0.00	0.00	1	1	1	1.00	4.00	Low
	5	23.75	2.58	10.87	0.00	0.00	1	1	1	1.00	5.00	Moderate
Potot	4	0.12	0.12	100.00	0.00	0.00	2	2	1	2.00	8.00	Moderate

Table 40: Lifeline Utilities Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L
Hazard		Exposure			Sensitivity	Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Area (ha)	Exposed Area (ha)	Exposure Percentage (D/C) X 100	Percent of lifeline utilities in poor condition	Group 1	Group 2	Group 3	Average (G+H+I) / 3	Score B X J	Rating
Balucanad	1	0.36	0.02	4.95	33.33	2	3	2	2.00	2.00	Low
	2	0.36	0.03	7.08	33.33	2	3	2	2.00	4.00	Low
	3	0.36	0.01	3.93	33.33	2	3	2	2.00	6.00	Moderate
Balud	1	1.49	0.13	8.61	40.00	2	2	3	2.00	2.00	Low
	2	1.49	0.08	5.53	40.00	2	2	3	2.00	4.00	Low
	3	1.49	0.19	12.84	40.00	2	2	3	2.00	6.00	Moderate
	4	1.49	0.18	12.20	40.00	2	2	3	2.00	8.00	Moderate
	5	1.49	0.07	4.62	40.00	2	2	3	2.00	10.00	High
<i>Balugo</i>					<i>66.67</i>						
Cabul-an	1	2.98	0.05	1.84	33.33	3	2	2	2.00	2.00	Low
	2	2.98	0.05	1.51	33.33	3	2	2	2.00	4.00	Low
	3	2.98	0.04	1.32	33.33	3	2	2	2.00	6.00	Moderate
	4	2.98	0.11	3.55	33.33	3	2	2	2.00	8.00	Moderate
	5	2.98	0.01	0.49	33.33	3	2	2	2.00	10.00	High
Culasian	1	2.25	0.07	3.08	25.00	2	3	2	2.00	2.00	Low
	2	2.25	0.14	6.04	25.00	2	3	2	2.00	4.00	Low
	3	2.25	0.28	12.57	25.00	2	3	2	2.00	6.00	Moderate
	4	2.25	0.27	11.87	25.00	2	3	2	2.00	8.00	Moderate
	5	2.25	0.06	2.74	25.00	2	3	2	2.00	10.00	High
<i>Gayad</i>					<i>66.67</i>						
Guinadiangan	1	3.02	0.02	0.79	75.00	2	2	3	2.00	2.00	Low
	2	3.02	0.02	0.53	75.00	2	2	3	2.00	4.00	Low
	3	3.02	0.04	1.36	75.00	2	2	3	2.00	6.00	Moderate
	4	3.02	0.08	2.50	75.00	2	2	3	2.00	8.00	Moderate
	5	3.02	0.01	0.44	75.00	2	2	3	2.00	10.00	High
Lemon	1	5.10	0.12	2.28	33.33	2	2	3	2.00	2.00	Low
	2	5.10	0.16	3.04	33.33	2	2	3	2.00	4.00	Low
	3	5.10	0.47	9.24	33.33	2	2	3	2.00	6.00	Moderate
	4	5.10	0.19	3.76	33.33	2	2	3	2.00	8.00	Moderate
	5	5.10	0.05	0.89	33.33	2	2	3	2.00	10.00	High
Libertad	1	1.74	0.01	0.29	66.67	3	2	2	2.00	2.00	Low
	2	1.74	0.03	1.79	66.67	3	2	2	2.00	4.00	Low
	3	1.74	0.06	3.22	66.67	3	2	2	2.00	6.00	Moderate
	4	1.74	0.06	3.55	66.67	3	2	2	2.00	8.00	Moderate
	5	1.74	0.03	1.89	66.67	3	2	2	2.00	10.00	High
<i>Manloy</i>					<i>50.00</i>						
<i>Nauguisan</i>					<i>50.00</i>						
Pinamopoan	1	3.52	0.05	1.53	25.00	2	2	3	2.00	2.00	Low
	2	3.52	0.08	2.32	25.00	2	2	3	2.00	4.00	Low
	3	3.52	0.48	13.51	25.00	2	2	3	2.00	6.00	Moderate
	4	3.52	0.50	14.16	25.00	2	2	3	2.00	8.00	Moderate
	5	3.52	0.03	0.73	25.00	2	2	3	2.00	10.00	High
Pob. Zone I	1	2.27	0.08	3.74	0.00	3	2	2	2.00	2.00	Low
	2	2.27	0.37	16.33	0.00	3	2	2	2.00	4.00	Low
	3	2.27	0.92	40.42	0.00	3	2	2	2.00	6.00	Moderate
	4	2.27	0.53	23.47	0.00	3	2	2	2.00	8.00	Moderate
Pob. Zone II	1	1.08	0.01	0.68	25.00	3	2	2	2.00	2.00	Low

Table 41: Population Risk Assessment to Storm Surge Hazard - Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence			Risk		
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
Balucanad	0	0.00	0.00		0.00	62.00	13.39	7.00	2.00	55.00						
Balud	1	13.53	0.16	1.17	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	2.00	Low
	2	13.53	0.80	5.91	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	4.00	Low
	3	13.53	3.10	22.94	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	6.00	Low
	4	13.53	7.51	55.54	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	8.00	Moderate
	5	13.53	1.41	10.45	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	10.00	Moderate
	6	13.53	0.35	2.58	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	12.00	Moderate
Balugo	0	0.00	0.00		0.00	83.00	17.07	4.00	2.00	83.00						
Cabul-an	1	8.46	0.22	2.54	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	2.00	Low
	2	8.46	0.52	6.10	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	4.00	Low
	3	8.46	1.09	12.86	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	6.00	Low
	4	8.46	1.65	19.45	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	8.00	Moderate
	5	8.46	1.11	13.12	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	10.00	Moderate
	6	8.46	0.08	0.92	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	12.00	Moderate
Gayad	1	7.63	0.10	1.36	0.00	52.00	15.07	27.00	1.00	52.00	3	2	2	2.00	2.00	Low
	2	7.63	0.68	8.87	0.00	52.00	15.07	27.00	1.00	52.00	3	2	2	2.00	4.00	Low
	3	7.63	1.24	16.29	0.00	52.00	15.07	27.00	1.00	52.00	3	2	2	2.00	6.00	Low
	4	7.63	1.24	16.28	0.00	52.00	15.07	27.00	1.00	52.00	3	2	2	2.00	8.00	Moderate

Table 41: Population Risk Assessment to Storm Surge Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
Guinadiongan	2	5.90	0.65	11.01	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	4.00	Low
	3	5.90	0.31	5.28	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	6.00	Low
	4	5.90	0.78	13.20	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	8.00	Moderate
	5	5.90	0.55	9.39	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	10.00	Moderate
	6	5.90	0.04	0.61	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	12.00	Moderate
Lemon	0	0.00	0.00		0.00	49.00	12.86	5.00	4.00	51.00						
Libertad	1	3.93	0.06	1.43	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	2.00	Low
	2	3.93	0.31	7.92	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	4.00	Low
	3	3.93	0.36		0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	6.00	Low
	4	3.93	0.75	19.08	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	8.00	Moderate
	5	3.93	1.21	30.84	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	10.00	Moderate
	6	3.93	0.07	1.71	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	12.00	Moderate
Manloy	0	0.00	0.00		0.00	64.00	17.75	8.00	2.00	69.00						
Nauguisan	1	1.61	0.27	16.91	0.00	62.00	15.32	9.00	5.00	63.00	1	1	1	1.00	1.00	Low
	2	1.61	0.40	24.69	0.00	62.00	15.32	9.00	5.00	63.00	1	1	1	1.00	2.00	Low
	3	1.61	0.08	5.10	0.00	62.00	15.32	9.00	5.00	63.00	1	1	1	1.00	3.00	Low
Pinamopoan	1	35.50	1.04	2.93	0.00	57.00	11.73	8.00	4.00	47.00	2	2	3	2.00	2.00	Low
	2	35.50	2.66	7.50	0.00	57.00	11.73	8.00	4.00	47.00	2	2	3	2.00	4.00	Low
	3	35.50	4.19	11.81	0.00	57.00	11.73	8.00	4.00	47.00	2	2	3	2.00	6.00	Low

Table 41: Population Risk Assessment to Storm Surge Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
	6	7.86	0.09	1.14	0.00	70.00	13.60	7.00	3.00	64.00	2	3	2	2.00	12.00	Moderate
San Joaquin	0	0.00	0.00		0.00	63.00	7.44	5.00	2.00	60.00						
Santo Niño	0	0.00	0.00		0.00	63.00	10.86	7.00	2.00	60.00						
Talairan	1	4.21	0.18	4.28	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	2.00	Low
	2	4.21	0.54	12.84	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	4.00	Low
	3	4.21	0.24	5.78	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	6.00	Low
	4	4.21	0.56	13.43	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	8.00	Moderate
	5	4.21	0.08	1.80	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	10.00	Moderate
Talisay	1	20.38	0.14	0.70	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	2.00	Low
	2	20.38	0.98	4.81	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	4.00	Low
	3	20.38	1.97	9.65	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	6.00	Low
	4	20.38	2.44	11.95	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	8.00	Moderate
	5	20.38	1.05	5.13	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	10.00	Moderate
	6	20.38	0.08	0.37	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	12.00	Moderate
Tolibao	1	5.90	0.32	5.49	0.00	72.00	13.70	7.00	2.00	69.00	3	2	2	2.00	2.00	Low
	2	5.90	0.25	4.28	0.00	72.00	13.70	7.00	2.00	69.00	3	2	2	2.00	4.00	Low
	3	5.90	0.20	3.45	0.00	72.00	13.70	7.00	2.00	69.00	3	2	2	2.00	6.00	Low
	4	5.90	0.66	11.17	0.00	72.00	13.70	7.00	2.00	69.00	3	2	2	2.00	8.00	Moderate
	5	5.90	0.06	0.98	0.00	72.00	13.70	7.00	2.00	69.00	3	2	2	2.00	10.00	Moderate
	6	5.90	0.01	0.09	0.00	72.00	13.70	7.00	2.00	69.00	3	2	2	2.00	12.00	Moderate

Table 42: Urban Use Areas Risk Assessment to Storm Surge Hazard – Capocan, Leyte

A	C	B	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity		Severity of Consequence				Risk		
Barangay	Likelihood of Occurrence	Land Use Category	Total Area Allocation per Land Use (ha)	Exposed Area (ha)	Exposure Percentage (E/D) X 100	Percentage of structures classified as dilapidated or condemned	Percentage of structures not employing site preparation, hazard resistant, and/or climate proofed design standards	Group 1	Group 2	Group 3	Average (I+J+K)/3	Score B X L	Rating
Balucanad	0	Commercial	0.00	0.00		0.00	100.00						
Balud	4	Commercial	0.12	0.03	26.36	0.00	100.00	2	2	2	2.00	8.00	Moderate
	5	Commercial	0.12	0.09	73.64	0.00	100.00	2	2	2	2.00	10.00	Moderate
<i>Balugo</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Cabul-an	0	Commercial	0.00	0.00		0.00	100.00						
<i>Gayad</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Culasian	0	Cemetery	0.00	0.00		0.00	100.00						
<i>Guinadiongan</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Lemon	0	Commercial	0.00	0.00		0.00	100.00						
<i>Libertad</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Manloy	0	Commercial	0.00	0.00		0.00	100.00						
<i>Nauguisan</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Pinamopoan	4	Commercial	0.52	0.04	7.82	0.00	100.00	2	3	2	2.00	8.00	Moderate
	5	Commercial	0.52	0.35	67.13	0.00	100.00	2	3	2	2.00	10.00	Moderate
	6	Commercial	0.52	0.01	2.10	0.00	100.00	2	3	2	2.00	12.00	Moderate
Poblacion Zone I	4	Commercial	0.26	0.23	88.14	0.00	100.00	2	3	2	2.00	8.00	Moderate
	5	Commercial	0.26	0.03	11.86	0.00	100.00	2	3	2	2.00	10.00	Moderate
Poblacion Zone II	2	Commercial	0.69	0.06	9.12	0.00	100.00	2	3	2	2.00	4.00	Low
	3	Commercial	0.69	0.17	25.38	0.00	100.00	2	3	2	2.00	6.00	Low
	4	Commercial	0.69	0.30	42.91	0.00	100.00	2	3	2	2.00	8.00	Moderate
<i>Potot</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>San Joaquin</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Santo Niño</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Talairan</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Talisay</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Tolibao</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Visares</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						

Table 43: Natural Resource-Based Production Areas Risk Assessment to Storm Surge Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				(D/C) X 100							(I+J+K)/3	B X L	
	3	610.20	3.83	0.63	60.00	24.62	100.00	1	2	2	2.00	6.00	Low
	4	610.20	5.94	0.97	60.00	24.62	100.00	1	2	2	2.00	8.00	Moderate
	5	610.20	1.03	0.17	60.00	24.62	100.00	1	2	2	2.00	10.00	Moderate
	6	610.20	0.20	0.03	60.00	24.62	100.00	1	2	2	2.00	12.00	Moderate
Pob. Zone 1	1	291.40	1.80	0.62	60.00	0.00	0.00	2	2	1	2.00	2.00	Low
	2	291.40	5.96	2.05	60.00	0.00	0.00	2	2	1	2.00	4.00	Low
	3	291.40	9.40	3.23	60.00	0.00	0.00	2	2	1	2.00	6.00	Low
	4	291.40	6.50	2.23	60.00	0.00	0.00	2	2	1	2.00	8.00	Moderate
Pob. Zone 2	1	1123.00	0.58	0.05	60.00	0.00	11.76	2	2	1	2.00	2.00	Low
	2	1123.00	2.39	0.21	60.00	0.00	11.76	2	2	1	2.00	4.00	Low
	3	1123.00	6.31	0.56	60.00	0.00	11.76	2	2	1	2.00	6.00	Low
	4	1123.00	11.07	0.99	60.00	0.00	11.76	2	2	1	2.00	8.00	Moderate
	5	1123.00	2.45	0.22	60.00	0.00	11.76	2	2	1	2.00	10.00	Moderate
	6	1123.00	0.11	0.01	60.00	0.00	11.76	2	2	1	2.00	12.00	Moderate
Potot	1	452.60	0.84	0.19	65.00	13.38	98.76	1	2	2	2.00	2.00	Low
	2	452.60	1.93	0.43	65.00	13.38	98.76	1	2	2	2.00	4.00	Low
	3	452.60	2.49	0.55	65.00	13.38	98.76	1	2	2	2.00	6.00	Low
	4	452.60	0.24	0.05	65.00	13.38	98.76	1	2	2	2.00	8.00	Moderate
	5	452.60	0.00	0.00	65.00	13.38	98.76	1	2	2	2.00	10.00	Moderate
San Joaquin	0	0.00	0.00		60.00	21.88	76.14						
Sto. Niño	0	0.00	0.00		65.00	19.81	62.26						
Talisay	1	494.00	0.25	0.05	55.00	6.74	100.00						
	2	494.00	1.07	0.22	55.00	6.74	100.00	2	1	1	1.00	2.00	Low
	3	494.00	0.97	0.20	55.00	6.74	100.00	2	1	1	1.00	3.00	Low
	4	494.00	0.04	0.01	55.00	6.74	100.00	2	1	1	1.00	4.00	Low
	5	494.00	0.19	0.04	55.00	6.74	100.00	2	1	1	1.00	5.00	Low
	6	494.00	0.04	0.01	55.00	6.74	100.00	2	1	1	1.00	6.00	Low
Talairan	1	687.60	1.03	0.15	60.00	20.16	100.00	2	1	1	1.00	1.00	Low
	2	687.60	0.97	0.14	60.00	20.16	100.00	2	1	1	1.00	2.00	Low
	3	687.60	1.21	0.18	60.00	20.16	100.00	2	1	1	1.00	3.00	Low
	4	687.60	0.71	0.10	60.00	20.16	100.00	2	1	1	1.00	4.00	Low
	5	687.60	0.21	0.03	60.00	20.16	100.00	2	1	1	1.00	5.00	Low
Tolibao	1	353.00	0.53	0.15	55.00	12.99	100.00	2	1	2	2.00	2.00	Low
	2	353.00	0.32	0.09	55.00	12.99	100.00	2	1	2	2.00	4.00	Low
	3	353.00	0.80	0.23	55.00	12.99	100.00	2	1	2	2.00	6.00	Low
	4	353.00	0.36	0.10	55.00	12.99	100.00	2	1	2	2.00	8.00	Moderate
	5	353.00	0.35	0.10	55.00	12.99	100.00	2	1	2	2.00	10.00	Moderate
	6	353.00	0.03	0.01	55.00	12.99	100.00	2	1	2	2.00	12.00	Moderate
Visares	0	0.00	0.00		65.00	14.81	86.44						

Table 45: Lifeline Utilities Risk Assessment to Storm Surge Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L
Hazard		Exposure			Sensitivity	Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Percent of lifeline utilities in poor condition	Group 1	Group 2	Group 3	Average	Score	Rating
				(D/C) X 100					$(G+H+I)/3$	B X J	
Balucanad	0	0.00	0.00		33.33						
Balud	1	1.49	0.06	4.14	40.00	2	2	2	2.00	2.00	Low
	2	1.49	0.17	11.44	40.00	2	2	2	2.00	4.00	Low
	3	1.49	0.37	24.67	40.00	2	2	2	2.00	6.00	Low
	4	1.49	0.62	41.82	40.00	2	2	2	2.00	8.00	Moderate
	5	1.49	0.20	13.18	40.00	2	2	2	2.00	10.00	Moderate
<i>Balugo</i>	<i>0</i>	<i>0.00</i>	<i>0.00</i>		<i>66.67</i>						
Cabul-an	1	2.98	0.02	0.60	33.33	2	2	2	2.00	2.00	Low
	2	2.98	0.07	2.37	33.33	2	2	2	2.00	4.00	Low
	3	2.98	0.05	1.57	33.33	2	2	2	2.00	6.00	Low
	4	2.98	0.05	1.74	33.33	2	2	2	2.00	8.00	Moderate
	5	2.98	0.05	1.80	33.33	2	2	2	2.00	10.00	Moderate
Culasian	1	2.25	0.09	4.01	25.00	2	2	2	2.00	2.00	Low
	2	2.25	0.11	4.93	25.00	2	2	2	2.00	4.00	Low
	3	2.25	0.10	4.54	25.00	2	2	2	2.00	6.00	Low
	4	2.25	0.01	0.33	25.00	2	2	2	2.00	8.00	Moderate
<i>Gayad</i>	<i>0</i>	<i>0.00</i>	<i>0.00</i>		<i>66.67</i>						
Guinadiongan	0	0.00	0.00		75.00						
Lemon	0	0.00	0.00		33.33						
Libertad	1	1.74	0.01	0.84	66.67	2	2	2	2.00	2.00	Low
	2	1.74	0.01	0.48	66.67	2	2	2	2.00	4.00	Low
<i>Manloy</i>	<i>0</i>	<i>0.00</i>	<i>0.00</i>		<i>50.00</i>						
<i>Nauguisan</i>	<i>0</i>	<i>0.00</i>	<i>0.00</i>		<i>50.00</i>						
Pinamopoan	1	3.52	0.14	4.09	25.00	2	2	2	2.00	2.00	Low
	2	3.52	0.21	6.08	25.00	2	2	2	2.00	4.00	Low
	3	3.52	0.31	8.94	25.00	2	2	2	2.00	6.00	Low
	4	3.52	0.10	2.83	25.00	2	2	2	2.00	8.00	Moderate
	5	3.52	0.11	3.22	25.00	2	2	2	2.00	10.00	Moderate
Poblacion Zone I	3	2.27	0.23	10.04	0.00	2	2	2	2.00	6.00	Low
	4	2.27	2.04	89.93	0.00	2	2	2	2.00	8.00	Moderate
	5	2.27	0.00	0.02	0.00	2	2	2	2.00	10.00	Moderate
Poblacion Zone II	1	1.08	0.06	5.68	25.00	2	2	2	2.00	2.00	Low
	2	1.08	0.05	4.17	25.00	2	2	2	2.00	4.00	Low
	3	1.08	0.05	4.29	25.00	2	2	2	2.00	6.00	Low
	4	1.08	0.16	14.68	25.00	2	2	2	2.00	8.00	Moderate
Potot	0	0.00	0.00		50.00						
San Joaquin	0	0.00	0.00		25.00						

Table 46: Population Risk Assessment to Landslide Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
Balucanad	1	9.98	0.01	0.15	0.00	62.00	13.39	7.00	2.00	55.00	2	3	3	3.00	3.00	Low
	2	9.98	0.01	0.10	0.00	62.00	13.39	7.00	2.00	55.00	2	3	3	3.00	6.00	Moderate
Balud	2	13.53	0.02	0.15	0.00	58.00	14.25	7.00	4.00	43.00	1	1	1	1.00	2.00	Low
Balugo	1	0.24	0.03	11.78	0.00	83.00	17.07	4.00	2.00	83.00	3	3	3	3.00	3.00	Low
	2	0.24	0.02	9.95	0.00	83.00	17.07	4.00	2.00	83.00	3	3	3	3.00	6.00	Moderate
Cabu-an	1	8.46	1.07	12.62	0.00	56.00	13.61	6.00	3.00	58.00	3	3	3	3.00	3.00	Low
	2	8.46	0.63	7.46	0.00	56.00	13.61	6.00	3.00	58.00	3	3	3	3.00	6.00	Moderate
Gayad	1	7.63	0.61	7.94	0.00	52.00	15.07	27.00	1.00	52.00	3	4	3	3.00	3.00	Low
	2	7.63	0.45	5.90	0.00	52.00	15.07	27.00	1.00	52.00	3	4	3	3.00	6.00	Moderate
Culasian	1	18.36	0.13	0.70	0.00	60.00	13.73	2.00	7.00	44.00	1	2	2	2.00	2.00	Low
	2	18.36	0.09	0.49	0.00	60.00	13.73	2.00	7.00	44.00	1	2	2	2.00	4.00	Moderate
Guinadiongan	1	5.90	0.26	4.40	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	2.00	Low
	2	5.90	0.75	12.71	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	4.00	Moderate
	3	5.90	0.49	8.31	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	6.00	Moderate
Lemon	1	16.19	0.82	5.04	0.00	49.00	12.86	5.00	4.00	51.00	3	2	3	3.00	3.00	Low
	2	16.19	0.41	2.52	0.00	49.00	12.86	5.00	4.00	51.00	3	2	3	3.00	6.00	Moderate

Table 46: Population Risk Assessment to Landslide Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence			Risk		
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
	2	7.46	0.29	3.92	0.00	63.00	10.86	7.00	2.00	60.00	2	4	2	3.00	6.00	Moderate
Talairan	1	4.21	0.10	2.40	0.00	49.00	12.41	5.00	2.00	56.00	3	4	4	4.00	4.00	Moderate
	2	4.21	0.23	5.41	0.00	49.00	12.41	5.00	2.00	56.00	3	4	4	4.00	8.00	High
Talisay	1	20.38	1.11	5.45	0.00	62.00	13.71	9.00	2.00	54.00	2	3	4	3.00	3.00	Low
	2	20.38	1.13	5.53	0.00	62.00	13.71	9.00	2.00	54.00	2	3	4	3.00	6.00	Moderate
Tolibao	1	5.90	0.13	2.22	0.00	72.00	13.70	7.00	2.00	69.00	2	3	4	3.00	3.00	Low
	2	5.90	0.20	3.32	0.00	72.00	13.70	7.00	2.00	69.00	2	3	4	3.00	6.00	Moderate
	3	5.90	2.37	40.22	0.00	72.00	13.70	7.00	2.00	69.00	2	3	4	3.00	9.00	High
Visares	1	10.91	0.68	6.22	0.00	53.00	12.41	8.00	0.00	56.00	2	3	4	3.00	3.00	Low
	2	10.91	0.71	6.54	0.00	53.00	12.41	8.00	0.00	56.00	2	3	4	3.00	6.00	Moderate

Table 48: Natural Resource-Based Production Areas Risk Assessment to Landslide Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				D/C X 100							(I+J+K) / 3	B X L	
Balucanad	1	882.20	68.88	7.81	60.00	73.61	15.66	1	1	1	1.00	1.00	Low
	2	882.20	253.07	28.69	60.00	73.61	15.66	1	1	1	1.00	2.00	Low
	3	882.20	351.90	39.89	60.00	73.61	15.66	1	1	1	1.00	3.00	Low
Balud	1	75.04	0.21	0.28	50.00	0.00	0.00	1	1	1	1.00	1.00	Low
	2	75.04	0.04	0.06	50.00	0.00	0.00	1	1	1	1.00	2.00	Low
Balugo	1	419.60	54.68	13.03	70.00	0.00	100.00	1	2	1	1.00	1.00	Low
	2	419.60	168.03	40.05	70.00	0.00	100.00	1	2	1	1.00	2.00	Low
	3	419.60	8.26	1.97	70.00	0.00	100.00	1	2	1	1.00	3.00	Low
Cabul-an	1	299.00	58.02	19.41	60.00	23.33	72.22	2	2	2	2.00	2.00	Low
	2	299.00	113.92	38.10	60.00	23.33	72.22	2	2	2	2.00	4.00	Moderate
	3	299.00	5.39	1.80	60.00	23.33	72.22	2	2	2	2.00	6.00	Moderate
Culasian	1	1273.00	121.79	9.57	50.00	27.50	52.90	2	1	2	2.00	2.00	Low
	2	1273.00	424.91	33.38	50.00	27.50	52.90	2	1	2	2.00	4.00	Moderate
	3	1273.00	375.12	29.47	50.00	27.50	52.90	2	1	2	2.00	6.00	Moderate
Gayad	1	379.10	27.91	7.36	60.00	10.14	100.00	1	2	2	2.00	2.00	Low
	2	379.10	182.32	48.09	60.00	10.14	100.00	1	2	2	2.00	4.00	Moderate
	3	379.10	116.82	30.81	60.00	10.14	100.00	1	2	2	2.00	6.00	Moderate
Guinadiangan	1	402.70	39.58	9.83	60.00	18.44	98.04	2	1	1	1.00	1.00	Low
	2	402.70	203.70	50.58	60.00	18.44	98.04	2	1	1	1.00	2.00	Low
	3	402.70	107.74	26.75	60.00	18.44	98.04	2	1	1	1.00	3.00	Low
Lemon	1	1139.00	139.14	12.22	65.00	10.00	75.56	2	2	2	2.00	2.00	Low
	2	1139.00	256.34	22.51	65.00	10.00	75.56	2	2	2	2.00	4.00	Moderate
	3	1139.00	77.75	6.83	65.00	10.00	75.56	2	2	2	2.00	6.00	Moderate
Libertad	1	264.70	15.97	6.03	55.00	20.00	77.78	2	2	2	2.00	2.00	Low
	2	264.70	128.15	48.41	55.00	20.00	77.78	2	2	2	2.00	4.00	Moderate
	3	264.70	95.06	35.91	55.00	20.00	77.78	2	2	2	2.00	6.00	Moderate
Manloy	1	1080.00	56.27	5.21	60.00	25.00	72.22	2	2	2	2.00	2.00	Low
	2	1080.00	310.19	28.72	60.00	25.00	72.22	2	2	2	2.00	4.00	Moderate
	3	1080.00	535.85	49.62	60.00	25.00	72.22	2	2	2	2.00	6.00	Moderate
Nauguisan	1	70.48	0.18	0.25	70.00	20.59	51.47	1	1	1	1.00	1.00	Low
	2	70.48	0.18	0.25	70.00	20.59	51.47	1	1	1	1.00	2.00	Low
Pinamopoan	1	610.20	90.00	14.75	60.00	24.62	100.00	1	2	2	2.00	2.00	Low
	2	610.20	261.85	42.91	60.00	24.62	100.00	1	2	2	2.00	4.00	Moderate
	3	610.20	46.62	7.64	60.00	24.62	100.00	1	2	2	2.00	6.00	Moderate
Pob. Zone 1	1	291.40	24.91	8.55	60.00	0.00	0.00	1	1	1	1.00	1.00	Low

Table 49: Critical Point Facilities Risk Assessment to Landslide Hazard – Capooacan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M
Hazard		Exposure			Sensitivity		Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Percent of structures in poor condition	Percent of structures not employing hazard mitigation design	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100						(H+I+J)/3	B X K	
<i>Balucanad</i>					0.00	0.00						
Balud	0	0.03	0.00	0.00	16.67	0.00						
Balugo	0	0.003	0.00	0.00	0.00	0.00						
Cabul-an	1	0.04	0.01	17.83	0.00	0.00	2	2	2	2.00	2.00	Low
Culasian	0	0.41	0.00	0.00	0.00	0.00						
Gayad	1	0.18	0.04	19.76	0.00	0.00	1	2	1	1.00	1.00	Low
Guinadiongan	1	0.20	0.01	4.14	0.00	0.00	1	2	1	1.00	1.00	Low
Lemon	1	0.95	0.08	8.53	25.00	0.00	2	3	2	2.00	2.00	Low
Libertad	0	0.14	0.00	0.00	0.00	0.00						
<i>Manloy</i>					0.00	0.00						
<i>Nauguisan</i>					0.00	0.00						
Pinamopooan	1	2.78	0.15	5.35	0.00	0.00	2	3	2	2.00	2.00	Low
	2	2.78	0.30	10.70	0.00	0.00	2	3	2	2.00	4.00	Moderate
Pob. Zone 1	0	4.31	0.00	0.00	12.50	0.00						
Pob. Zone 2	1	23.75	3.17	13.34	0.00	0.00	2	2	2	2.00	2.00	Low
	2	23.75	10.52	44.28	0.00	0.00	2	2	2	2.00	4.00	Moderate
	3	23.75	2.70	11.38	0.00	0.00	2	2	2	2.00	6.00	Moderate
Potot	0	0.12	0.00	0.00	0.00	0.00						
San Joaquin	1	0.86	0.00	0.12	0.00	0.00	1	2	1	1.00	1.00	Low
Sto. Niño	1	0.29	0.02	7.14	0.00	0.00	1	2	1	1.00	1.00	Low
	2	0.29	0.01	2.43	0.00	0.00	1	2	1	1.00	2.00	Low
Talairan	1	0.26	0.03	11.55	50.00	0.00	2	1	1	1.00	1.00	Low
	2	0.26	0.00	1.57	50.00	0.00	2	1	1	1.00	2.00	Low
Talisay	0	0.11	0.00	0.00	0.00	0.00						
Tolibao	1	0.09	0.01	14.30	20.00	0.00	2	2	2	2.00	2.00	Low
	2	0.09	0.00	1.26	20.00	0.00	2	2	2	2.00	4.00	Moderate
Visares	0	0.49	0.00	0.00	16.67	0.00						

Figure 15: Flood Hazard Map, Municipality of Capoocan

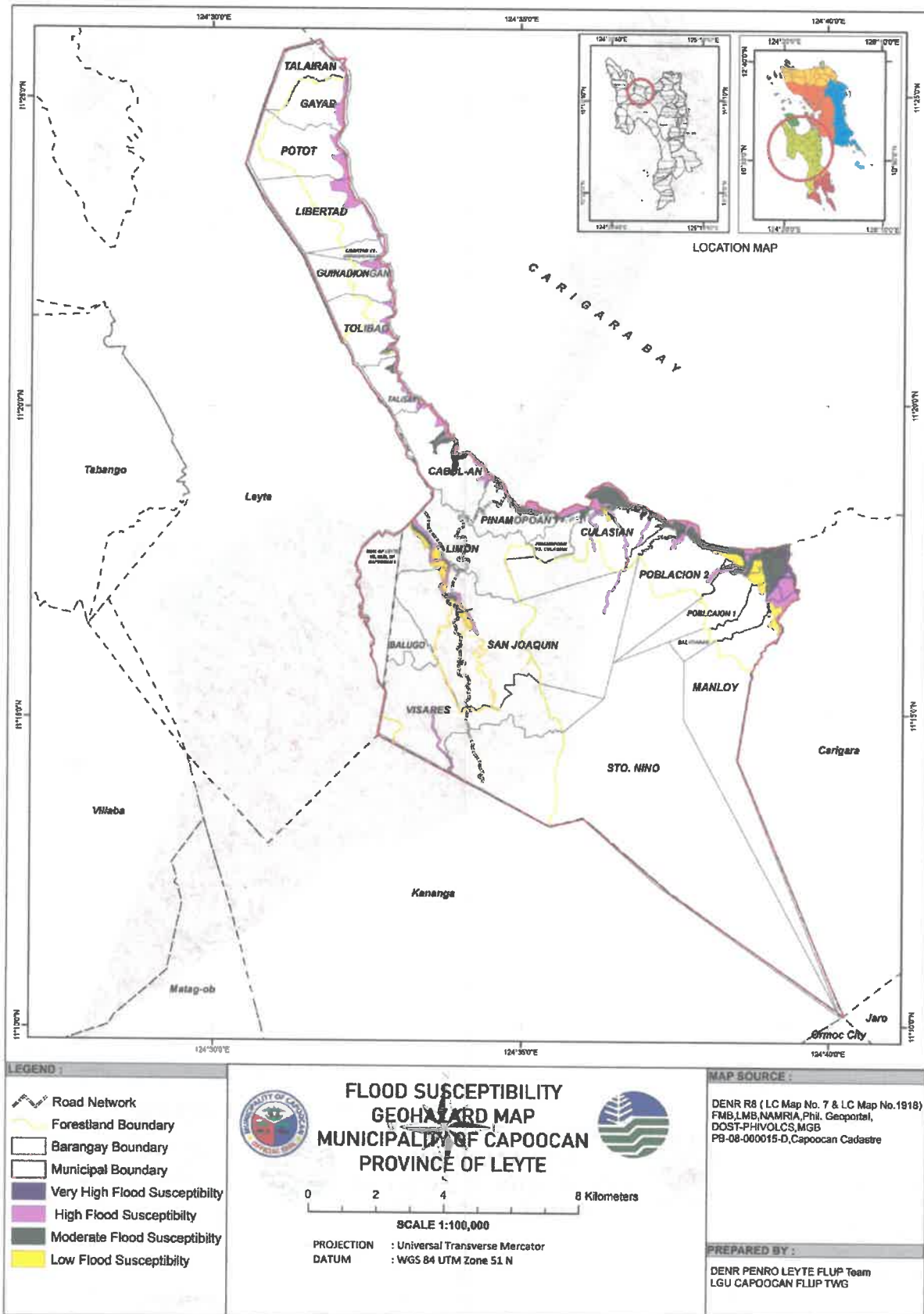


Figure 17: Storm Surge Hazard Map, Municipality of Capooacan

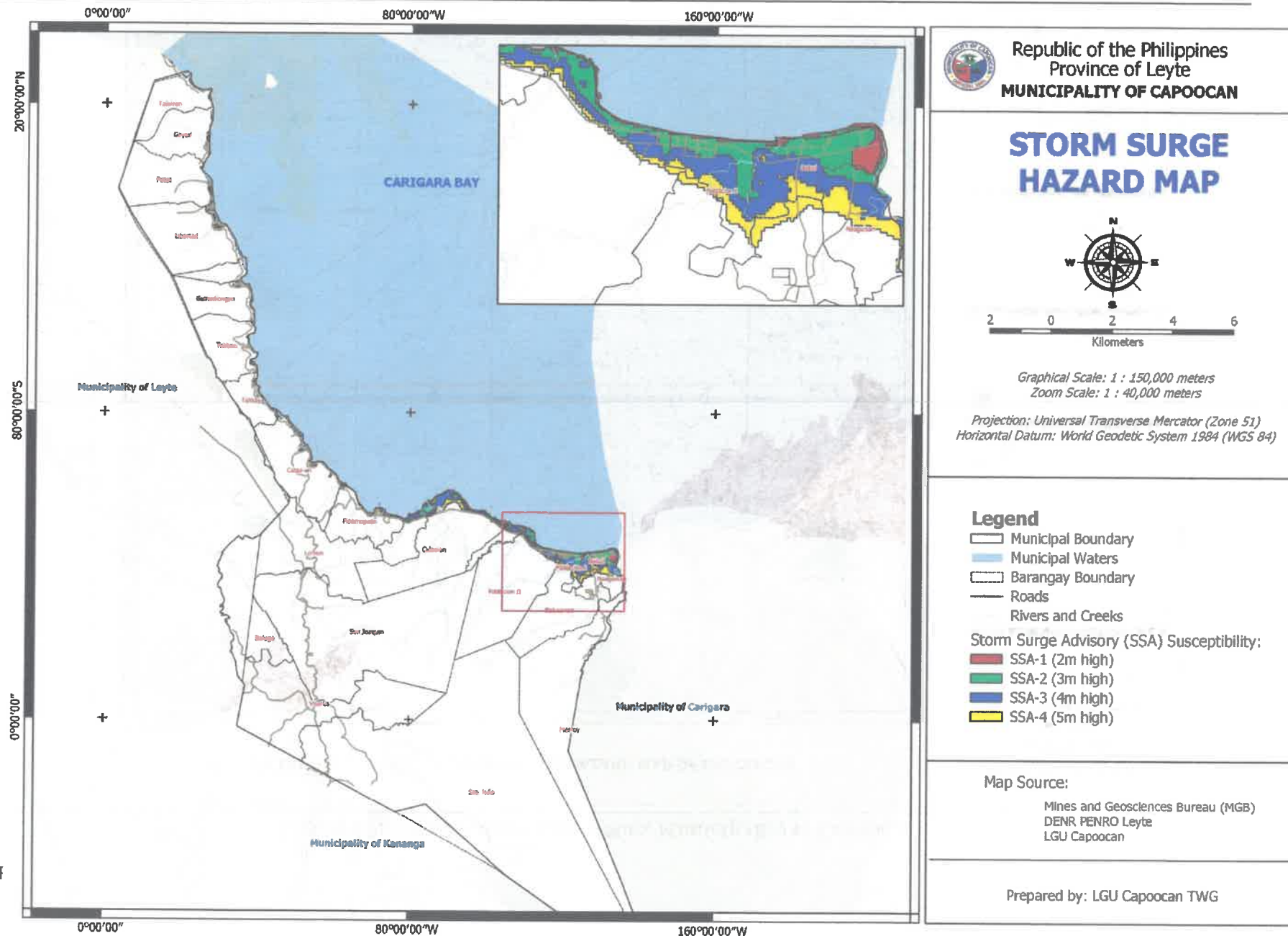


Figure 19: Ground Shaking Hazard Map, Municipality of Capoocan

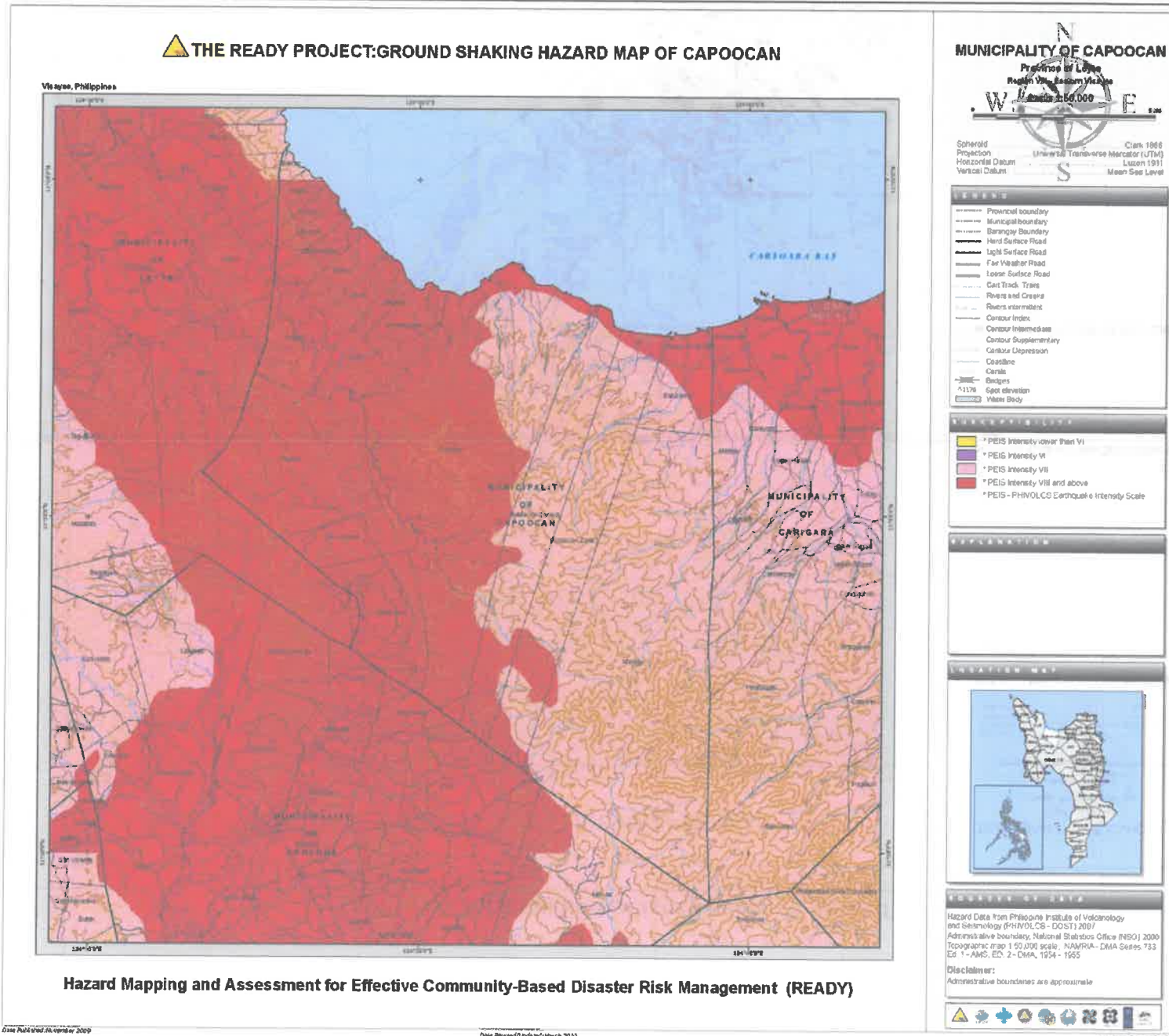


Figure 21: Ground Rupture Hazard Map

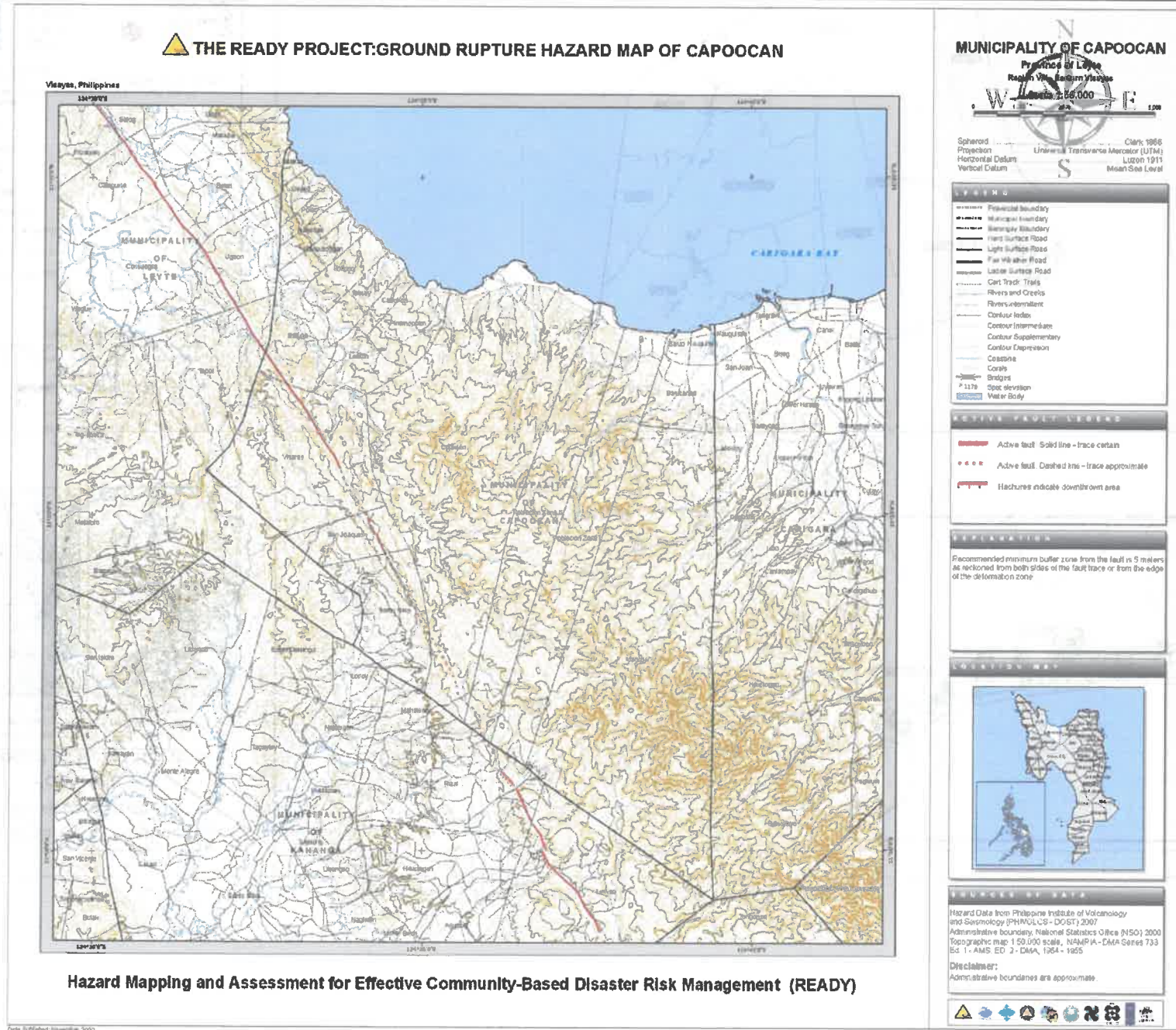


Figure 23: Urban Use Exposed to Flood Hazard

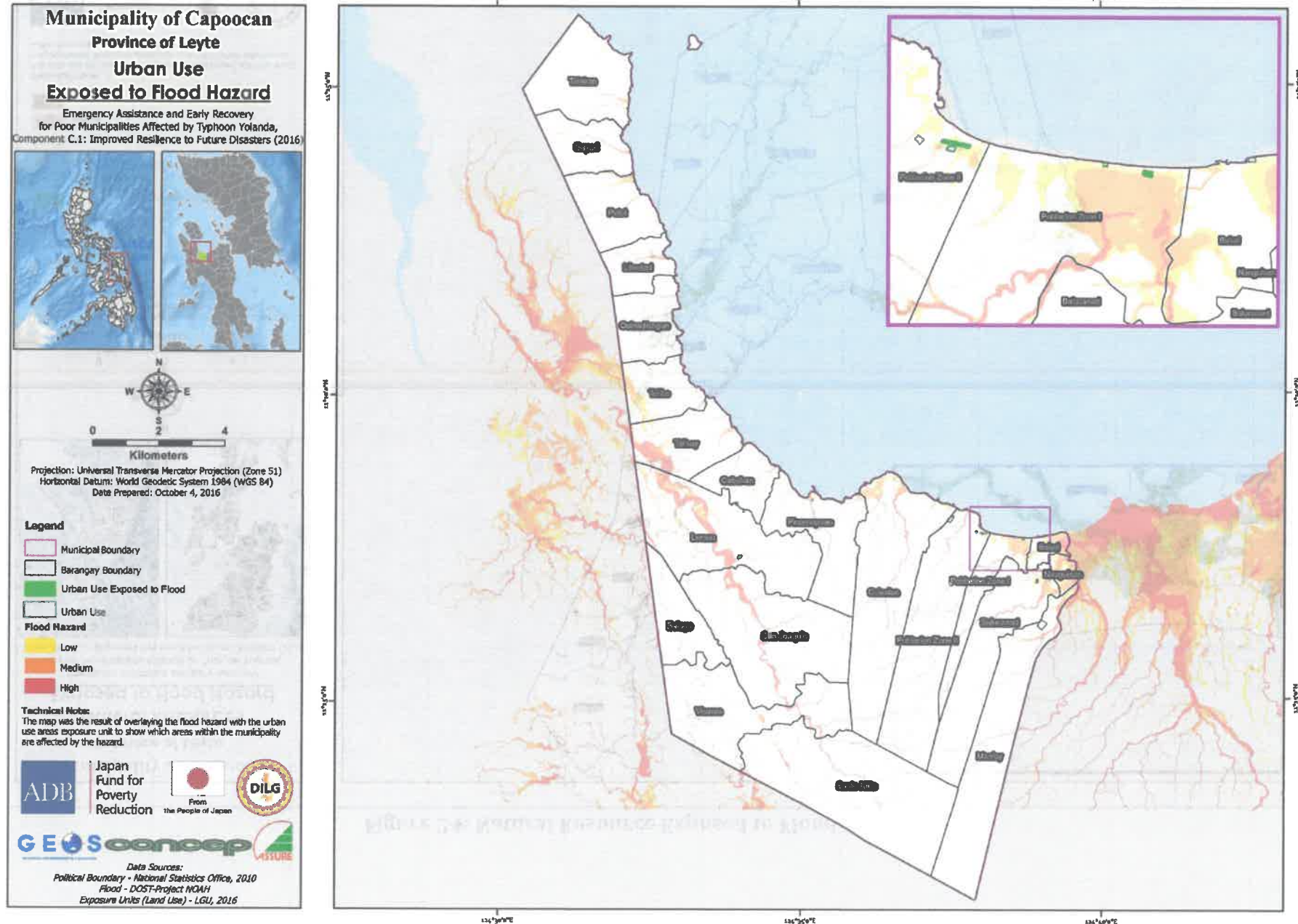


Figure 25: Critical Point Facilities Exposed to Flood Hazard

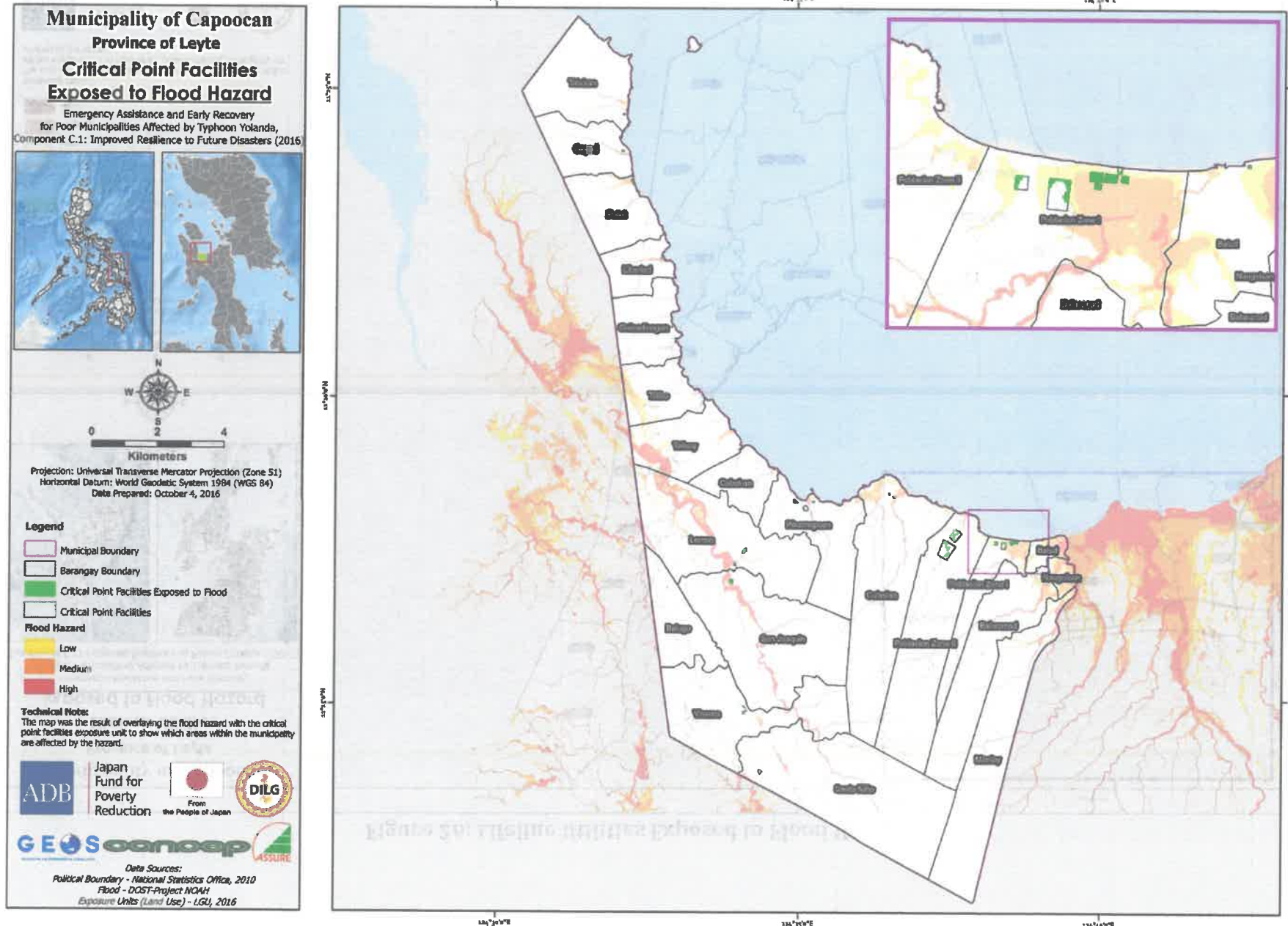





Figure 27: Population Exposed to Storm Surge Hazard





Municipality of Capoocan
Province of Leyte
Population Exposed to Storm Surge Hazard

Emergency Assistance and Early Recovery for Poor Municipalities Affected by Typhoon Yolanda, Component C.1: Improved Resilience to Future Disasters (2016)








Projection: Universal Transverse Mercator Projection (Zone 51)
 Horizontal Datum: World Geodetic System 1984 (WGS 84)
 Date Prepared: October 4, 2015

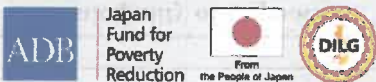

Legend

-  Municipal Boundary
-  Barangay Boundary
-  Population Exposed to Storm Surge
-  Population

Storm Surge Hazard

-  Low
-  Medium
-  High

Technical Note:
 The map was the result of overlaying the storm surge hazard with the population exposure unit to show which areas within the municipality are affected by the hazard.

Data Sources:
 Political Boundary - National Statistics Office, 2010
 Storm Surge - DOST-Project INOAH
 Exposure Units (Land Use) - LGU, 2016

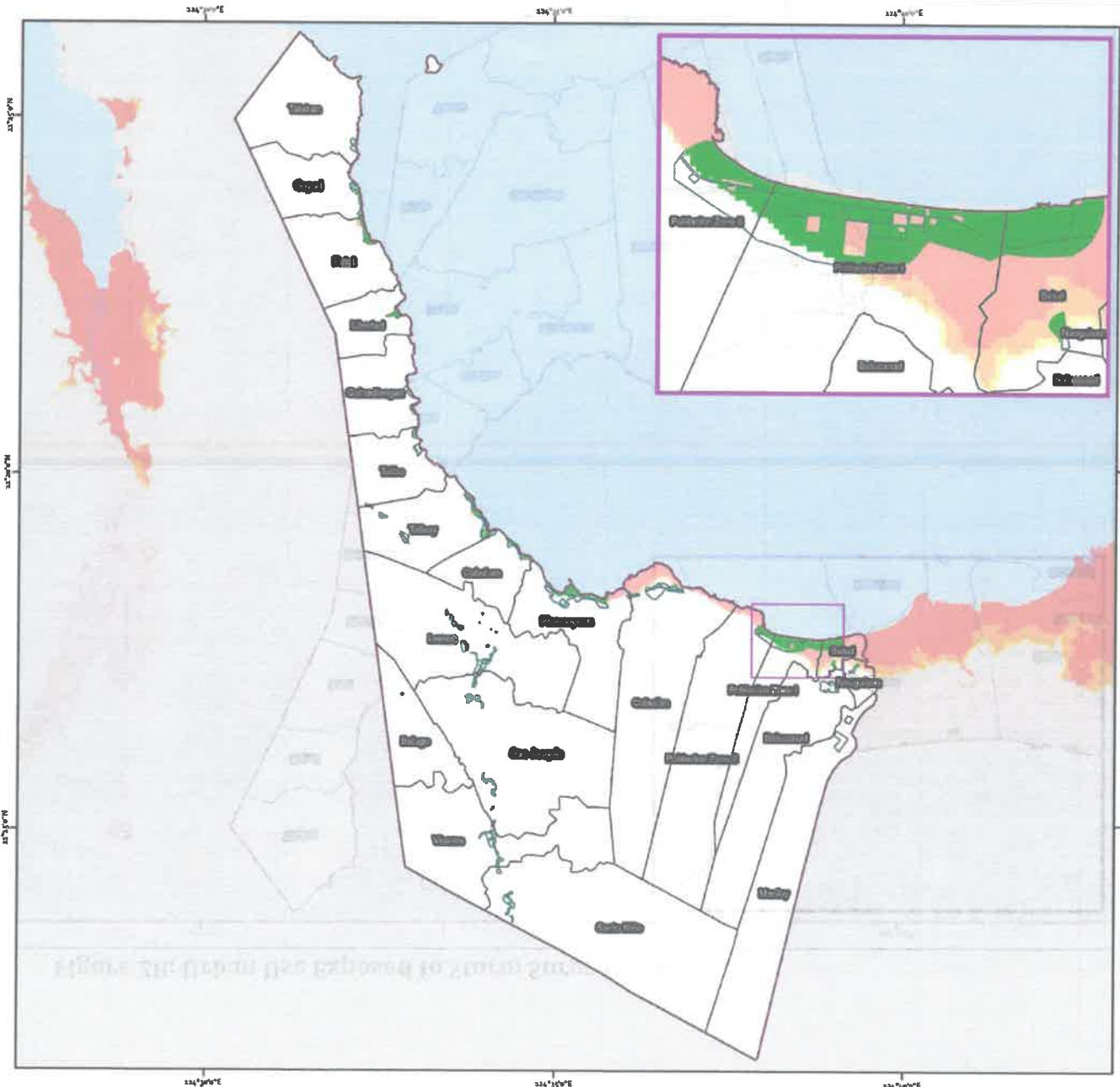


Figure 29: Natural Resource Exposed to Storm Surg Hazard

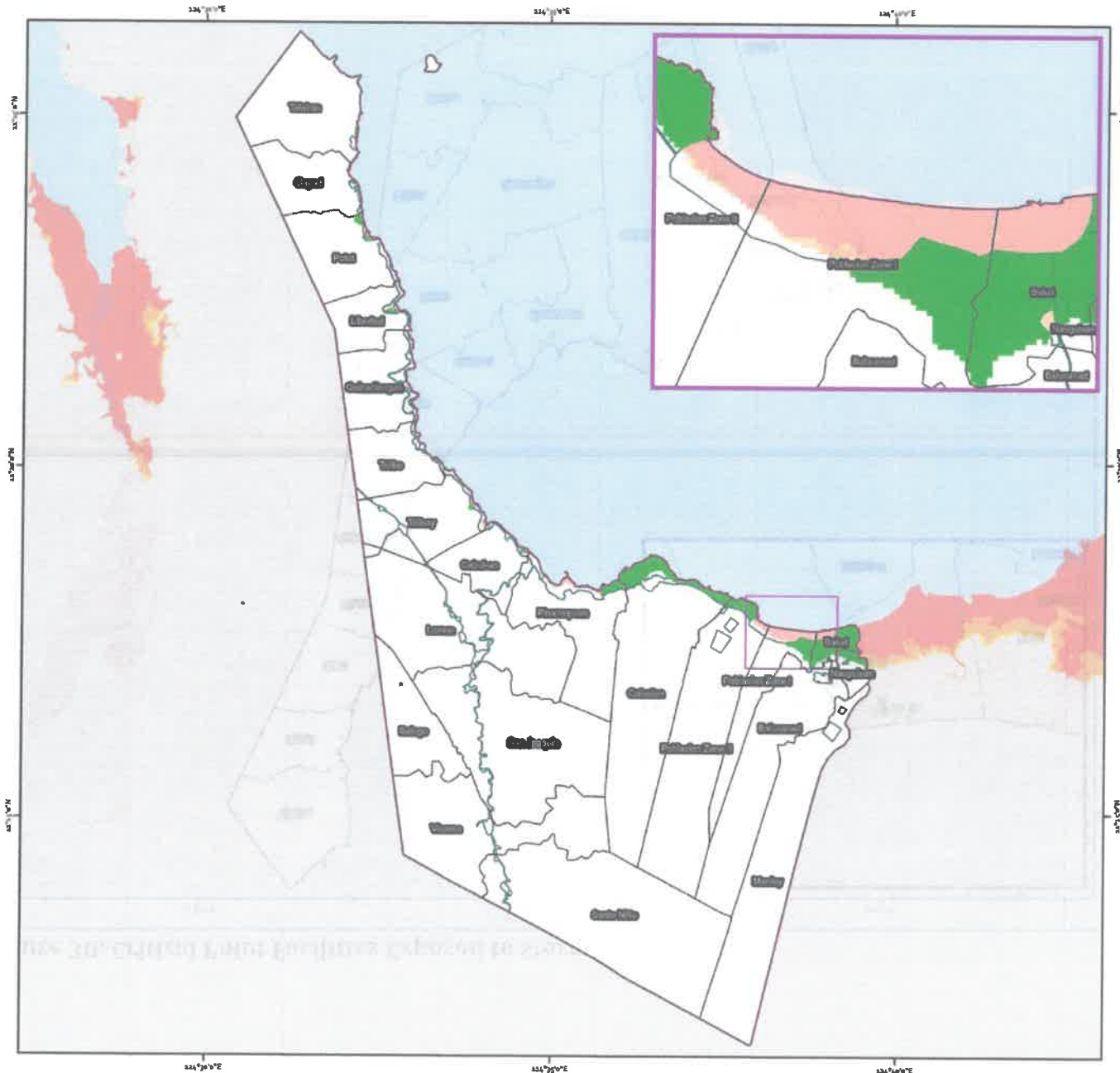
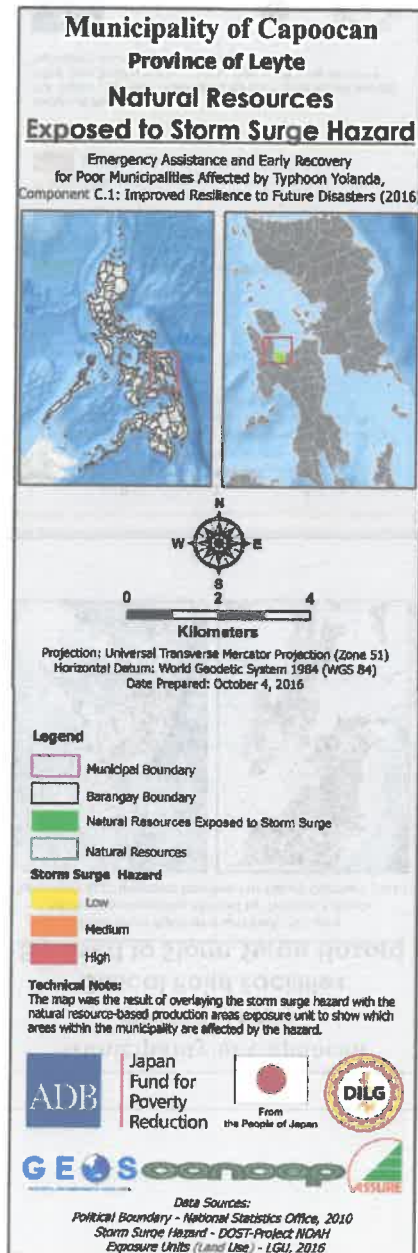


Figure 31: Lifeline Utilities Exposed to Storm Surge Hazard

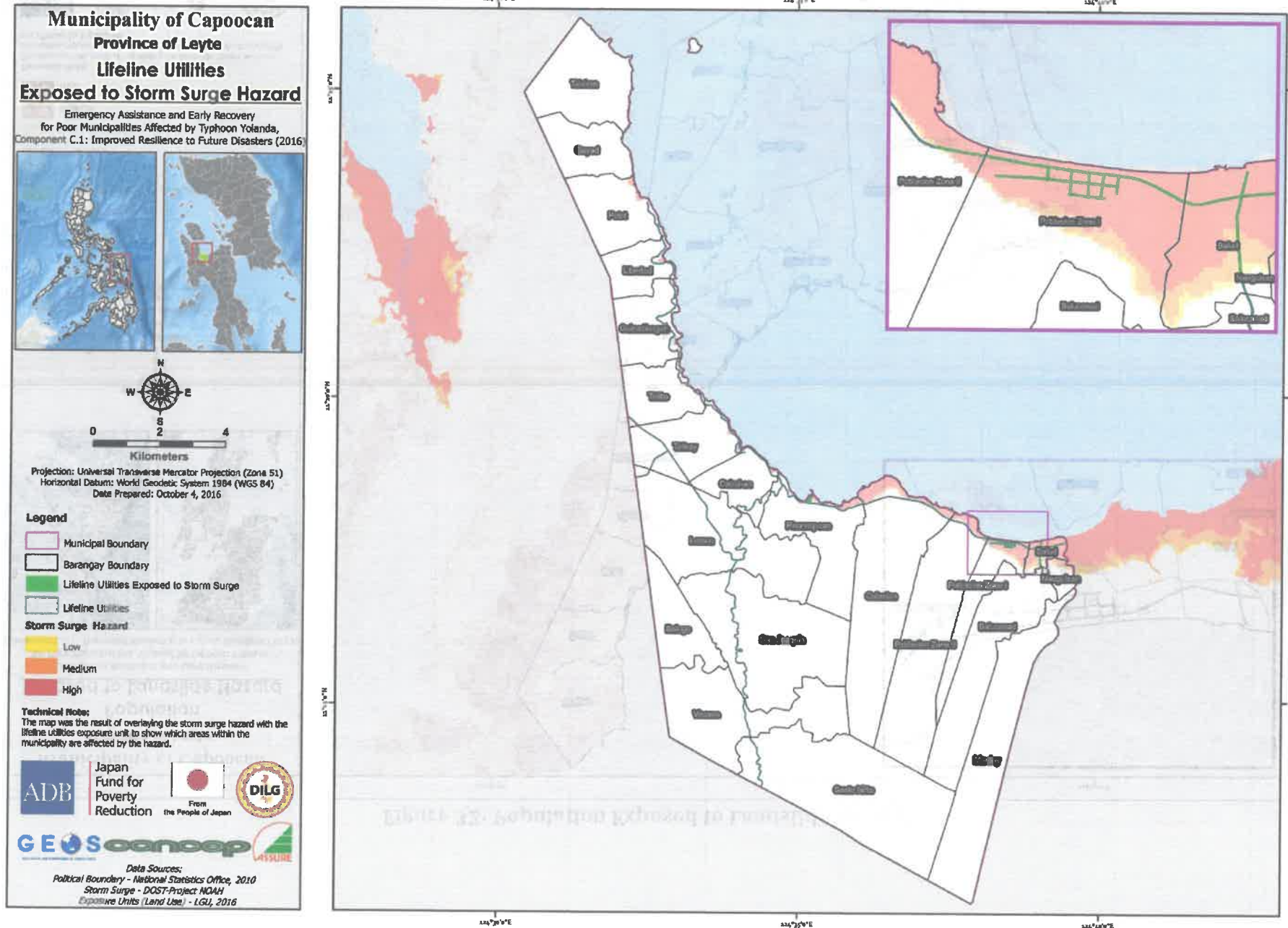


Figure 33: Urban Use Exposed to Landslide Hazard

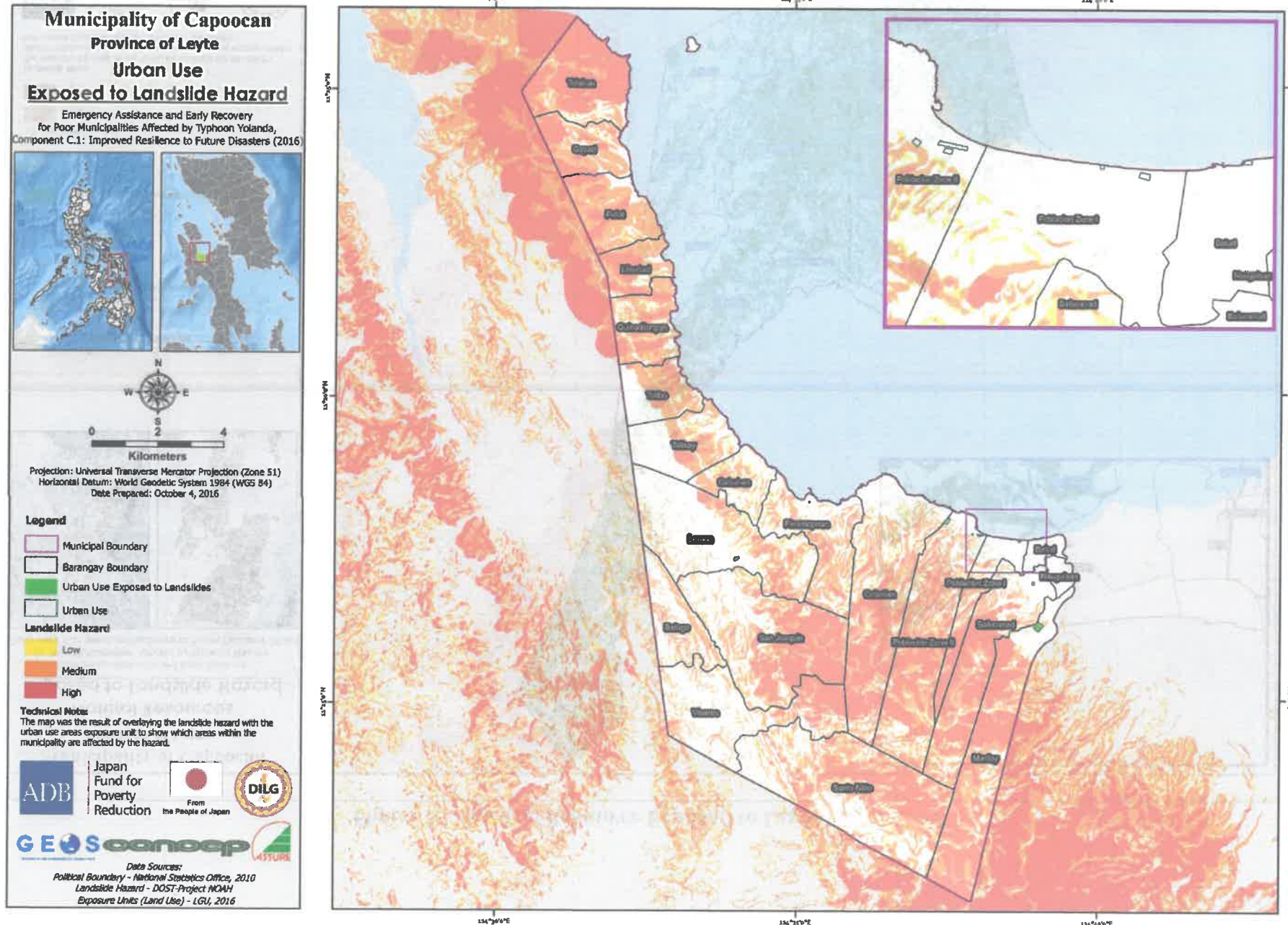


Figure 35: Critical Point Facilities Exposed to Landslide Hazard

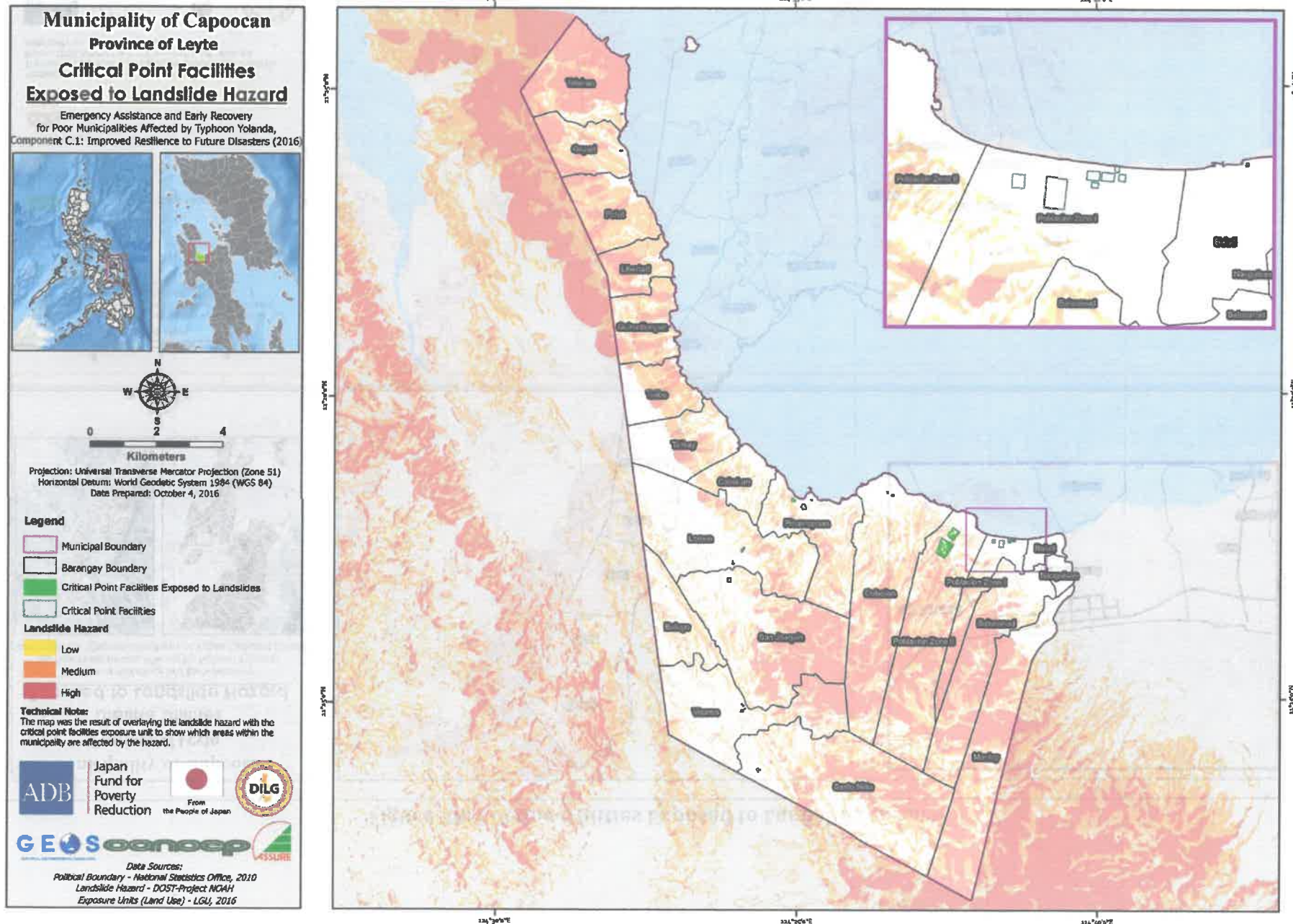


Figure 37: Exposure Unit Flood Vulnerability

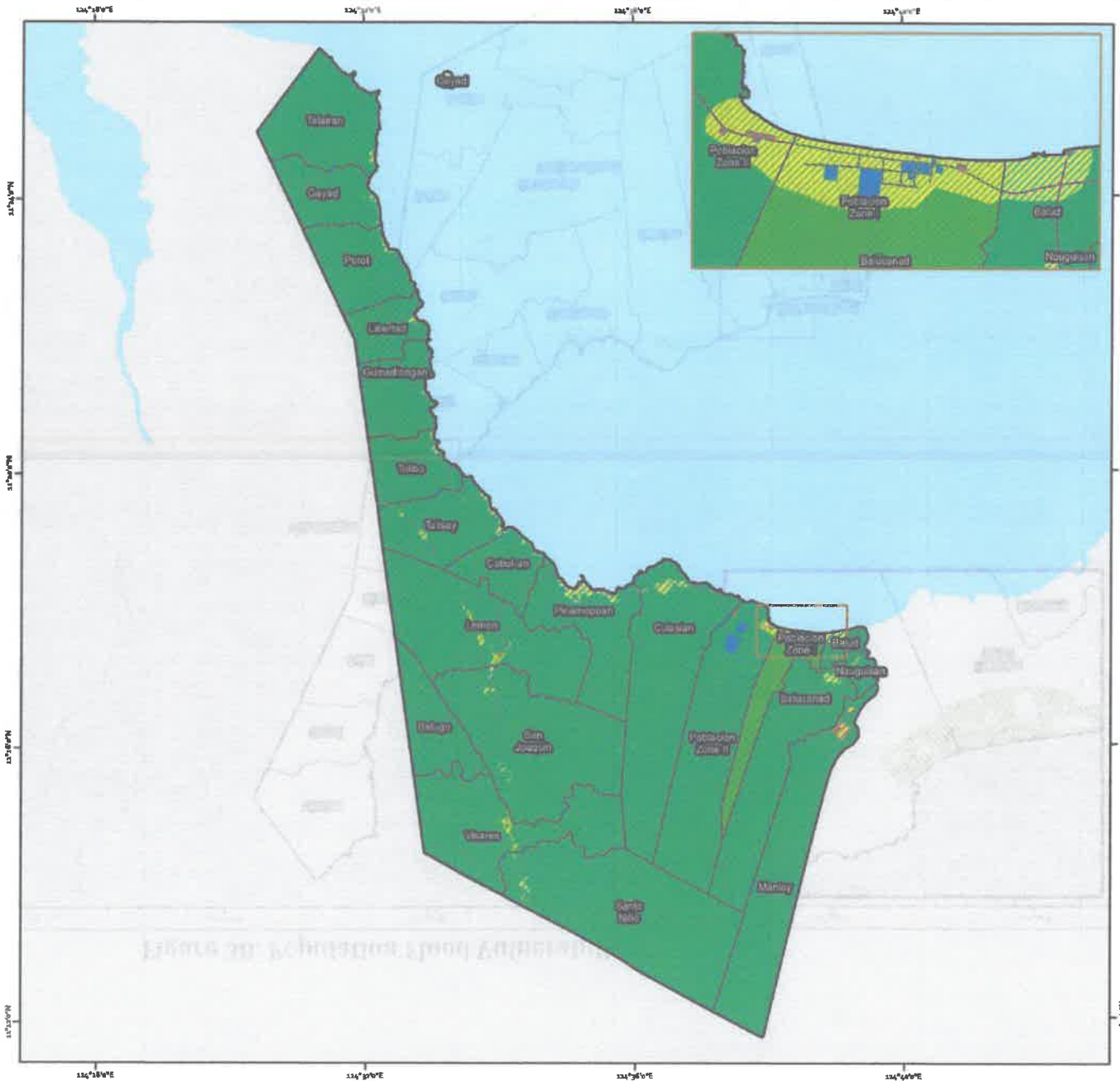
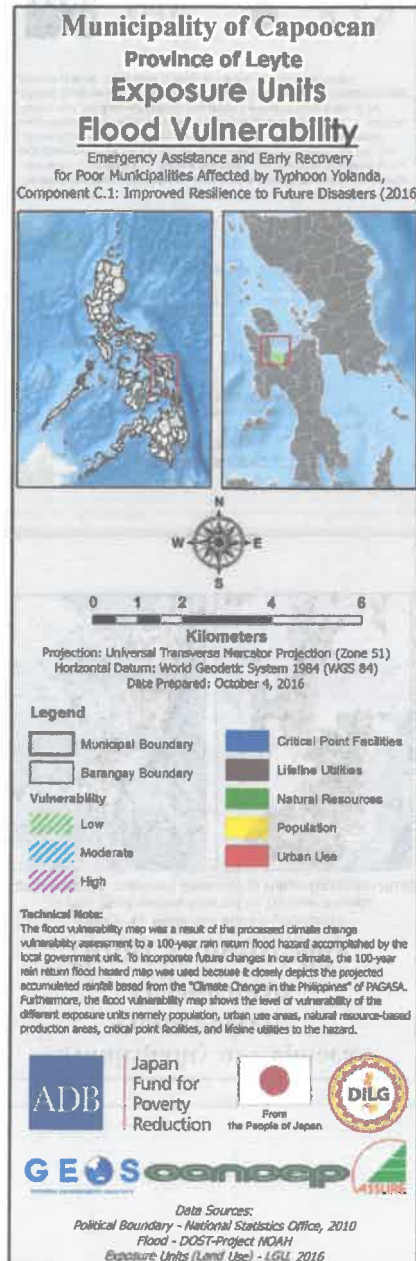


Figure 39: Urban Use Flood Vulnerability

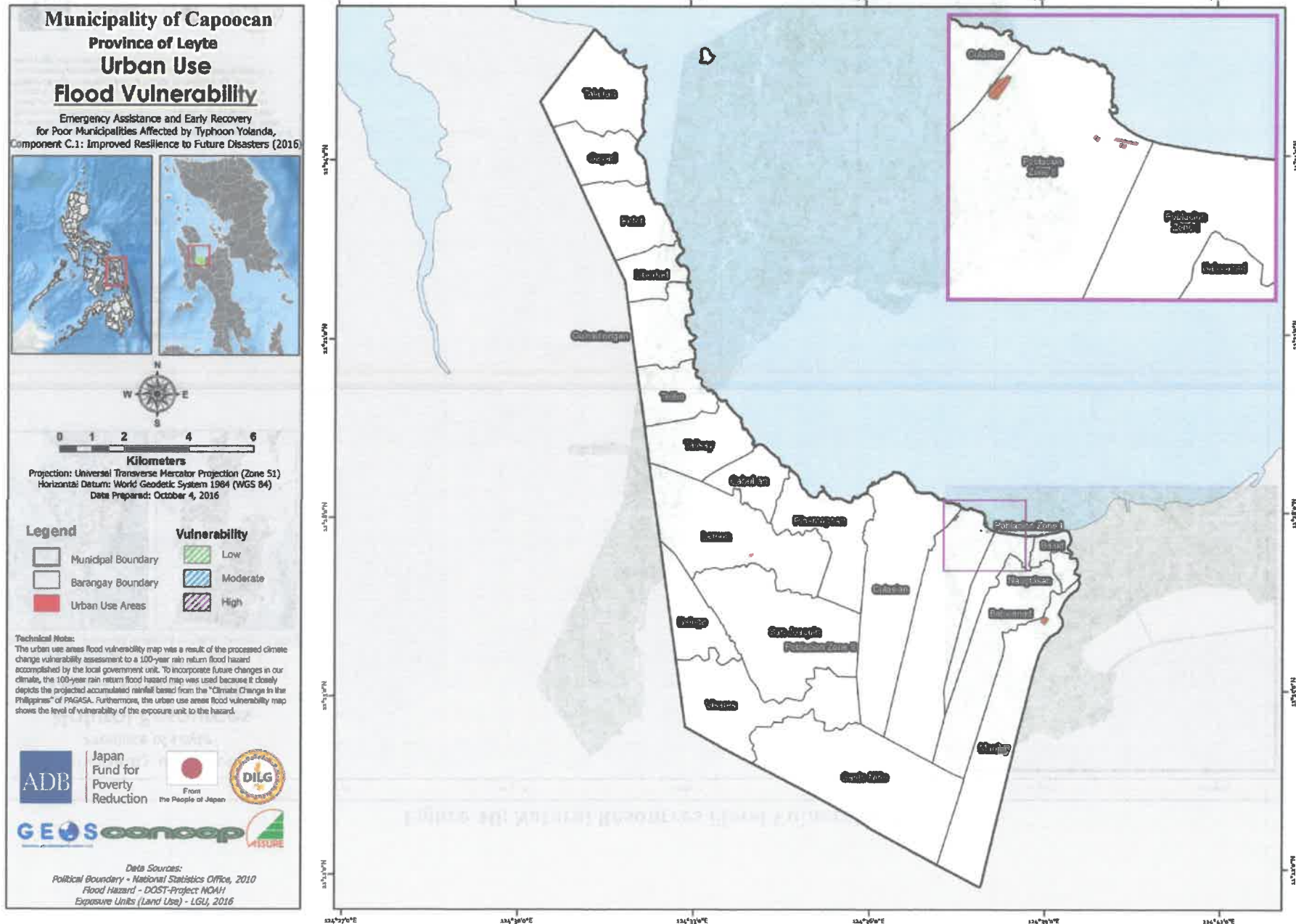


Figure 41: Critical Point Facilities Flood Vulnerability

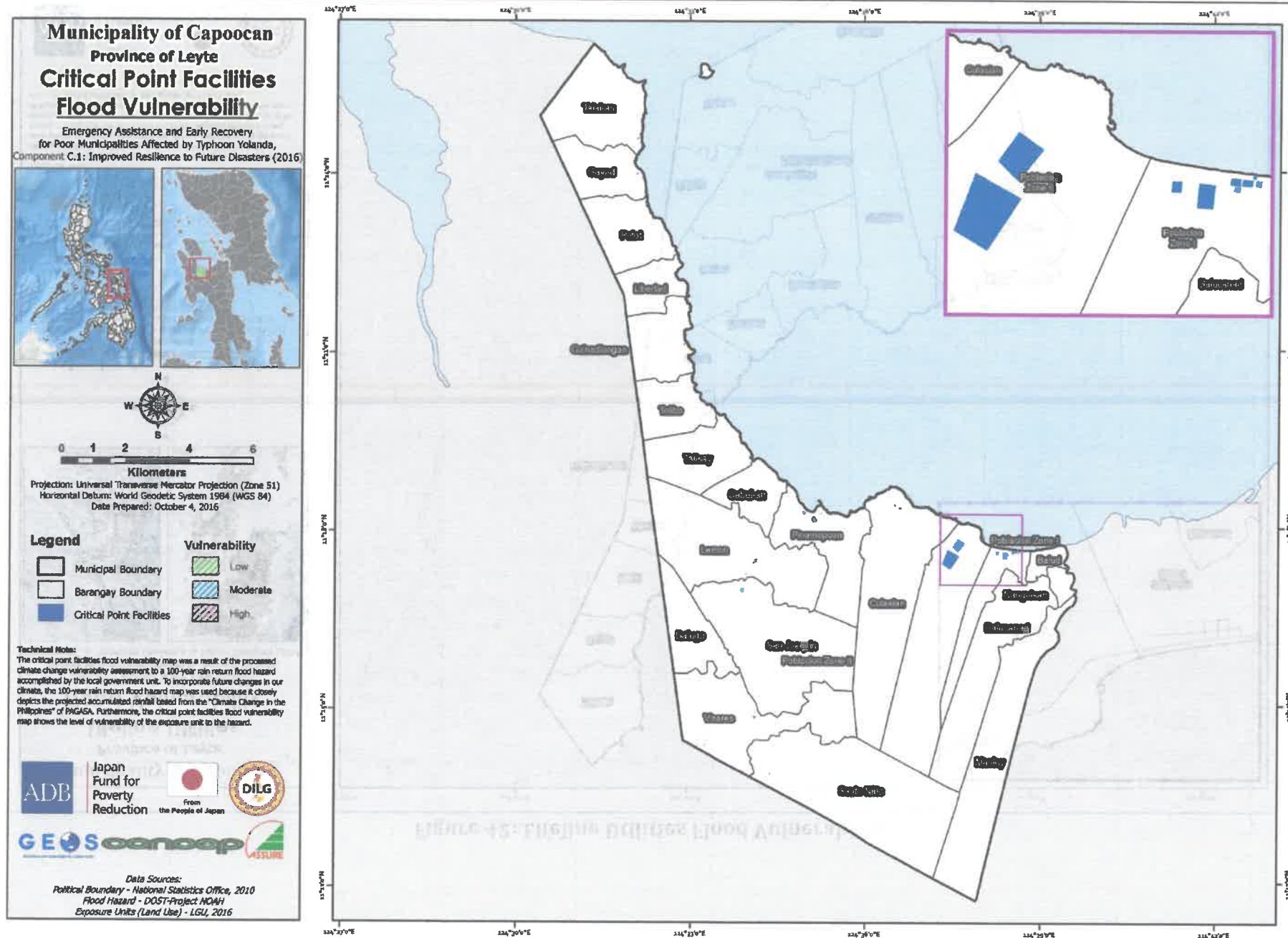


Figure 43: Exposure Unit Storm Surge Vulnerability

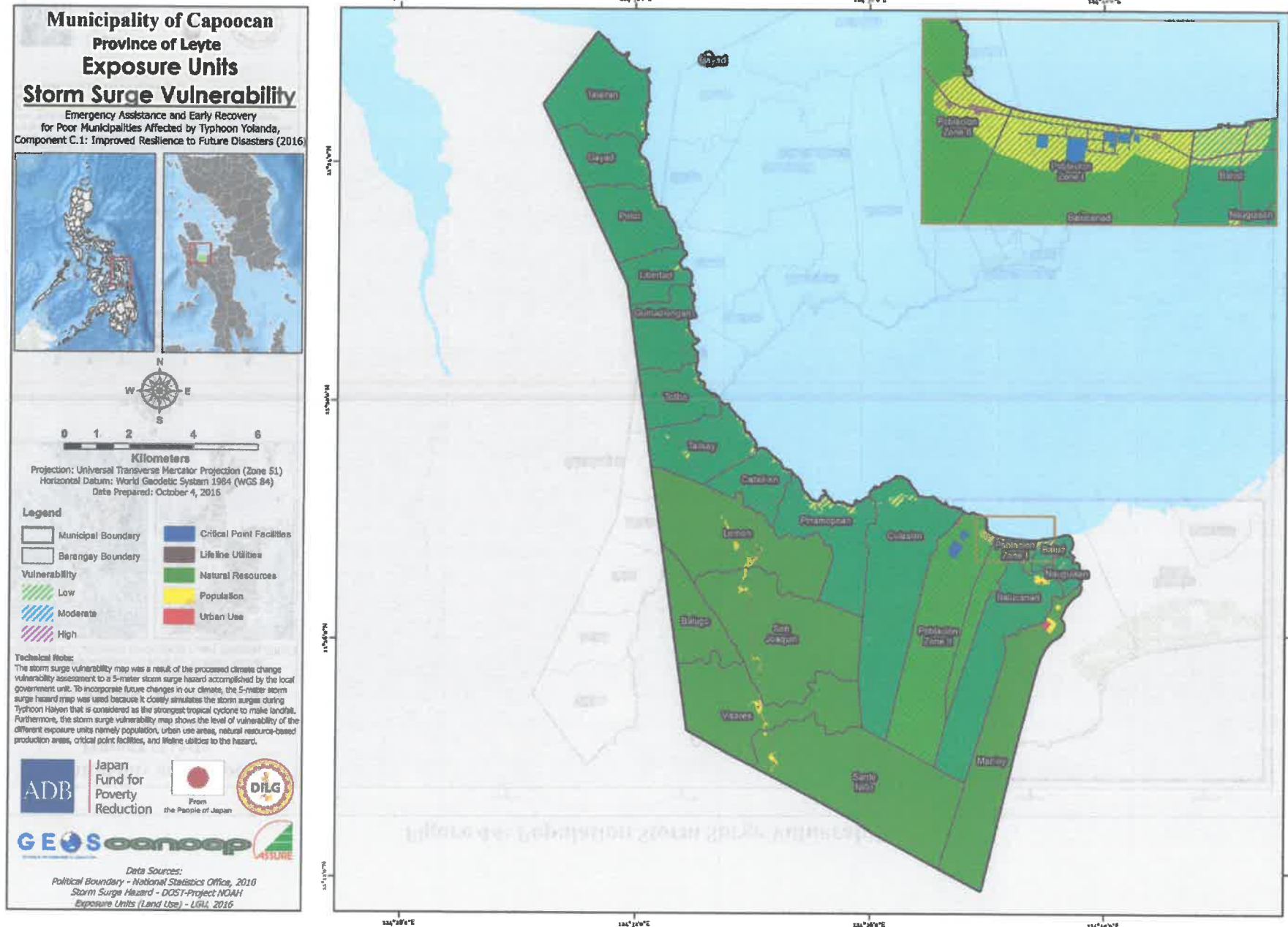






Figure 45: Urban Use Storm Surge Vulnerability

Municipality of Capocan
Province of Leyte
Urban Use
Storm Surge Vulnerability



Emergency Assistance and Early Recovery
 for Poor Municipalities Affected by Typhoon Yolanda,
 Component C.1: Improved Resilience to Future Disasters (2016)

Projection: Universal Transverse Mercator Projection (Zone 51)
 Horizontal Datum: World Geodetic System 1984 (WGS 84)
 Date Prepared: October 4, 2016

Legend		Vulnerability	
	Municipal Boundary		Low
	Barangay Boundary		Moderate
	Urban Use Areas		High

Technical Note:
 The urban use storm surge vulnerability map was a result of the processed climate change vulnerability assessment to a 5-meter storm surge hazard accomplished by the local government unit. To incorporate future changes in our climate, the 5-meter storm surge hazard map was used because it closely simulates the storm surges during Typhoon Haiyan that is considered as the strongest tropical cyclone to make landfall. Furthermore, the urban use areas storm surge vulnerability map shows the level of vulnerability of the exposure unit to the hazard.

Data Sources:
 Political Boundary - National Statistics Office, 2010
 Storm Surge Hazard - DOST-Project NCAH
 Exposure Units (Land Use) - LGU, 2016

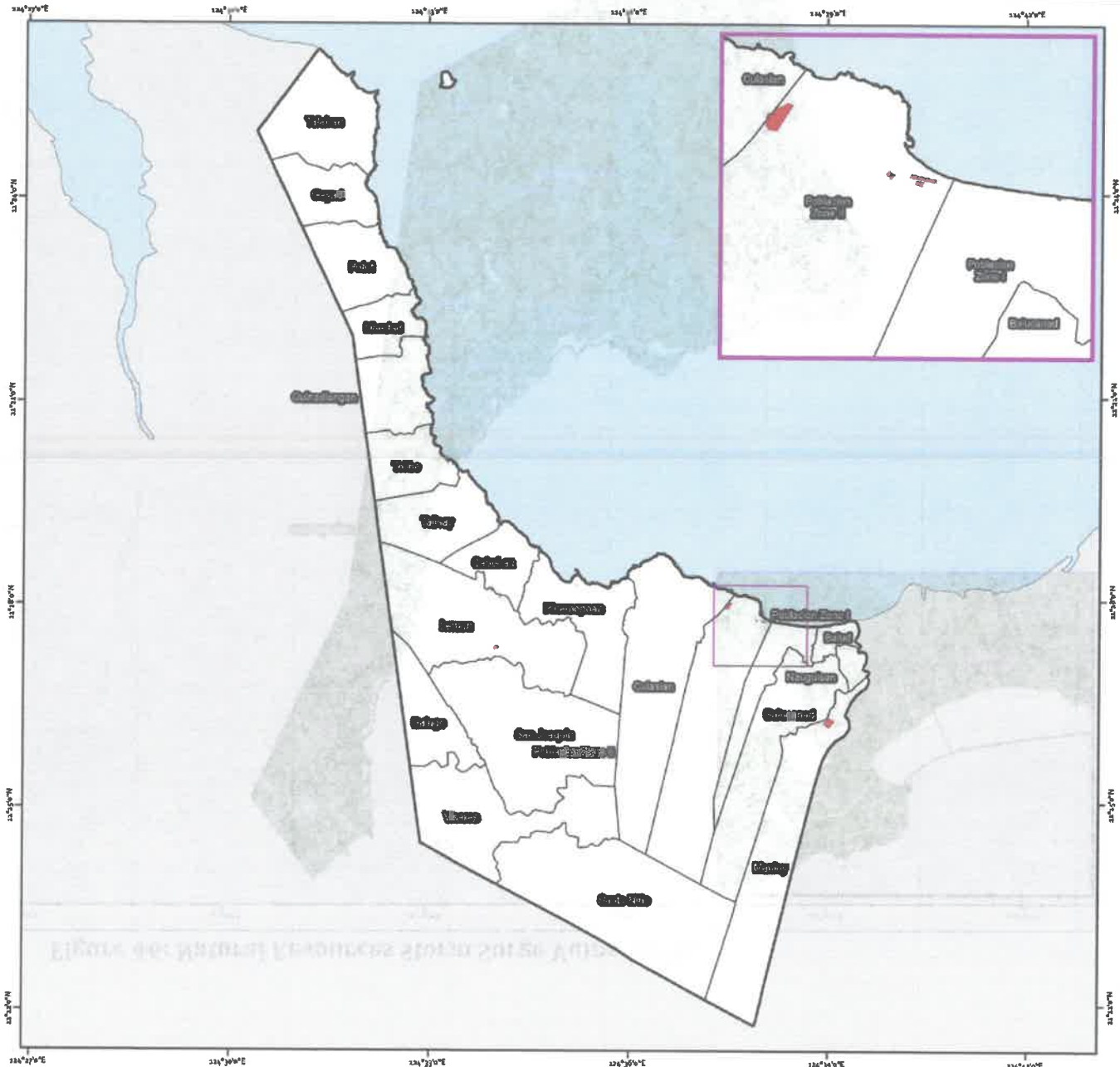


Figure 47: Critical Point Facilities Storm Surge Vulnerability

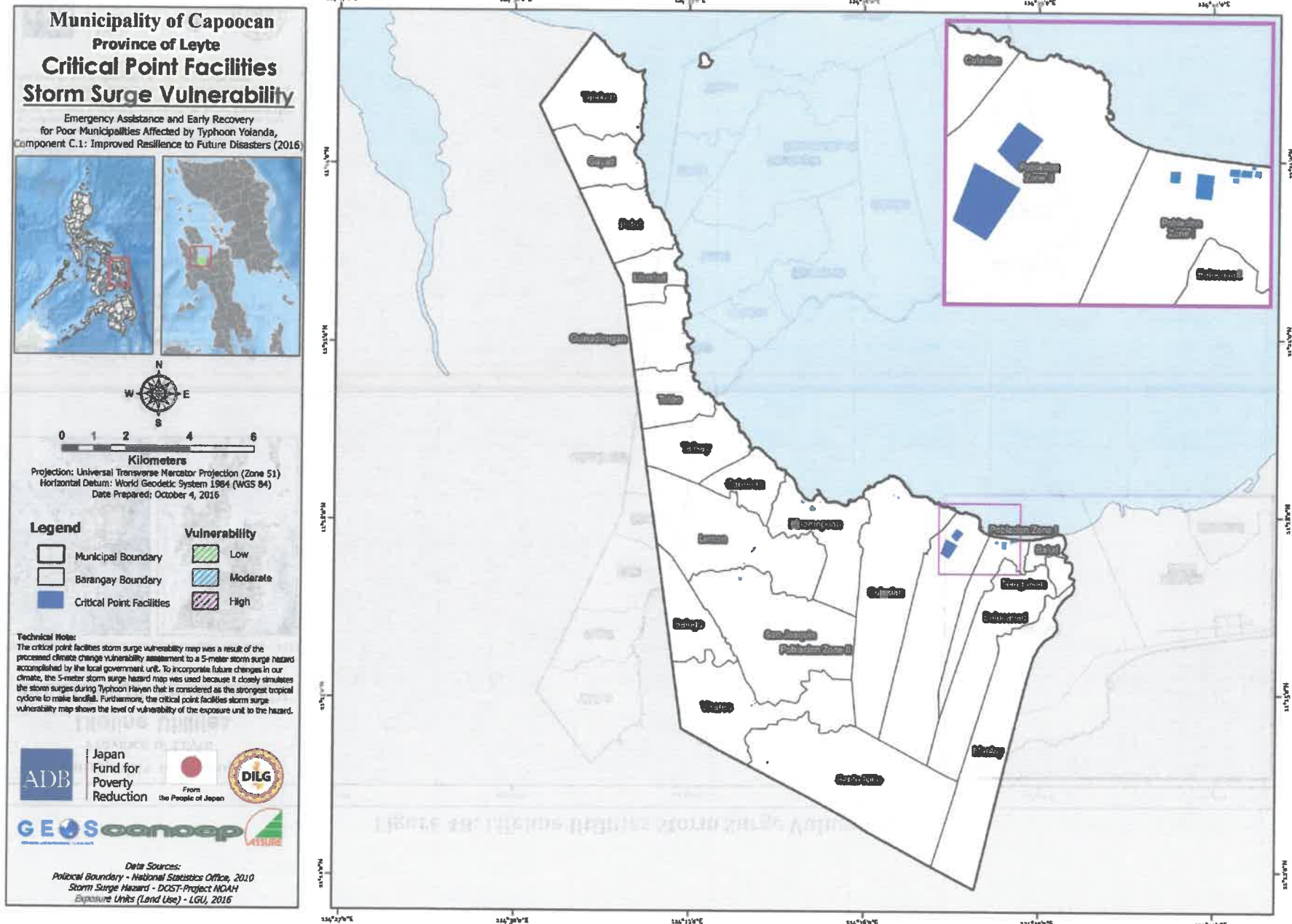


Figure 49: Exposure Unit Landslide Vulnerability

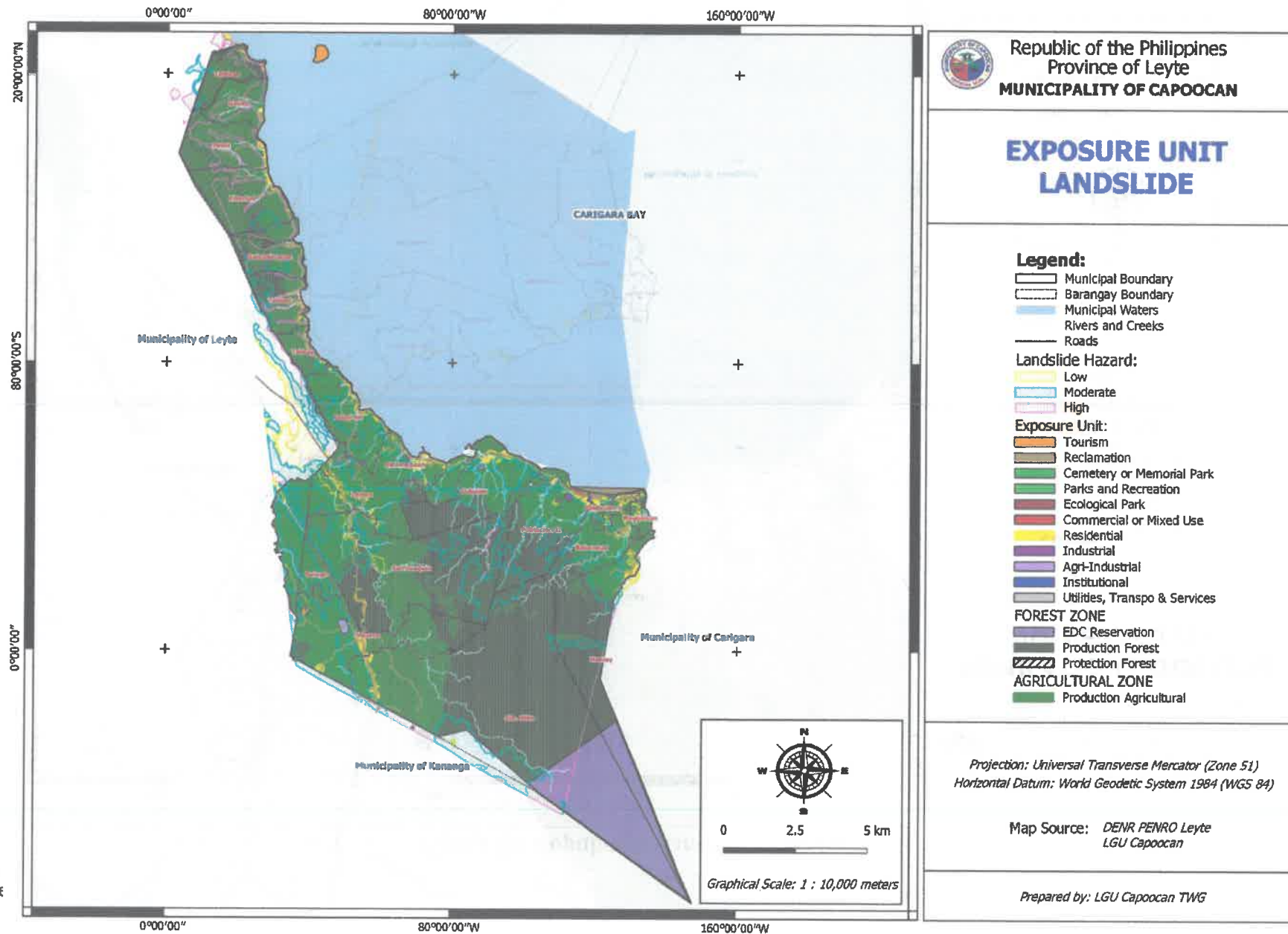


Figure 51: Urban Use Landslide Vulnerability

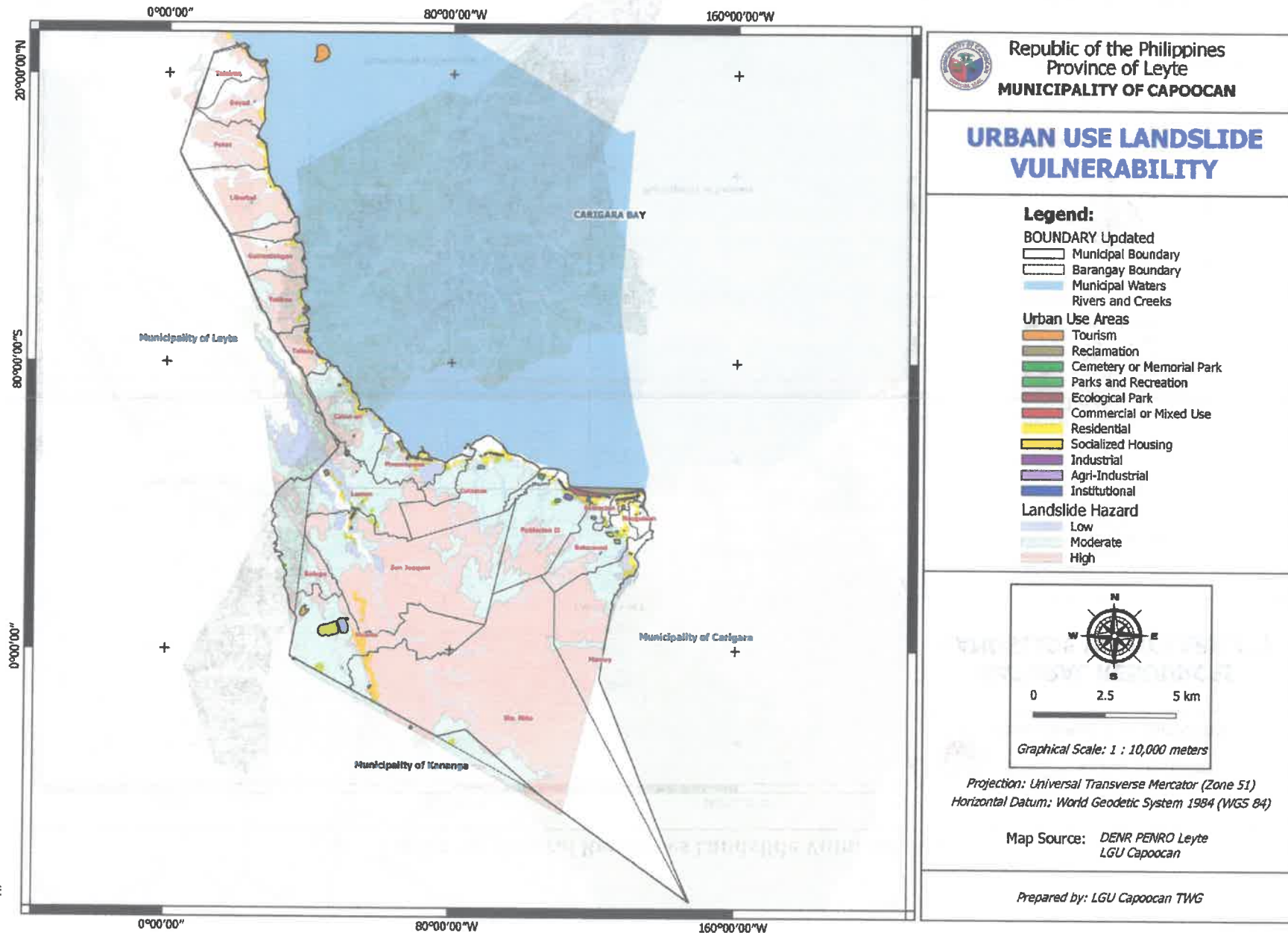


Figure 53: Critical Point Facilities Landslide Vulnerability

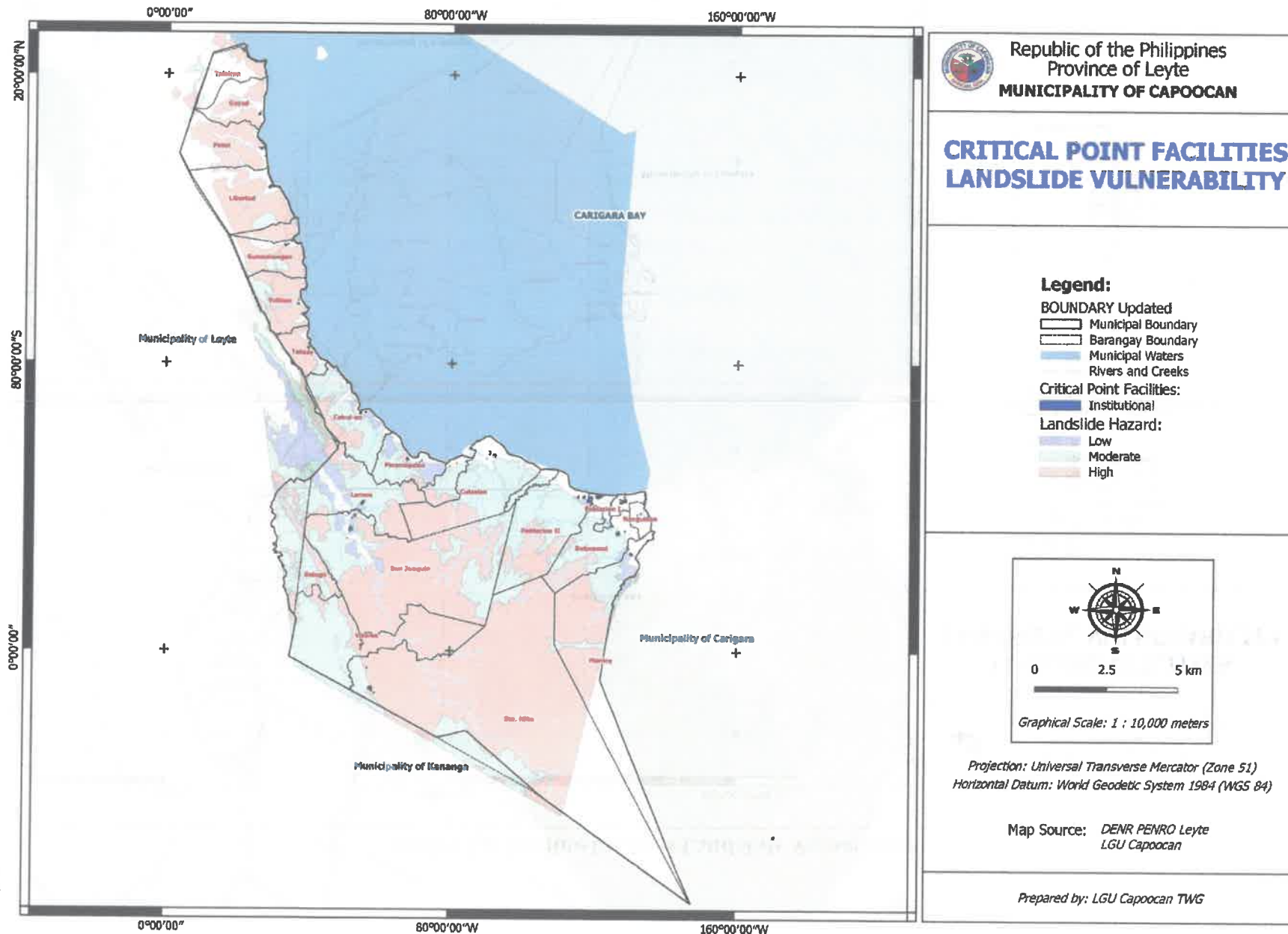


Figure 55: Population Risk to Flood Hazard

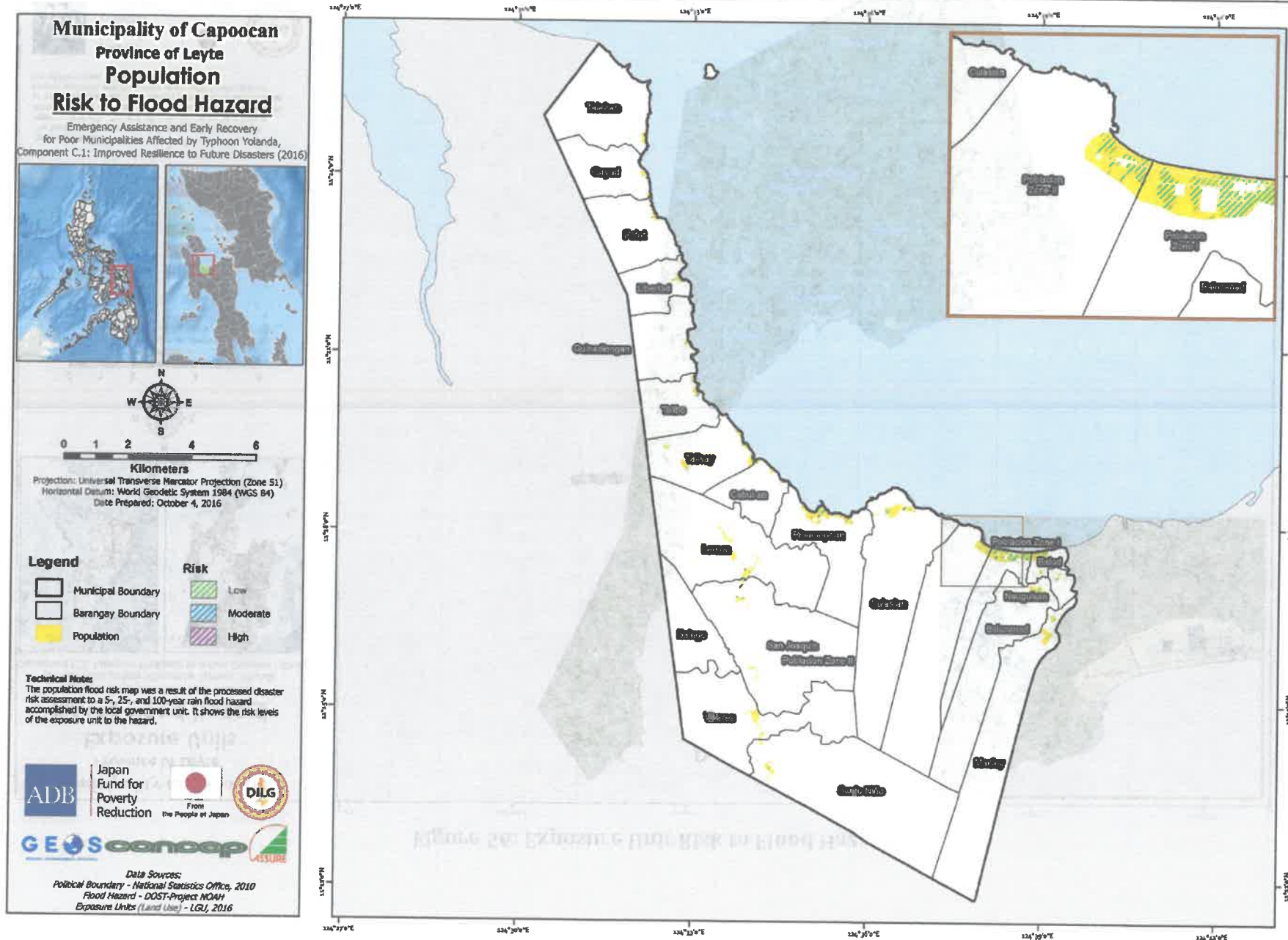


Figure 57: Urban Use Risk to Flood Hazard

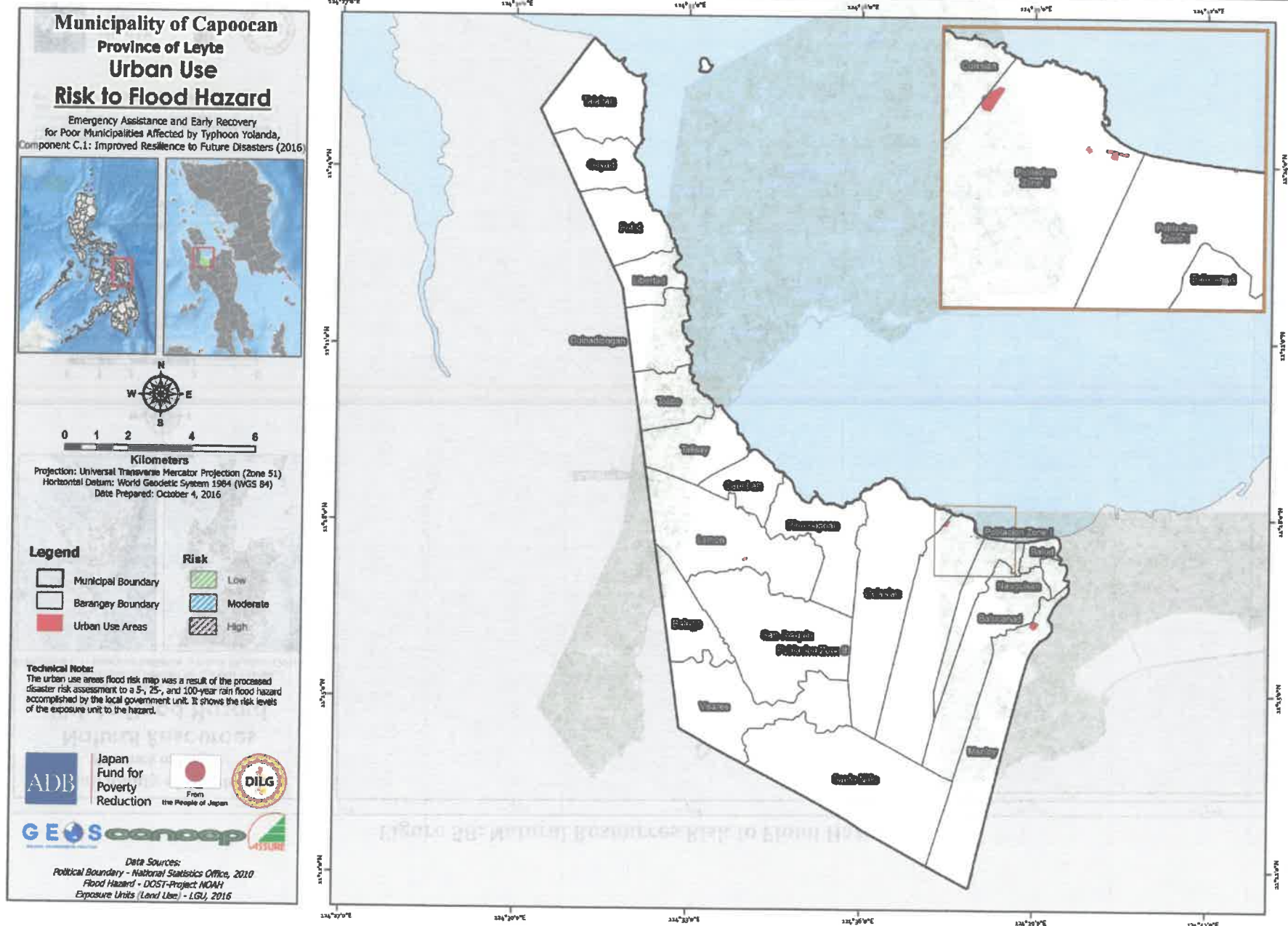


Figure 59: Critical Point Facilities Risk to Flood Hazard

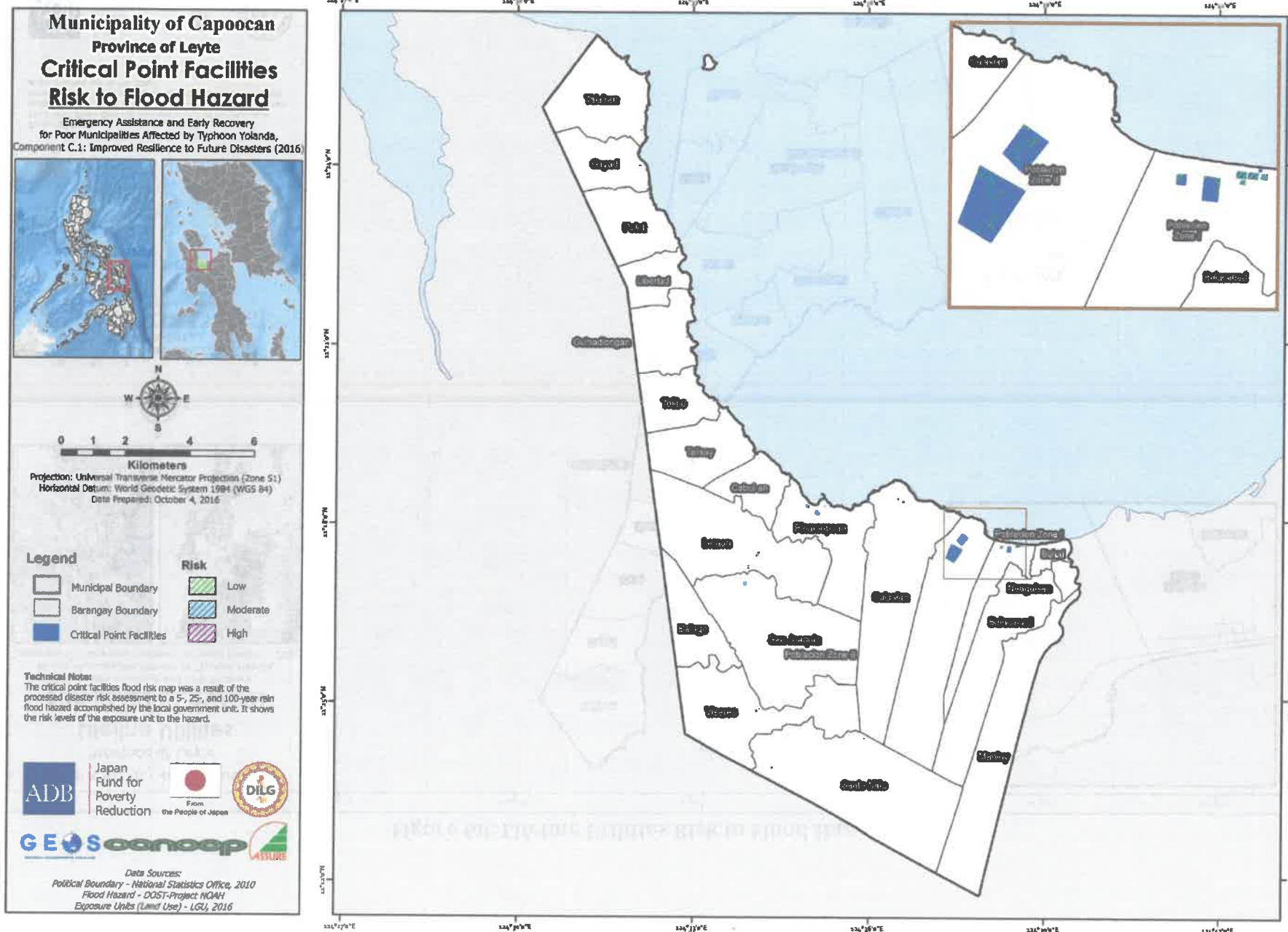


Figure 61: Population Risk to Landslide Hazard

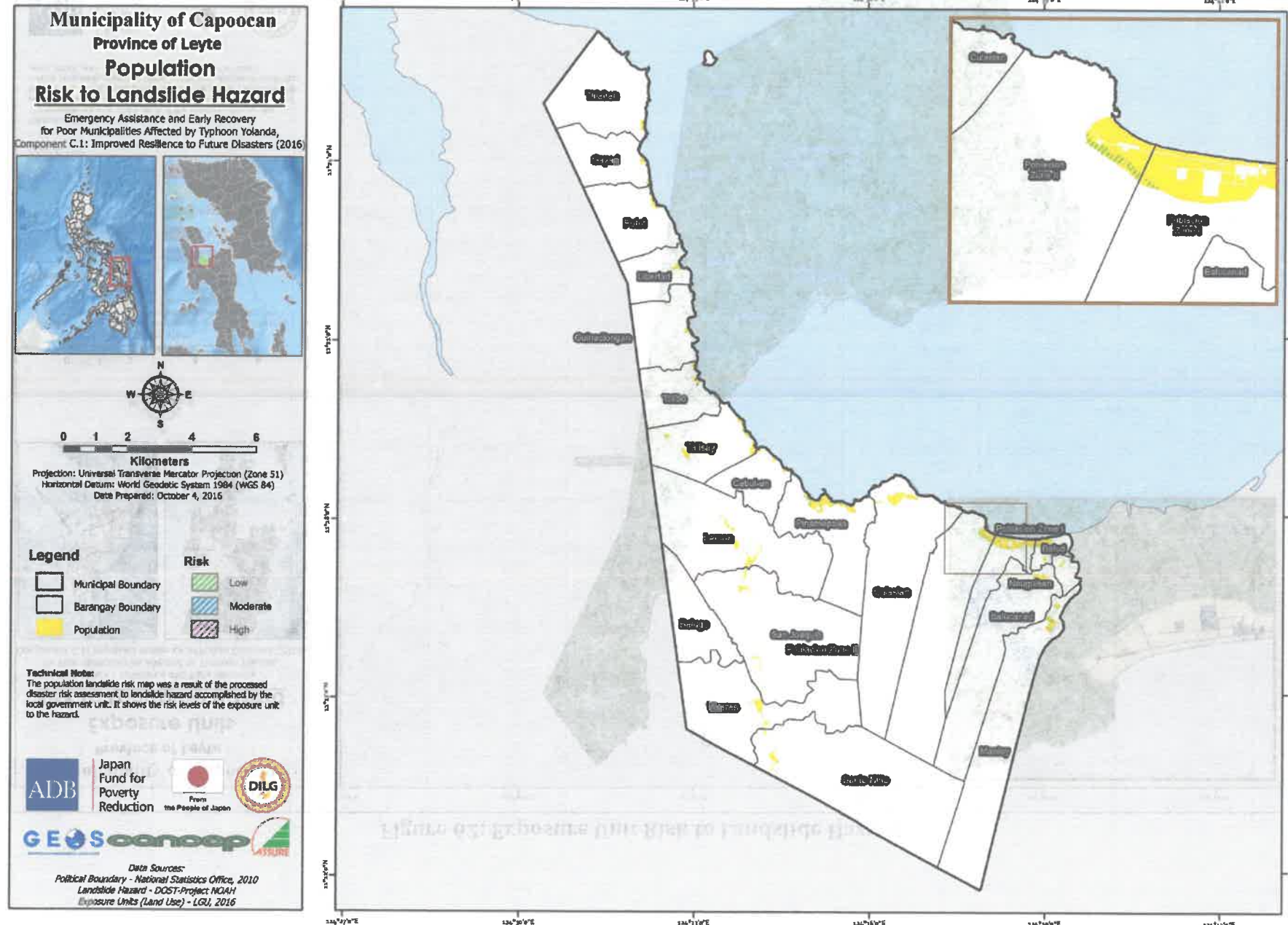


Figure 63: Urban Use Risk to Landslide Hazard

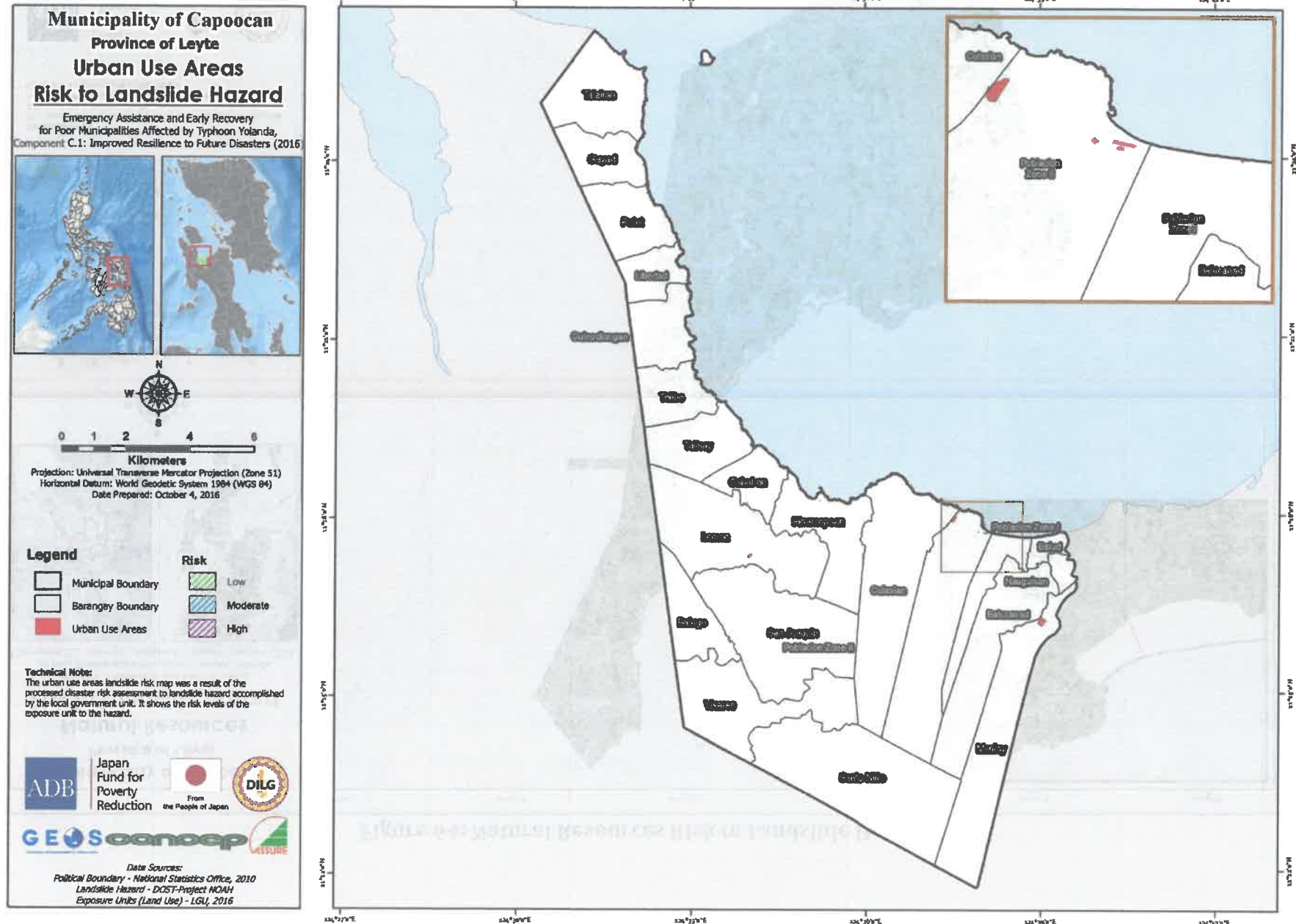


Figure 65: Critical Point Facilities Risk to Landslide Hazard

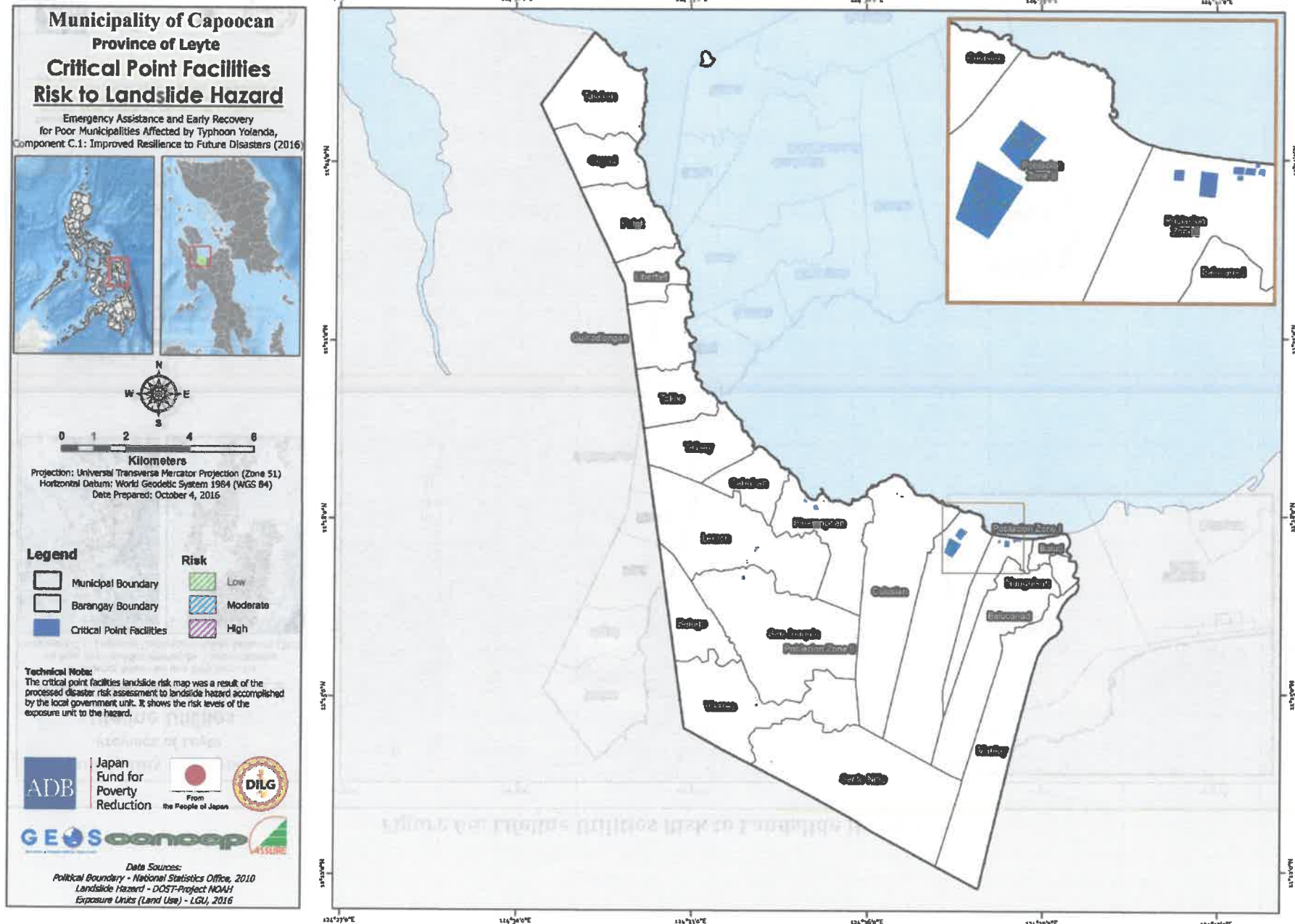


Figure 67: Population Risk to Storm Surge Hazard

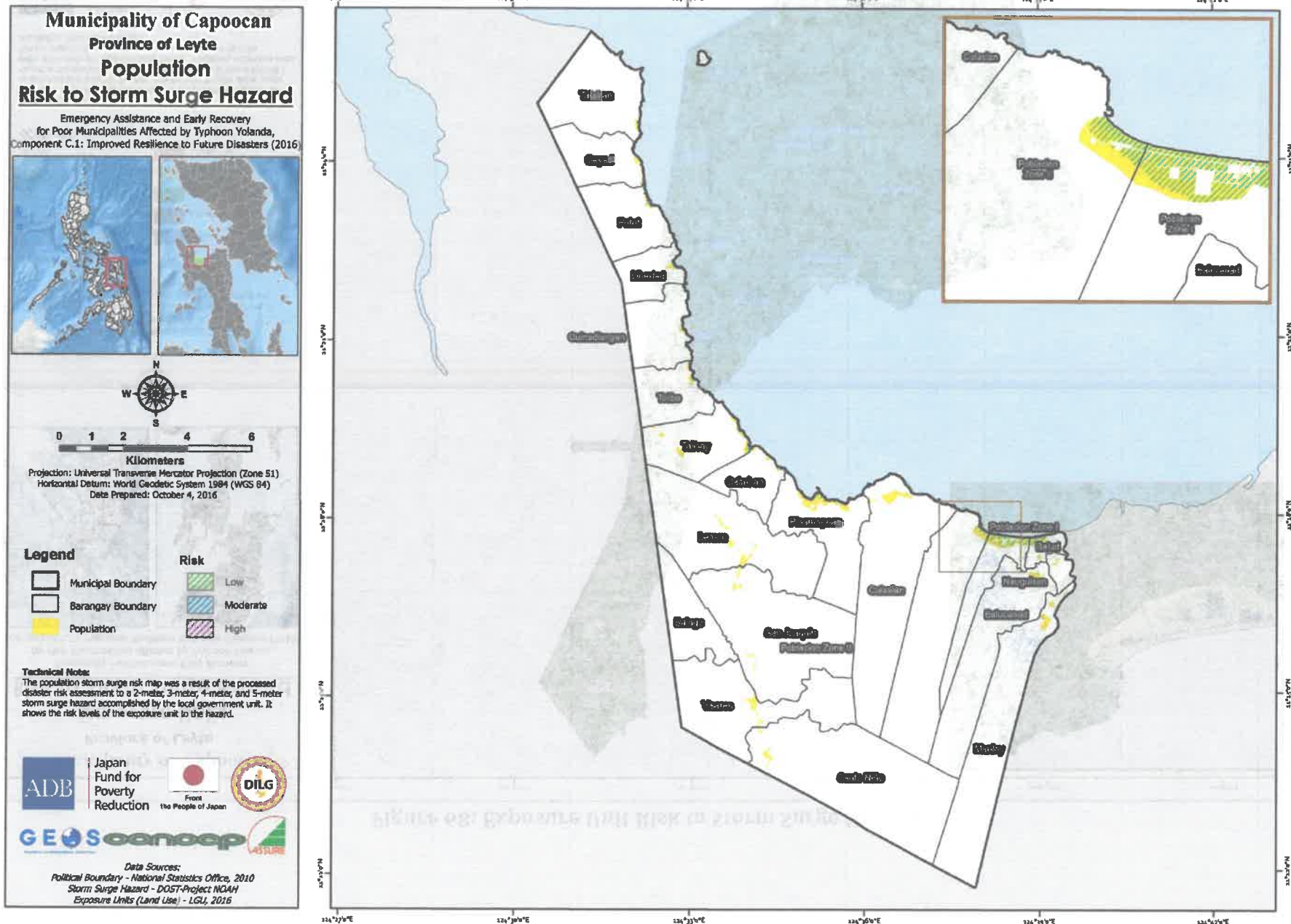


Figure 69: Urban Use Risk to Storm Surge Hazard

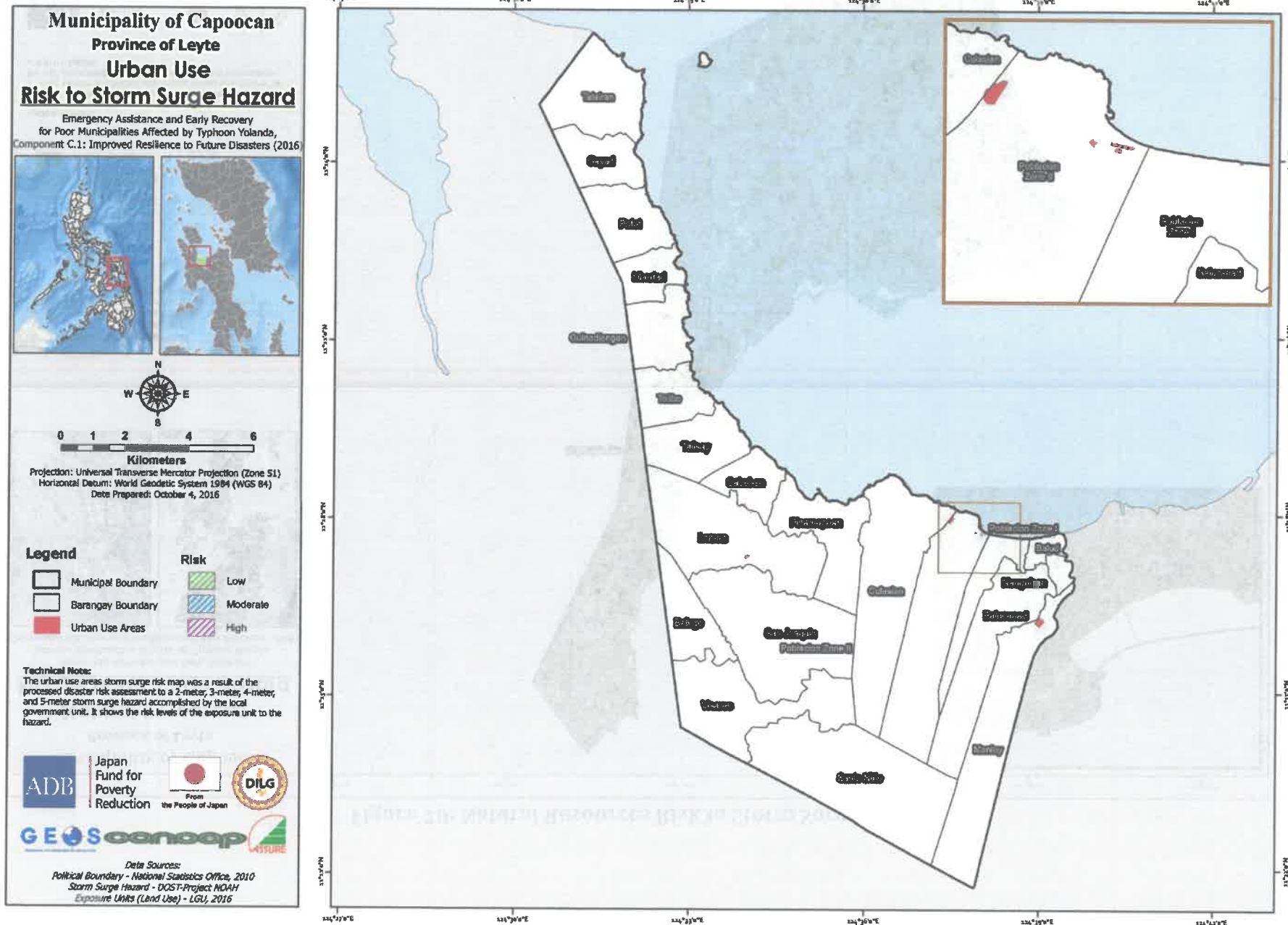
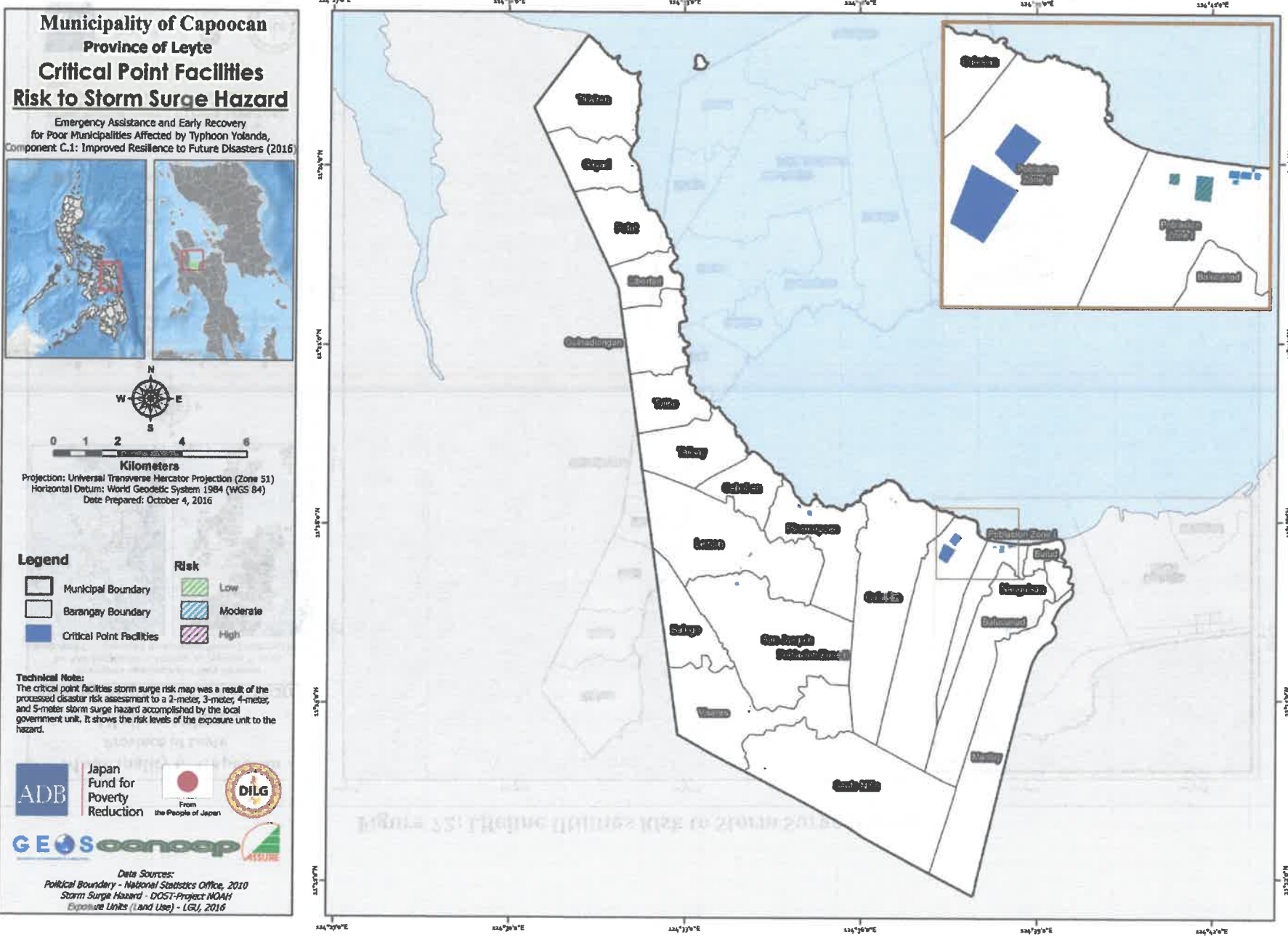


Figure 71: Critical Point Facilities Risk to Storm Surge Hazard



F. EXISTING LAND USE

The total land area of the Municipality of Capoocan is 18,540 hectares. It is subdivided according to classification into upland forest, coastal forest, grass/shrub lands, agricultural land and built-up areas. The largest expanse of the land comprising 91 percent of its total area is open space. This makes the place a rural municipality.

By classification, the portion where infrastructure, like roads, residential houses and other buildings concentrate, or the built up area, covers only nine percent of the total land area or 1,788 hectares. Land classified as agricultural comprises the biggest portion with an area of 6,610 hectares or 36 percent of total land area. Upland forest follows second with an area 6,243 hectares or 34 percent of total land area. Grassland or shrub land also covers a big portion with an area of 3,149 hectares or 17 percent of total land area.

The municipal land distribution according to classification shows the proportion of countryside to built-up area as 9 to 1. The quite insignificant degree of urban development and dominance of portions yet under various vegetative cover define the rural character of Capoocan. Its built-up space may have expanded with new housing in the town proper and settlements clustered along the rest of the 18 barangays, but its still minimal level of urbanization pales before the overwhelmingly vast portion of surrounding countryside. Even only the area's shrub land, for instant, is already almost twice the size of the two urban barangays combined.

The next set of data details the distribution of land of the whole municipality by classification, area and percentage.

Table 51: Current Land Classification, Area and Percentage of the Municipality

CLASSIFICATION	Area (Hectares)	Percentage (%)
A&D	7,326.74	50.60
Timberland/Forestland	7,152.07	49.40
Mangrove Area	39.00	0.27
TOTAL	14,478.81	100.00

Source of Data: MPDO

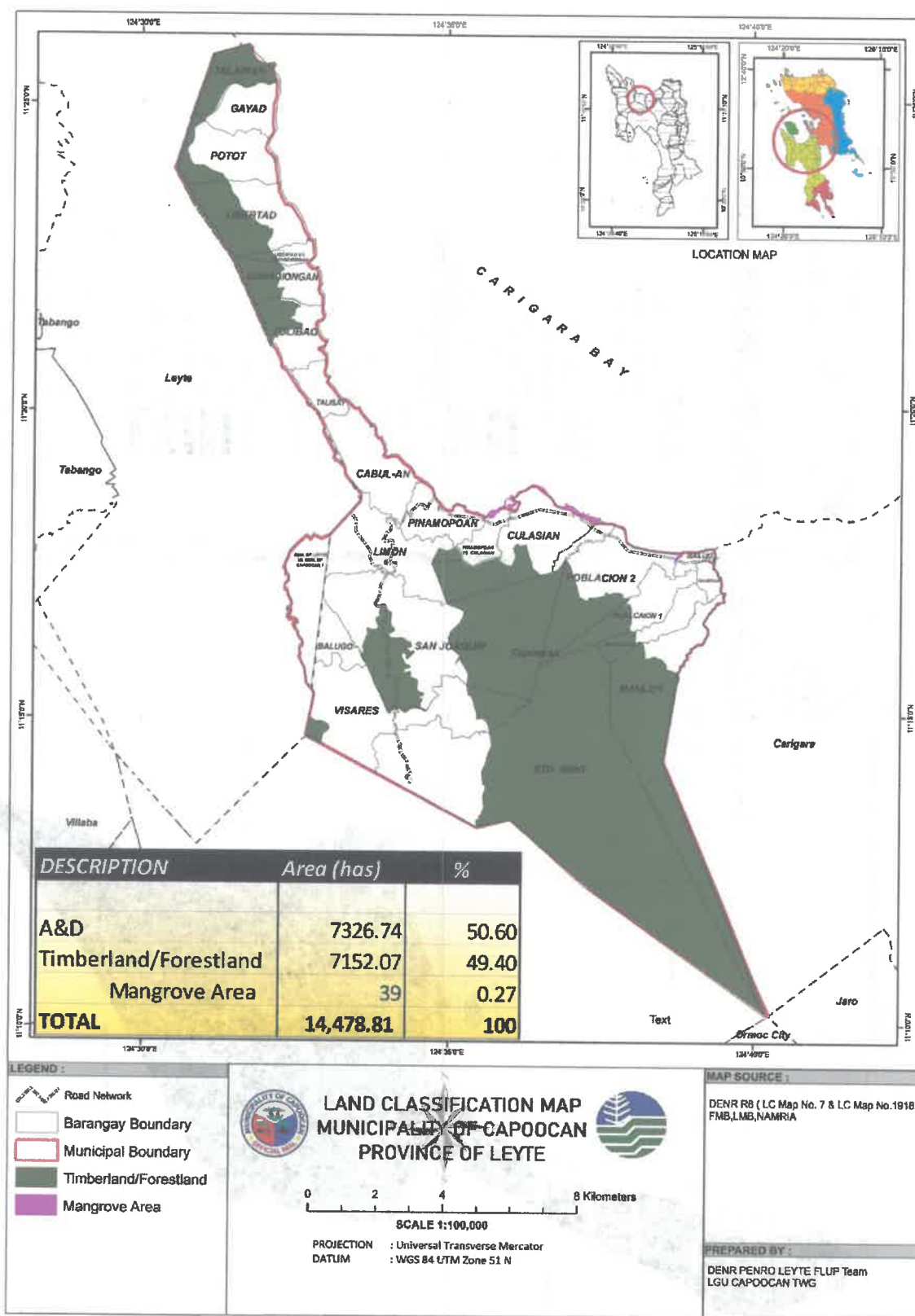
Land Allocation by Use

Land allocation according to use shows a larger area devoted to built-up development than the area classified as such. The portion allocated to urban use covers a combined area of 4,020.57 hectares or 22 percent of total. Residential use gets the biggest covering an aggregate area of 3,905.48 hectares or 21.06% of the total. Commercial use takes only 2.38 hectares or .01%, tourism 15.62 hectares or .08%, and infrastructure and utilities 97.09 hectare or .52%. The variance between the area of land allocated to urban land use and that of land classified as built-up owes to the inclusion in the former of housing among the eighteen barangays yet classified as agricultural.

Rural land use allocation covers an aggregate area of 14,519.43 hectares or 78% of total. The area allocated to forest and forest use covers 3,290.68 or 17.75%, grasslands/pasture lands 322.69 hectares or 1.74%, cultivated public land 805.62 hectares or 4.33%, uncultivated public land or forest reserve 2,729.84 hectares or 14.72%, for water uses 752.45 hectares or 4.06%.

More than half of Capoocan's land area or nearly 60% is allocated to cultivation. It provides a source of livelihood to majority of the townsfolk based on agriculture. It is Capoocan's main source of income and produce to meet part of the populace's food requirements. Land production through farming and forestry makes the municipality economically viable. Combined with fishery, it serves as a dependable engine of local economic growth.

Figure 73: Present Land Classification Map



Land Use Trends/Shifts in Land Tenure

Three decades ago, the Comprehensive Agrarian Reform Program (CARP) was promulgated by the government as centerpiece of policy to unfetter the farmers from the constraints of a feudal system of production and correct an age-old social injustice. The central intent of the action was to secure the tenure of the tillers on the means of production by awarding them the land they till. CARP was expected to considerably boost productivity in agriculture.

The agrarian reform agenda consisted of the twin thrusts of awarding land ownership and deploying support services to farmers. The two would be consolidated later by the measure to build Agrarian Reform Communities (ARC) in 1993. The ARC is a cluster of barangays, or a barangay at the minimum, with a critical mass of farmers and farmworkers who are target beneficiaries of CARP. It fuses all agrarian reform interventions, especially the delivery of support services from the lead agency in AR implementation, Department of Agrarian Reform. Other line agencies, non-government organizations (NGO) and People's Organizations (POs) cooperate. The data below present a profile of the municipality's ARC.

**Table 53: Profile of the Agrarian Reform Community
Municipality of Capoocan**

Geographical Location	Social Information		Land Use (Has.)
Region : 8	Population: 7,936	No. of ARBs: 1,010	Total Land Area: 5,806.5000
Province : Leyte	Male : 4,455	Male : 647	Total Agricultural Area: 2,536.50
Congressional Dist: II	Female : 3,481	Female : 363	Total Crops Planted:
Barangays Covered:	Ave. HH Size : 5		Coconut
<i>Original:</i>			Rice
Lemon			Sugarcane
Visares			Abaca
Sto. Niño			
<i>Expansion:</i>			Average Yield/ha/Season:
Cabul-an			Coconut – 517 kgs.
San Joaquin			Rice – 75 cavans
Balugo			Sugarcane – 73 bags
			Abaca – 312 kgs.

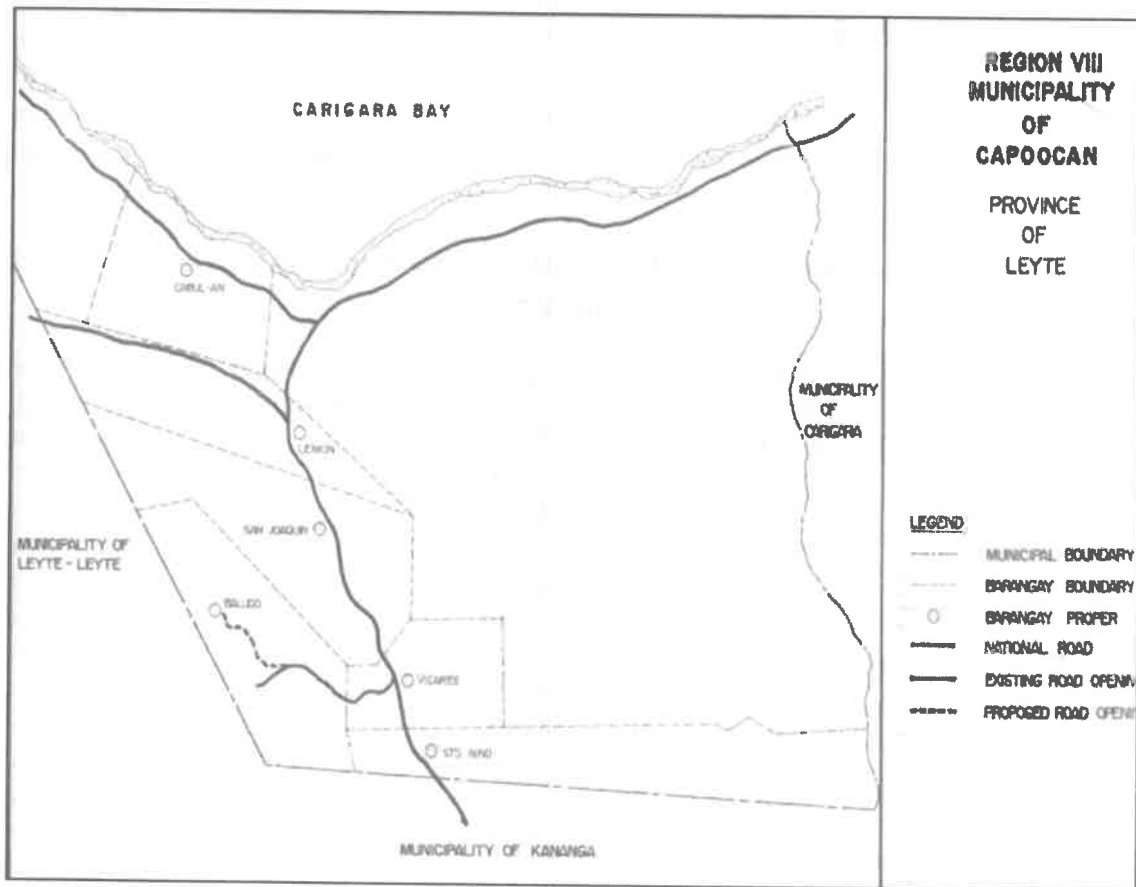
Data Source: MARO/DF Capoocan

The main aim of the Capoocan ARC was to empower Agrarian Reform Beneficiaries (ARB) by facilitating and strengthening their organization to function as organs of decision making and management. The mechanism hoped to improve farming, increase yield, and increase household incomes. Capoocan launched its ARC in 1995 consisting of three (3) original barangays: Sto. Nino, Lemon and Visares. But by 2004, the ARC expanded by including Cabul-an, San Joaquin and Balugo.

The Agrarian Reform Beneficiaries first get tenure awards on the land they till. They are bestowed with entitlements of different meanings. The Certificate of Land Ownership Award (CLOA) secures actual ownership. The CLOA entitles possession of a parcel of land given by the government on amortization to a collecting agency, usually the Land Bank of the Philippines. The ARBs of Capoocan that got CLOAs total 808. The two other titles are the Emancipation Patent (EP) and Leasehold Contract (LHC).

Awardees of the Emancipation Patent are farmers released from bondage to landlords on the land they have been working on for years. Their obligation now is to the financial institutions that underwrote the cost. Those that got EPs total 52. Those that have gotten their old landlord-tenant relationship changed by virtue of the government's award of a leasehold contract total 150. The data below detail the gender disaggregated distribution of tenure awards to farmer beneficiaries by the Department of Agrarian Reform (DAR).

Figure 75: Capoocan ARC Map



G. INFRASTRUCTURE, FACILITIES AND UTILITIES

Infrastructure or built-up features is the backbone of every society’s economy. It is the social superstructure’s hardware component. The construction of this aspect is how cities rise, and communities anchor for the long term. Human settlements are unimaginable without houses, commercial buildings, industrial complexes, roads and bridges.

The municipality of Capoocan has a modest infrastrure component. Residences, brick-and-mortar businesses, institutional facilities, school buildings, roads, bridges and seawalls give the place familiar identity. They establish the municipality. They give it market value as piece of real estate. While infrastructure in itself – or the construction of it, is big business, it also puts the community in business.

Here are the major public works in the municipality.

1. Bridges

If roads link places, bridges link roads. Bridge building has been a priority item in the budget for Philippine socio-economic development since the second half of the past century. Rivers, gorges and streams are all over the length and breadth of the archipelago. They hinder movement of people to and from residential areas, schools, workplaces, government centers, provincial business hubs, markets and agricultural produce thereby making life extremely difficult. Putting spans on them is a critical job of government.

Capoocan Is crisscrossed by rivers and streams. At various points, routes are cut by them. The national highway 30 kilometers in length, from Bgy. Balud along the boundary with the Municipality of

The next data make an inventory of ancillary road facilities and their condition by type on the whole of the municipality.

Table 58: Inventory of Ancillary Road Facilities in the Municipality of Capoocan

Type of Ancillary Road facilities	Location of Ancillary Facilities								
	National Road			Provincial Road			Municipal Road		
	Road Name	No.	Condition	Road Name	No.	Condition	Road Name	No.	Condition
Pedestrian Crossing	Maharlika Highway	7	GOOD	-	-	-	-	-	-
Waiting Shed	Maharlika Highway	18	GOOD	Balud-Manloy	2	GOOD	-	-	-
				Cabul-an-Tolibao	2	GOOD	-	-	-
Street Lights	Maharlika Highway	8	GOOD	Balud-Manloy	2	GOOD	Poblacion Wide	2	GOOD
				Cabul-an-Tolibao	2	GOOD	-	-	-
Road Signage	Maharlika Highway	300	GOOD	-	-	-	-	-	-

Source: DPWH/MEO

3. Buildings

Public infrastructure includes buildings for institutional uses. The municipality has constructed a host of them to serve as seat of local government, main administrative center, offices of various agencies, legislative house, health station, GAD resource center for gender thrusts/initiatives, law enforcement headquarters, command post, sporting venue, and halls for barangay LGUS. It also built schools to provide classrooms for the growing enrollees. The school buildings comprise the bulk of the institutional infrastructure. They total 113.

Except for the barangay halls and classrooms, the public structures are concentrated in the main urban center specifically at Poblacion Zone I. The facilities form part of the political-administrative setup serving the municipal constituency in various capacities. The data below inventory the buildings by type and location.

Table 59: Inventory of Buildings in the Municipality of Capoocan

Type Of Building	No. of Units	Type	Location
Municipal Building	1	Concrete	Pob. Zone I
School Building	113	concrete	21 Brgys.
Legislative	1	Concrete/on-going	Pob. Zone I
Rural Health Station	1	Concrete	Pob. Zone I
GAD Resource Center	1	Concrete	Pob. Zone I
DRRMO cum Operation Center	1	Concrete	Pob. Zone I
Capoocan Multi-Purpose & Sports Center	1	Concrete	Pob. Zone I
Evacuation Center	1	Concrete	Pob.Zone I, Balud & Visares
PNP Station	1	Concrete	Pob. Zone I
BFP Station	1	Concrete	Pob. Zone I
Brgy. Halls	21	Concrete	All Brgys.

Data Source: MEO / DepED Capoocan

built-up space development in light of the aspiration for high levels of economic growth. Residential, industrial and tourism estate procurement demands the manifold expansion of urbanized sections, therefore, a much more extensive road network. The laying out of new residential subdivisions inland, for instance, may not materialize if prospective sites cannot be reached by new roads.

The next dataset on Table 69 charts the road network of the municipality by system classification, length and type of pavement.

Table 60: Inventory of Roads by System Classification and Type of Pavement

Road System Classification	RRROW (m)	Total Length	Concrete			Asphalt			Gravel			Earth		
			Km	%	C	Km	%	C	Km	%	C	Km	%	C
National	20	31	31	100	G	-	-	-	-	-	-	-	-	-
Provincial	6	32.705	5.85	18	G	-	-	-	9.15	27.98	P	17.7	54.12	Cr
Municipal	4	2.75	2.65	96.36	-	-	-	-	0.1	3.6	-	-	-	-
Barangay	4	14.9	7	-	G	-	-	-	7.9	-	G	-	-	-
Footpath	1.5	7.15	3.9	54.55	G	-	-	-	3.25	45.5	P	-	-	-

Source: DPWH/MEO, 2010

Note: C – Physical Condition

Good (G) - Acceptable/Serviceable

Poor (P) - Needs Improvement

Critical (Cr) - For Priority Action

Latter Road Additions

In addition to the existing network, new road construction projects have been funded and slated for implementation. These were designed to provide access to isolated barangays in the rural interiors of the municipality and bring them to the mainstream of agricultural markets in the province. The long-awaited infrastructure was expected to boost progress among the concerned areas by serving as economic integrators drawing their production into the road-linked radius of commerce along the Tacloban-Ormoc growth corridor.

Foremost of the projects were the construction of the seven-kilometer Balugo-Visares farm-to-market road, the completion of the Capoocan Coastal Circumferential Road, and the Concreting of the Capoocan Provincial Road. Their works were to finish up in 2013.

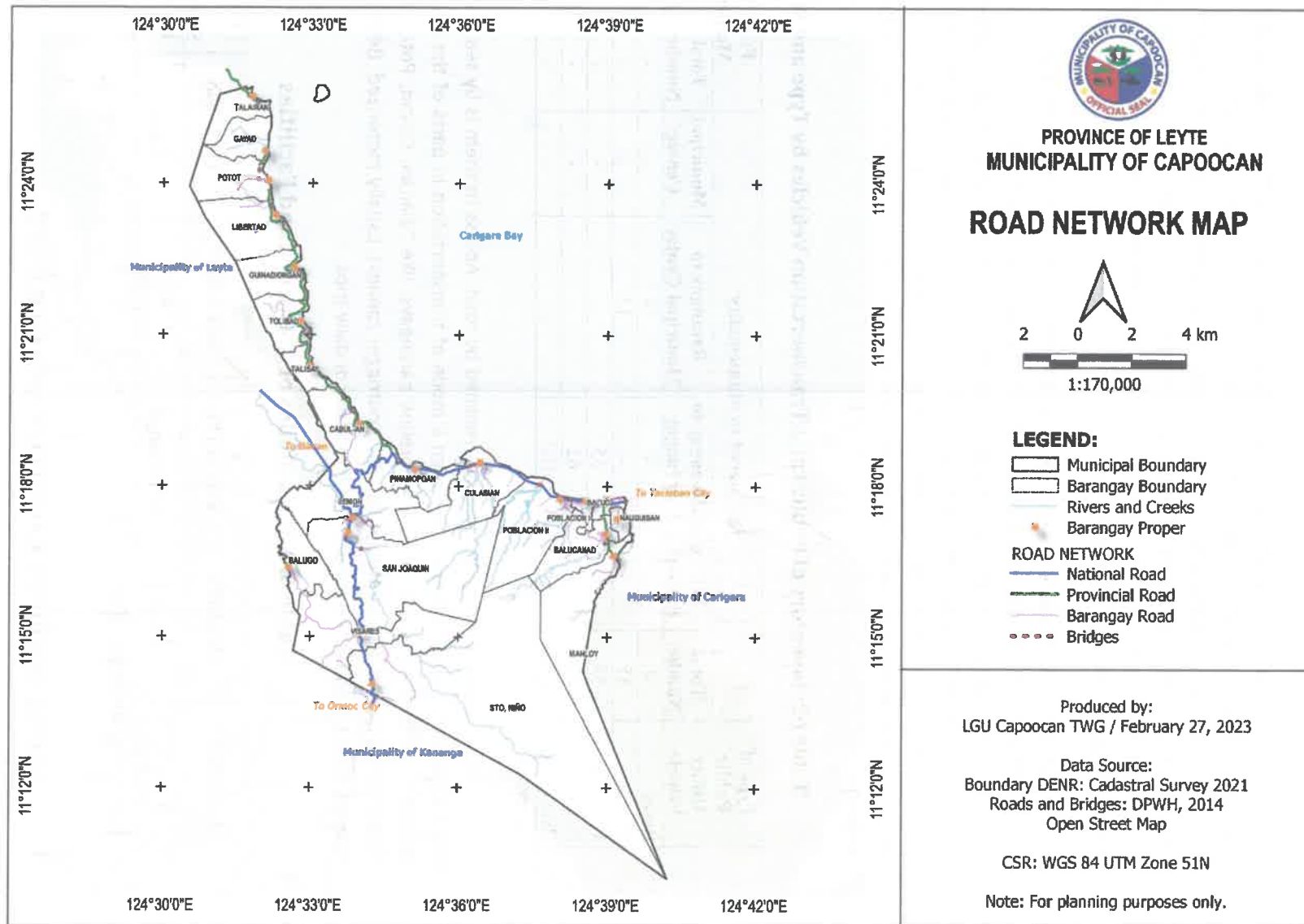
The next data on Table 4 show the additional road network in detail.

Table 61: Transport-Related Projects Approved and Funded For Implementation in the Municipality of Capoocan

Name Of Project	Location	Type	Proponent	Estimated Starting Date	Estimated Date Of Completion
Const. of Balugo-Visares FMR	Brgy. Visares, Brgy. Balugo	Farm-to-Market Road	LGU, ADB, DAR Cost Sharing Scheme	4 th Quarter of 2011	4 th Quarter of 2013
Capoocan Coastal Circumferential Road Completion	Brgy. Tolibao to Talairan	Road Concreting	National Government	4 th Quarter of 2011	4 th Quarter of 2013
Capoocan Provincial Road Concreting	Brgy. Balud to Brgy. Manloy	Road Concreting	Provincial Government	4 th Quarter of 2011	4 th Quarter of 2013

Source: DPWH/MEO

Figure 77: Road Network Map, Municipality of Capoocan



Sound health for all residents of the municipality is seen to it by the Rural Health Unit. Manned by one (1) Doctor, one (1) Nurse, five (5) Midwives, one (1) Sanitary Inspector, and two (2) Administrative Aides, the RHU caters to the health needs of 33,617 individuals, or 6,642 households. The local personnel are reinforced by a contingent of health staff paid by the province – a Medical Technologist, Dentist and Aide.

From time to time, the apparent dearth of health service workers is offset by the hiring of additional midwives, nurse and laboratory technician on job-order basis. All over the municipality, the LGU deploys four (4) Barangay Health Stations, with catchment villages attended by a Rural Health Midwife. Following are data on existing medical and health facilities:

Table 64: Medical Health Facilities And Personnel Municipality of Capooan

Barangay	Facility			Personnel								
	Type of Health Services/ Facilities	Capacity	Physical Condition	Doctor	Nurses	Midwife	Sanitary	Admin Aide	Lab. Technician	Provincial Paid Personnel	BHW	Total
Poblacion I	RHU/MHC		Needs improvement	1	1	5	1	1	1 MTech	1-NDP 1-Dentist, 1-FHA,1-PHA 1-UHCI,1-RHMPP 1-Midwife	5	19
Poblacion II	Bgy. Health Center		Functional	-	-	1	-	-	-	1	17	3
Balucanad	Bgy. Health Center		Functional	-	-	-	-	-	-	-	6	4
Balud	Bgy. Health Station		Functional	-	-	1	-	-	-	2	6	5
Balugo	Bgy. Health Center		Functional	-	-	-	-	-	-	-	2	2
Cabul-an	Bgy. Health Center		Functional	-	-	-	-	-	-	-	6	3
Culasian	Bgy. Health Center		Functional	-	-	-	-	-	-	-	8	5
Gayad	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Guinadiongan	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Lemon	Bgy. Health Center		Functional	-	-	-	-	-	-	-	16	4
Libertad	Bgy. Health Center		Functional	-	-	-	-	-	-	-	6	2
Nauguisan	Bgy. Health Center		Functional	-	-	-	-	-	-	-	2	3
Manloy	Bgy. Health Center		Functional	-	-	-	-	-	-	-	4	3
Pinamopoan	Bgy. Health Station		Functional	-	-	1	-	-	-	2	8	2
Potot	Bgy. Health Station		Functional	-	-	1	-	-	-	2	5	4
San Joaquin	Bgy. Health Station		Functional	-	-	1	-	-	-	2	3	2
Sto. Niño	Bgy. Health Center		Functional	-	-	-	-	-	-	-	8	3
Talairan	Bgy. Health Center		Functional	-	-	-	-	-	-	-	4	3
Talisay	Bgy. Health Center		Functional	-	-	-	-	-	-	-	5	2
Tolibao	Bgy. Health Center		Functional	-	-	-	-	-	-	-	5	2
Visares	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	4

Data source: LGU, Municipal Health Office

Health Indicators

Health from a layman's point of view is two aspects. One is having sound physical and mental condition by proper care. This is met by balanced nutrition, right kind of activity, and avoidance of sickness. The other is recovery of sound physical and mental condition from illness through therapeutic procedure. This is done by medical intervention, such as taking medicine or going through surgery. Both are the purview of the administration of health, that is: disease prevention through the maintenance of sound physical-mental condition, and healing when illness sets in.

Basing on the number of deaths caused by pneumonia from first to third year of the sampled period for mortality, this type of illness appears to be the top killer among the ten leading causes of death in the municipality. It was followed by ATHEROSCLEROSIS, which from topping in first and second year however dropped to fifth killer disease in the third year.

The top three among the leading causes of death for the last three years and the number of persons sent to their grave by these types of illness define the gravity of the health situation in the municipality. The set of data below enumerates the ten leading causes of mortality in the municipality of Capocan over the three-year period of 2014-2016.

Table 67: Ten Leading Causes of Mortality for the Last Three Years

2014		2015		2016	
Causes	Number of Deaths	Causes	Number of Deaths	Causes	Number of Deaths
Pneumonia	15	ATHEROSCLEROSIS	19	ATHEROSCLEROSIS	14
HCVD	12	Pneumonia	14	Pneumonia	11
PTB	11	PTB	12	PTB	11
CHF	11	Hemorrhage Severe 2 to Stab Wound	10	HCVD	6
ATHEROSCLEROSIS	10	HCVD	6	CHF	5
SENELITY	9	CHF	5	Congenital Anomaly	4
Diabetes Mellitus	8	Bleeding Peptic Ulcer	4	Myocardial Infraction	4
Bleeding Peptic Ulcer	6	SENELITY	3	Hemorrhage Severe 2 to Stab Wound	4
Hemorrhage Severe 2 to Stab Wound	4	Leukemia	3	Severe Anemia	3
Liver Cirrhosis	2	Diabetes Mellitus	2	Liver Cirrhosis	2

Source: Municipal Health Office, 2014-2016

Malnutrition

The significant number of children victimized by malnutrition for the last three years does not augur well for the near future. It raises alarm. From a total of 838 children victimized by second and third degree malnutrition in the first year, the number even rose to 1,419 in the second year. The next data on the number of children hit by malnutrition over the last three years paint a dismal picture of the health situation as far as children are concerned in the municipality of Capocan.

Table 68: Number of Malnourished Children for the Last Three Years

Degree of Malnutrition	2013	2014		2015	
	Number	Number	Increased/decreased	Number	Increased/decreased
1 st (High)	-	-	-	-	-
2 nd (Low)	721 (17%)	1,196 (23%)	Increased	752 (17.3)	Decreased
3 rd (Very Low)	215 (5%)	223 (4.2)	Increased	86 (2%)	Decreased
Total	936	1,419		838	

Source: Municipal Health Office, 2014-2016

Later data culled from the LGU's Municipal Nutrition Office situate a portion of malnourished children 0-5 years old by barangay. Balud had the biggest number of children on this age range, followed by Poblacion Zone II (second) and Pinamopoan (third). But the highest incidence of child malnutrition went to Pob. Zone II. From the data, the overall incidence of malnutrition for children 0-5 years old would only be 6%. The finding somewhat improved the picture of the localities' health situation, as far as child malnutrition 0-5 years old is concerned.

Family Planning

Reproductive health care has gained currency as an important aspect in the improvement of life especially among the poor. The cause of gender equality and women empowerment, one of the UN Millennium Development Goals, necessitated that it seriously be taken by the state and carried on by households, more so that negligence of it is reported to impact gravely on maternal and child mortality. Advocacy of choice by women on how to treat their bodies related to managing pregnancies has prodded the government to take more decisive steps in family planning.

Part of the needs that the Municipality of Capoocan's health care services address is avoiding pregnancy to manage size of families. Measures along this line have consisted mostly in prescribing use of contraceptives besides other more natural birth control methods. The contraceptive NFP-LAM is the method with the biggest number of acceptors totaling 556, and current users totaling 742. It has a Contraceptive Prevalence Rate of 18%. Second is the pill with 552 current users and 13% CPR. Family planning practice through birth control methods is well subscribed in the municipality. Data below show how, detailing acceptors, current users and CPR percentage.

Table 71: Family Planning Methods and Contraceptive Prevalence Rate

FPM	New Acceptors	Drop Out	Current Users	CPR (%)
a. Female Ster/BTL	1	-	220	5.1
b. Male Ster/Vasectomy	-	-	4	0.09
c. Pills	32	18	1,071	25
d. IUD	16	7	127	3
e. Injectables (DMPA)	28	9	844	19.7
f. Implants	6	0	48	1.2
g. NFP – BBT	-	-	-	00
h. NFP – STM	-	-	-	00
i. NFP – SDM	59	-	70	-
j. NFP – LAM	126	130	492	11.50
k. Condom	21	0	202	4.7

Data Source: RHU Capoocan 2017

Toilet Facilities

Having toilets has always been a health issue of communities. In fact, tools in participatory rapid appraisals would rate sanitation from the perspective of their being present or not in households as a social status indicator.

Sanitary requirements for the municipality have a 100 percent fulfilment rate, as far as the provision of toilet facilities by every household is concerned. In all the 21 barangays of Capoocan with an aggregate number of 5,605 households, most of them numbering 2,821 use water sealed toilets. The remaining 2,783 households use other depository shared with two or more households, such as closed pit, open pit and the pail system.

The acquisition of toilets by all households safeguards the people from the incidence of diseases attributable to improper human waste disposal. Among the causes of morbidity owing to it are diarrhea, amoebiasis, dysentery and cholera. Health care as well as the prevention of diseases in the locality is enhanced by the 100 percent toilet facilities in every household all over the municipality's 21 barangays. Next set of data is on the number of households in occupied housing units by type of toilet facilities in the municipality with 2010 as reference year.

Projected Health Sector Requirements

Even at current annual population growth rate, the municipality would need to augment assets and facilities to adequately meet the citizenry's growing demand for basic health care in the immediate years ahead. This does not yet factor in upgrading of standards for much better quality health care, disease prevention and medical services.

More personnel and community-based stations, and greater access to affordable medicines, for instance, are likewise needed. More than half of the barangays expresses the demand for highly required contingents of workers and resources to immediately provide emergency as well as regular assistance.

Below are data expressing the projected requirements for community-based health facilities among the 21 barangays of Capoocan over the next five years, that is, year 2017-2021:

Table 74: Projected Requirements for Barangay Health Facilities, Year 2016

Barangay	No. of Barangay Health Station				
	2017	2018	2019	2020	2021
Poblacion I	1	1	1	1	2
Poblacion II	1	1	2	2	2
Balucanad	1	1	1	1	1
Balud	1	1	1	2	2
Balugo	1	1	1	1	1
Cabul-an	1	1	1	1	1
Culasian	1	1	1	1	2
Gayad	1	1	1	1	1
Guinadiong	1	1	1	1	1
Lemon	1	1	1	2	2
Libertad	1	1	1	1	1
Nauguisan	1	1	1	1	1
Manloy	1	1	1	1	1
Pinamopoan	1	1	1	2	2
Potot	1	1	1	1	1
San Joaquin	1	1	1	1	1
Sto. Nino	1	1	1	1	1
Talairan	1	1	1	1	1
Talisay	1	1	1	1	1
Tolibao	1	1	1	1	1
Visares	1	1	1	1	1

Municipal LGU, MHO

Analysis

The axiom, an ounce of prevention is worth a pound of cure holds true. Health care should be at the forefront of the basic social services provided by government. The goal of sound body and sound mind for all citizens necessitates two vital measures:

- 1) Access to A-1 health services within the locality, and
- 2) Health equity, or inclusiveness of the coverage of advanced public health care system to benefit the great number of common folks especially the poor and marginalized.

Of course, the goal may be fully achieved only by increased incomes at the household level, and bigger resources at the command of the local government unit. This is how the engineering of strategic directions, policies and concrete action steps to realize socio-economic development becomes most important. The formulation and preparation of the municipality's comprehensive land use plan, and on the basis of this the enactment of a zoning code are steps in this direction.

Table 76: Schools by Level, Type, Facilities and Condition, Cont....

Schools	Location	Area (has.)	Type		Facilities and Condition					
			Public	Private	Lab	Shop	Library	CR	PG	Clinic
Lemon Primary Sch.	Lemon	0.1	✓		N	N	N	C	C	N
Libertad Elem. Sch.	Libertad	0.986	✓		N	N	N	G	P	N
Manloy Primary Sch.	Manloy		✓		N	N	N	P	P	N
Nauguisan Primary School	Nauguisan		✓		N	N	N	C	N	N
Pinamopoan ES	Pinamopoan	2.2521	✓		N	N	P	G	G	P
Potot Elem. School	Potot	0.6384	✓		N	N	N	G	P	N
Lemon-San Joaquin Elementary School	San Joaquin	1	✓		N	N	N	P	P	N
Sto. Niño Primary School	Sto. Niño	0.7596	✓		N	N	N	G	P	N
Talairan Elem. Sch.	Talairan	0.4864	✓		N	N	C	G	C	N
Talisay Elem. Sch.	Talisay	0.7906	✓		N	N	N	P	P	N
Tolibao Elementary School	Tolibao	1.0210 07	✓		N	N	N	P	C	N
Visares Elem. School	Visares	1.2864	✓		N	N	N	P	G	N
Secondary										
Asuncion S. Melgar Nat'l. High School	Poblacion I	0.7906	✓		G	N	N	P	G	N
Don Mariano Salvacion Memorial Nat'l. High School	Lemon	1	✓		G	N	G	C	P	N
Libertad Nat'l. High School	Libertad	.92609	✓		G	N	C	C	C	N
Pinamopoan Nat'l. High Schl.	Pinamopoan	0.8	✓		G	G	C	C	P	N
Tertiary										
Eastern Visayas Polytechnic Academy	Poblacion II	0.03		✓	P	P	N	N	N	N
Family Farm School	Sto. Niño	0.025		✓	N		N	N	N	N

Source: DepEd District Office/MAO, 2009

Legend:

- G= Good-Well Maintained
- P= Poor-Needs Improvements
- C= Critical-Requiring Priority Action
- N= None/No Such facility

The schools are geographically distributed as follows:

Table 77: Number and Location Of Schools in the Municipality

SCHOOL/LEVEL	AGRICULTURAL COMMUNITY	FISHING COMMUNITY	UPLAND
1. Elementary Level	10	8	2
2. Secondary Level	2	1	1
TOTAL	12	9	3

Data Source: DepEd Capoocan District

The schools in the municipality – 20 grade level and four secondary, besides being sufficient in number to address the education needs of the populace are geographically spread for access to communities. Even remote villages to the interior, upland, and coastal locations are reached by both elementary and high schools. Next dataset is their inventory.

Name Of School	Location/ Barangay	No. of Bldgs.	Type Of Bldg.	No. of Classrooms	Year Constructed	Status	No. of Teachers		
Guinadiong Elementary School	Guinadiong	1	Bagong Lipunan	2	1980	Needs major repair	1	2	3
		1	Bagong Lipunan	1	1975	Needs major repair			
		1	DPWH	1	1997	Needs major repair			
	Sub-Total	3							
Lemon Elementary School	Lemon	1	DPWH	1	2002	Needs minor repair	0	6	6
		1	DPWH	1	2004	No windows			
		1	Principal Led	1	2007	Good condition			
		1	TEEP	2	2006	Good condition			
	Sub-Total	4							
Lemon-San Joaquin Elementary School	San Joaquin	1	Marcos Type	3		Needs major repair	0	14	14
		1	DPWH	2		Needs major repair			
		1	JICA	4		Needs minor repair			
		1	TEEP	5		Good condition			
	Sub-Total	4							
Libertad Elementary School	Libertad	1	Marcos Type	3	1970	Needs major repair	1	5	6
		1	Bagong Lipunan	2	1985	Needs major repair			
		1	Bagong Lipunan	4	1993	Needs major repair			
	Sub-Total	3							
Manloy Elementary School	Manloy	1	Marcos Type	2	1994		0	2	2
		1	DPWH	1	1994				
	Sub-Total	2							
Nauguisan Elementary School	Nauguisan	1	DPWH	2	1995	Needs minor repair	0	1	1
	Sub-Total	1							
Pinamopoan Elementary School	Pinamopoan	1	DPWH	2	1995	Needs minor repair	0	13	13
		1	DPWH	2	1997	Needs minor repair			
		1	Marcos Type	2	1970	Needs minor repair			
		1	Bagong Lipunan	3	1978	Needs major repair			

Name Of School	Location/ Barangay	No. of Bldgs.	Type Of Bldg.	No. of Classrooms	Year Constructed	Status	No. of Teachers		
Gayad Elementary School	Gayad	1	Bagong Lipunan	3	1984	Needs major repair	2	5	7
		1	Bagong Lipunan	3	1986	Needs major repair			
		1	Phil. 2000	2	1992	Needs minor repair			
	Sub-Total	3							
Capoocan Central School	Pob. Zone I	1	Gabalton Bldg.	2	1915	Dilapilated but repairable	4	23	27
		1	Marcos Type	6	1974	Good condition			
		1	Bagong Lipunan	6	1980	Needs minor repair			
		1	Bagong Lipunan	3	1981	Good condition			
		1	Bagong Lipunan	2	1990	Good condition			
		1	DPWH	2	1995	Needs minor repair			
		1	DPWH	1	1996	Needs minor repair			
		1	DPWH	1	1997	Good condition			
		1	USAID	3	1983	Needs minor repair			
		1	I.A. Laboratory	1	1980	Needs minor repair			
		1	FFCCC II	2	1994	Good condition			
		1	TEEP	6	2002	Good condition			
		1	Canteen	1	1980	Needs major repair			
		1	Clinic	1	1977	Needs major repair			
		1	Conference Hall	1	1945	Needs total rehabilitation			
	Sub-Total	15							
Balud Elementary School	Balud	1	Marcos Type	2	1967	Needs minor repair	3	11	24
		1	Nutrition Center	1	1970	Needs minor repair			
		1	Bagong Lipunan	2	1982	Needs minor repair			
		1	USAID	3	1983	Needs minor repair			
		1	Industrial Arts	1	1990	Condemnable			
		1	DPWH	1	1995	Needs minor repair			

Name Of School	Location/ Barangay	No. of Bldgs.	Type Of Bldg.	No. of Classrooms	Year Constructed	Status	No. of Teachers		
Pinamopoan National High School (PNHS)	Pinamopoan	1	Bagong Lipunan (DECS)	8	1986		5	10	15
		1	Bagong Lipunan (DECS)		1988				
		1	Bagong Lipunan (DECS)		1989				
		1	Bagong Lipunan (DECS)		1992				
		1	DPWH		2005				
		1	SEDIP		2008				
<i>Sub-Total</i>		6							
GRAND TOTAL									

Data Source: DepEd Capoocan District

Enrolment

While the population of the municipality registered steady growth year on year, total male-female enrollment of all grades at the elementary level in a sample period of three School Years dropped from 5,151 pupils in the first year to 5,080. This slightly rose in the third year by less than a hundred pupils over those in the first year. Overall enrollment at the secondary level steadily declined from 2,388 students in the first year to 2,333 in the second and 2,328 students in the third year.

Enrolment participation patterns are hard to predict and their numbers difficult to project accurately, for the purpose of planning. But the variance is not significant enough to warrant upgrading of physical, infrastructural and human resource requirements in the immediate future. The same holds true even among schools in the urban barangays.

Below are data detailing enrolment by grade and sex over a sample three-year period in the municipality of Capoocan.

Table 80: Total Enrollment by Grade and Sex of the Municipality of Capoocan for a Three-Year Period, 2013-2016

SCHOOL/ LEVEL	2013-2014			2014-2015			2015-2016		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
ELEMENTARY LEVEL									
Grade I	628	523	1,151	633	531	1,164	692	556	1,248
Grade II	469	451	920	444	397	841	461	429	890
Grade III	420	430	850	433	419	852	413	382	795
Grade IV	397	377	774	382	409	791	418	413	831
Grade V	371	379	750	361	367	728	395	380	775
Grade VI	364	342	706	344	360	704	346	359	705
Total	2,649	2,502	5,151	2,597	2,483	5,080	2,725	2,519	5,245
SECONDARY LEVEL									
ASMNHS	528	524	1,052	522	527	1,049	496	535	1,031
DMSMNHS	269	249	518	239	212	451	221	183	404
PNHS	186	255	441	238	221	459	268	264	532
LNHS	174	203	377	199	175	374	193	168	361
Total	1,157	1,231	2,388	1,198	1,135	2,333	1,178	1,150	2,328

Data Source: DepEd Capoocan District 2011

Alternative Learning System

The Alternative Learning System (ALS) has been put up by the government to give opportunity to the out-of-school youth in having basic education outside the regular public school system. Laggards who have been missing enrollment or been left behind, dropouts, and adolescents or adults in an awkward position to proceed with schooling in the normal way would now have the chance to step up on basic education. The benefit of ALS has been envisioned by the Education-for-All (EFA) initiative.

Reaching out to rural communities and the grassroots in extending basic education, ALS has given them chance at improving literacy per population growth by up to 91.70%. The system has undeniably made up for the shortcoming of the formal system in having all of the children and youth of Capoocan, particularly those coming from the poor, avail of primary and basic education. The programs or projects implemented in the municipality by the Department of Education under the Alternative Learning System were carried out by two permanent teachers.

Helping the citizenry get another chance at going to school through the ALS has become a regular part of education delivery in the municipality. More of it in the next set of data.

Residents of Capooacan have increased tenfold since its first census more than a century ago. But housing is still not a problem in the municipality, compared to urban centers, like Metro Manila. To date, the place is free of the congestion being experienced in them. Neither does it acutely lack dwellings. Colonies of households cramped in one single shelter are rare if they happen at all.

The standard ratio of households to occupied housing units is 1:1 or one HH per one housing unit. A proportion higher than the standard indicates doubled-up households (DUHH) manifesting shortage in housing units. In four census years from 1960-1990, with intervals of ten years, Capooacan has shown quite a backlog or indication of DUHH. But this disappeared in 2000 when occupied housing units registered a difference of 147 more than the number of households. The ratio would level off at 1:1 by 2010 with the households exceeding occupied housing units only by 64 HH.

Below is the set of data pertaining to occupied housing units from 1960-2010, and the respective backlog per year measured against population and number of households.

Table 82: Occupied Housing Units 1960-2010, Municipality of Capooacan

Census Date	Population	No. of Households	Occupied Housing Units	Backlog
Feb 15, 1960	14,948	3,050	2,780	270
May 6, 1970	17,077	3,415	2,920	495
May 1, 1980	20,726	4,145	3,724	421
May 1, 1990	23,687	4,737	4,369	368
May 1, 2000	25,593	5,223	5,370	-147
May 1, 2010	29,689	6,173	6,109	64

Data source: Philippine Statistics Authority, 2010

The state of housing in the municipality, using baseline data from the 2010 actual census, appears satisfactory. It is expected to remain so, without any dramatic increase in population due to rapid economic and social progress. The ratio of households to occupied housing units on all types of building is 1.0. The household population per occupied housing unit is 4.9. The bulk of households totalling 6,030 out of the 6,173 total number of households dwell in single detached buildings. Housing was still satisfactory even with an increase in household population of around three thousand individuals in 2015.

Below are data detailing the status of housing in the municipality using 2010 as reference year.

Table 83: Occupied Housing Units, No. of Households, Household Population, and Ratio of Households and Household Population to Occupied Housing Units by Type of Building, Municipality of Capooacan, Year 2010

Type of Building/ House	Total Occupied Housing Units	Number of Households	Household Population	Ratio	
				Households to Occupied Housing Units	Household Pop. to Occupied Housing Units
Total	6,109	6,173	29,689	1.0	4.9
Single House	5,966	6,030	29,073	1.0	4.9
Duplex	91	91	416	1.0	4.6
Multi-unit Residential	17	17	69	1.0	4.1
Commercial/ Industrial/Agricultural	11	11	43	1.0	3.9
Institutional Living Quarters	-	-	-	-	-
Other Housing Unit	23	23	82	1.0	3.6
Not Reported	-	-	-	-	-

Data source: Philippine Statistics Authority, 2010

Table 85: Occupied Housing Units by Construction Materials of the Outer Walls and Roof, Municipality of Capooacan, 2010

Construction Materials of the Outer Walls	Construction Materials of the Roof				
	Cogon/Nipa/Anahaw	Asbestos	Makeshift/ Salvaged/ improvised Materials	Others	Not Reported
Total	2,120	1	98	-	-
Concrete/Brick/Stone	28	-	-	-	-
Wood	421	-	5	-	-
Half Concrete/Brick/ Stone and Half Wood	166	1	8	-	-
Galvanized Iron/ Aluminum	7	-	-	-	-
Bamboo/Sawali/Cogon/Nipa	1,410	-	27	-	-
Asbestos	-	-	-	-	-
Glass	-	-	-	-	-
Makeshift/Salvaged/ Improved Materials	66	-	55	-	-
Others	-	-	-	-	-
No Walls	1	-	1	-	-
Not Reported	21	-	2	-	-

Data source: Philippine Statistics Authority, 2010

Also a necessary part of the assessment of the situation is the number of housing units that need repair whether major, minor or with totally dilapidated condition. The state of need for repair reflects a span of existence dating back to the units' construction. As of 2010 – this assessment's still designated reference year, out of the total occupied housing units of 6,109, those that do not need repair, or need only minor repair, with year built dating back to 1970 or earlier, number 4,171. The ones that need major repair number 1,591, while the dilapidated or condemned number 19. The dataset below details the condition through a time line of 40 years.

Table 86: Occupied Housing Units by Condition (State of Repair) of the Building and Year Built, Municipality of Capooacan, Year 2010

Year Built	Total Occupied Housing Units	Condition (State of Repair) of the Building			
		Needs no repair/ needs minor repair	Needs Major Repair	Dilapidated/ Condemned	Under Renovation/ Being Repaired
Total	6,109	4,171	1,591	19	40
2010	168	98	42	-	3
2009	353	229	91	-	7
2008	346	233	90	-	6
2007	343	212	107	-	1
2006	359	238	103	1	2
2001-2005	1,363	910	379	4	5
1991-2000	1,467	1,045	349	4	8
1981-1990	841	600	196	5	3
1971-1980	427	304	107	1	3
1970/earlier	290	207	74	2	1
Not reported	152	95	53	2	1

Data source: Philippine Statistics Authority, 2010

Density Per Unit

How many persons occupy a housing unit, and what is the floor area of the unit occupied? Answer to this determines if there is congestion and what space is available in each. Density per shelter gives also a picture of the quality of housing.

Of the total number of 6,173 households from 2010 census data, only 2,169 HH own or amortize their housing units. A greater number or 3,045 households occupy rent-free housing units with consent of owner. Lesser or 832 households rent.

The figures on tenure status typifies a still largely rural and prevalently backward locality with less economic/market value attached to lots and dwellings, contrary to residential estates in major urban centers. Typical also is the fact that although more people occupy houses free of rent, there stay is relatively secured due to cultural, social as well as economic considerations. The weak tenure hold does not lead to legal conflicts. The next set of data expresses the condition.

Table 88: Number of Households by Type of Building and Tenure Status of the Lot, Municipality of Capoocan, Year 2010

Tenure Status of the Lot	Total Households	Type of Building		
		Single House	Duplex	Multi-Unit Residential
Total	6,173	6,030	91	17
Owned/Being Amortized	2,169	2,100	58	6
Rented	832	813	9	1
Rent-free w/ consent of owner	3,045	2,997	18	9
Rent-free w/o consent of owner	59	58	-	1
Not Applicable	68	62	6	-

Data source: Philippine Statistics Authority, 2010

Household Needs

The households in occupied housing units present a variety of needs. For their socio-economic wellbeing, the municipality still lacks vital public infrastructure, access to services, and improvement in ownership. A large number of housing units needs structural upgrading or repair. All of these can be addressed by strategies and measures related to land use allocation.

The ultimate goal of improvement in tenure status is the shift from rent-based residency to ownership, or to rent occupancy secured by law. In the case of ownership, with the lag in progress due to the economic condition prevailing in the municipality, the government takes the lead in pushing through with programs for adequate housing along with the promotion of investments therein, either by itself or in partnership with the private sector. New strategically located and favourable sites are planned to be identified and promulgated by zoning legislation.

Expanded residential estate development is seen to boost economic growth even as it secures adequate housing to folks deciding to live here. In cities that have achieved progress by leaps and bounds, it has accelerated urban development while serving as growth driver. In many localities, phenomenal development has been achieved by this route. This can also happen to Capoocan.

Growing communities need also common amenities and infrastructure for better living and support to socio-economic activities, such as better and wider road networks, bridges, institutional facilities, common work stations, venues for public gatherings, plazas/parks etc. Like security of tenure status, they ensure permanent, confident and productive residency.

As a growing community, especially when accelerated development kicks off, Capoocan needs accompanying socio-economic support infra. In advance, it must already be able to select, conceptualize and plan projects of this nature. It should also lay the groundwork by identifying locations and sites for them.

Access to social and enterprise support services is another area to consider. As much as possible, they should be onsite, like education delivery, health care, family welfare, protection and housing.

Population and housing will pole-vault in step with socio-economic development. Two different scenarios may be assumed. One is the continuation of Capooacan's historical and current pace of development. The other is a break from the past auguring its entry into the dynamic of rapid development with phenomenal advancements in the economic, political, social spheres.

The continuation of current trends projects minimal or zero housing need. But with rapid development, housing need is expected to shoot. There will then be high demand for residential estate development. Under this scenario, construction will be the next big engine of local economic growth, in turn setting the stage for much higher increase in population. A hallmark of the Capooacan CLUP is the preparation for this.

4. Social Welfare

Social welfare governance has evolved. Its scope and services have expanded from stop-gap measures at welfare to more holistic interventions in improving lives especially of the underprivileged, marginalized and most vulnerable segments of the population. It has also taken responsibility at extending relief and crisis alleviation during disasters.

The social welfare department has been devolved to local government units. It is the sector where the LGU may do a lot, not only in ensuring the wellbeing of target communities, but in leveraging socio-economic development among them.

The LGU of Capooacan through the Municipal Social Welfare and Development Office has undertaken programs/projects/activities targeted to benefit needy children, indigent households – the poorest of the poor, conflicted families, victimized women, senior citizens, persons with disabilities, and victims of disasters. At its level, it has strived to assess needs and charted steps to resolve issues and concerns.

The local social welfare services range from providing facilities and personnel to community-initiated welfare efforts, relief, crises mitigation, counseling, and livelihood assistance among others.

The data below shows how the local government unit is addressing needs in the social welfare sector by clientele: family, children, women, persons with disabilities, older persons, individuals with immediate needs, distressed/displaced, and affected by disasters.

Table 90: Historical Number of Population Served by Type of Clientele

Type of Clientele and Service	2012	2013	2014	2015
Family				
Marriage Counseling	106	114	142	90
Family Life Development		200		130
Social Protection		395		395
Parent Effectiveness		22	20	
Capability Building: Parent-Officers	75			
Children				
Early Childhood Care and Development	551	315	735	483
Completion of ECCD	381	433	337	397
Social Enhancement Skills	122	116		
Capability Building: Day Care Workers	21			
Capability Building: Barangay Chairs, DCWs & Key Persons	100			
Women				
Self/Social Enhancement Skills Development	50	50		
Women in Especially Difficult Circumstances Capability Building		1		

requesting counterpart financial assistance from the province or national government through the Priority Development Assistance Fund of the district representative.

It didn't take a long time for a corollary systematized and well-thought of child welfare program to take place. The entry of players in the form of competent, dedicated and more or less professional workers helped to make this materialize. Staffing was as equally important as constructing the concrete structure for the facilities. Later, donors would introduce equipment and other accessories to enhance the centers' functionality and effectiveness.

All of the 21 barangays of the municipality have child welfare programs in 22 DCCs. Poblacion Zone I has two DCCs. They serve an aggregate total of 678 children coming from two age groups: 3-4 years old and 5 years old and above. The children are attended to by 22 Day Care workers, or one worker per center. A couple of barangays, namely Nauguisan and Manloy, still has venues made of light materials. One, Talairan, conducts day care activities in the barangay's stage.

Gauging by the infrastructure built for the DCCs, facilities, and personnel, the needs of children for early child care and development appear satisfied. Although the poor to critical physical condition of the centers in some cases is worrisome, they may still be rated good at providing functional venues, facilities and workers to care for children and ensure their development at an early stage. On next page are two sets of data detailing how needs in this area are being addressed right at the barangay level.

Family Welfare

Like a lot of municipalities in the country, Capoocan minimally undertakes family welfare. It has no well-conceptualized and planned program to provide multidimensional assistance to needy and vulnerable segments of the population. If this is seen as an important and compelling responsibility, concerned agencies either lack resources, do not have the institutional capability to confront it, or lack commitment.

The extension of Philhealth benefits to the less privileged is a redeeming step. On record, all of Capoocan's 21 barangays extend Philhealth insurance coverage to constituents. The overall number of beneficiaries who availed of counterpart contribution from them totaled 395 in 2010, the same 395 in 2011, and much lower 218 beneficiaries in 2012.

But a great number of indigent folks still have to be given Philhealth assistance. The existing number of beneficiaries nevertheless is already a good beginning. Following are data re the localized health insurance assistance.

Table 95: Child Welfare Facilities, Services and Clientele, Year 2017

Barangay	Facilities	Physical Condition	Services	Type of Clientele	No. of Clientele	Organization	Staff Compliment
Balucanad	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Balud	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Balugo	Day Care Center	Needs improvement	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Cabul-an	Day Care Center	Needs improvement	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Gayad	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Guinadiongan	Day Care Center	Light Materials	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Lemon	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Libertad	Day Care Center	Needs improvement	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Manloy	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Nauguisan	Day Care Center	Needs improvement	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Pinamopoan	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Pob. Zone 1	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Pob. Zone 2	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Potot	Day Care Center	Needs improvement	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
San Joaquin	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Sto. Nino	Day Care Center	Needs improvement	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Talairan	Day Care Center	Needs improvement	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Talisay	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Tolibao	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker
Visares	Day Care Center	Good	Early Childhood Care & Development	3-4 yrs old children		OCSPG	1 Day Care Worker

Source: MSWD Office, 2017

Emergency Assistance

Emergency cases get assistance in the form of referrals to agencies or institutions concerned. Data below details the nature and number of referrals processed by the Municipal Social Welfare and Development Office, and made by the LGU from 2015 to 2017. Included are the names of the agencies to which they were referred. The MSWDO prepares a Social Case Study Report and issues a Certificate of Indigency whenever required.

Table 97: Referrals, Social Case Study Report, Certificate of Indigency

Nature of Referral	2015				2016				2017			
	M	F	Total	Referred to	M	F	Total	Referred	M	F	Total	Referred to
Hospitalization/Diagnostics/Laboratory fees	17	27	44	PCSO	-	-	-	-	2	2	4	GOVERNOR
Hospitalization/Diagnostics/Burial/EA	1	1	2	DSWD-AIC	-	-	-	-	-	-	-	-
LSC(ERIC)	14	14	28	-	-	-	-	-	16	16	32	-
Legal Assistance	-	2	2	PAO	-	-	-	-	-	2	2	PCSO
CI	-	-	-	-	11	4	15	PAO	2	-	2	PAO
CI	-	-	-	-	3	3	6	PCSO	2	-	2	RTC
CI	-	-	-	-	5	17	22	DSWD	-	-	-	CDH
CI	-	-	-	-	1	6	7	EVRMC	-	-	-	-
CI	-	-	-	-	9	27	36	DSWD	-	-	-	-
CI/EA	-	-	-	-	-	-	-	-	26	35	61	PAO
SCSR	-	-	-	-	-	-	-	-	16	16	32	DSWD
SMA	-	-	-	-	-	-	-	-	24	61	85	PCSO/DSWD
SMA	-	-	-	-	-	-	-	-	2	2	4	GOVERNOR
Burial	-	-	-	-	-	-	-	-	8	12	20	DSWD FO8
SCSR	-	-	-	-	-	-	-	-	-	2	2	DSWD/PCSO
SCSR	-	-	-	-	-	-	-	-	2	-	2	PAO
SCSR	-	-	-	-	-	-	-	-	2	-	2	RTC
SCSR	-	-	-	-	-	-	-	-	32	49	81	CDH

Data Source: MSWDO Capoocan 2017

Legend: SCSR - Social Case Study Report
 CI - Certificate of Indigency
 PCSO - Philippine Charity Sweepstake Office
 PAO - Public Attorneys Office
 PSWDO - Provincial Social Welfare and Development Office
 DSWD FO8 - Department of Social Welfare and Development Field Office 08
 RTR - Remedios T. Romualdez Hospital
 CDH - Carigara District Hospital
 EVRMC - Eastern Visayas

Financial Assistance

In rare instances, the LGU extends grants or financial assistance to needy constituents. The money given covers such items as food, transportation, emergency shelter, burial and medical expenses. The record shows that assistance of this nature has increased which in result serving more of those in need. In a three-year reference period, the municipality of Capoocan has extended monetary aid covering all the designated items to a large number in 2013 to a total of 5,700 in 2015, a lesser number of 3,828 in 2016, and 568 persons in 2017.

benefits the government affords the sector. The SCID gets its bearer 20% discounts in restaurants, public utility vehicle rides, airplane ticket, grocery items, and most especially medicines. It would also be an important piece of cardboard to usher a holder into the priority lane in offices, banks and other commercial establishments.

The municipal LGU of Capoocan, through the Office of Senior Citizens Affairs (OSCA) processes applications and issues the SCID. Through its releases of the card, hundreds of Capoocanons in their senior years have been ushered to the sphere of social and economic privileges that the state provides. The next set of data shows the pattern of issuances of the SCID by number of applicants/entrees annually over a three-year period: 2010 to 2012.

Table 100: Senior Citizens ID Issuance by Year, 2010-2012

Issued OSCA ID To			
YEAR	MALE	FEMALE	TOTAL
2012	67	93	160
2011	92	128	220
2010	172	219	391

Data Source: Office of the Senior Citizen Affair (OSCA) Capoocan, Leyte 2011

Organizing of senior citizens is part of the help being given to them. Below are data on membership of Senior Citizens Association in the municipality.

Table 101: Senior Citizens by Membership in Association, Years 2010-2012

Total Membership of The Senior Citizens Association			
YEAR	MALE	FEMALE	TOTAL
2012	66	92	158
2011	118	182	300
2010	145	201	349

Data Source: Office of the Senior Citizen Affair (OSCA) Capoocan, Leyte 2012

Services to the PWD

Through the social welfare sector, the government accords Persons with Disabilities the opportunity to be part of the economic mainstream. This is through the Self-Employment Assistance para sa Kabuhayan (SEA-K) program. Under the program, a livelihood assistance project for PWDs has been implemented at Bgy. Culasian, in this municipality. The Self-Employment Assistance para sa Kabuhayan (SEA-K) project for the PWD in Culasian lent each beneficiary capital amounting to Php5,000 to start up enterprise as a means of livelihood.

The particular SEA-K initiative gave loans to 12 recipients from the beneficiary community, totaling Php60,000.00. The release of assistance was done after evaluation and assessment by the Project Evaluation Officer DSWD FO 08, and upon recommendation of the MSWDO, Capoocan, Leyte. The Department of Social Welfare and Development – Field Office 08 provided the loan with no needed collateral, interest free, and to be paid within 2 years.

Below are data showing the PWD profile by barangay and sex over a sample period of two years in the municipality.

Table 102: Persons with Disability (PWD) Profile, Municipality of Capoocan

Barangays	2011			2012		
	Male	Female	Total	Male	Female	Total
Balucanad	7	5	12	8	6	14
Balud	10	15	25	10	17	27
Balugo	-	-	-	-	-	-

technical support. In Capoocan, the KALAHI-Community Initiative for Development Support Services (CIDSS) implemented several Cycle I Projects in a span of three years.

Below are data on the KALAHI-CIDSS implemented projects in the municipality under the social welfare and development sector.

Table 104. KALAHI-CIDSS Cycle II & III Projects – Seawall, Flood Control, BHS, Streetlighting Facilities and Farm-to-Market Road in the Municipality of Capoocan

Barangay	Project	Linear/Units	HHs Served	No. Of Beneficiaries		
				M	F	Total
Balud	Barangay Health Station	51 square meters	641	1,436	1,397	2,833
Cabul-an	Seawall	110 linear meters	384	907	816	1,723
Gayad	Seawall	110 linear meters	161	459	409	868
Guinadiongan	Seawall	95 linear meters	156	351	395	746
Libertad	Seawall	100 linear meters	283	558	682	1,240
Pob. Zone 1	Flood Control	135 linear meters	635	748	781	1,529
Potot	Seawall	95 linear meters	135	454	431	885
Talisay	Streetlighting	21 units	135	306	297	603
Tolibao	Seawall	105 linear meters	147	366	355	721
Visares	Farm-to-Market Road	.400 kilometers	299	733	327	1,060
CYCLE III PROJECTS						
Balucanad	Flood Control	90 linear meters	353	863	751	1,614
Gayad	Flood Control	55 linear meters	161	459	409	868
Lemon	Solar Powered Streetlighting	33 Units	300	1,312	1,112	2,424
Libertad	Seawall	50 linear meters	283	558	682	1,240
Nauguisan	Flood Control	100 linear meters	103	191	182	373
Pinamopao	Flood Control	95 linear meters	642	1,667	1,064	2,731
Pob.Zone 2	Streetlighting	50 Units	729	1,300	1,616	2,916
Potot	Seawall	45 linear meters	135	454	431	885
San Joaquin	FMR w/ SINGLE BARREL RCBC	0.067 kilometers	336	336	620	956
Sto.Niño	Slope Protection	65 linear meters	255	434	662	1096
Talairan	Seawall	100 linear meters	162	640	508	1,118
Talisay	Seawall	60 linear meters	135	306	297	603
Tolibao	Seawall	70 linear meters	147	366	355	721

Data Source: POW-Project Completion Report/MSWDO Capoocan

Primary Task

Delivery of services in the sphere of social welfare and development in the municipality faces challenges that entail a vast amount of work. One of them is in helping families lessen the impact of poverty and the continuing lack of development. But the sector can take advantage of the intersections in lines of responsibilities with other agencies to get programs/projects/initiatives off the ground.

Inter-organizational cooperation is being pursued for good measure, although there are cases when the primary task has to be done alone by the department itself. An example is giving relief and enabling recovery to victims of natural or man-made disasters. Another is assistance in emergencies. Help ranges from giving food ration to victims of chronic hunger and child malnutrition, medical aid to the destitute struck by serious ailment, small cash-bridge to households hit by sudden loss of livelihood or condemned to penury, and burial assistance.

The delivery of greater and more meaningful social welfare and development services has till a long way to go. The will, commitment and resources to take extra miles may not only be a product of

Libertad	364	Basketball Court		1-Public (14x26)	Good Condition
	160	-	School Playground	Public (8x20)	Good Condition
Nauguisan	240	Basketball Court	-	1-Public (12x20)	Good Condition
Manloy	250	Basketball Court	-	1-Public (10x25)	Good Condition
Pinamopoan	420	Basketball Court	-	1-Public (14x30)	Good Condition
	600	-	School Playground	Public (20x30)	Good Condition
Potot	364	Basketball Court	-	1-Public (14x26)	Good Condition
San Joaquin	450	Basketball Court	-	1-Public (15x30)	Good Condition
Sto. Niño	390	Basketball Court	-	1-Public (15x26)	Good Condition
Talairan	450	Basketball Court	-	1-Public (15x30)	Good Condition
Talisay	450	Basketball Court	-	1-Public (15x30)	Good Condition
Tolibao	364	Basketball Court	-	1-Public (14x26)	Good Condition
Visares	364	Basketball Court	-	1-Public (14x26)	Good Condition

Data Source: MEO, MPDO as culled out from CLUP 2010-2020

6. Protective Services

Services to ensure public safety and protection are taken care of by the sector to which the police, fire fighters and jail guards belong. Institutionally, they are dispensed by the Philippine National Police (PNP), the Bureau of Fire Protection (BFP) and the Bureau of Jail Management and Penology (BJMP). The three constitute the backbone in the maintenance of peace and order and safety of the community.

National standard sets the operative ratio of police to population at one policeman to a thousand individuals (1:1,000). Meanwhile, one fireman is needed for two thousand people (1:2,000), and one jail guard for seven inmates (1:7). Like most places in the country, the proportions are not met in Capoocan. But like many of them also, public safety and protection has not suffered here.

The Philippine National Police has a contingent of 22 uniformed regular personnel that are based in the municipality. With the present municipal population of 33,617 according to the 2015 actual census, the protective force has one policeman each to 1,500 citizens. Approximately 11 more additional police personnel are needed.

The LGU has one "lock-up" cell to keep temporary prisoners while awaiting assignment of detention facility by the courts. In its present condition, the detention facility can hardly be relied on to function as expected. The precinct jail needs to be further secured through repair. It also needs to be clean and sanitary.

There is a Municipal Fire Marshall for fire-fighting and fire protection. He formerly shared office with the PNP. The arrangement hindered prompt response during emergency. The shortcoming could not wait to be tested by an actual situation to correct, for the cost can be lives. This was remedied by reconstruction to independently house the fire station including equipment.

The state of the protective sector is still not ideal. Hitches emerge from time to time. They often raise doubt on the crime- and fire-fighting capability of the municipality especially during dire contingencies or crises. But the civic-mindedness and resourcefulness of the citizenry have come handy and dependable in offsetting certain situations.

Preventing or fighting crime however is not ensured by just having enough enforcers. Folks in the different barangays have pointed out the need for strategic police deployment to their localities. Places that may be considered crime hotspots, like Bgy. Lemon, need personnel to be based in them. Certain barangays voiced the demand for a station with one or two police persons. The next data present the protective services setup of the municipality.

trouble. They act as marshals in special events, help arbitrate or settle disputes, call the attention of trouble makers to desist, conduct disaster rescue, and assist in managing traffic.

Watched only by a regular police contingent that is inadequate in safeguarding a big area and 33 thousand townfolk, the municipality of Capoocan has looked up to the Barangay Tanods to fill gaps in protective services. Years of practice have made them an indispensable plank in peace keeping and crime fighting or busting.

The data below show the protective services as far as the Barangay Tanods are concerned.

Table 108: Barangay Tanod by Type of Service, Year 2010

Type of Services	Number of Volunteer/Staff	Facilities Equipment	Condition Of Facilities
Traffic, Peace and Order	Brgy Tanods – 310	ERV-(3 Multicabs) Sto. Niño, San Joaquin and Lemon	Serviceable
Disaster Auxiliary Services	-	-	-
Others	48 Brgy. Tanods trained as Volunteer Fire Brigade in every Barangay		-

Source: Barangay Offices, 2010

Fire Protection

As late as the 1990s, firemen and firefighting equipment were still uncommon in most areas of the country. Towns were helpless and victims have to fend for themselves or rely on the help of fellow townfolk during fire. But towards the second decade of the 21st century, this was no longer the case. Fire protection service complete with personnel, equipment and accessories would become an ordinary feature among majority of localities.

The municipality of Capoocan is among those areas today with a Bureau of Fire Protection (BFP) unit to spearhead in firefighting during emergencies, and execute fire protection/prevention measures. Although man-made calamities, like fire, are not expected to always happen, the presence of the BFP is imperative. It raises the place's quick-reaction capability and boosts the local folks' confidence in the safety of their communities from accidents like fire.

Fire protection service in the main has a limited incident-based function. Its daily responsibility is to be ready and respond as quickly as possible in case fire breaks out somewhere. Its work is saving lives and minimizing damage to property. And this is not eight hours a day, five days a week. The data below of fire incidence in the Municipality of Capoocan over a five-year reference period shows why.

Table 109: Fire Incidence Over A Five-Year Period

Barangay	Origin/Cause	Frequency of Occurrence				
		2005	2006	2007	2008	2009
Brgy. Lemon	Abandoned cooking of boiled water from the improvised earthen stove	-	-	1	-	-
Capoocan, Leyte Municipal Hall (partially burned at DA Office 2 nd floor	Faulty Electrical Wiring	-	-	-	-	1

Source: Bureau of Fire Protection/Local fire Protection Officer, 2005-2009

19 units of the former and 36 items of the latter. The hand tractors are motorized paddy tillers used by the rice farmers to plow and harrow for planting. They boost tillage. The four-wheel tractors are heavy equipment with bigger capacity. They are used on dry hilly land to break up and ready the soil for cultivation. The municipality dispensed to the farming folks two of them.

Cultural practice in the area is getting modernized. This is not only in tillage, but in post-harvest tasks. For support, the government has given farmers mechanized rice reaper, thresher with blower, mechanical dryer and corn shredder. Mechanization has made farm tasks easier and raised productivity. Besides the engine-powered machineries, the farming sector has availed of six (6) 500-seat capacity warehouses and also six (6) rice mills. The facilities were intended to make farm work efficient and eliminate significant amount of crop wastage.

Capital for land preparation and planting is a perennial cry among farmers. Now, credit can be gotten at low interest. The support is provided by six (6) financial services facilities in the municipality. In addition, to cushion the devastating impact of economic losses from crop failures or natural calamities, a crop insurance facility is on hand for farmers to avail of. The following data detail the agricultural support facilities extended to farmers in the area.

Table 111: Production and Post-Harvest Facilities

A. Production Facilities	No. Of Units
1. 4Wheel Tractor	2
2. Hand Tractor	19
3. Power Sprayer	1
4. Corn Seeder	1
5. Knap Sack Sprayer	36
Sub Total	59
B. POST HARVEST FACILITIES	
	NO. OF UNITS
1. Rice Reaper	1
2. Rice Thresher	6
3. Rice Blower	12
4. Mechanical Dryer	3
5. Solar Dryer	12
6. Warehouse (500 chairs capacity)	6
7. Corn Shredder	2
8. Rice Mill	6
Sub Total	48
GRAND TOTAL	107
C. OTHER SUPPORT SERVICES	
	NO. OF FACILITIES
1. Credit	6
2. Crop Insurance	1
3. Animal Feeds & Veterinary Product	6
TOTAL	13

Data Source: OMA Capoocan 2010

2. Irrigation Facilities

Another assistance to agricultural production in the municipality is the Communal Irrigation System (CIS). The engineering feature serves six (6) barangays, namely: Balucanad, Nauguisan, Manloy, Culasian, San Joaquin and Sto. Nino. It satisfies the need for high volumes of water to feed large tracts of lowlands where farmers engage in rice production.

While Capoocan's hilly and mountainous parts contain the headwaters of streams and rivers that flow downstream to different parts of the land, crop production is virtually impossible in some of them because of the forbidding terrain. Most cultivation occurs in the plains and foothills where farming

Table 114: Number of Connection by Type of Users and Average Consumption

Type of Connection	Number of Connections	Average Consumption (KWH/Mo)
Domestic (BAPA included)	3,420	152,441
Commercial	148	18,185
Public Building	14	12,095
Street Lights	6	2,816
Industrial	14	8,617

Source: Local Power Service Provider (LEYECO III), 2009

2. Water System

Capoocan is endowed with abundant water resources. Clean and potable water from springs abounds in its upper parts. The providence owes to the still intact ecosystems along the river basin watersheds cascading down from the Mount Minoro-Mount Camadbaran ridge.

Although its urban barangays – Poblacion Zone I and Poblacion Zone, and the adjacent barangay of Balud offset water shortfalls through additional supply from the Carigara Metro Water District System in the Municipality of Carigara, the bulk of residents of the rest of its barangays gets water from the area itself. This is through the Gravity-Fed Level II Water System. Over the years, the municipality with external help has built the system to provide residents regular access to clean and potable water.

The locality benefits from springs in 16 barangays, namely: Poblacion Zone II, Cabul-an, Guinadiongan, Libertad, Manloy, Potot, Pinamopoan, Visares, San Joaquin, Lemon, Talisay, Culasian, Talairan, Sto. Nino, Gayad and Tolibao. The sources supply water through the Level II System using 427 communal faucets that are installed on all of Capoocan’s 21 barangays. They serve 5,478 households. The benign environment continues to gift the community with such an indispensable life support system.

Although some households complain that their supply of water is inadequate, the natural supply of water assures that the local folks won’t have to seek the resource from other places and be dependent on them over a long future. The Level II Water Systems only have to be maintained and enhanced. The ecological integrity of the area should not be compromised to sate the insatiable greed of a few. Rampant logging for lust of money has extensively denuded watersheds and threatened their precious life support. This shall be stopped.

Not all of the municipality’s households however are being served. Access to clean and potable water and sanitation continue to be critical concerns in some areas. They exacerbate ill-being and bring extreme hardships to the already poorest. Overcoming these problems is part of the LGUs thrusts towards the eradication of poverty.

Projects to further expand the network of water supply and meet growing requirements have been implemented in recent years, thanks to the help of the KALAH I program of the national government. Others are being implemented, like the Spring Water Development Project at Bgy. Manloy. The latter is intended to add supply to eight (8) barangays, namely: Manloy, Nauguisan, Balucanad, Balud, Pob. Zone I and 2, Culasian and Pinamopoan. The following data on next page show the status of the water system, manner of delivery, type of facilities, and the barangays and household population served.

The data below show in detail the overall system and condition of water supply availed of by the whole municipality.

Table 117: Water Supply of the Municipality of Capoocan

LEVEL III	BENEFICIARIES		LOCATION
	Served by MCWD		
	Residential	Commercial WSC	
-do-	284	12	Pob. Zone I & 2
-do-	139	6	Balud
<i>Data Source: MCWD 2012</i>			
LEVEL II	Communal Faucet		
-do-	142		Potot
-do-	472		Pob. Zone I
-do-	171		Libertad
-do-	430		Balud
-do-	353		Cabul-an
-do-	226		San Joaquin
-do-	123		Guinadiongan
-do-	161		Talairan
-do-	563		Culasi-an
-do-	143		Talisay
-do-	388		Pob. Zone II
-do-	288		Lemon
-do-	563		Culasi-an
-do-	161		Talairan
-do-	259		Sto. Niño
-do-	133		Manloy

Data Source: MSWDO-KALAHI:CIDSS/ME

Surface Water Supply

Surface water also serves the needs of the populace for farm irrigation and domestic use. Among its uses are washing of clothes, cleaning of house articles, and bathing. Rivers and streams in their still unpolluted state assume public utility. The following are the existing surface water resources by type and classification in the locality:

Table 118: Existing Surface Water Resources by Type and Classification

Surface Water	Location	Classification
Rivers		
Balucanad/Nauguisan River	Balucanad	Class B, Class D1
	Balud	Class B, Class C1, Class D1
	Manloy	Class B, Class D1
	Nauguisan	Class B, Class D1
	Poblacion I	Class B
	Poblacion II	Class B
Cabul-an River	Cabul-an	Class B
Kanduman/Dumiri River	Culasian	Class B
Dacung Tubig	Lemon	Class B
	San Joaquin	Class B
	Visares	Class B
	Pinamopooan	Class B
	Poblacion I	Class B
	Sto. Nino	Class B
Potot River	Potot	Class B

4. Waste Management

Waste is both a health and environmental concern. High and unregulated generation coupled with poor disposal of it contaminates water, air and soil bringing illnesses to humans and disrupting ecological balance.

The municipality diligently collects and disposes solid waste keeping to the minimum and preventing from reaching problematic levels its generation. The townsfolk contribute in large part to the moderation and regulation of trash. Dump trucks with a crew from the general services department collect the garbage disposed by households. They haul it to a site. The whole system of collection and disposal observes safeguards against despoiling the ecological integrity of the area.

The next data pertain to solid waste generation and disposal in the municipality.

Table 121: Solid Waste Generation by Source, Year 2016

Source	Types of Waste	Volume of Solid Waste Generated (Kgs./Day)	Volume of Solid Waste Disposed (Kgs/Day)	Disposal Methods/ Treatment Facilities	Disposal Site
Residential	-	11,111.80	3,187.45		ESWMP
Commercial	-	592.5	169.76		ESWMP
Industrial		34.75	9.80		ESWMP
Institutional		462.14	129.51		ESWMP
Total		16,200.04	3,500.24		

The specific treatment or disposal of both solid and liquid waste is detailed in the sets of data below.

Table 122: Methods of Solid Waste Disposal/Treatment, Year 2016

Methods	Quantity (total municipal solid waste generated)	No. of Served Households	Agency Responsible
1. Collected and disposed to:			
- Open dump			
- Controlled dump			
- Sanitary landfill			
2. Composting			
3. Recycling			
4. Not collected			
- Burned			
- Dumped in individual open pit			

Table 123: Wastewater Generation by Source and Disposal Methods, Year 2016

Source	Volume of wastewater generated (tons/day)	No./percentage connected to a central sewerage system	Disposal methods/ treatment facility	Disposal Site
Domestic				
Commercial				
Industrial				
Hospital				
Others				

warehouses or “casas” in Tacloban or Ormoc. The big compradors subsequently export the commodity, by which money enters the country turning the cycle.

Although share from copra production by the farm folks including the landowners is only about 25 to 30 percent of gross income, it employs in seasonal wage-earning farm work a big portion of rural labor and provides as well livelihoods to members of the community in allied occupations. The infusion of cash from copra coursing through its economic bloodstreams enlivens enterprise in the area.

The other crops are abaca which uses 98 hectares or 1.48 percent of the total agricultural lands, fruit trees using 95 hectares or 1.43 percent, corn 59 hectares or 0.89 percent, vegetables 34 hectares or 0.51 percent, and assorted crops 122 hectares or 1.84 percent. These are the minor ones, according to the OMA. Although they satisfy directly the needs of the population through production in a natural self-sufficiency mode, their market does not contribute significant amounts of cash to the local economy.

Productivity may ultimately be measured in the monetary or exchange values of commodities produced. This applies to the municipality’s production of two major cash crops – coconut and rice. Rice production yields an average of 75 to 80 cavans, or 3.00 metric tons per hectare. In a year, covering 666 hectares it produces 3,996 MT. One cropping season produces 1,999.0 MT. But since farmers plant in two cropping seasons, the figure doubles up.

Copra production yields an average produce of 1.2 metric ton per hectare. In a year, covering 3,535 hectares, it produces 16,968.0 MT. One harvest yields a cumulative produce of 4,242.0 MT. But since coconut is harvested four times a year, this quadruples in volume. Coconut cropping has a lower volume of yield per hectare compared to rice. But the frequency of its harvest fetches a bigger volume of produce yearly.

Converted to cash., here are the equivalents of the two major agricultural commodities. Rice generates an income of Php23,976,000.00 per cropping season, or Php47,952,000.00 in a year. Copra generates an income of Php42,420,000.00 to Php76,356,000 per harvest/copra production, with prices of Php10 to Php18 per kilo. Counting four harvests/copra productions, it gets cash of from Php169,680,000 to Php305,424,000 in a year. Rice and copra generates for the municipality Php217,632,000.00 upwards to Php353,376,000 in productivity annually.

The computation still leaves out the other cash-convertible crops. But they already derive a per capita income from agriculture of Php6,474 to Php10,512. Below are data on the types of crops by area, yield per hectare, and production per year in the municipality.

Table 124: Type of Crops by Area, Yield per Hectare, and Production per Year in Metric Ton, Municipality of Capoocan

Crops	Area in Hectares	Yield Per Ha. (M.T.)	Yearly Production (M.T.)
Rice	666	3.00	1,998.0
Coconut	3,535	1.20	4,242.0
Sugarcane	508	5 piculs	2,540.0
Banana	880	4.50	3,960.0
Rootcrops	360	5.00	1,800.00
Pineapple	275	7.50	2,062.5
Abaca	98	1.00	98.0
Fruit trees	95	2.00	190.0
Corn	59	2.50	147.5
Vegetables	34	2.00	68.0
Other crops	122	0.95	115.9
TOTAL	6,632		17,221.9

Data Source: OMA Capoocan

setbacks inflicted by the large-scale depletion of aquatic life, and losses absorbed from greatly reduced fishery outputs. The industry persisted.

At present, fishing tops in scope and output. Capoocan's municipal waters encompass 22,000 hectares of the Carigara Bay fishing ground. They yield 2,737.5 metric tons per annum or 97.80 percent of the total local fish catch. The yield satisfies needs of the community and neighboring environs in the province.

The municipal fisherfolk also ply the brackish water along the mangrove-hedged shorelines and estuaries. Although it is a small area, certain types of species thrive and are caught here. The fresh inland waters on the other hand yield species that are edible for food, and can occasionally be sold for income. The following data show the type of fishing engaged in the municipality, the number of fisherfolk who ply them, area covered and yield in metric tons.

Table 126: Type of Fishing, Number of Fishermen Engaged, Area Covered in Hectares, and Production Output per Annum in Metric Tons

Type of Fishing	No. of Fishermen	Area (Has.)	Annual Production (MT)
1. Inland Fishing	32	7.08	35.0
2. Brackish Water	1	6	30.0
3. Coastal Fishing	1,055	22,000	2,737.5
TOTAL	1,088	22,013.08	2,802.5

Data Source: OMA Capoocan

Consumption Requirements

In rice, meat, eggs and vegetables, yearly output fails to meet consumption requirements of the municipality. The deficits are 1,113.19 metric tons for rice and corn, and 286.20 metric tons for vegetables. Meat and eggs are short by 739.28 metric tons. Banana yields a surplus of 3,552.00 metric tons over annual consumption requirement, sugarcane 1,952.00 metric tons, and root crops 1,619.90. These mean that the more important and basic food items - rice, corn, vegetables, meat and eggs, have to be imported.

Cereals get 70 percent of daily expenditures for a family of five having an income of only Php30,000 or less per year. The inability to sufficiently produce them exacerbates misery and the incidence of households below the subsistence threshold. Folks cannot live on banana as substitute staple. Neither can they subsist on the cash crop, sugarcane, which the big landowners anyway appropriate. The mismatches of production with actual needs of the general populace tell that the orientation of agriculture in the area needs to be righted.

Fish has come out as a saving grace. Fishery yields a surplus of 1,952.30 metric tons per year. Issues on the environment aside, the marine resource is still quite abundant. Surplus yields here are in demand. The municipal fishery industry not only caters to household consumption, but commerce getting big cash income for the municipality. The following data provide a comparative analysis of crops, livestock, poultry and fishery outputs vis-à-vis consumption requirements.

Table 127: Crops, Livestock, Poultry and Fish Production, and Consumption Requirement in the Municipality of Capoocan

Agricultural Crops	Production Per Year (MT)	Yearly Per Capita Requirement (MT)	Surplus/ Deficit Per Year
Grains (Rice and Corn)	2,145.50	3,258.69	(1,113.19)
Banana	3,960.00	408.00	3,552.00
Sugarcane	2,540.00	588.00	1,952.00
Rootcrops	1,860.00	204.10	1,619.90
Vegetables	68.00	354.20	(286.20)
Meat and Eggs	188.36	927.64	(739.28)

commodities of PhP3,097,804.00. The trading station's biggest earning is from fishery produce, which is PhP2,798,836.00. The Bagsakan center caters to the immediate residents of Poblacions Zone I and II.

Three (3) other registered wholesale and retail outlets operate in the municipality selling dry goods, grocery items, beverages, hardware supply and construction materials. The establishments have combined total sales of PhP1,382,000 per year. Along with two (2) gasoline stations which lump yearly sales of PhP9,125,000.00, Capooacan's commercial establishments on record garner an overall annual sale of PhP13,604,804.00. The establishments employ 47 workers. The data below show in detail the wholesale and retail establishments in the locality, their sales and number of employees.

Table 129: Wholesale-Retail Trade by Enterprises, Sales and No. of Employees

Name of Stores/Enterprises	Yearly Volume of Sales in Pesos (M)	Employees
1. Barangay Bagsakan		
- Agricultural Products	0.298,968	6
- Fishery Products	2.798,836	12
2. Opiasa Store	0.822,000	11
3. Aclao Store	0.436,000	5
4. Joriz Ian Enterprises	0.124,000	5
5. Macapus Gasoline Station	1.825,000	4
6. Madriaga Gasoline Station	7.300,000	4
TOTAL	13,604,804	47

Data Sources: BIR & DACAMPCI 2009

The mentioned enterprises are only those on record. They belong to the formal economy. More small ones conduct hole-in-the-wall variety goods trading (sari-sari stores), food processing, street vending, and eatery services, among others. They have been equally vital in making the community economically viable and the populace survive through vicissitudes and crises. Their informal sector helps the municipality's commerce function and thrive on a daily basis.

Recently, nationwide business franchises have come to the locality. One of them is the Palawan Express money sender and pawnshop. The other is the grilled chicken restaurant outfit named Andoks, which has put up a fast-food branch at the Bgy. Lemon crossing. The contribution of the two establishment chains to the local economy may not yet be determined, but observers note that they unmistakably signify progress, basing on the local market's capacity to absorb them.

Job Order Outfits

Shops catering to job order services have lately sprouted in the municipality. They form part of the services sector, but ply trades that already borders on being industrial. Offering direct labor with special skills or specializations, they exemplify the old craftsmen at the pre-manufacturing or pre-industrial stage of social development. As labor forces that have also become micro-entrepreneurs, they employ themselves.

The municipality has 26 outfits of this type. Most in number are tailoring. There are eight (8) local tailoring outfits, employing 16 workers. Welding has six (6) outfits. Second in number, it employs a bigger labor with 25 workers. All personal services employ a total of 67 workers. The quality of their labor is distinctly more advanced. By their skills, level of performance and application of higher technologies – mechanical and even digital, the job order enterprises may well be the shape of nascent industrial beginnings in the area.

Another of such kind is the arrastre and stevedoring services at Barangay Pinamopoan. Local parlance categorized them as community enterprise. The arrastre and stevedoring services enterprise deploys stevedores, manages labor, and facilitates pier shipment processes at the Pinamopoan port with 33 workers. The services it renders have been a stable source of income for the pier workers' families and the Capooacan LGU for a good number of years.

Forestry production of raw timber materials through reforestation has become a burgeoning micro-economy of Capoocan. The local folks generate Income through the market or processing of its products. The initiative has once more ignited the hope of reviving the rattan furniture, wood furniture and woodcraft industries. It may not yet significantly contribute to the gross municipal output, but it may later become an engine of economic growth. The data below portray the nascent forestry-based production subsector in the municipality by the type of forest raw material products, volume of produce annually, and labor forces engaged.

Table 132: Forestry-Based Production by Type, Volume of Output and Workers

Type of Forest Product	Production Per Annum	No. of Work Forces
Timber	400,140 board foot	175
Rattan	205,070 poles/bft	44
Bamboo	8,760 poles	15
Nito (assorted)	960 dozen (finish product)	18
Anahaw		
- Salukot	1,040 dozen	16
- Hand Fan	5,200 dozen	14
TOTAL		282

Data Sources: UMACAP, ACUFI, DACAMPCI, RIC & KALUPI 2010

4. Tourism

The tourism industry has not even reach yet the embryonic stage of development in the municipality. But it deserves mention already as a subsector that promises to be a major growth driver of the local economy.

Divine providence has blessed Capoocan with scenic wonders and alluring panoramic landscapes. Its geographical, topographic and other biophysical features offer nature lovers and adventure-seekers a magnificent spot to explore. Convenience in reaching the said places and the availability of facilities with excellent amenities for comfortable sojourn can make the locality truly a haven for tourists.

But besides the place's natural beauty and wonders, Capoocan exudes a historic aura reminding of the epic battle that raged along its rugged mountain terrains during the culmination of World War II. Memory and homage by the relatives of those who perished here have sanctified the historic spots by putting sacred markers. The narratives about them speak with valuable insights and lessons to travelers on what Capoocan had gone through in that past.

All these are still potentials. Tourism development has yet to reach even the drawing board. But right now, certain spots with very good potentials may be promoted and marketed for business investments. These are:

1. *The Breakneck Ridge.* The spot offers a spectacular view of Leyte, Leyte's sprawling green valley and the mirror-like tranquility of the Carigara Bay. It is ideal for leisurely nature-scene watching and tarrying for stop-and-shop amenities. It is located at Sitio Ansubas, Brgy. Lemon on the shoulders of the Tacloban-Ormoc national highway.
2. *The Japanese Shrine.* The quaint piece of architecture and garden landscape has been built by latter visiting countrymen as a tribute to the fallen Japanese soldiers in the same place where the Japanese Imperial Army held its last line of defense against the advancing American and Filipino forces towards the end of World War II. The shrine is located at Brgy. San Joaquin, also beside the Maharlika Highway.
3. *The Culasian Fish Sanctuary.* The area is a portion of the Carigara Bay designated as a protected marine resource, where commercial fishing and other activities to extract wealth from the sea can no longer be done. The sanctuary presents an ecological bright spot for tourists to enjoy viewing and reflecting on. It is located at Brgy. Culasian.

of spatial restructuring/redirection for greater productivity and environmental protection hinders Capoocan's social and economic progress.

Meanwhile, the municipality's urban areas are confined to the two poblacion barangays in the town center. Other barangays, like Balud, Lemon and Pinamopoan, which have already equally large populations and vibrant commercial activity continue to be classified as rural. Current land use allocation does not provide much needed space to spur off rapid and manifold built-up development. There is present and future demand for economic support and institutional infrastructures. But they have nowhere to locate. The shortcoming in undertaking optimal land use strategies to cater to the demand for built-up space cripples housing, commercial and industrial estate development.

Urban expansion coupled by accelerated built-up engineering is in itself a veritable driver of economic growth. In their wake, construction booms and the local market for goods and services enlarge. The existing land use of the municipality is dissonant with its new exigencies.

2) *Skills and technical deficit.* Capoocan's labor force is not only small, but deficient in industrial work proficiencies as well as productivity. The lack of skills and technical competencies of its available human resource disables the municipality at the stage of fulfilling the various requirements for enterprise that will drive up economic growth. The deficit prevents accelerated modernization and development from taking off. Part of it can be attributed to brain drain as huge numbers of locals migrate to metropolitan hubs to seek for the proverbial greener pastures.

3) *Low or unavailable technology.* The area is yet tied to the use of inappropriate or antiquated technologies especially in the agricultural sector. This is one of the reasons why it continues to lag in production and overall economic performance. Advance technologies can propel a lot of progress in areas like plant nutrient cycling, soil preparation, maintaining water balance, genetic resource conservation, and pest management. The failure to acquire or infuse them into production systems has stymied agriculture, industrial processing, services delivery and marketing in taking off towards sustained development.

4) *Undiversified production systems.* Land is a principal means of production in the area. Unfortunately, it is being used mostly for plantation agriculture devoted to the cultivation of single cash crop, like sugar and coconut. This is a facet of the feudal past where control and management of the forces of production are monopolized to concentrate wealth in a few big landowners, breeding exploitative and predatory economic relationships. The system has hindered the diversification of production for natural self-sufficiency particularly in food. It also blocked more and better options at cash income generation derived from varying produce. The prevailing monopoly production system in the municipality curtails productivity and by and large socio-economic development.

5) *Limited economic activity.* The condition may be summed up as the perennial inability to go beyond agriculture, start up industrial enterprises and enlarge services to foster bigger outputs and income. Some of these, to cite a few, may be construction, small- to medium-scale manufacturing of consumer goods combined, metal fabrication leading to the assembly of farm equipment, big trade and tourism. As of now, the municipality continues to languish in low-productivity agriculture, fishery, and micro-services, with limited options at employment, income generation and capital formation. The introduction of industrial enterprises into the local economy is crucial in transitioning to unprecedented growth and development. For a long time already, the current economy could not even invigorate commerce. There was once a joke about the town competing with other places as to which had the cleanest market in the province. This was meant as the one emptiest of commodities.

6) *Obstructive conflict situations.* This must be taken into account, because of its tendency to hinder strong collective action. Socio-political divides have continually bedeviled consensus building and organizational growth to empower the community in confronting the indomitable challenges of development. This has perpetuated poverty and blocked opportunities for economic advancement. It has also barred access to resources and the enjoyment of basic social services. The festering social

4. *Increasing Risk of Intense Disasters due to Climate Change.* Majority of the barangays in the locality is vulnerable to disasters from geologic and meteorological calamities aggravated by climate change. The shadow of disaster limits the options of promising areas to allot land for agricultural, commercial, industrial and residential use. It also poses a strategic threat to full scale development.

The experience of recent calamities has brought awareness to the new norm: much stronger winds, bigger amount of rainfall, higher floods and far worse devastation than ever before in extreme hazard events. Also, most recent occurrence of earthquakes and aftershocks has bared a tectonic fault line traversing the diagonal length of Leyte that threatens ground shaking anytime more frequently and at bigger magnitudes than ever before. Capooacan lies on its path.

The killer storm surge in the aftermath of Supertyphoon Yolanda on November 8, 2013 taught the municipality that a similarly catastrophic event could hit it in the future. ST Yolanda was deemed the world's strongest typhoon on record. It whipped up a freak sea invasion inland that drowned around seven thousand folks. These realizations and the vulnerability of several areas of the locality to extreme calamities hound not only the vision of its future development, but most importantly the prospect of its survival.

5. *Infrastructure Deficiency.* The development into growth nodes of areas within the municipality that could perform important economic roles and functions is being held by the difficulty of access to their location. Roads are needed to integrate them to the mainstream of commerce and other valuable economic linkages. Right now they are either non-existent or in an impassable condition for vehicular use. Road connections, bridges and other socio-economic support facilities are also needed to penetrate interiors and open them to built-up space development. Infrastructure which is now in great luck must be prepositioned to lay the groundwork for expanded residential, commercial, industrial and agro-industrial estates to be future zones of economic progress.

6. *Low Income.* At both the household and community level, the municipality suffers from the inadequacy of earnings. Most families perennially chafe in the inability to meet even the minimum requirements of food and other necessities to live. The condition is matched by a local economy that remains viable largely through infusion of external financial resources. The Local Government Unit for instance merely relies on Internal Revenue Allotment and aid from the national government to fund projects/initiatives for socio-economic development and improved basic social services. Much of the income that the populace also generates comes from salaries and honoraria of government personnel also paid by a slice of the national budget for local autonomy. Industries are absent. Agriculture and fisheries have not graduated towards creating enough wealth from surpluses to underwrite production in other sectors, provide more jobs/livelihoods, raise incomes, and establish a robust local market base for goods produced in the locality. Signs of private advancement around town almost always have behind them relatives working abroad who send home money.

7. *Prevailing Status of Reproductive Health and Alarming Incidence of Child Malnutrition.* In terms of social equity, gainful work and access to resources, women are still at a disadvantage. In governance, traditionally less effort is given to internalizing gender issues and concerns, and making development plans responsive to women-specific problems and needs. Women continue to bear multiple social and economic burdens. All these lead towards the poor state of reproductive health care, resulting in higher maternal and child morbidity and, eventually, mortality.

Group processing among communities of late discussed as a deep concern the municipality's widespread child malnutrition.

sectors offer the most promising drivers of Capoocan's future prosperity. To enhance their role, systems and quality of production need to be modernized to global standards of competitiveness.

O. SOCIO-ECONOMIC ROLE

The Municipality of Capoocan assigns itself the functional role of a new growth model that boosts agriculture, fishery and tourism in the province under a development that is ecologically sound and highlights the overriding importance of the sustainability of the environment. In line with this role, it introduces the following enterprise features:

1) **Halfway Travellers Stop.** This makes Capoocan a traveller-friendly host offering stop-and-dine and stop-and-shop facilities with fine amenities and convenience to folks on the road, midway along the Tacloban-Ormoc growth corridor.

2) **Agricultural and Fishery Trading Center.** This makes the municipality a nucleus of linkages for farming and fishing through a designated marketing zone that offers agricultural and fishery produce at gate prices, as well as inputs, tools and equipment for production. On fishery, the market immediately connects to a fish wharf, handling services outfit, and storage facilities.

3) **Field Learning Laboratory and Model.** This makes Capoocan a showcase and bastion of diversified and integrated agricultural production, multi-storey agroforestry, and coastal resource management systems, offering high productivity and economic gains.

4) **Agro-Industrial Complex.** This makes Capoocan a major player in agro-industrial production and development in the province offering a complex of infrastructure and facilities that bases agricultural products processing, administrative and technical support services to agriculture, and rural microfinance.

5) **Tourism Hub.** This makes Capoocan at the very least a regional tourism capital offering country adventure and scenic nature watching, edifying agro-ecosystems, a marine ecology theme park along a fish sanctuary, and visits to historical sites.

6) **Low and Medium-Density Residential Haven.** This makes the place a coveted destination for settling down to residence in uncongested community with quiet ecological surroundings at the bosom of nature.

3. GOALS

What historic changes in the near future best embody the aspirations of the people of Capoocan today? What milestones or benchmarks in the roadmap to a better life shall they strive and work on over the next 10 to 20 years? The Comprehensive Land Use Plan of Capoocan serves to realize the following goals of development:

1) *Eradication of poverty*

In consonance with the UN Millennium Development Goals 2000-2015, but also in cognizance of a concrete reality that continues to bedevil the municipality, the CLUP sets the goal of poverty eradication/reduction first and foremost. The incidence of families in the municipality that are hardly able to satisfy the bare minimum requirements to live or subsist is still at around 60 to 70 percent. The goal, at the very least, is to bring this down to something like ten percent, or a negligible level, for most if not all Capoocanons to have greater choices in life.

2) *Equitable growth*

Despite having abundant natural resources, a land area much bigger than many major urban centers in the country, and 220 square kilometers of municipal waters, Capoocan has continued to miss larger scales of production and bigger municipal outputs than usual. The second goal of the CLUP is the municipality's attainment of economic growth indicated by an exponential increase in locally produced goods and services, amount of accumulated income, wealth in the locality, and productivity.

But this should not be a growth, where only a few enjoy the gains, monopolistic proprietors hoard profit away from the community, and the rich merely get richer by appropriating the wealth that the labor of many created. The boons of progress should ultimately result in higher incomes for the overwhelming majority of households, general wellbeing, and greater social services for all. In short, the targeted local economic growth shall be socially just/equitable.

3) *Food security*

A still large number of people in the municipality suffer from chronic hunger. The fact that a third of the area is devoted to agriculture has not helped this. But besides farming folks themselves being victimized by hunger, Capoocan yet gets more than half of its cereal, vegetable, meat and poultry requirements outside. The third goal of the CLUP is the community's self-sufficiency in food at all times. It must be added that food is meant as all that comprise the proper nutritional requirements of a human being, not just rice for instance.

4) *Ecological integrity*

Less than one fourth of the municipality's forest cover is left. Biodiversity over wide areas has been eroded. Upland and coastal ecosystems are dwindling. The despoliation of components of Capoocan's environment is approaching critical levels. The fourth goal of the CLUP is the reversal of these trends leading to the recovery of the benign ecological quality of the place. It is the keeping of all the vital elements of sound environment intact.

5) *Community resilience and adaptability*

The fifth goal pertains to the risk of disasters hitting the area. It also pertains to the impact of climate change. The goal is a community least vulnerable to calamities, capacitated to bounce back in a short period of time from the devastation of extreme hazard events, and cushioned against the disastrous consequences of climate change. The imperative of ensuring Capoocan's resilience in disasters and adaptability to the effects of climate change cannot be little appreciated.

- j) Maintenance of at least three (3) biodiversity conservation areas among remaining viable ecosystems

The crystallization of vision, goals, objectives and measurable indicators now charts where the allocation of use and management of the Capoocan's land resource shall head. It establishes what needs to be accomplished, to guide implementers.

B. DEVELOPMENT THRUSTS

1. Thrusts and Respective Policy Directions

Primarily aimed at facilitating and supporting the dynamics of the municipality's sustainable development, the Comprehensive Land Use Plan of Capoocan advances the following thrusts:

- 1) *Scaled-up agricultural and agro-industrial production*

It shall designate areas in the countryside to base modernized crop production for end-consumers and industrial raw material on a large-scale.

- 2) *Diversified and integrated farming*

It shall ensure land use oriented to the cultivation of non-traditional crops, vegetables, animal components and species that fetch high market value, primarily for food self-sufficiency, secondarily for cash income generation, and thirdly for ecological balance.

- 3) *Revitalization of micro-economies based on natural resource extraction*

It shall assign uplands and gently rolling hills for long-term as well as medium-term environmental regeneration and forestry production through replanting of trees.

- 4) *Tourism development*

It shall secure sites to break ground, build facilities, and start up tourism as a new engine of local economic growth.

- 5) *Rapid urban expansion*

It shall lay the groundwork for the manifold expansion of built-up space to promote as well as fast-track public infrastructure building and greater residential, commercial and industrial estate development;

- 6) *Mass housing*

It shall provide suitable areas for high-density and socialized housing.

- 7) *Environmental protection and enhancement*

It shall establish for protection and enrichment bastions of biodiversity and wildlife and green buffer zones, to foster human ecological security.

- 8) *Natural resource conservation*

It shall delineate protected areas of forest, coastal and marine ecosystems for the conservation of natural resources and sustainability of bio-physical cycles in support of human life;

administrative muscle to the promotion of investments or the sourcing and generation of financial requirements.

Phase IV – Construction

The fourth phase is the engineering of new urban rise that will usher the growth of the construction industry. This takes initially the building of support infrastructure, like roads, water works, power connection and other facilities, to pave the way for further built-up development. With the preliminary groundwork, medium industries can now come to build and operate. Residential estate development and housing construction may follow or proceed simultaneously. Next is commercial estate development integrated and consolidated in the building of a metro central business district.

Development at this phase is two-pronged. One is the engineering of preliminary built-up development with the laying of groundwork in the form of support infrastructure, the succeeding construction of residential and housing estates, the nestling of medium industries, and commercial estate development consolidated in the building of a metro central business district. Second is the initiation and growth of the construction industry itself, as another major driver of economic progress for the municipality.

Phase V – Setting Up of Medium Industries

The fifth phase is the building and operation of medium industries. At this stage, the Capoocan enterprise gears up into full course. Medium industry category sets a capitalization of PhP10-100 million. Among them can be low-rise hotels or inns, fish wharf complex (with port, trading and cold storage facilities), agro-product processing (e.g. pineapple juice, cassava starch, corn cereals, and banana catsup), citronella oil extraction, coco oil mill, engineering utilities, etc. The setting up and successful conduct of medium-scale industries elevate the area to a first class community marked by unprecedented prosperity.

C. SPATIAL STRATEGIES

The spatial strategies are as follows:

1. *Expansion/Creation of Urban Areas*

The urban areas of Capoocan at present are Bgys. Poblacion Zone I and Poblacion Zone II. The contiguous localities constitute the town center where the bulk of residential houses, most commercial establishments and seat of local administration are located. The current built-up space belonging to the two barangays shall be expanded sidewise or southward and (for Poblacion Zone II) westward.

Bgy. Balud to the east abuts the town center next to Poblacion Zone I. Just across the bridge from the latter, the medium to high density residential community shall be annexed to form part of the main urban areas. The barangay's built-up space shall further be expanded southward to encroach upon lands currently classified agricultural, thereby converting them to housing, residential, commercial or industrial estate as development may warrant.

Additional public estate may in the future be created for built-up space expansion northward. This is by the reclamation of a portion of the Carigara Bay, up to where seawater recedes during low tide. The Carigara Bay Reclamation Project alongside Poblacion I and II is one of the big-ticket projects being contemplated by the municipality to positively impact upon local economic growth.

The contiguous barangays of Pinamopoan and Lemon west of the town center share the status of commercial and semi-industrial growth zones. To give further impetus to their current trend of

Except for the wholly lowland barangay of Balud, the vast A & D portions of the rest of the 18 barangays including the designated new urban barangays of Pinamopoan and Lemon shall be regulated, encouraged or incentivized to adopt, as conditions warrant, the following production systems:

- 1) Cash crop cultivation by economies of scale mainly of industrial raw materials
- 2) Diversified and integrated farming incorporating non-traditional crops, high-value crops, vegetables and animal components for cash income generation as well as direct food consumption of the household
- 3) Upland agroforestry multi-story systems incorporating base crop, such as coconut, forest timber species for upper canopy, fruit trees – others are shade-tolerant species, non-timber forest species, vegetables, and animal components
- 4) Reforestation suited to commercial forestry production for economic and ecological purposes
- 5) Agronomy – plantation-type cultivation of grains, such as rice and corn

6. *Coastal Resource Management*

Shoreline barangays along the Carigara Bay shall model coastal resource management as fishing and farming communities. Besides agriculture, they shall devote areas along the shores for mangrove reforestation and ecologically benign fishery production using aquaculture/mariculture technologies. Mudflats, hydro-soils, and tide-washed portions shall be reserved for natural resource conservation and preservation of ecosystems. Barangays may allot parcels of land for housing, limited public works, and construction of institutional facilities, like school buildings, day care centers and barangay halls.

7. *Forest/Parks Protection*

Ridge and upland areas not classified A & D, therefore public and common resource that remain bastions of biodiversity and host to complete ecosystems including endemic wildlife shall be designated as protected parks and declared so by legislation. As much as possible, they shall be expanded to cover already denuded portions that were once forested but can yet be recovered and nurtured through integrated reforestation schemes.

Having been drawn are the scenarios and milestones of what Capoocan will be over the next ten years. The next step is the plotting of the physical blueprint of the municipality's future land use allocation and management.

D. THE PROPOSED LAND USE ALLOCATION AND MANAGEMENT OF THE MUNICIPALITY OF CAPOOCAN FOR THE NEXT TEN YEARS

As pre-charted by the previous sections on Thrusts and Spatial Strategy, the following physical lay recommends how land use shall be allocated, measured, and directed over the next ten years by the Municipality of Capoocan.

Content

The Comprehensive Land Use Plan's physical structure includes:

- 1) The general location of areas for conservation/protection, such as forests, critical watersheds, coastal ecosystems and historical cultural sites

- Allowed uses or activities in strict protection zones may be limited only to scientific research/inventory/assessments and specie/resource monitoring.
 - Settlements and major infrastructure projects or facilities, such as telecom towers, power transmission structures, etc. may be totally banned.
 - No mechanical or motorized equipment may be used except in prime agricultural lands.
- 3) The types of protection land use areas are:

Upland

- Critical watershed areas
- Primary forest or old growth forest
- Biodiversity conservation areas (i.e. critical specie habitats, cave systems, waterfalls)
- Critical geo-hazard high risk areas (landslide, erosion, liquefaction, earthquakes)

Lowland

- Riverbank easements and riparian buffer zones
- Critical geo-hazard high risk areas
- Prime agricultural lands
- Areas severely threatened by the impact of climate change

Coastal

- Marine protected areas
- Fish sanctuary
- Mangroves/sea grass areas
- Foreshore and salvage zones
- Coral reef areas

2. Production Land Use

The identification and delineation of areas for production land use follow. These are areas where all types of activities may be conducted subject to regulations set by the local government unit. Basic among the land uses/activities inside the production and multiple land use zones are settlement, commercial, industrial, institutional, infrastructure, agriculture, fisheries and forestry production. The rest of the municipality of Capoocan, after the identification and delineation of the protected land use areas, shall be allocated according to the following production land and water use zones:

- 1) *Agricultural* – portions of land allocated to crop and animal production
- 2) *Agroforestry* – portions of uplands suited and allocated to multi-storey cropping incorporating forest timber and non-timber species in a balanced system
- 3) *Forestry production* – portions of land allocated to plantation of hard wood species for commercial and ecological purposes
- 4) *Agro-industrial* – portion of land allocated to the development of high growth zone hosting outfits for the production/processing of agricultural products, basing downstream industries as immediate forward linkage to agriculture, marketing at farm-gate level, and providing offices for technical-administrative support services.

- 6) Additional links to the current road network shall avoid penetrating into areas that will already harm or disrupt their ecological integrity.

Figure 78: MAP OF EXISTING LAND USE, MUNICIPALITY OF CAPOOCAN

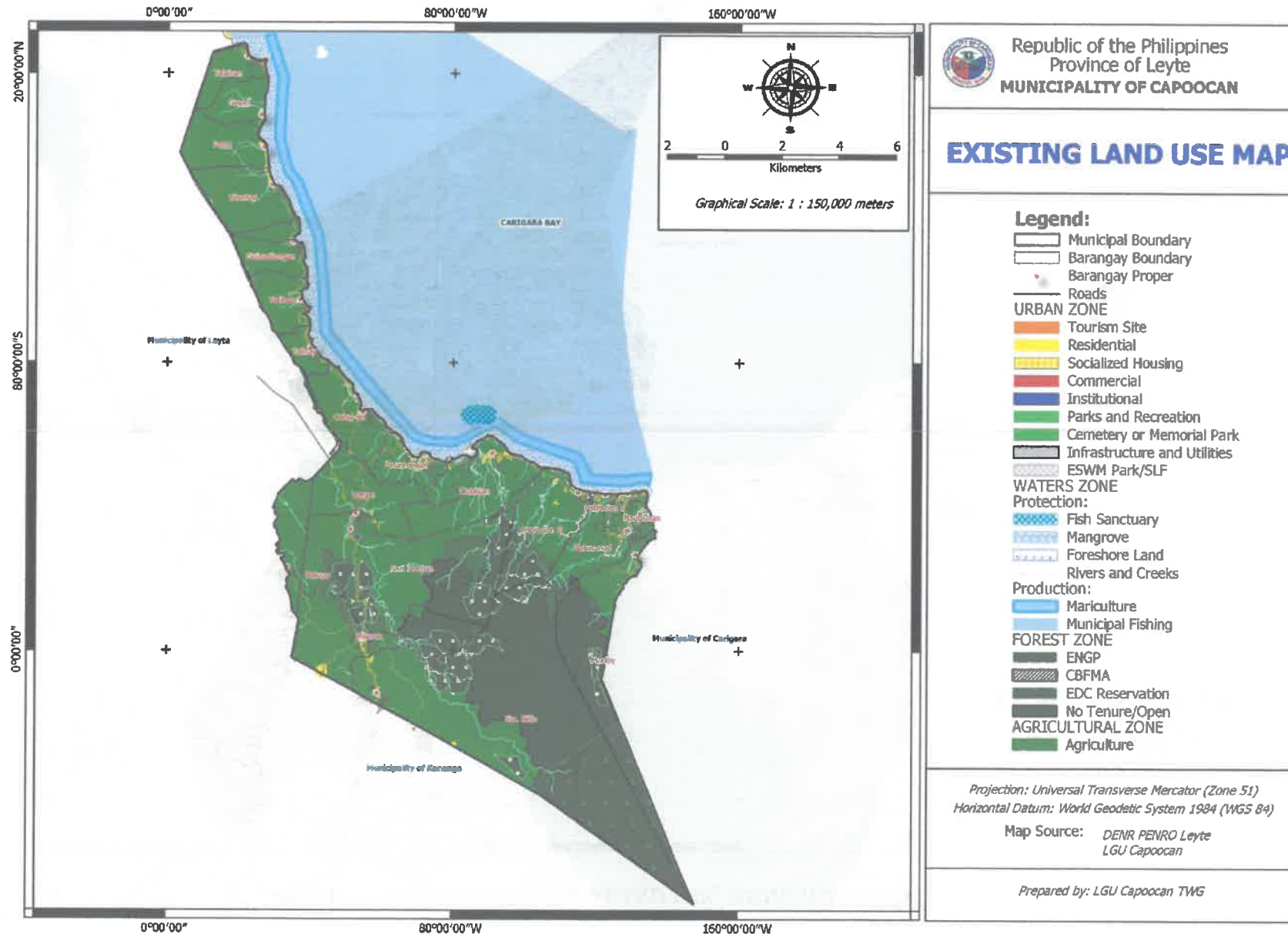


Figure 79-A: MAP OF PROPOSED LAND USE, BRGY. BALUCANAD

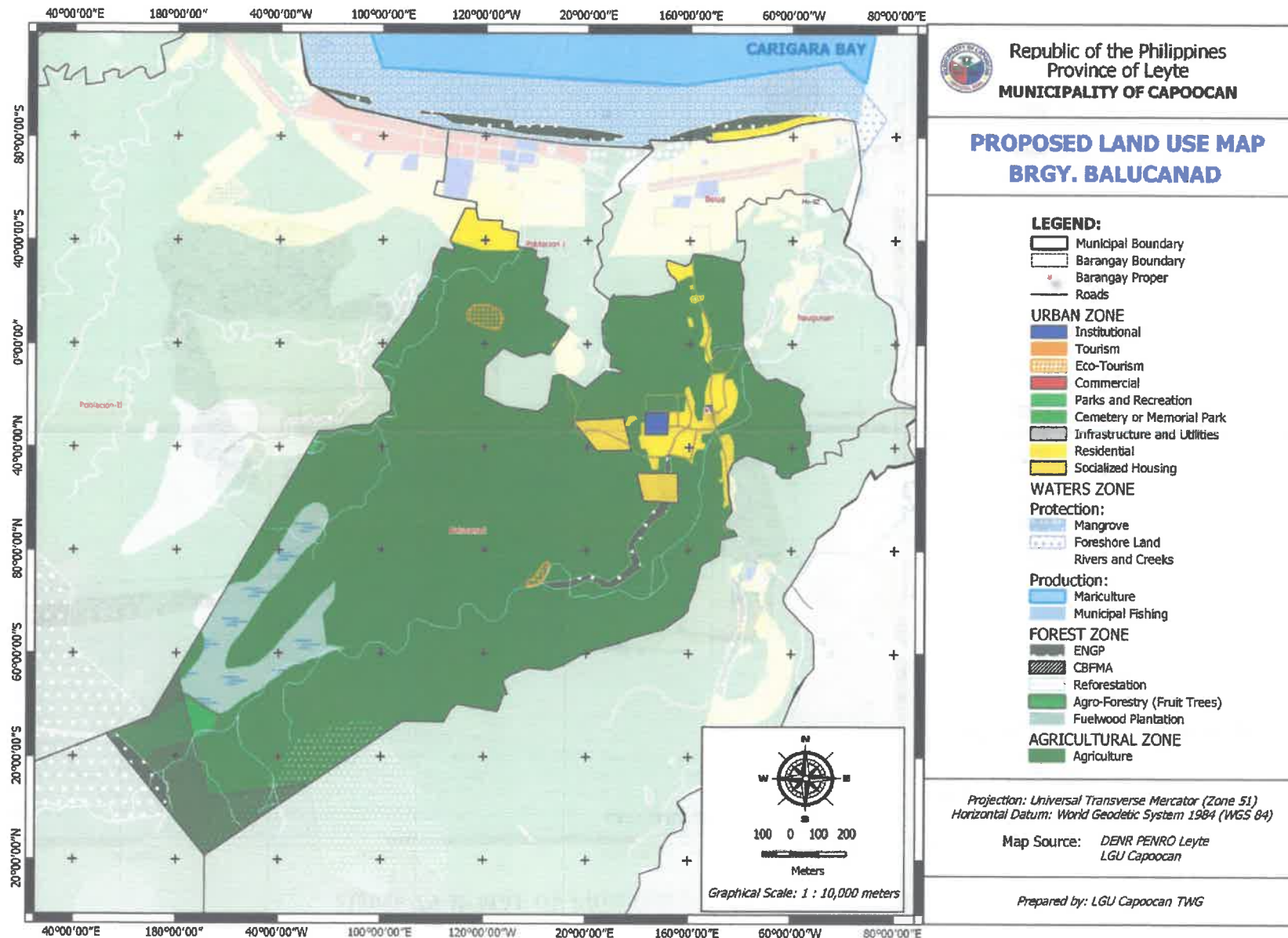


Figure 79-C: MAP OF PROPOSED LAND USE, BRGY. BALUGO

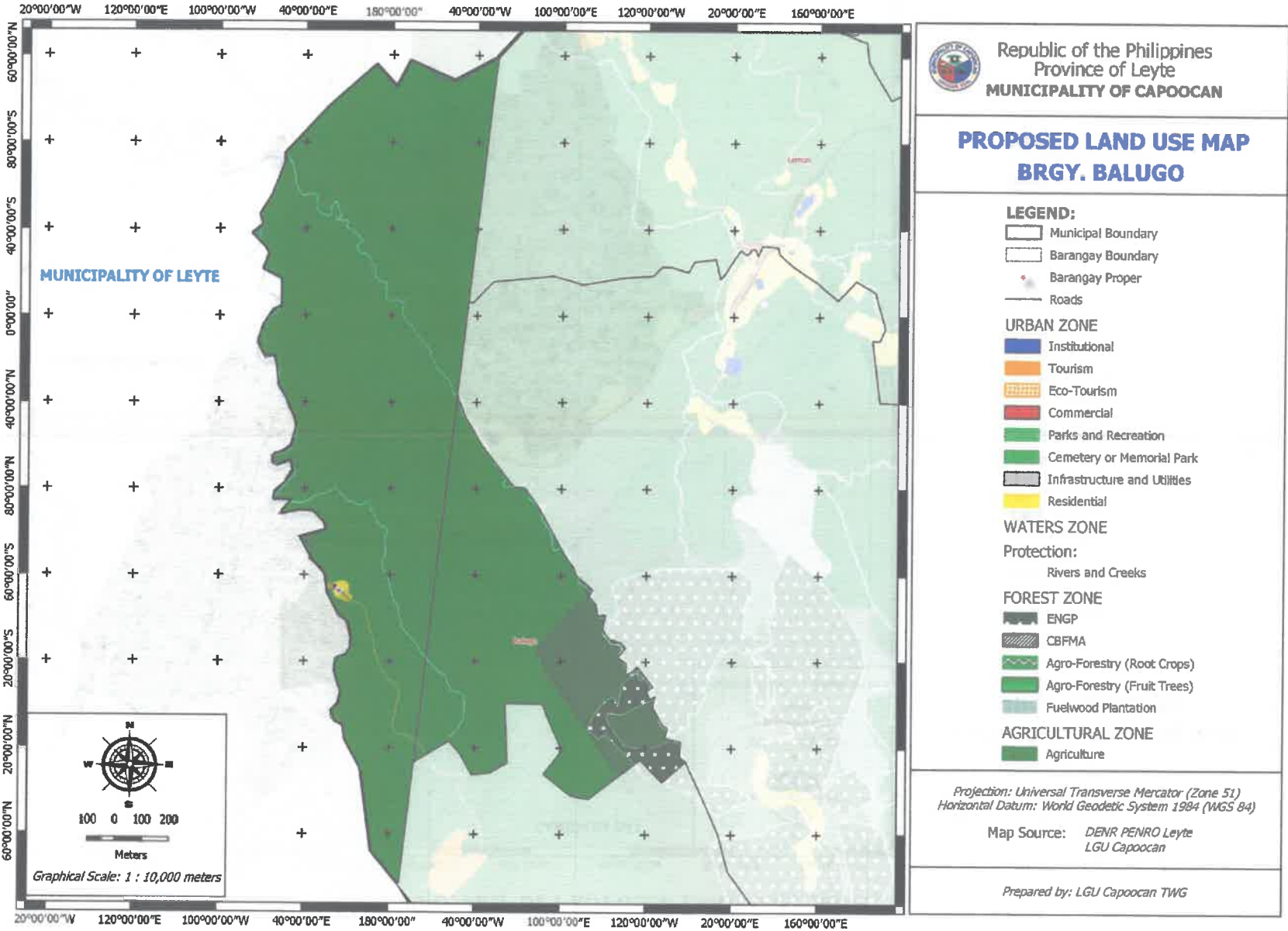


Figure 79-E: MAP OF PROPOSED LAND USE, BRGY. CULASIAN

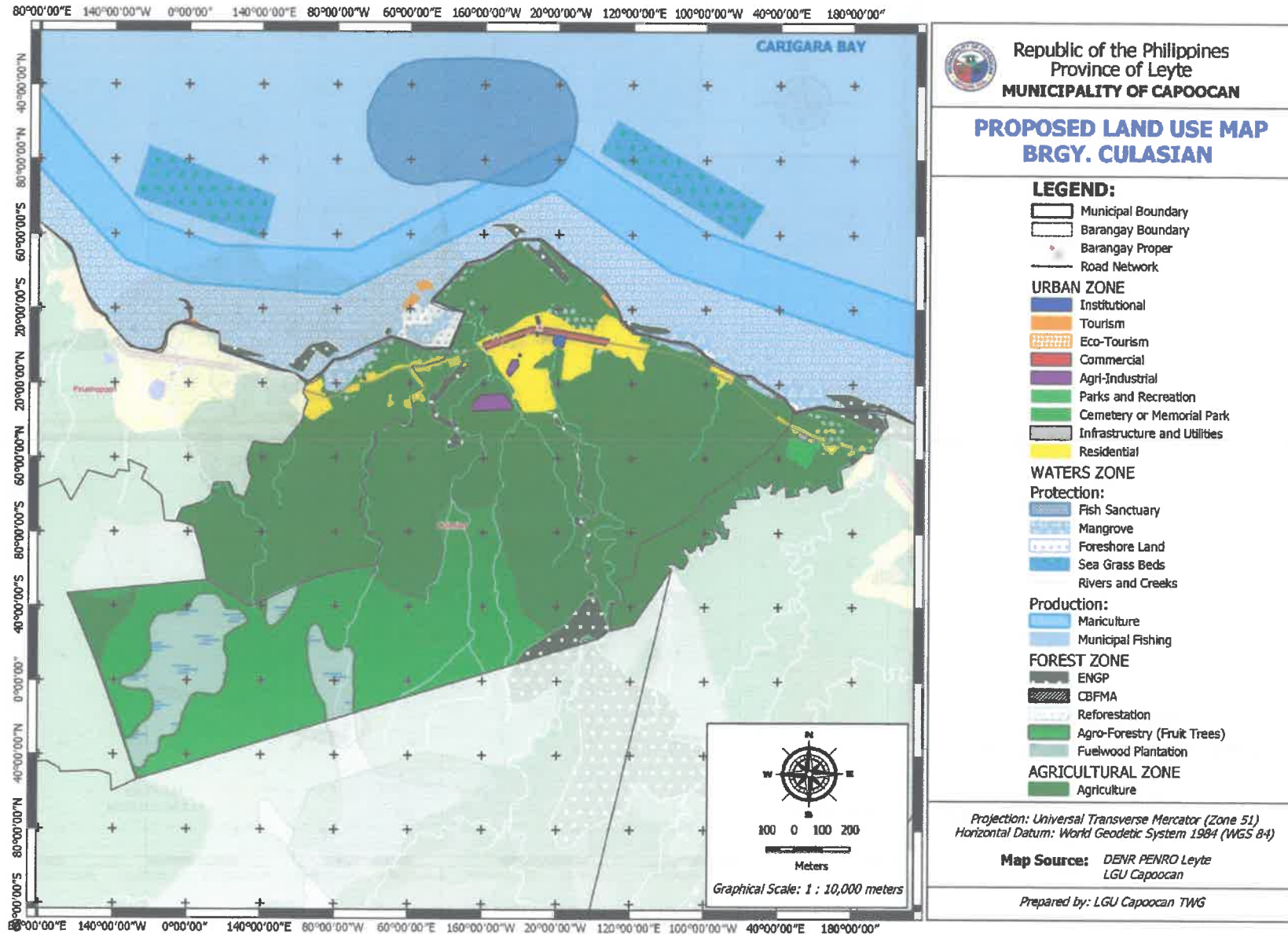


Figure 79-G: MAP OF PROPOSED LAND USE, BRGY. SAN JOAQUIN

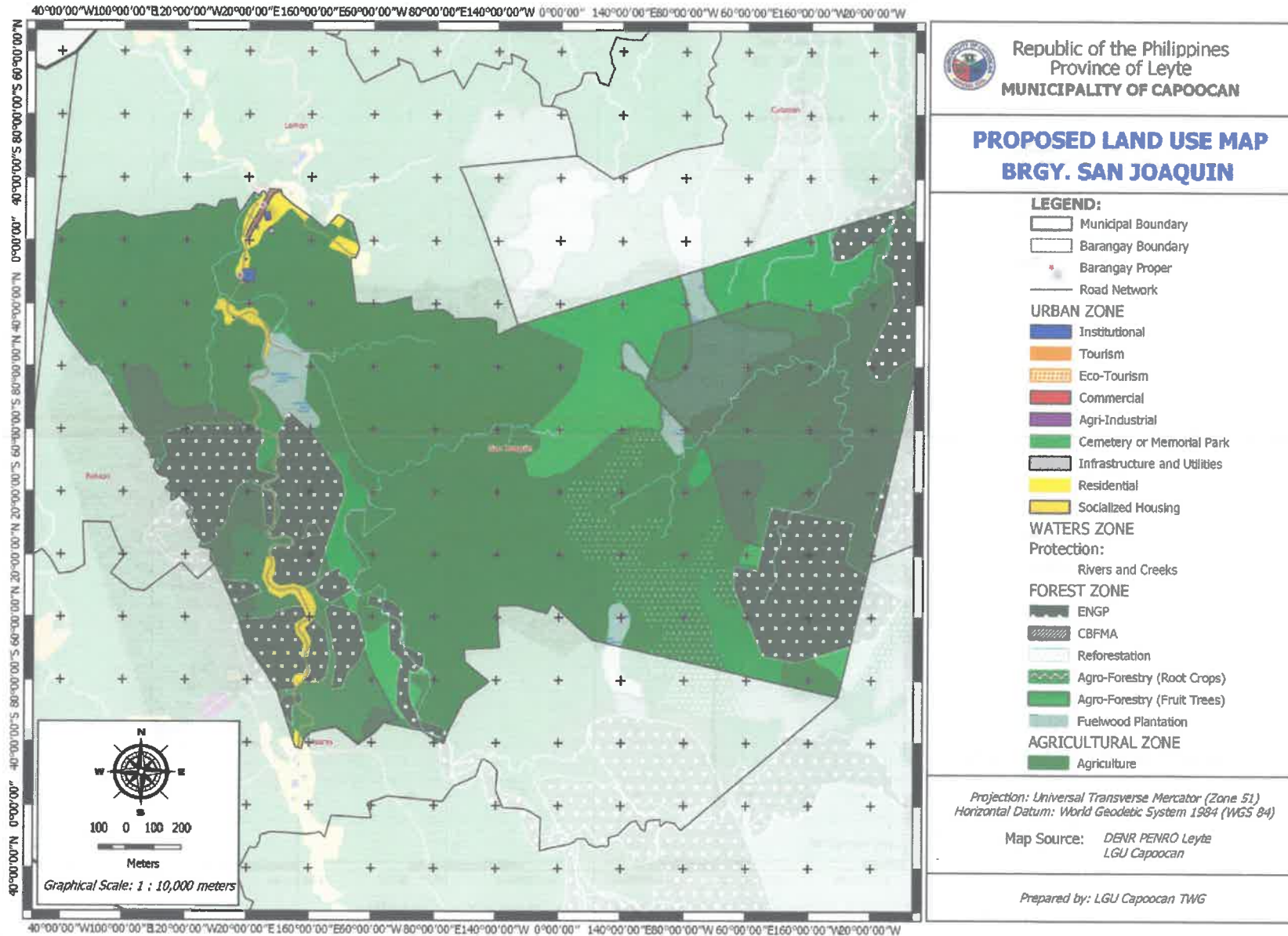


Figure 79-I: MAP OF PROPOSED LAND USE, BRGY. POB. ZONE I

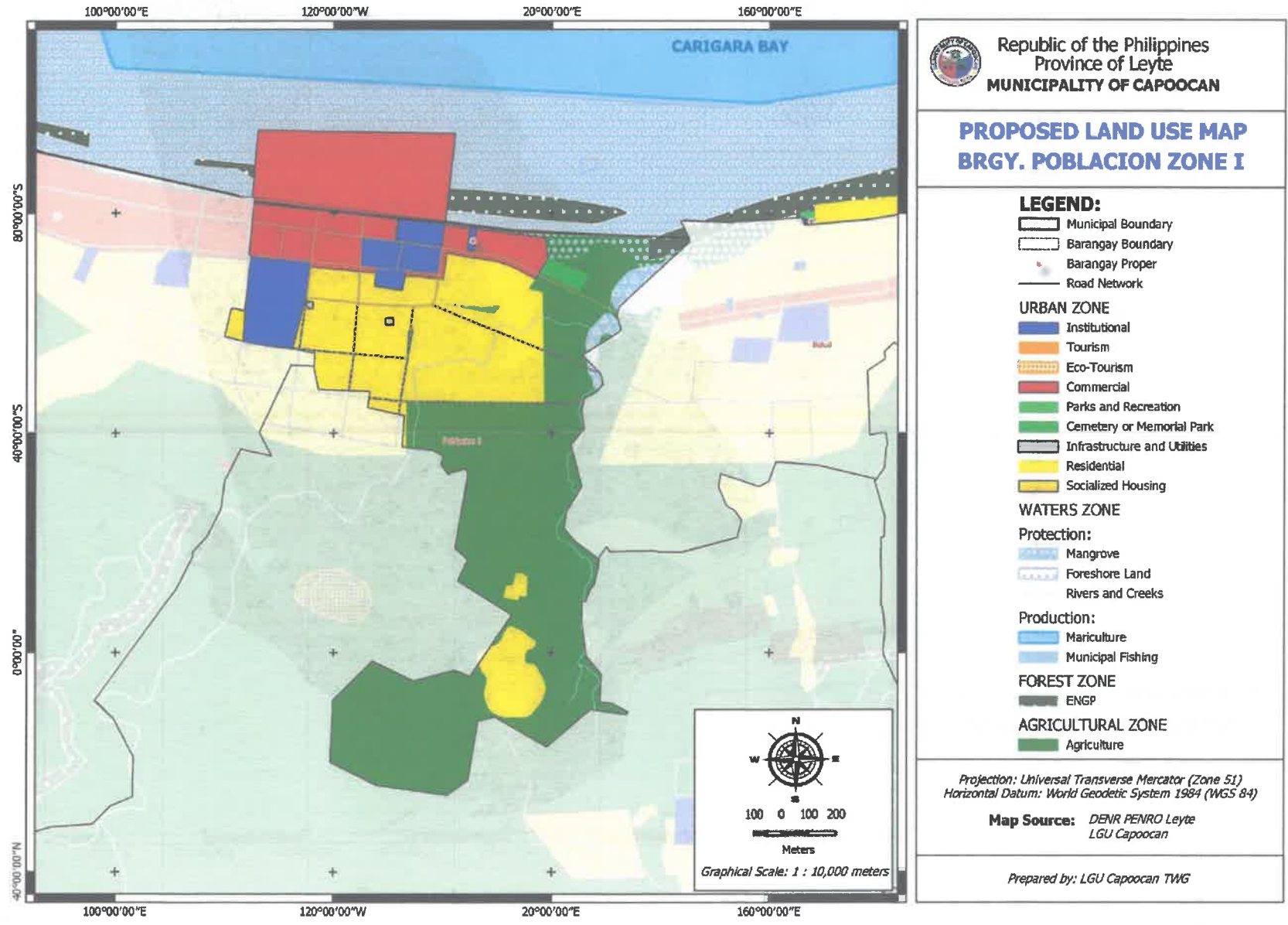


Figure 79-K: MAP OF PROPOSED LAND USE, BRGY. PINAMOPOAN

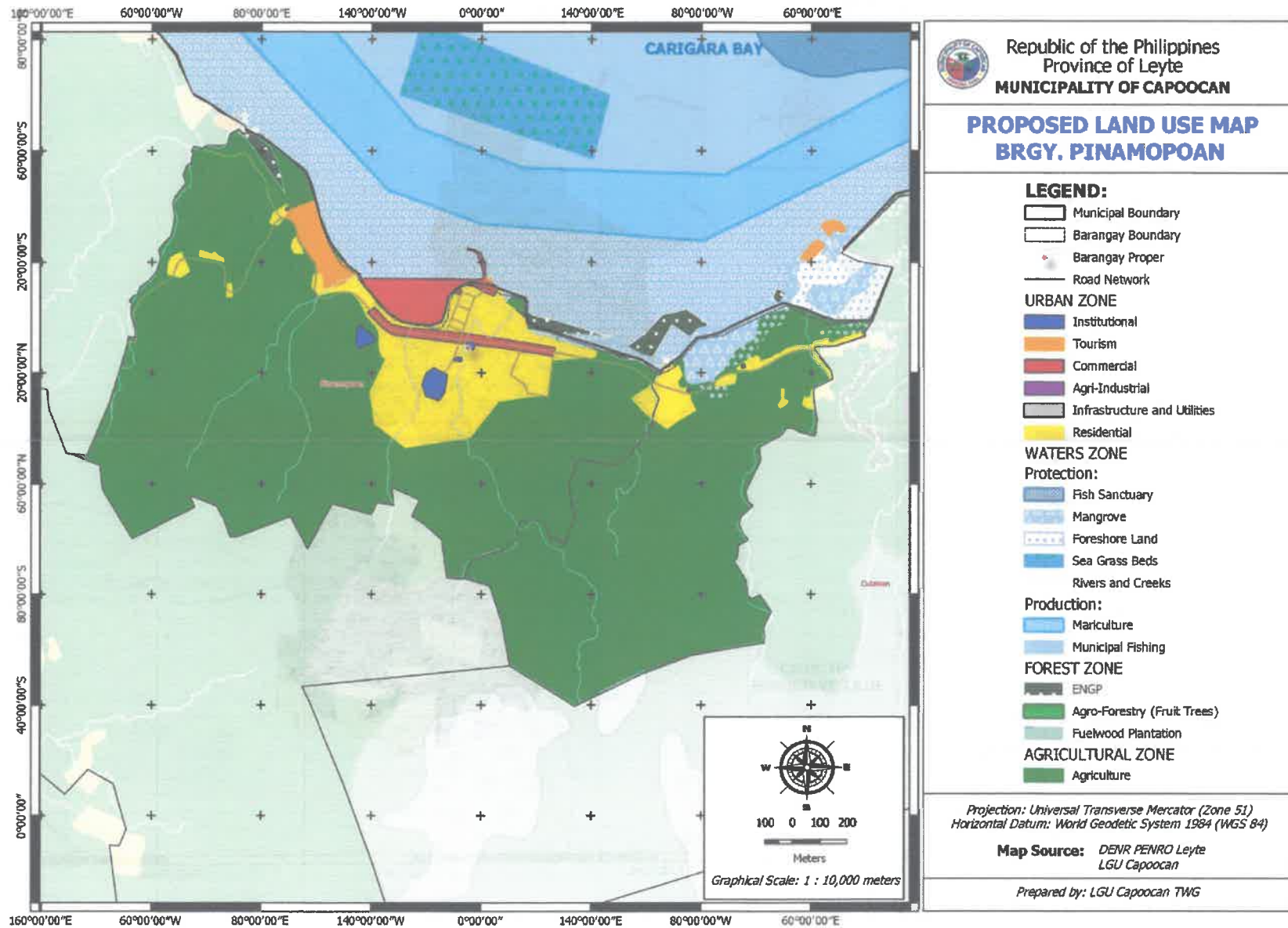


Figure 79-M: MAP OF PROPOSED LAND USE, BRGY. MANLOY

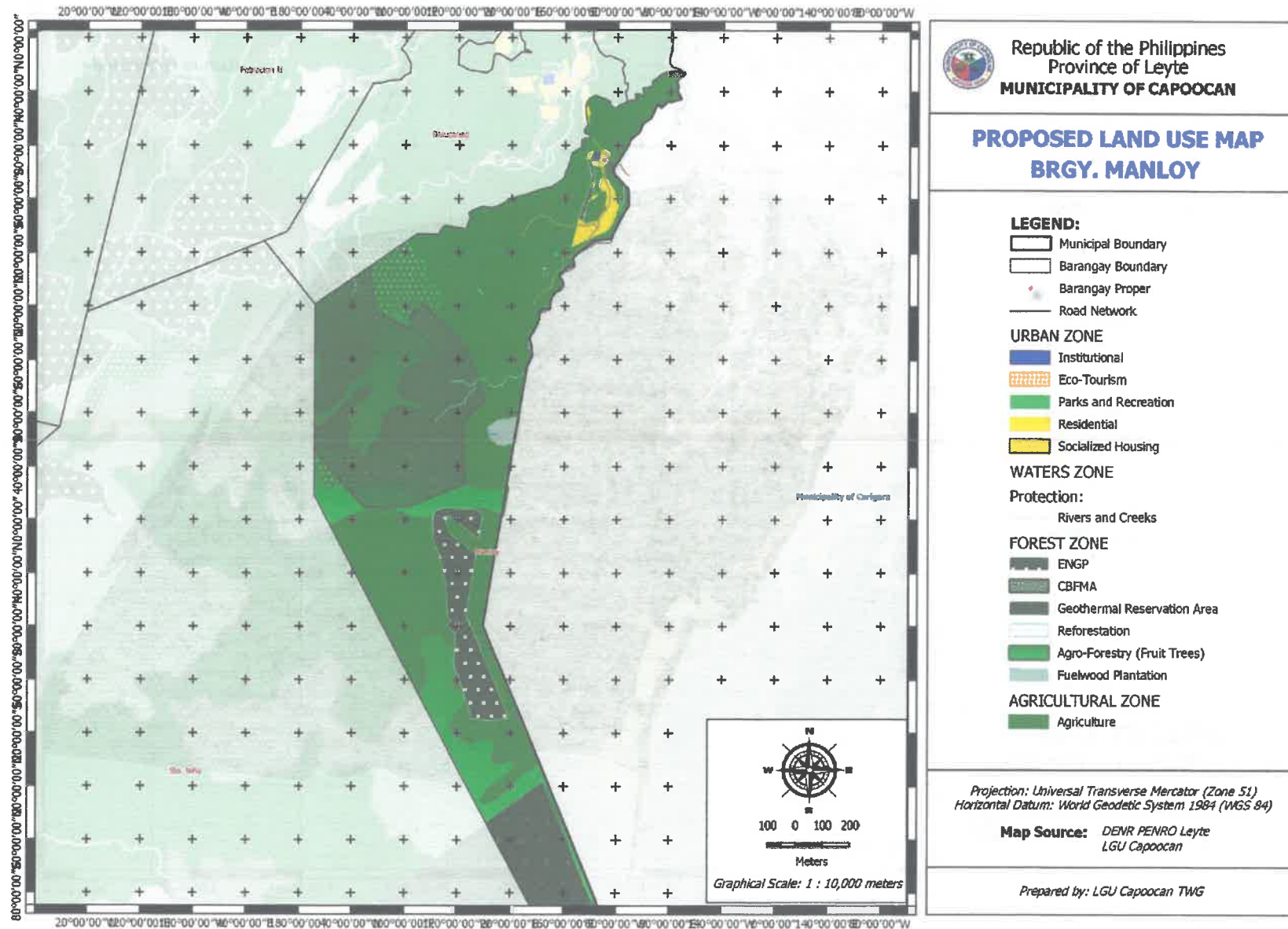


Figure 79-O: MAP OF PROPOSED LAND USE, BRGY. LEMON

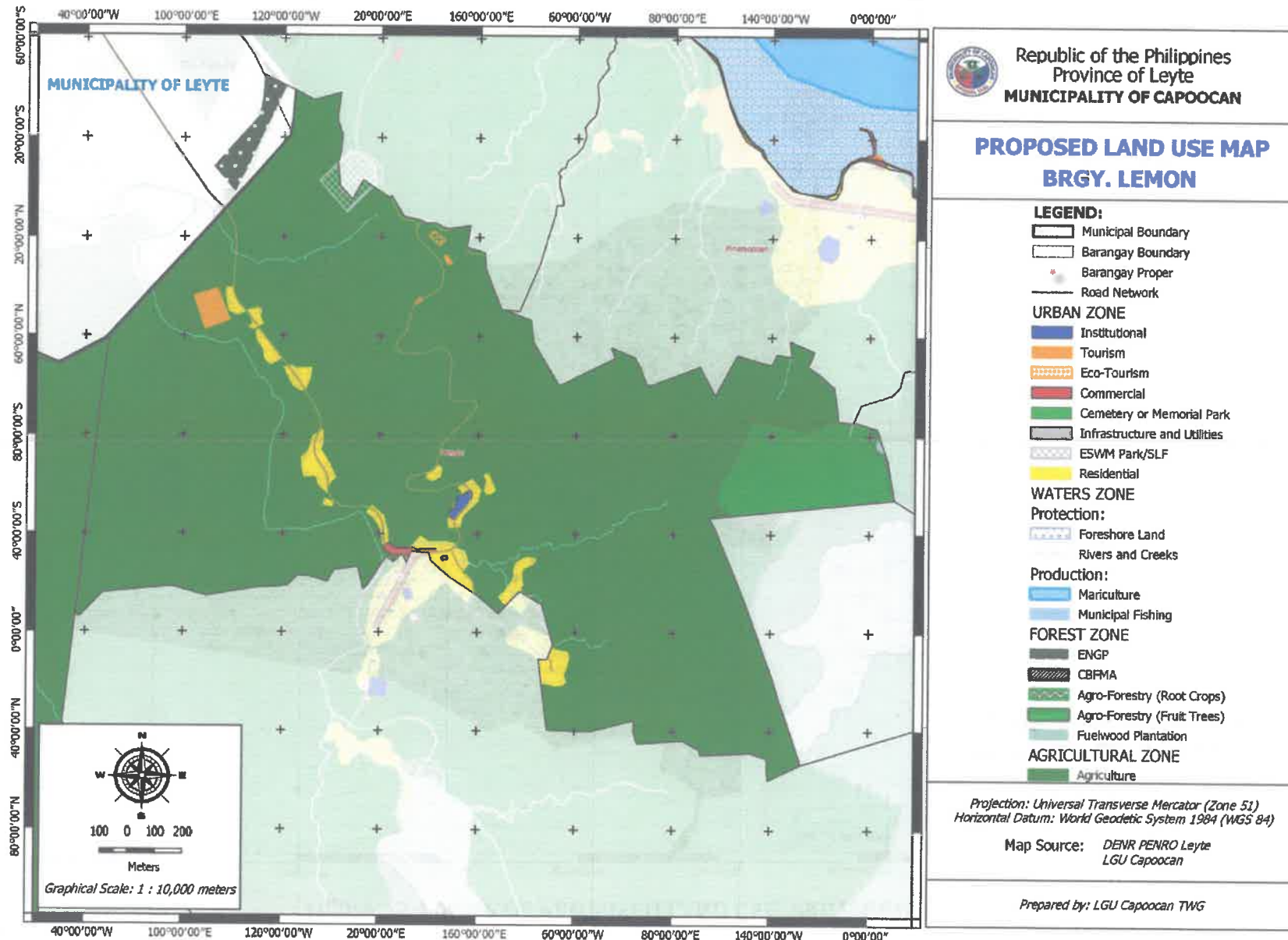


Figure 79-Q: MAP OF PROPOSED LAND USE, BRGY. STO. NIÑO

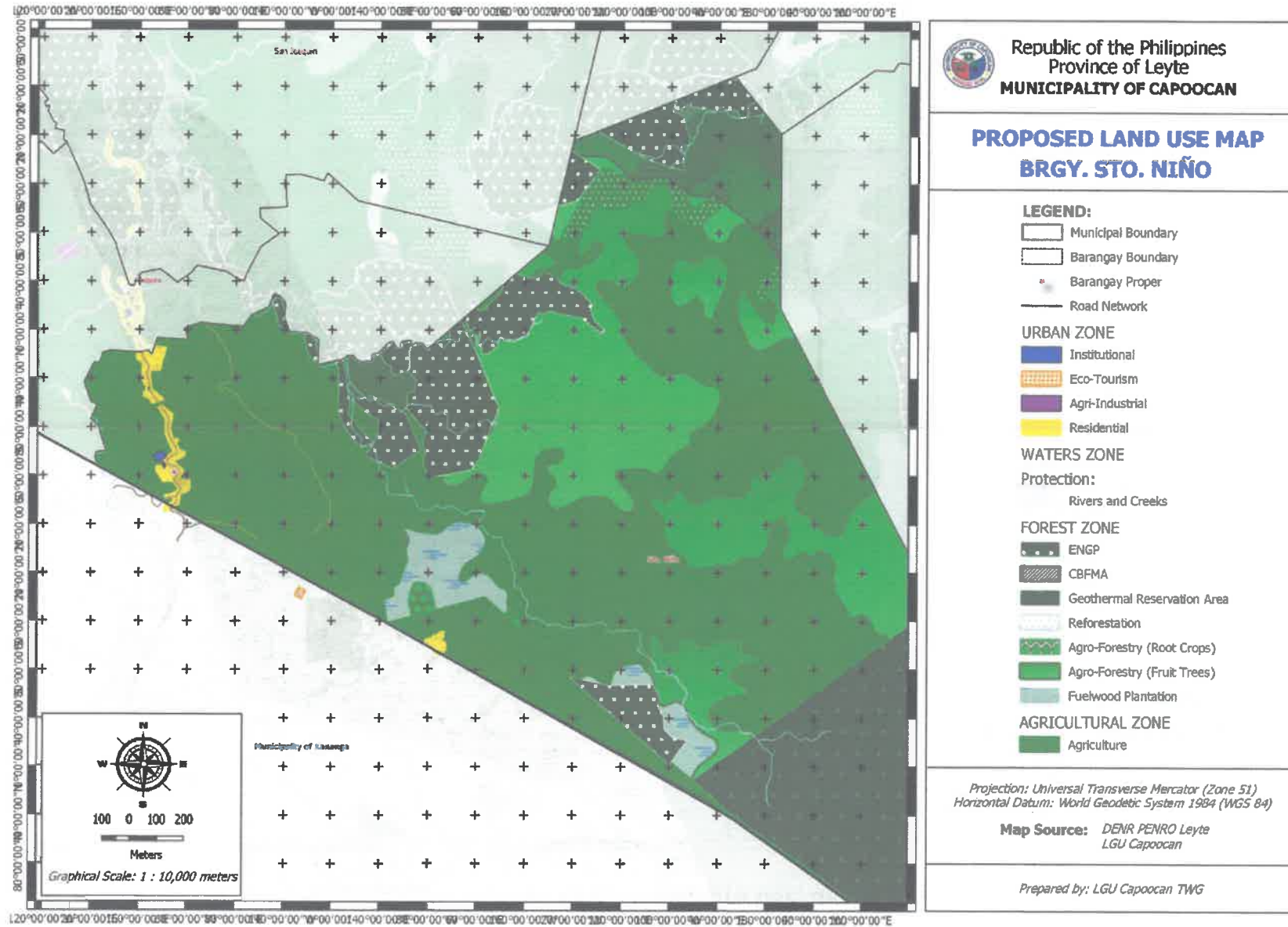


Figure 79-S: MAP OF PROPOSED LAND USE, BRGY. TALISAY

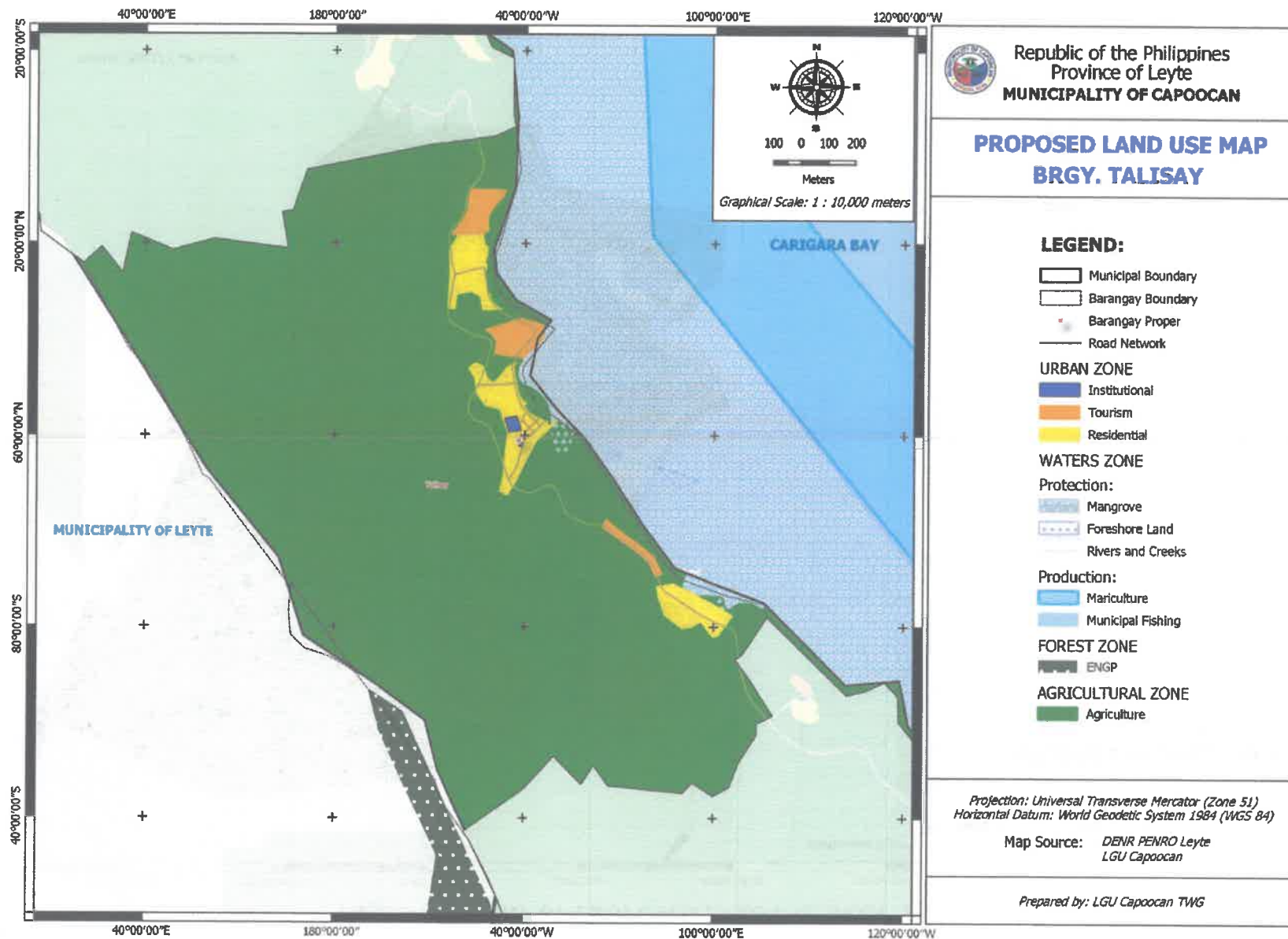


Figure 81: GENERAL LOCATION OF DEVELOPMENT AREAS FOR AGRICULTURE, AGROFORESTRY, AGRO-INDUSTRY, TOURISM AND INDUSTRY

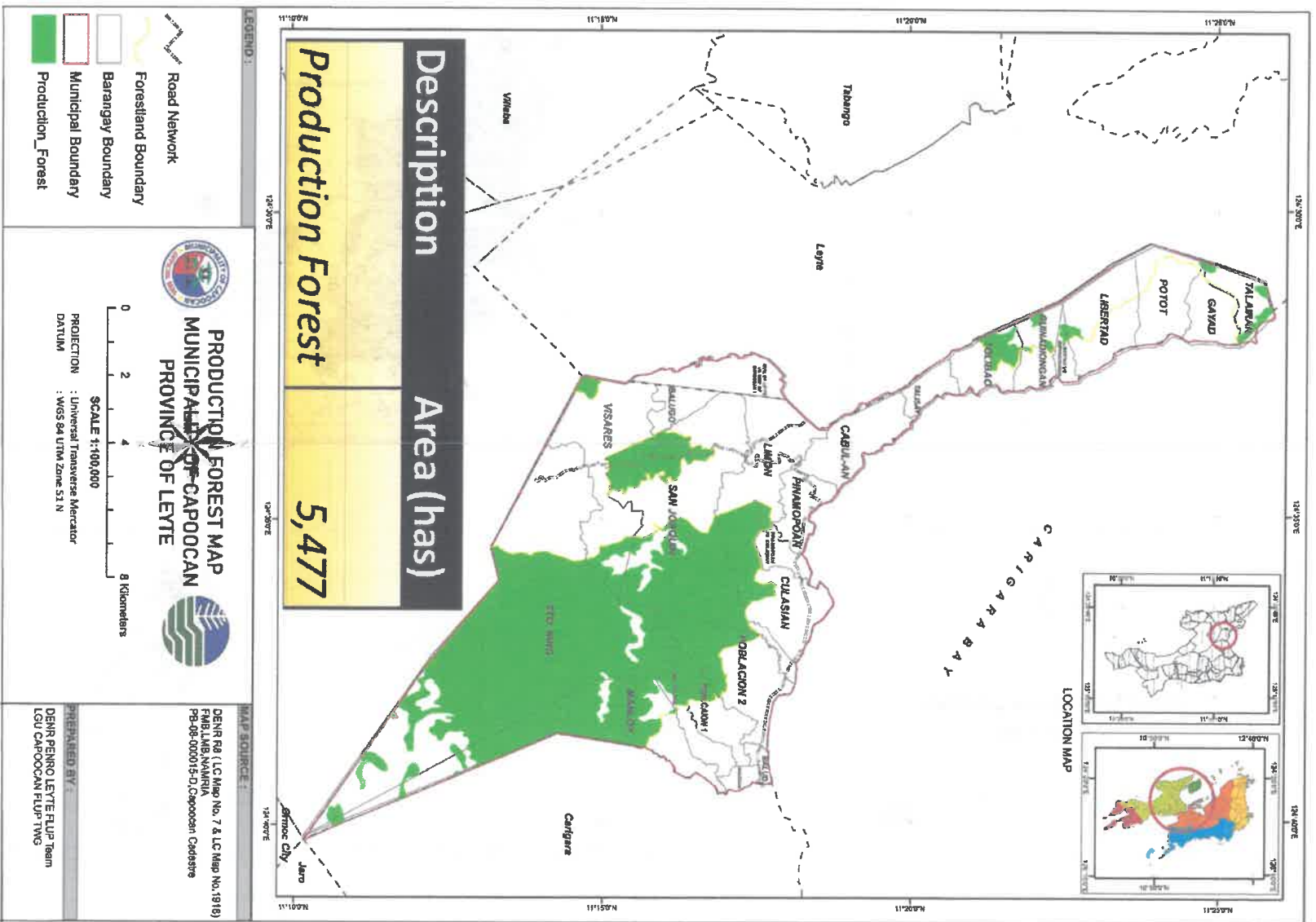


Figure 83: AREAS FOR CLIMATE ADAPTATION AND RESILIENCY MEASURES/PROJECTS

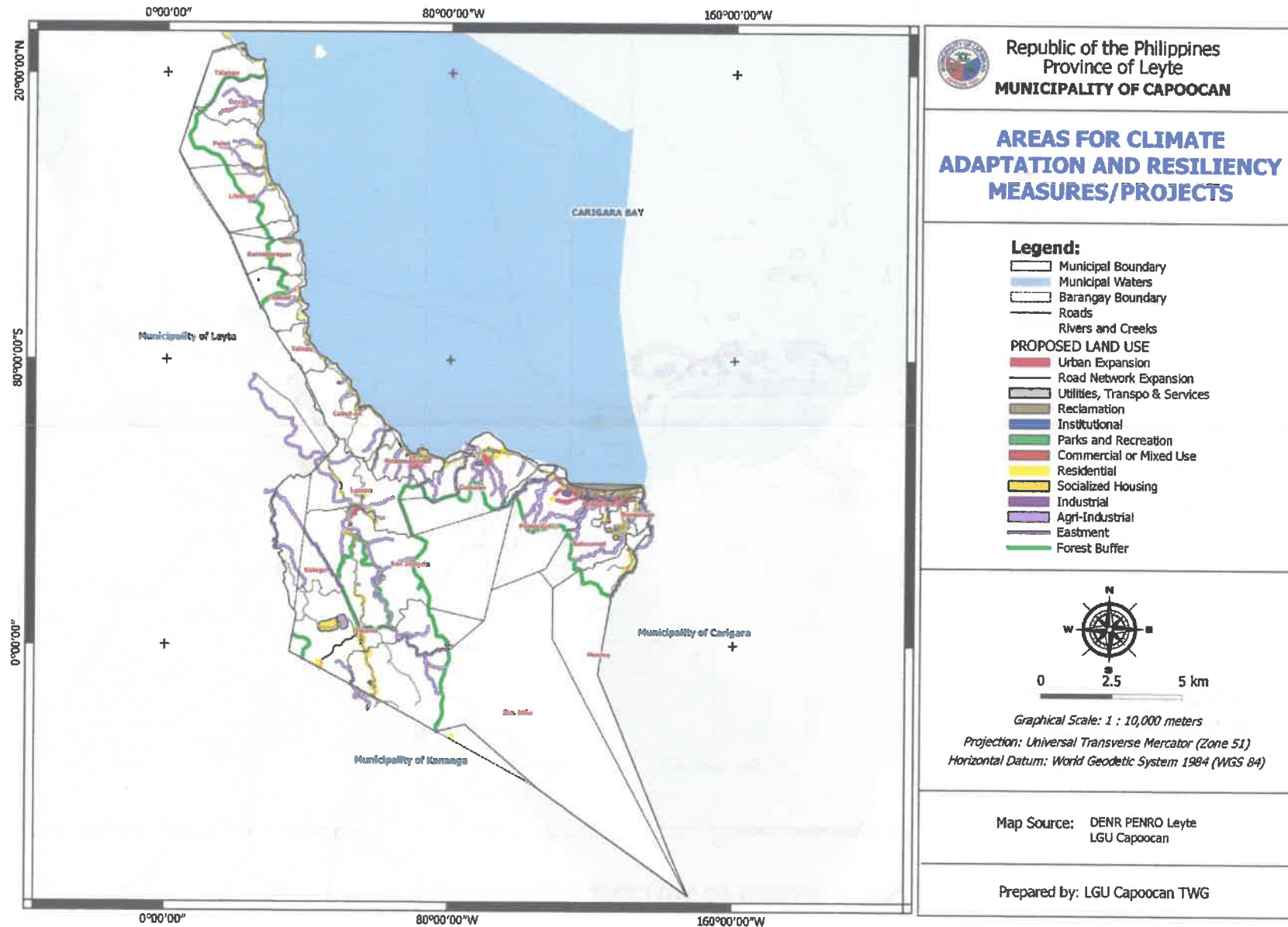
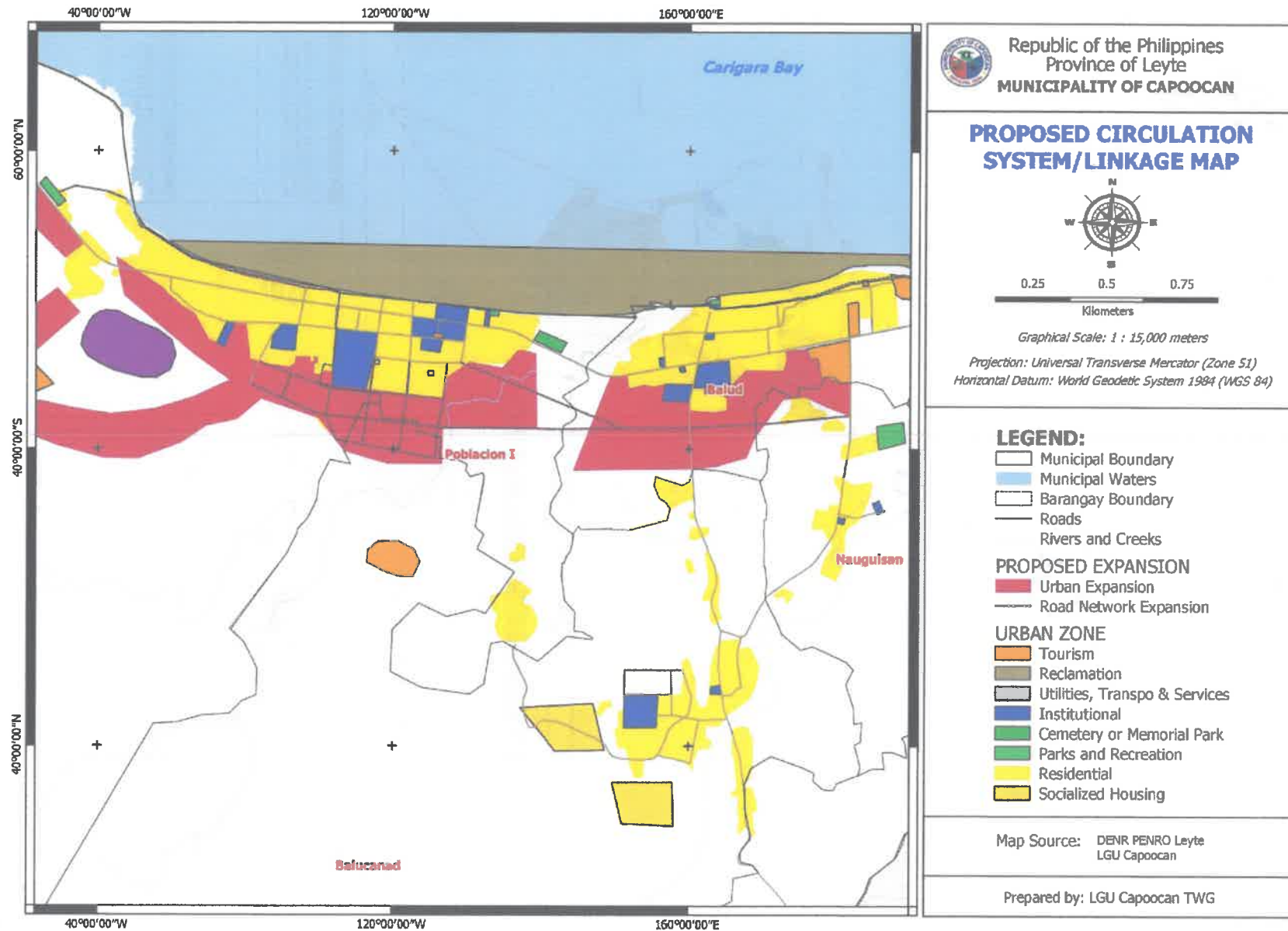


Figure 85: PROPOSED CIRCULATION SYSTEM/LINKAGE AMONG IDENTIFIED DEVELOPMENT AREAS WITHIN THE MUNICIPALITY



D. LAND AND WATER USE POLICIES

The CLUP of Capoocan adopts the following land and water use policies:

1. The municipality upholds the time-honored right to private ownership of property, but it also observes the principle that private acquisition and use of land shall not be a means to deprive the community or any citizen of common benefit from the God-given resource. Regulation shall be formulated within the parameters of the Constitution and the law to ensure that private interest does not override the public good, personal profit or gain does not cancel social sharing and equity, and self- or family advancement is tempered with the need to make growth inclusive.

2. Intervention in private land use through appropriate measures and guidelines to ensure the safety, welfare and happiness of everyone should be enacted. Ownership does not confer on an individual or group absolute right to do as much as each one pleases in total disregard of the general public that may suffer from the action's hazardous, toxic and socially disruptive effects, as well as extremely exploitative and predatory economic practices.

3. Alienable and disposable lands shall yet be subject to restrictions or prohibitions to make sure that indigenous resources continue to be renewed, the natural support systems to life are protected, and the critical elements for ecological balance and environmental sustainability are preserved. Harmful agricultural practices on slopes or ecologically fragile landscapes, for example, are disallowed.

4. Public and private land use as well as marine resource extraction shall hew closely to the purposes of boosting the overall economic progress of the area, conserving natural resources and safeguarding the environment, and keeping communities least vulnerable and most adaptable to the effects/impacts of disasters brought by hydro meteorological and geological hazard events.

5. Water is indispensable to life and vital to the viability of communities that protecting the precious resource itself, not just the living things or wealth in it, by keeping the integrity of watersheds around headwaters and river basins intact, and preventing any sort of waste from polluting arteries, must assume overriding importance. Land use zoning regulation to this effect shall be prioritized and laws/provisions strictly enforced.

E. MAJOR DEVELOPMENT PROGRAMS

From cross and intersectoral analyses to crystallize the milestones of the municipality's integrated socio-economic development roadmap, the LGU together with stakeholders drew up targets and areas of action. The major programs and priority development projects that were later selected are as follows:

- 1) Slope Protection Project - Conduct of engineering and ecological intervention measures on hazardous upland areas mainly along sites of human habitation and activity
- 2) Lower River Dredging and Desiltation Project - removal of soil deposits and garbage on riverbeds that hamper the flow of water or raise water level downstream, clearing off of heavy silt on estuaries
- 3) Offshore Breakwater Construction Project - putting up of wall of sand and boulder at a limited sea depth on the coast along Poblacion Zone I and Poblacion Zone II
- 4) Capoocan integrated Mangrove Recovery and Coastal Resource Management Program - rehabilitation of Capoocan's mangrove forests along with the restoration/repair, maintenance and enrichment of the critical features of its coastal marine ecosystem that were damaged by destructive human activity



SANGGUNIANG PANLALAWIGAN

OCT 09 2023

PROVINCE OF LEYTE



Zoning Ordinance

MUNICIPALITY OF CAPOOCAN

VOLUME II

AN ORDINANCE ENACTING THE INTEGRATED ZONING REGULATIONS OF THE MUNICIPALITY OF CAPOOCAN, LEYTE AND PROVIDING FOR THE ADMINISTRATION AND ENFORCEMENT THEREOF

2022

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INTRODUCTION

Zoning is the division of a municipality into zones or sub-zones (e.g. commercial, residential, industrial, institutional, agricultural, forest, etc.) according to present and potential uses of land to maximize, regulate and direct their use and development in accordance with the Comprehensive Land Use Plan. It takes the form of a locally enacted ordinance which provides, among others, regulations affecting uses allowed or disallowed in each zone or sub-zone, conditions for allowing them, and procedures on evaluating deviations.

Zoning is concerned primarily with the use of land and the control of density of population through imposition of building heights, bulk, open space, and density provisions in a given area.

1.0 Benefits

The benefits attributed to zoning are as follows:

1. Optimized use of land based on, among others, suitability and capability, e.g. use of prime agricultural land for agricultural purposes and high value areas for intense urban developments;
2. Promotion of public health and safety through compatible arrangement of various land uses, e.g. buffering between residential and industrial zones and through standards for environmental protection and conservation;
3. Preservation of desirable character and real estate values of the zone or subzone through standards intended to facilitate high quality and appropriate developments;
4. Promotion of the rational and orderly growth of the city/ municipality by employing a system that allows the adequate evaluation of development proposals in both public and private lands.

2.0 Legal Basis

Local government's authority to enact and apply zoning regulations is derived from the state's exercise of its police powers to make, ordain and establish reasonable laws, statutes or ordinances which promote the general welfare. This authority is specified and defined in a number of laws and directives.

2.1. 1987 Philippine Constitution: Article XII, Section 6

"The use of property bears a social function and all economic agents shall contribute to the common good. Individuals and private groups, including corporations, cooperatives and similar collective organizations, shall have the right to own, establish and operate economic enterprises subject to the duty of the state to promote distributive justice and to intervene when the common good demands."

Article XIII, Section 1

"The Congress shall give highest priority to the enactment of measures that protect and enhance the right of all the people to human dignity, reduce social and economic inequalities...To this end, the state shall regulate the acquisition, ownership, use and disposition of property and its increments."

Use Plan, subject to existing laws, rules and regulations; establish fire limits or fire zones, particularly in populous centers; and regulate the construction, repair or modification of buildings within said fire limits in accordance with the provisions of the Fire Code;

2.4. P.D. 1396 (Amending P.D. 933), creating the Ministry of Human Settlements, renaming the Human Settlements Commission as the Human Settlements Regulatory Commission

“It is hereby declared to be the policy of the government to foster the growth and renewal of our communities, both rural and urban, in an integrative manner that promotes optimal land use, adequate shelter, environmental protection, utilization of appropriate technology and rational interdependence among self-reliant communities.”

2.5. Letter of Instruction No. 729

“Municipalities shall submit their land use plans, enforcement systems and implementing guidelines, including zoning ordinance to the Ministry of Human Settlements thru the HLURB for review and ratification.”

2.6. Section 5, Executive Order 648, Reorganizing the Human Settlements Regulatory Commission

The Housing and Land Use Regulatory Board (HLURB) shall:

1. “Promulgate zoning and other land use control standards and guidelines which shall govern land use plans and zoning ordinances of local governments XXX”
2. “Review, evaluate and approve or disapprove comprehensive land use development plans and zoning ordinances of local governments XXX”
3. “Issue rules and regulations to enforce the land use policies on human settlements as provided for in PDs No, 399, 815, 933, 957, 1216, 1344, 1396, 1517, LOIs No. 713, 729, 935 and other related laws regulating the use of land XXX”

2.7. PD 933 and Executive Order 648, as amended by EO 90, empowering the HLURB to review and approve or disapprove land use plans of cities and municipalities;

The aforesaid laws likewise authorize the HLURB to prescribe the standards and guidelines governing the preparation of land use plans, to monitor the implementation of such plans and to adjudicate and settle the disputes among LGUs over their land use plans and zoning programs.

2.8. Executive Order 72

This provides for the preparation, review and approval process and implementation of comprehensive land use plans and zoning ordinances local government units pursuant to the Local Government Code of 1991 and other pertinent laws.

**Article I
TITLE OF THE ORDINANCE**

Section 1. Title of the Ordinance. This ordinance shall be referred to as the **Integrated Zoning Ordinance of the Municipality of Capoocan** and shall hereinafter be referred to as the **Zoning Ordinance (ZO)**.

**Article II
AUTHORITY AND GENERAL PURPOSE**

Section 2. Authority. This ordinance is enacted pursuant to the provisions of RA 7160 otherwise known as the Local Government Code 1991 and Executive Order No. 72 Authorizing Cities/Municipalities to prepare their respective Comprehensive Land Use Plan and to enact Zoning Ordinance subject to the provisions of existing laws.

Section 3. Purpose. This Ordinance is intended to:

- a. Manage well the growth and development of the municipality with its various sectors, such as agriculture and agro-industrial processing, industry and services;
- b. Foster local production in economies of scale especially in agriculture and allied trades;
- c. Create multiple employment opportunities for the local labor force as well as opportunities for increased income generation of households;
- d. Optimize use of land, aquatic and human resources;
- e. Stimulate the growth of community-based industries, such as housing and construction, small consumer product manufacturing, and tourism to attain unprecedentedly high gross municipal outputs;
- f. Boost diversified farming specifically oriented to self-sufficiency in local food requirements at all times;
- g. Safeguard communities, properties, economic activities and critical point facilities, while ensuring the quick recovery of areas, from disasters brought by expected natural as well as artificial hazard events;
- h. Halt the degradation of the environment, protect and preserve remaining ecosystems, biodiversity and wildlife.
- i. Regulate the location, manner and quality of built-up development in the area to diminish or eliminate dangers to public safety, health and welfare;
- j. Preserve and enrich the municipality's natural resources, such as forests, water, arable lands and ecological integrity.

Section 4. General Zoning Principles. This Comprehensive Zoning Ordinance is based on the approved general land use and urban land use allocation, spatial strategies, and development policies contained in the Comprehensive Land Use Plan of the Municipality of Capoocan adopted as per Resolution No. _____ dated _____, 20____.

The division of Capoocan into zones and districts according to present and projected land uses for the purpose of regulating and directing the growth and development of the Municipality seeks to implement and ensure the conformity of these uses to the approved land use strategies.

13. **Built-up Area** - the total area of land coverage of existing structures in the municipality.
14. **Bus and Jeepney Terminal** - a station where buses and/or jeepneys discharge and receive passengers and where the vehicles are repaired and maintained within the premises, outside of any Street
15. **Business** - a commercial activity customarily engaged in as a means of livelihood and typically involving some independence of judgment and power of division.
16. **Forest Farms** - refer to tracts of land simultaneously planted to forest trees and agricultural crops to increase productivity. Livestock or fisheries may also be introduced, if appropriate.
17. **Carrying Capacity Level** - the natural, physical, or social capability of an area to withstand use and provide a desired quality of exploitation experience, or the amount of utilization of a resource which is most appropriate for the protection of the resource and satisfaction of the population.
18. **Central Business District (CBD)** - refers to areas designated principally for trade, services and business purposes.
19. **Certificate of Non-conformance** - a certificate issued by the Zoning Administrator to all uses existing prior to the approval of the Zoning Ordinance which do not conform in a zone as per provision of the said Ordinance.
20. **Certification of Zoning Compliance** - a permit issued by the Zoning Administrator in accordance with the provisions of the Ordinance.
21. **Cemetery** – an area for burial or entombment.
22. **Church** - a place of religious worship, having been consecrated as such, has a permanent full-time, live-in priest, pastor, etc. to perform the religious activities.
23. **Commercial Offices** - commercial buildings used to house offices for lease or rent. It may concern a single occupancy use or mixed occupancy uses not involving retail merchandising except professional services.
24. **Communal Tree Farming** - refers to any tract of land planted by tree crops farmed by a duly recognized entity such as an association, cooperative, foundation, civic or religious organization acting for and in behalf of residents of a community.
25. **Compatible Use** - uses or land activities capable of existing together harmoniously.
26. **Comprehensive Development Plan** - (A Comprehensive Development Plan for the Municipality of Capoocan, (2018-2028) the official document embodying specific proposals for guiding, regulating growth and/or development of Capoocan. The main components of the Plan in this usage are the sectoral studies covering physical, environmental, socio-economic, socio-cultural, financial, and institutional aspects.
27. **Conflicting Uses** - uses or land activities with contrasting characteristics sited adjacent to each other.
28. **Conforming Use** - a use that is in conformity with the zone classification as provided for in the Ordinance.

43. **Garbage Dump Sites** - a lot or land or part thereof used primarily for the disposal by dumping, burial, burning or any other means and/or whatsoever purpose of garbage, sewage, trash, junk, refuse, discarded machinery, vehicles, or parts thereof, or waste materials of any kind.
44. **Garden Apartment** - a row of physically joined dwelling units designed to blend harmoniously with the physical characteristics of a site intended to be occupied by one (1) family provided with separate living, sleeping and cooking facilities.
45. **General Hospital** - unless otherwise specified, the term "hospital" shall be deemed to include sanitarium, sanatorium, preventorium, clinic, rest house, nursery home, convalescent home and any other place for the diagnosis, treatment, or other case of ailments, and shall be deemed to be limited to places for diagnosis, treatment or other cases of human ailment.
46. **General Recreational Park** - an area that provides recreational opportunities for two (2) or more neighborhoods.
47. **General Zoning Map** - a duly authenticated map delineating the different zones into which the whole municipality is divided.
48. **Governmental Use** - any use, structure, facility or activity of a governmental department or agency authorized by the Municipality of Capooacan to service the health, safety, and general welfare of the public.
49. **Guardhouse** - a building or structure used for protection against rain and sun while a guard performs his duty.
50. **Home Occupation** - an occupation or business conducted with the dwelling unit.
51. **Housing and Land Use Regulatory Board (HLURB)** - the government office, which shall serve as the final appellate body for all decisions, which might result from the implementation of this Ordinance.
52. **Incidental Use** - the use/activity or range of uses/activities supportive, related to, or adjunct to the dominant use within a zone or a district and occupying no more than forty percent (40%) of the total allowable floor area within a zone or a district.
53. **Industrial Tree Farming** - refers to any tract of forest land planted to tree crops primarily to supply the raw material requirements of existing or proposed wood processing and energy-generating plants, and related industries.
54. **Innovative Design** - introduction and/or application of new/creative designs and techniques in development projects.
55. **Integrated Social Forestry (ISF)** - refers to the national program launched under LOI 1260 designed to maximize land productivity and enhance ecological stability, and to improve the socio-economic conditions of forest occupants and communities.
56. **Locational Clearance** – clearance issued upon compliance to specific guidelines and standards outside of the Zoning Ordinance provisions for special projects.
57. **Lot** - a parcel of land on which a principal building and its accessories are situated or may be situated together with required open spaces.

- c. shocks, defies or disregards decency or morality;
 - d. obstructs or interferes with the free passage of any public highway or street of any body of water; or
 - e. hinders or impairs the use of property.
69. **Occupancy** - The purpose for which a building is used or intended to be used. The term shall also include the building or room housing such use. Change of occupancy is not intended to include change of tenants or proprietors.
70. **Open Space** - an unoccupied space open to the sky on the same lot with the building.
71. **Open Space Ratio** - is the minimum number of square meters of open space required divided by the number of square meters of gross building floor area built (at ground level).
72. **Pasture Land** - refers to that portion of the public domain, which has been set aside, in view of the suitability of its topography and vegetation, for the raising of livestock.
73. **Park** – A public or private land set aside for aesthetic, educational, recreational or cultural use.
74. **Plaza** – a public square in a town.
75. **Pension House** - any building that regularly caters to tourists and travelers, containing independent rooms and providing common facilities such as toilet, bathroom, living and dining rooms, and kitchen and where a combination of boarding and lodging may be provided.
76. **Planned Unit Development** - a land development scheme wherein a project site is comprehensively planned as an entity via unitary site plan, which permits flexibility in planning/design, building siting, complementarities of building types, and land uses, usable open spaces and the preservation of significant land features.
77. **Pollution** - the addition of foreign matter to the natural environment or wildlife or co-inhabitants of the earth to air, water, land and noise pollution.
78. **Processing Plant** - any mechanical device, machine or combination of machines used for the conversion of raw materials to final finish products.
79. **Recreation Area** - any public or private space set aside or primarily oriented to recreational uses.
80. **Recreational Facilities** - buildings and other physical features on improvements designed, constructed, and managed for recreational use.
81. **Reforestation Area** - an area where forest cover is renewed and restored on by seeding or planting of trees.
82. **Rehabilitation Forest** - a forest area preserved for rehabilitation of forest stands, which primarily consists of second growth or residual forest and thin forests.
83. **Retiree's Estates** - an exclusively planned estate for retirees provided with necessary facilities for leisure and recreation.

As defined by NSO are those barangays with population density of 500 persons per square kilometers or those municipal centers with existing road networks, church and market.

100. **Urban Zoning Map** – a duly authenticated map delineating the different zones into which the urban area and its expansion area are divided.
101. **Urbanizable Land** – area designated as suitable for urban expansion by virtue of land use studies conducted.
102. **Variance** - a device which grants a property owner relief from certain provisions of a Zoning Ordinance where, because of the particular physical surroundings, shape or topographical conditions of the property, compliance on height, area, setback bulk and/or density would result in a particular hardship upon the owner, as distinguished from a mere inconvenience or a desire to make more money.
103. **Warehouse and Storage Facilities** - any building or structure, which the primary purpose is storage of goods, wares, merchandise, articles, or personal properties. *A bodega.*
104. **Watershed/Catchment Area** - the area delineated by drainage divide defining the pattern of rainfall drainage toward a major waterway impounding basin or dam.
105. **Water Filtration and Treatment Plant** - refers to water filtration and treatment works/process or any mechanical device or set-up designed for the pre-treatment and filtration of water for human consumption.
106. **Wildlife Sanctuaries and Park Reservations** - refers to a forestland designated for the protection of animals, birds and fish and closed to hunting and fishing in order that the excess population may flow and restock surrounding areas.
107. **Yard** - an open space at grade between a building and the adjoining lot or street, unoccupied and unobstructed by any portion of a structure from the ground upward.
108. **Zone/District** - corresponds geographically to a broad classification of land and water uses shown in the Land and Water Use Strategy and covers a broad geographic area, which may further be subdivided into districts. It has no reference to political boundaries.
109. **Zoning Administrator** - a municipal government employee responsible for the implementation/ enforcement of the Zoning Ordinance in the community.
110. **Zoning Ordinance** - a local legal measure, which embodies regulations affecting, land and water use.

11. Cemetery/Memorial Park Zone
12. Infrastructures and Utilities Zone
13. Road Network Zone
14. ESWM Park/SLF Zone

Section 8. Official Zoning Maps. It is hereby adopted as an integral part of this Ordinance, the duly authenticated and Official Zoning Maps of the municipality of Capoocan, Leyte showing location and boundaries of the Base Zones and Sub-Zones herein established.

Section 9. Zone Boundaries. The locations and boundaries of the above mentioned various zones into which the Municipality has been subdivided are identified and specified in the Official Zoning Maps.

Section 10. Interpretation of Zone Boundaries

The following rules shall apply in the interpretation of the boundaries indicated on the Official Zoning Map:

Where zone boundaries are so indicated that they approximately follow the center of streets or highways, the street or highway right-of-way lines shall be construed to be the boundaries.

Where zone boundaries are so indicated that they approximately follow the lot lines, such lot lines shall be construed to be the boundaries.

Where zone boundaries are so indicated that they are approximately parallel to the center lines or right-of-way lines of streets and highways, such zone boundaries shall be construed as being parallel thereto and at such distance therefore as indicated in the zoning map. If no distance is given, such dimension shall be determined by the use of the scale shown in said zoning map.

Where the boundary of a zone follows a stream, lake or other bodies of water, said boundary line should be deemed to be at the limit of the political jurisdiction of the community unless otherwise indicated. Boundaries indicated as following shorelines shall be construed to follow such shorelines and in the event of change in the shorelines, shall be construed as moving with the actual shorelines.

Where a lot of one ownership, as of record the effective date of this Ordinance, is divided by a zone boundary line, the lot shall be construed to be within the zone where the major portion of the lot is located. In case the lot is bisected by the boundary line, it shall fall in the zone where the principal structure falls.

Where zone boundaries are indicated by Lot Parcels or said to be one-lot deep, this should mean that the said zone boundaries are defined by the parcellary subdivision existing at the time of the passage of this Ordinance.

The textual description of the zone boundaries shall prevail over that of the Official Zoning Maps.

- Reforestation
- Scientific studies that do not involve gathering of species or any alteration in the area
- Other development activities consistent with DENR regulations and programs

Building Regulations

- When allowed, buildings and structures shall be designed, constructed and operated in accordance with the requirements of the Protected Area Management Plan (PAMP), National Building Code, DENR regulations and with the provisions of this Ordinance.

Section 12.1.2 Production Forest Sub-Zone

As also enunciated in the DENR Administrative Order 1995-15, production forests are forestlands tended primarily for the production of timber. These are areas below 50% in slope and less than 1,000 meters in elevation. This includes natural and man-made forests.

Allowable Uses/ Activities

- Implementation of ENGP & CBFMA
- Fuelwood Plantation
- Reforestation
- Upland agriculture
- Grazing
- Agro-forestry
- Fishpond/ Fish farm
- Ecotourism
- Industrial Tree Plantation such as fruit orchards, herbal plantation, nipa plantation, etc.
- Installation of projects of national significance such as development of renewable energy sources, telecommunication facilities and electric power lines;
- Hunting and gathering of non-timber forest products; and
- Other allowable uses/activities consistent with the DENR regulations and programs.

Building Regulations

- When allowed, buildings and structures shall be designed, constructed and operated in accordance with the requirements of the DENR, National Building Code, other applicable laws and policies and with the provisions of this Ordinance.

Section 12.2 Regulations in Agricultural Zone

The Agricultural Zone includes areas intended for the cultivation of the soil, planting of crops, growing of trees, raising of livestock, poultry, fish or aquaculture production, including the harvesting of such farm products, and other farm activities and practices performed in conjunction with such farming operations... (AFMA). These include

- Such home industry shall not occupy more than thirty percent of the floor area of the dwelling unit.
- There shall be no change or alteration in the outside appearance of the dwelling unit and shall not be a hazard or nuisance;
- Such shall consider the provisions pertaining to customary accessory uses, traffic and equipment as enumerated under Home Occupation of this section.

Building Regulations

- The Building Height Limit is 15.00 meters above established grade as provided in the NBC.

Section 12.3 Regulations in Municipal Waters Zone

Per Republic Act No. 8550 or the Philippines Fisheries Code of 1998, this zone covers the Municipal Waters which "include not only streams, lakes, inland bodies of water and tidal waters within the municipality which are not included within the protected areas as defined under Republic Act No. 7586 (The NIPAS Law), public forest, timber lands, forest reserves or fishery reserves, but also marine waters included between two (2) lines drawn perpendicular to the general coastline from points where the boundary lines of the municipality touch the sea at low tide and a third line parallel with the general coastline including offshore islands and fifteen (15) kilometers from such coastline. Regulations shall be in accordance with the Fisheries Code, Presidential Decree No. 1067 or the Water Code of the Philippines, Republic Act No. 9275 or the Philippine Clean Water Act of 2004 and related issuances.

Section 12.3.1 Fish Sanctuary Sub-Zone

Per the Fisheries Code, these are designated areas "where fishing and other forms of activities which may damage the ecosystem of the area is prohibited and human access may be restricted."

Allowable Uses/ Activities

- Regeneration of marine life
- Tourism - snorkeling (except diving)
- Scientific/ educational research

Section 12.3.2 Foreshore Land Sub-Zone

Per the Fisheries Code, this is "a string of land margining a body of water; the part of a seashore between the low-water line usually at the seaward margin of a low tide terrace and the upper limit of wave wash at high tide usually marked by a beach scarp or berm."

Allowable Uses/ Activities

- Legal Easement
- Green Parks and ecotourism activities
- Buffer protective structures
- Other allowable uses/activities consistent with the environmental laws, rules and regulations

Section 12.3.3 Mangrove Sub-Zone

- Fishing using fishing vessels of three (3) gross tons or less with exceptions provided in the Revised MFO
- Fishing not requiring the use of fishing vessels

Section 12.4 Regulations in General Residential Zone

This is an area within the municipality intended principally for dwelling/housing purposes.

Allowed Uses

- Single-detached dwelling units
- Semi-detached family dwelling units, e.g. duplex
- Townhouses
- Apartments
- Residential condominium
- PD 957 Subdivisions and Condominiums
- Boarding houses
- Dormitories
- Pension houses
- Hotel apartments or apartelles
- Hotels
- Museums
- Libraries
- Customary accessory uses incidental to any of the principal uses provided that such accessory uses shall not include any activity conducted for monetary gain or commercial purposes such as:
 - Servants quarters
 - Private garage
 - Guardhouse
 - Laundries
 - Non-commercial garages
 - Houses for pets such as dogs, birds, rabbits and the like of not more than 4.00 sq. m. in floor area
 - Pump houses
 - Generator houses
- Home occupation for the practice of one's profession such as offices of physicians, surgeons, dentists, architects, engineers, lawyers, and other professionals or for engaging home business such as dressmaking, tailoring, baking, running a sari-sari store and the like, provided that:
 - The number of persons engaged in such business/industry shall not exceed five (5), inclusive of owner;
 - There shall be no change in the outside appearance of the building premises;
 - That in no case shall more than 20% of the building be used for said home occupation;
 - No home occupation shall be conducted in any customary accessory uses cited above;
 - No traffic shall be generated by such home occupation in greater volume than would normally be expected in a residential neighborhood and any need for parking generated by the conduct of such home occupation shall be met off the street and in a place other than the required front yard; and
 - No equipment or process shall be used in such home occupation which creates noise, vibration, glare, fumes, odors and electrical interference

Allowable Uses

- Wholesale stores
- Wet and dry markets
- Shopping center, malls and supermarkets
- Retail stores and shops like:
 - o Department store
 - o Bookstores and office supply shops
 - o Art supplies and novelties o Home appliance stores
 - o Car display and dealer stores
 - o Photo shops
 - o Flower shops
 - o Curio or antique shops
 - o Pet shops and aquarium stores
 - o Jewelry shops
 - o Consumer electronics such as cellular phones, cameras, lap tops, home appliances and the like o Drugstores
- Food market and shops like:
 - o Bakery, cake, pastry and delicatessen shops
 - o Liquor and wine stores
 - o Groceries
 - o Supermarkets
 - o Convenience stores
- Product showroom/ display store
- Warehouse/ storage facility for non-pollutive/ non-hazardous finished products
- Personal service shops like:
 - o Medical, dental, and similar clinics
 - o Beauty parlor
 - o Barber shop
 - o Wellness facilities such as sauna, spa, massage, , and facial clinics
 - o Dressmaking and tailoring shops
- Bayad centers
- Laundries
- Internet café and cyber stations
- Photo/ video, lights & sounds services
- Catering services
- Event planners
- Water stations
- Courier services
- Security agencies
- Janitorial services
- Travel agencies
- Repair shops like:
 - o House furniture and appliances repair shops
 - o Motor vehicles and accessory repair shops
 - o Battery shops and repair shops o Bicycle repair shops
 - o Repair shops for watches, bags, shoes, cellular phones, cameras, computers and the like
- Recreational centers/ establishments like:
 - o Movie house/ theater
 - o Play courts e.g. tennis court, bowling lane, billiard hall
 - o Swimming pool
 - o Gymnasium o Stadium, coliseum
 - o Tennis courts and sports complex
 - o Billiard halls, pool rooms and bowling alleys
 - o Sports clubhouses

- Biscuit factory – manufacture of biscuits, cookies, crackers and other similar dried bakery products
- Doughnut and hopia factory
- Other bakery products not elsewhere classified (n.e.c.)
- Shops repacking of food products e.g. fruits, vegetables, sugar and other related products
- Manufacture of wood furniture including upholstered
- Manufacture of rattan furniture including upholstered
- Manufacture of box beds and mattresses
- Funeral parlors (all categories)
- Commercial condominium (with residential units in upper floors)
- Commercial housing like:
 - o Hotel
 - o Apartment
 - o Apartel
 - o Boarding house
 - o Dormitory
 - o Pension house
 - o Motel
 - o Condotel
- All uses allowed in Residential Zone
- Customary accessory uses incidental to any of the above uses such as:
 - o Staff houses/ quarters
 - o Parking lots/ Building garage
 - o Storerooms and warehouses but only as may be necessary for the efficient conduct of the business
 - o Pump houses o Generator houses

Building Regulations

- Per the relevant provisions of the NBC and this Ordinance.
- Subject to national locational guidelines and standards of concerned agencies.

Section 12.7 Regulations in Agri-Industrial Zone

These are areas within the municipality intended primarily for integrated farm operations and related product processing activities such as plantation for bananas, pineapple, sugar, etc.

Allowable Uses/Activities

- Rice/corn mills
- Rice/corn mill warehouses & solar dryers
- Agricultural and/or agri-industrial research & experimentation facilities
- Drying, cleaning, curing and preserving of meat and its by-products and derivatives
- Drying, smoking and airing of tobacco
- Flour mill
- Cassava flour mill
- Manufacture of coffee
- Manufacture of unprepared animal feeds and other grain milling
- Production of prepared feeds for animals
- Weaving hemp textile
- Jute spinning and weaving
- Manufacture of charcoal
- Milk processing plants (manufacturing filled, reconstituted or recombined milk, condensed or evaporated)

- General hospitals, medical centers, specialty hospitals, medical, dental and similar clinics,
- Places of worship, such as churches, mosques, temples, shrines, chapels
- Seminaries and convents
- Parking buildings
- Parks, playgrounds, pocket parks, parkways, promenades and playlots
- Customary accessory uses incidental to any of the above uses such as:
 - o Staff houses/ quarters
 - o Offices
 - o Eateries/ canteens
 - o Parking lots/ garage facilities
 - o Storerooms and warehouses but only as may be necessary for the efficient conduct of the business
 - o Pump houses o Generator houses

Building Density and Bulk Regulations

- Per the relevant provisions of the NBC and this Ordinance.
- The Building Height Limit is 15 meters above highest grade as provided in the NBC.
- Subject to national locational guidelines and standards of concerned agencies.

Section 12.9 Regulations in Parks and Recreation Zone

This is an area designed for diversion/ amusements and for the maintenance of ecological balance in the community.

Allowable Uses

- Parks, playgrounds, pocket parks, parkways, promenades and playlots, gardens
- All types of resort complexes such as those providing accommodation, sports, dining and other leisure facilities
- Open air or outdoor sports activities and support facilities, including low rise stadia, gyms, amphitheaters and swimming pools
- Ball courts, skating rinks and similar uses
- Memorial/ Shrines monuments, kiosks and other park structures
- Sports clubs
- Parking structures/ facilities
- Open space buffers and easements
- Customary accessory uses incidental to any of the above uses such as:
 - o Staff houses/quarters
 - o Offices
 - o Eateries/canteens
 - o Parking lots garage facilities
 - o Storerooms and warehouses but only as may be necessary for the efficient conduct of the business
 - o Pump houses
 - o Generator houses

Building Density and Bulk Regulations

- Per the relevant provisions of the NBC and this Ordinance.
- The Building Height Limit is 15 meters above highest grade as provided in the NBC.
- Subject to national locational guidelines and standards of concerned agencies.

Section 12.10 Regulations in Cemetery/Memorial Park Zone

This is an area in the municipality intended for the interment of the dead.

- The Building Height Limit is fifteen (15) meters above highest grade as provided in the NBC.
- Subject to national locational guidelines and standards of concerned agencies.

Section 13. Regulations in Overlay Zones

A “transparent zone” that is overlain on top of the Basic Zone or another Overlay Zone that provides an additional set (or layer) of regulations. These additional layers of regulations may pertain to additionally allowable uses, building density and bulk and building/ structure design that are deemed necessary to achieve the objectives for the Overlay Zone.

Section 13.1 Landslide Overlay Zone

Objective

- Landslide Overlay Zone regulations are applied in areas identified in the CLUP as highly susceptible to landslides. The objectives of these regulations are to avoid/minimize potentials for landslide occurrence, and to protect lives and properties from its impacts.

Allowable Uses

- Allowable uses shall be as provided in the Base Zone, subject to the following additional regulations

Building Density and Bulk Regulations

- The Maximum Allowable Percentage of Site Occupancy (MAPSO) (defined in the NBC as the area of ground coverage of Allowable Maximum Building Footprint), expressed as a percentage of the total lot area, shall be:
 - o 20% for Parks and Recreation uses
 - o 30% for all other uses/ activities

The MAPSO shall include all buildings and structures built or to be built on the lot.

- The Unpaved Surface Area (USA) of developments shall:
 - o Not be less than 70% for Parks and Recreation uses
 - o Not be less than 60% for all other uses/ activities

As defined in the NBC, USA is the “true open space which should be of exposed soil and planted.” The USA is located outside the building envelope.

Building/ Structure Design Regulations

Site development shall be designed with consideration to avoiding/minimizing (1) risks that it will be affected by landslides; (2) its adverse impacts to the soil; (3) and risks that it will cause landslides to nearby areas/properties.

- Buildings and structures should be laid out and designed to harmonize with the terrain to minimize earth moving activities
- Appropriate slope, erosion and soil stabilization measures shall be applied, either through hard or soft engineering measures
 - Indigenous and mature vegetation should be retained
 - Natural drainage patterns should not be altered; and

Section 13.4 Billboards Overlay Zone

Objectives

The Billboards Overlay Zone includes all lots fronting the National Road. The objectives of these regulations are:

- To rationalize the location of billboards to minimize their potentials to create hazards to lives and properties
- To ensure that billboards do not obstruct the view of any scenic spot;
- To ensure that billboards would not constitute nuisance to adjoining property owners, distract motorists or constitute as hazard to public safety
- To ensure that billboards are in harmony with the intended urban character of the Base Zone.

Design Regulations

Following are some examples of regulations as provided in MMDA Memorandum Circular No. 10 Series of 2011:

- Setback Requirements. Regulated Signs shall be subject to the following front, side and rear Setback Requirements:

Setback Requirements:			
Road Right-of-Way width (m)	Front (m)	Side (m)	Rear (m)
30.00 & above	8.00	5.00	5.00
25.00 to 29.00	6.00	3.00	3.00
20.00 to 24.00	5.00	3.00	3.00
10.00 to 19.00	5.00	2.00	2.00
Below 10.00	5.00	2.00	2.00

- Minimum Distance Between Signs. No billboard or billboard structure shall be located within the distance of one hundred (100.00) meter radius from another; Provided: That in determining compliance with this Section 4.2, Regulated Signs that were earlier granted a permit by the relevant local government unit shall enjoy preference over Regulated Signs whose local government unit permits were issued thereafter.
- Non-obstruction of Traffic Signs. No Regulated Sign shall be erected in such a manner as to confuse or obstruct the view or interpretation of any official Traffic Sign, signal, or device.
- Non-obstruction of Landscape: No Regulated Sign shall be constructed as to unduly obstruct the natural view of the landscape, distract or obstruct the view of the public as to constitute a traffic hazard, or otherwise defile, debase or offend aesthetic and cultural values and traditions.
- Restrictions on Combustible Materials: All Regulated Signs erected in highly restrictive Fire Zones as defined in the NBC and its IRRs shall have structural members of incombustible materials. Ground Signs may be constructed of any material meeting the requirements of the NBC. Combination signs, Roof Signs, Wall Signs, Projecting Signs, and Signs on marquees shall be constructed of incombustible materials. No combustible material other than approved plastics shall be used in the construction of electric signs.

- No Sign shall be allowed to cross or straddle along carriageways.
- All Regulated Signs, Temporary Signs and LED Signs along Covered Areas shall automatically be put down or turned off by the owners and advertisers upon the announcement by the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) that there would be a low pressure area or other weather disturbance in Metropolitan Manila. In case of failure of the owners and advertisers to comply with this Section, the MMDA shall put down the aforesaid at the expense of the owners.
- Notwithstanding the foregoing provisions, any local Government Unit in Metropolitan Manila may provide for stricter billboards regulations and may prohibit certain kinds of billboard signs and structures as may be provided in their respective local ordinances.

Section 14. Zoning Incentives

Density bonuses, such as through allowable building height increases, may be provided as incentives for projects that use CCA/DRRM technology or innovations, i.e. use of solar panels, rainwater harvesting, smart urban drainage systems, green architecture/building systems.

Similar incentives may also be given to projects that provide wider setbacks, increased ground level open spaces, provides public infrastructure or conserve heritage sites.

Article VI

GENERAL REGULATIONS

Section 15. Height Regulations

Notwithstanding the Building Height provisions of this ordinance, building heights should also conform to the height restrictions and requirements of the Civil Aviation Authority of the Philippines (CAAP).

Exempted from the imposition of height regulations in residential zones are the following: towers, church, steeples, water tanks and other utilities and such other structures not covered by the height regulations of the National Building Code and/or the CAAP.

Section 16: Area Regulations

Area regulations in all zones shall conform to the applicable minimum requirements of existing laws, codes and regulations such as:

1. PD 957, "Subdivision and Condominium Buyers' Protective Law" and its revised implementing rules and regulations.
2. Batas Pambansa 220, "Promulgation of Different Levels of Standards and Technical Requirements for Economic and Socialized Housing Projects" and its revised implementing rules and regulations.

in forest areas, along their margins, are subject to easements of public use in the interest of recreation, navigation, floatage, fishing and salvage.

No person shall be allowed to stay in this zone longer than what is necessary for space or recreation, navigation, floatage, fishing or salvage or to build structures of any kind.

Mandatory five-meter easement on both sides of earthquake fault traces on the ground identified by PHIVOLCS.

As required by the Municipal Government, road widening and road construction program illustrated in Annex 4 as well as other projects that may later on be identified.

Section 18: Buffer Regulations

A buffer of 3 meters shall be provided along entire boundary length between two or more conflicting zones allocating 1.5 meters from each side of the zone/sub-zone/district boundary. Such buffer strip should be open and not encroached upon by any building or structure and should be a part of the yard or open space

Section 19: Specific Provisions in the National Building Code

Specific provisions stipulated in the National Building Code (P.D. 1096), as amended thereto, relevant to traffic generators, advertising and business signs, erection of more than one principal structure, dwelling on rear lots, access yard requirements and dwelling groups, which are not in conflict with the provisions of the Zoning Ordinance, shall be observed.

Section 20: Advertising, Billboards and Business Signs

No advertising, billboards or business signs whether on or off premises of an establishment shall be displayed or put up for public view without locational clearance from the Zoning Administrator/Zoning Officer. Locational clearance for such signs or billboards may be granted only when the same is appropriate for the permitted use for a zone and the size thereof is not excessive, taking into account the bulk or size of the building or structure and the business practices or usages of the locality and the same shall in no case obstruct the view of any scenic spot.

Obnoxious signs that would constitute nuisance to adjoining property owners, distract motorists or constitute as hazards to public safety shall not be allowed in any area. No sign should project to public property unless expressly allowed by the Zoning Administrator/Zoning Officer. Temporary signs and billboards for not more than two months may be allowed by the Zoning Officer/Administrator upon payment of corresponding fees to the City/ Municipality. The permit for such sign shall indicate the location, size, slope, contents and type of construction.

It shall be unlawful to maintain an obsolete sign by reason of discontinuance of business, service or activity for more than 60 days there from.

Article VII PERFORMANCE STANDARDS

Section 21: Application of Performance Standards

impairment of visibility are not permitted. Air quality at the point of emission shall be maintained at specified levels according to DENR's latest Air Quality Standards.

12. Developments that generate a significant volume of solid waste shall provide appropriate solid waste collection and disposal systems and facilities.
13. Industrial processes/ activities should not cause negative impacts to the environment. The Zoning Administrator/Zoning Officer may request for descriptions of these as part of the requirements for Locational Clearance.

Section 23. Agricultural Land Conservation and Preservation Criteria

Agricultural lands are recognized as valuable resources that provide employment, amenity and bio-diversity. All agricultural lands in the Municipality shall not be prematurely re-classified. Requests for re-classification shall be evaluated on the merits of conditions prevailing at the time of application, compatibility with the CLUP, and subject to the provisions of Memorandum Circular No. 54, "*Prescribing the Guidelines Governing Section 20 of RA 7160...Authorizing Cities and Municipalities to Reclassify Agricultural Lands into Non-Agricultural Uses.*"

Applications for agricultural land re-classification approved by the Municipality shall be submitted to the HLURB/Sangguniang Panlalawigan for review and final approval.

Section 24. Network of Green and Open Spaces

The Municipality intends to develop a network of green and open spaces as a way to minimize the occurrence of urban heat islands. Developments shall conform to the following provisions, as applicable:

1. All residential, commercial, industrial and mixed-use subdivisions, in compliance with the rules and regulations of PD 1216, PD 953, PD 957 and BP 220, are respectively required to provide tree-planted strips along their internal roads.
2. Similar developments shall also be required to provide landscaped tree parks that may be made part of the open space requirements mandated by PD 957, BP 220 and related laws. These mandated open spaces shall be classified as non-alienable public lands, and non-buildable.
3. Roof decks of all buildings shall be landscaped, as applicable.
4. Parking lots having at least 20 car parking slots shall be:
 - a. Landscaped with suitable trees. The minimum height of trees at the time of securing an Occupancy Permit shall be 1.80 meters from the base to the crown.
 - b. 50% paved with permeable or semi-permeable materials such as grass, gravel, grass pavers and the like.

Section 25: Site Development Standards

The Municipality considers it in the public interest that all projects are designed and developed in a safe, efficient and aesthetically pleasing manner. Site development shall consider the environmental character and limitations of the site and its adjacent properties. All project elements shall be in complete harmony according to good

Major, high intensity facilities such as commercial-residential buildings or condominiums having four floors and above, shopping malls, public markets, transportation terminals/ garages, schools, universities, residential and industrial subdivisions, cock fighting arena, sports stadia and other similar developments shall be required to submit Traffic Impact Statements. Other traffic generating developments, as determined by the Zoning Administrator/ Zoning Officer, shall be required to submit the same.

Article VIII MITIGATING DEVICES

Section 27. Deviation

Variances and/ or Exceptions from the provisions of this Ordinance may be allowed by the Local Zoning Board of Appeals (LZBA) only when the following terms and conditions exist:

1. Variances (deviation from applicable Bulk and Density Regulations, Building Design Regulations and Performance Standards)

Variance may be allowed provided that proposals satisfy all of the following provisions:

- a. Conforming to the provisions of the Ordinance will cause undue hardship on the part of the owner of the property due to physical conditions of the property (topography, shape, etc.), which is not self-created.
- b. The proposed variance is the minimum deviation necessary to permit reasonable use of the property.
- c. The variance will not alter the intended physical character of the zone and adversely affect the use of the other properties in the same zone such as blocking-off natural light, causing loss of natural ventilation or encroaching in public easements and the like.
- d. That the variance will not weaken the general purpose of the Ordinance and will not adversely affect the public health, safety or welfare.
- e. The variance will be in harmony with the spirit of this Ordinance.

2. Exceptions (deviations from allowed use provisions)

Exceptions may be allowed provided that proposals satisfy all of the following conditions:

- a. The exception will not adversely affect the public health, safety and welfare and is in keeping with the general pattern of development in the community.
- b. The proposed project shall support economic based activities/ provide livelihood, vital community services and facilities while at the same time posing no adverse effect on the zone/community.
- c. The exception will not adversely affect the appropriate use of adjoining properties in the same zone such as generating excessive vehicular traffic, causing overcrowding of people or generating excessive noise and the like.
- d. The exception will not alter the essential character and general purpose of the zone where the exception sought is located.

Section 28. Procedures for Evaluating Variances and/ or Exceptions

The procedure for evaluating applications for Variances and/ or Exceptions is as follows:

areas administered by national and special agencies, except for facilities for national security as certified by the Department of National Defense.

Section 31. Projects of National Significance

Based on established national standards and priorities, the HLURB (now DHSUD) shall continue to issue locational clearances for projects considered to be of vital and national or regional economic or environmental significance. Unless otherwise declared by the NEDA Board, all projects shall be presumed locally-significant. (Para. 2 Section 3a, of EO 72)

Section 32. Major and/or Innovative Projects

The Zoning Administrator/Zoning Officer or the LZBA, as the case may be, may seek the assistance of the HLURB (now DHSUD) or external consultants in the evaluation of proposed Major and/ or Innovative Projects such as seaports, airports, oil depots, reclamation areas, shopping malls, special economic zones, tourism enterprise zones, and the like.

Section 33. Subdivision Projects

All owners and/or developers of subdivision projects shall, in addition to securing a Locational Clearance, be required to secure a Development Permit pursuant to the provisions of PD 957 and its Implementing Rules and Regulations or BP 220 and its Implementing Rules and Regulations and in accordance with the procedures laid down in EO 71, Series of 1993.

Proposed subdivision projects shall prepare their respective Deed Restrictions (to include, among others, regulations pertaining to allowable uses within their project sites. The list of allowable uses within subdivisions shall be within the list of allowable uses within the Zone. Proof of compliance of future projects with the provisions of the Deed Restrictions for the said subdivision shall form part of the requirements for Locational Clearance.

Section 34. Planned Unit Development Projects

Proposed Planned Unit Developments (PUD) projects shall be accompanied by Comprehensive Development Master Plans (CDMPs) showing, at the minimum, proposed land uses, building density and bulk, road network layout, road and sidewalk section details, and master layouts of all utilities such as those for potable water, storm drainage, sewerage, power supply, telecommunication and solid waste management. CDMPs shall also be provided with Deed Restrictions where, upon approval of the Zoning Administrator/ Zoning Officer or LZBA, as the case may be, proof compliance of future projects on the said PUD site shall form part of the requirements for Locational Clearance.

Section 35. Environmental Compliance Certificate

No Locational Clearance shall be issued to proposals covered by the EIS System unless the requirements of ECC have been complied with.

It may also provide conditions by which the non-conforming use can reduce its non-conformity.

Section 42. Existing Non-Conforming Uses, Buildings and Structures

The lawful uses of any building, structure or land at the time of adoption or amendment of this Ordinance may be continued, although such uses do not conform with the provisions of the integrated ZO, provided:

1. That no such non-conforming use shall be expanded or extended to occupy a greater area of land than that already occupied by such use at the time of the adoption of this Ordinance or moved in whole or in part, to any other portion of the lot or parcel of land where such non-conforming use exists at the time of the adoption of this Ordinance.
2. That no such non-conforming use which has ceased operation for more than one (1) year be again revived as non-conforming use.
3. A vacant/idle building or structure may not be used for non-conforming activity;
4. That any non-conforming building/structure which has been damaged maybe reconstructed and used as before provided that such reconstruction is not more than fifty percent (50%) of the replacement cost. That should such non-conforming portion of any building/structure be destroyed by any means to an extent of more than fifty percent (50%) of its replacement cost at the time of destruction, it shall not be reconstructed except in conformity with the provisions of this Ordinance.
5. That no such non-conforming use maybe moved to displace any conforming use;
6. That no such non-conforming use and/or structure may be expanded or altered in a way which increases its non-conformity, but any structure or portion thereof may be altered to decrease its non-conformity.
7. That should such use and/or structure be moved for any reason to whatever distance, it shall thereafter conform to the regulation of the zone in which it is moved or relocated.
8. That such non-conforming use and/or structure should not cause nuisance effects to its neighborhood, such as but not limited to pollution of whatever form (air, noise, land, water, etc.), undesirable traffic (whether vehicular or pedestrian) and the like and should further not pose health and safety hazards and as further provided in the Performance Standards provision of this Ordinance.
9. The owner of a non-conforming use and/ or structure shall program the phase-out and relocation within ten (10) years from the effectivity of this Ordinance.

Section 43. Certificate of Non – Conformance

A Certificate of Non – Conformance shall be applied for by the owner of the structure or operator of the activity within six (6) months upon receipt of the Notice of Non-Conformance from the Zoning Administrator/ Zoning Officer. This is intended to allow the continued non-conforming use of the property subject to the provisions of this Ordinance.

Section 48. Functions and Responsibilities of the Local Zoning Board of Appeals

There is hereby created a LZBA which shall perform the following functions and responsibilities:

1. Act on applications of the following nature:
 - a. Variances
 - b. Exceptions
 - c. Non – Conforming Uses
 - d. Complaints and Oppositions to Application/s
2. Act on appeals on Grant or Denial of Locational Clearance by the Zoning Administrator/ Zoning Officer.
3. Act on appeals regarding the non-conformity of existing uses, buildings or structures to the applicable provisions of this Ordinance.
4. Decisions of the LZBA shall be carried by an absolute majority vote (50% + 1) of its members.

Section 49. Appeals to LZBA Decisions

Decisions of the LZBA shall be appealable to the HLURB (now DHSUD).

Section 50. Composition of the Local Zoning Board of Appeals (LZBA)

The LZBA shall be composed of the following members:

1. Municipal Mayor as Chairman
2. SP/ SB Committee Chairperson on Land Use/Zoning (If said committee is non-existent, the SB may elect a representative)
3. Municipal Legal Officer
4. Municipal Assessor
5. Municipal Engineer
6. Municipal Planning and Development Coordinator (if other than the Zoning Administrator/Zoning Officer)
7. Municipal Community Environment and Natural Resources Officer/Disaster Risk Reduction and Management Officer
8. Two (2) representatives of the private sector nominated by their respective organizations
9. Two (2) representatives from non-government and civil society organizations nominated by their respective organizations.

The Municipal Planning and Development Office shall serve as the Secretariat to the LZBA.

The LZBA may invite resource persons in support of the performance of its functions.

Section 51. Review of the Zoning Ordinance

The Local Zoning Review Committee (LZRC) is hereby created under the Municipal Development Council, to review the integrated ZO considering the CLUP, based on the following reasons/situations:

Changes in the integrated ZO, as a result of the review by the LZRC shall be treated as an amendment, provided that any proposed amendment to the Zoning Ordinance or provisions thereof shall be subject to public hearing and shall be carried out through a resolution of three-fourths vote of the Sangguniang Bayan.

Any amendment shall take effect only after approval and authentication by HLURB (now DHSUD) or Sangguniang Panlalawigan.

Section 55. Violation and Penalty

Any person who violates any of the provisions of this Ordinance, shall, upon conviction, be punished by a fine not exceeding the latest HLURB Schedule of Fees and Fines or an imprisonment for a period not exceeding six (6) months (for municipalities) and not exceeding one (1) year for cities or both at the discretion of the Court. In case of violation by a corporation, partnership or association the penalty shall be imposed upon the erring officers thereof.

Section 56. Suppletory Effect of Other Laws and Decrees

The provisions of this Ordinance shall be without prejudice to the application of other laws, presidential decrees, letters of instruction and other executive or administrative orders vesting national agencies with jurisdiction over specific land areas, which shall remain in force and effect, provided that land use decisions of the national agencies concerned shall be consistent with the Comprehensive Land Use Plan of the locality.

Section 57. Non-Diminution of National Standards

The rules and standards provided in this ZO shall conform to the rules and standards provided by national agencies and shall not in any way diminish those that have been set by national laws and regulations.

Section 58. Consistency between National and Local Plans, Programs and Projects

Plans, programs and projects of national agencies that will be implemented within the locality, shall as much as practicable, be consistent with the provisions of the ZO.

Section 59. Implementing Mechanism for the Proposed Land Uses

The Local Investment and Incentive Council (LIIC) of the municipality shall be made responsible for the overall policy direction and proactive coordination with agencies and investors, and implementation of the programs and projects feasible and suitable to the designated and proposed land uses herein identified in this ZO in close coordination with the Zoning Administrator.

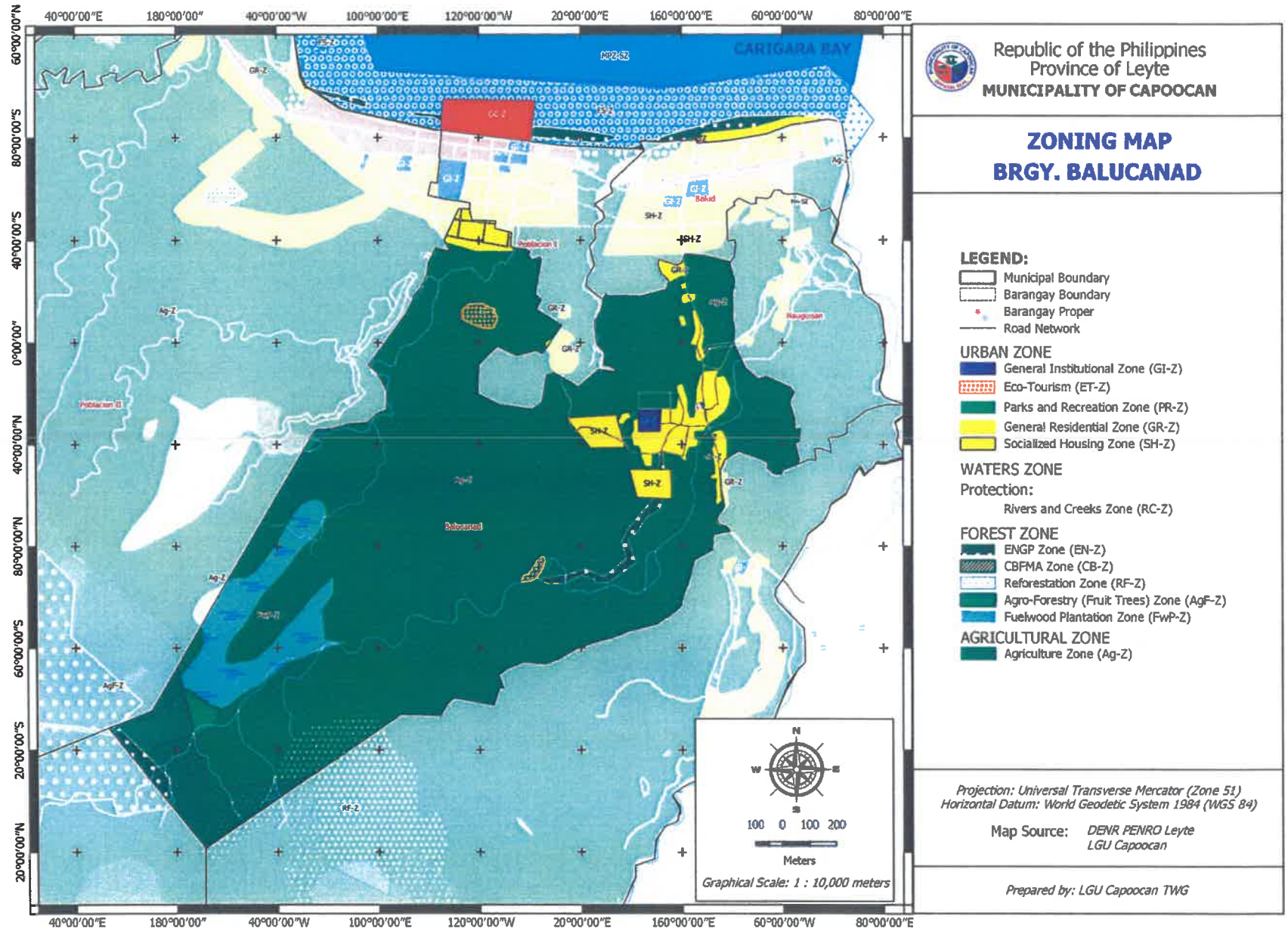
Section 60. Separability Clause

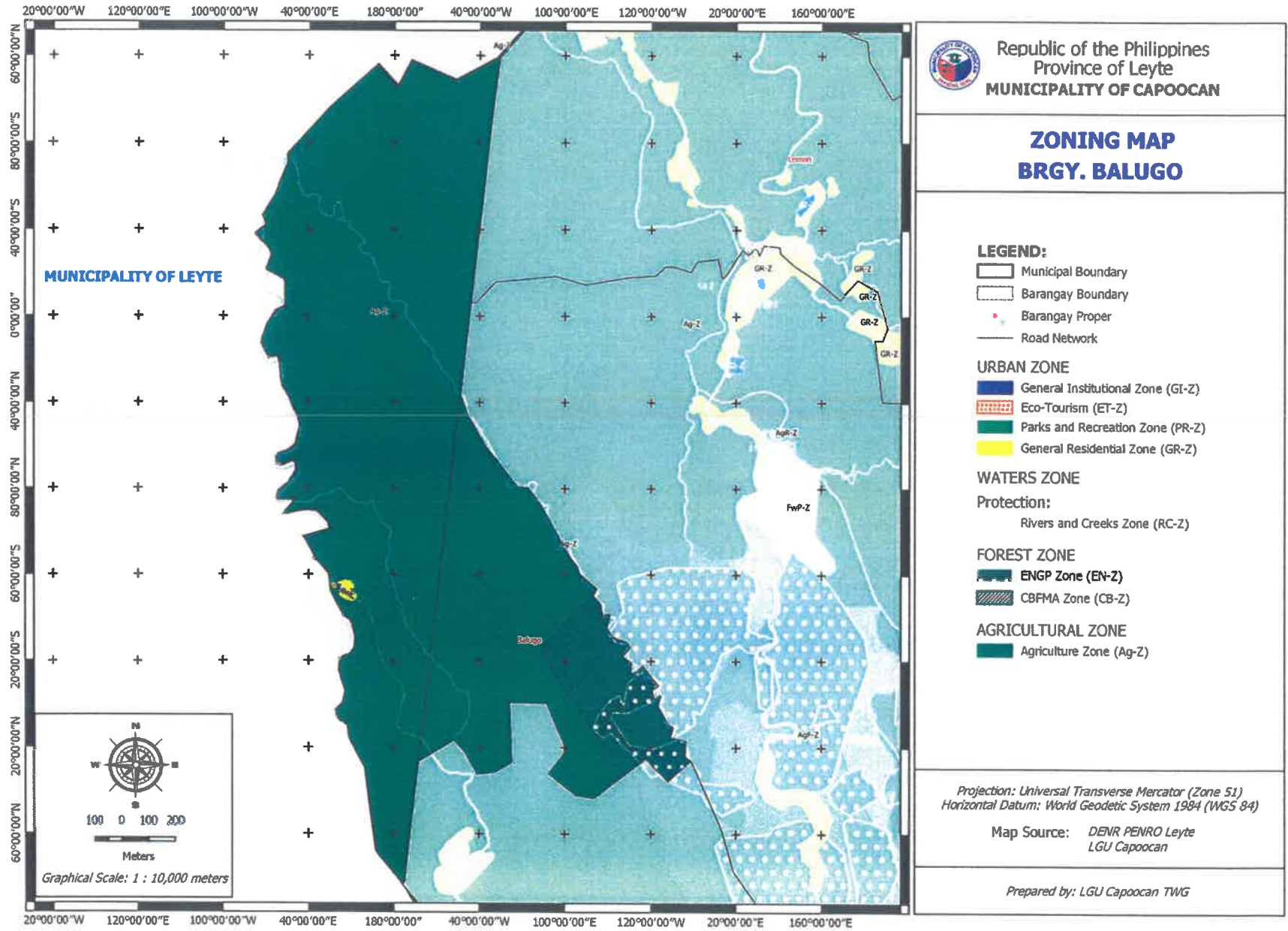
Should any section or provision of this Ordinance be declared by the Courts to be unconstitutional or invalid, such decision shall not affect the validity of the Ordinance as a whole or any part thereof other than the part so declared to be unconstitutional or invalid.

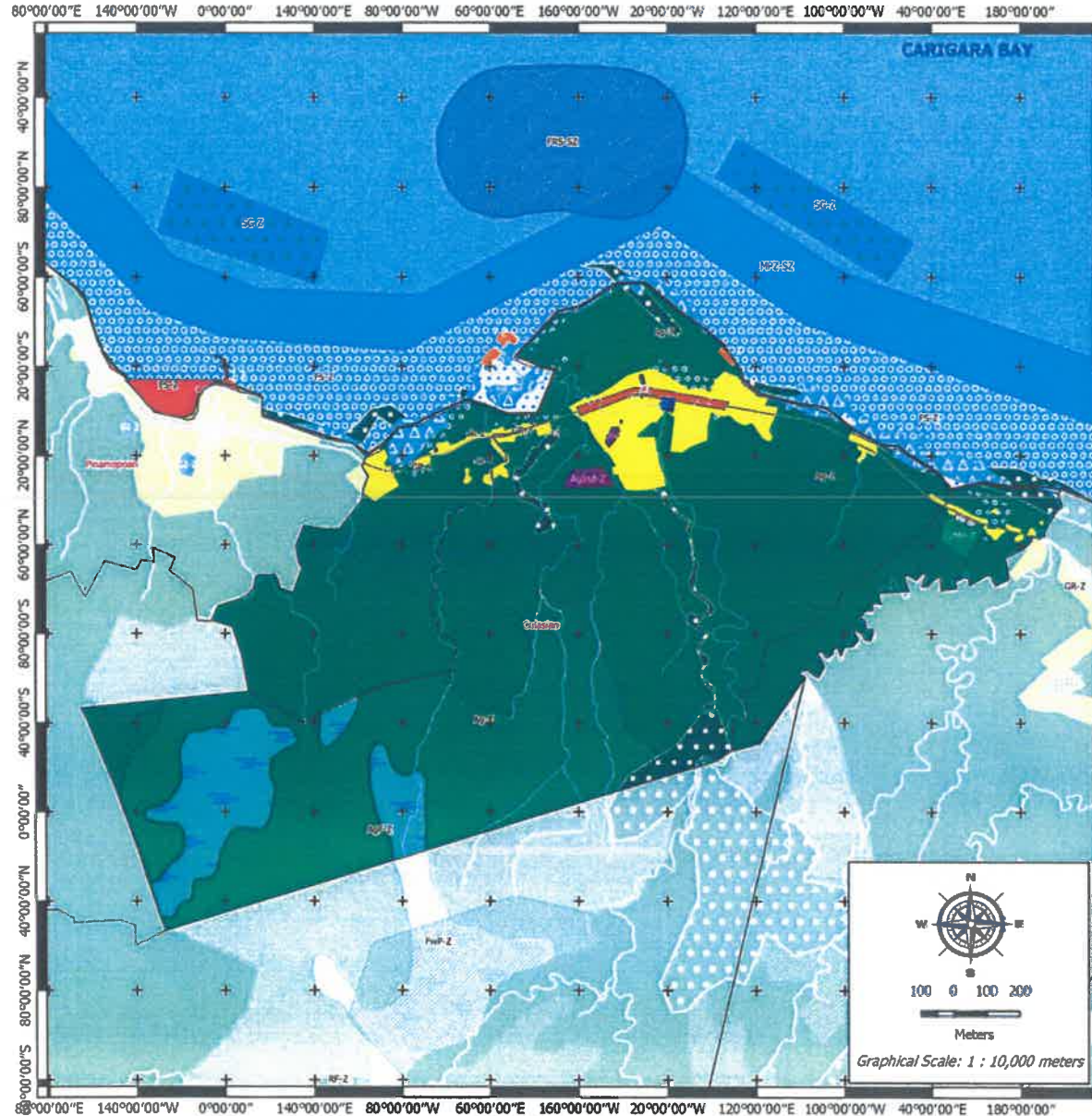
Section 61. Repealing Clause


Annex 1. Land Use Categories and Color Coding

<i>Base Zone</i>	<i>Sub-Zone</i>	<i>Color Code</i>	<i>RGB</i>
Forest Zone			
Protection	ENGP Zone	EN-Z	0,100,0
	CBFM Zone	CB-Z	0,100,0
	Geothermal Reservation Zone	GTR-Z	0,100,0
	Reforestation Zone	RF-Z	0,100,0
	No Tenure/ Open Zone	NT-Z	0,100,0
Production	ENGP Zone	EN-Z	0,100,0
	CBFMA Zone	CB-Z	0,100,0
	Agro-Forestry (Root Crops) Zone	AgR-Z	0,100,0
	Agro-Forestry (Fruit Trees) Zone	AgF-Z	0,100,0
	Fluelwood Plantation Zone	FwP-Z	0,100,0
	Reforestation Zone	RF-Z	0,100,0
	No Tenure/ Open Zone	NT-Z	0,100,0
Agricultural Zone			
Production	Agricultural Zone	AGZ	0,150,0
Municipal Waters Zone			
Protection	Fish Refuge and Sanctuary Sub-Zone	FRS-SZ	175,200,225
	Mangrove Sub-Zone	Mn-SZ	175,200,225
	Foreshore Zone	FS-Z	175,200,225
	Sea Grass Beds	SG-Z	175,200,225
	Rivers & Creeks Zone	RC-Z	175,200,225
Production	Mariculture Zone and Park Sub-Zone	MZP-SZ	175,200,225
	Municipal Fishing Sub-Zone	MF-SZ	175,200,225
Tourism Zone		T-Z	255,153,0
Eco-tourism Zone		ET-Z	255,153,0
General Residential Zone		GR-Z	255,255,0
Socialized Housing Zone		SH-Z	255,255,0
General Commercial Zone		GC-Z	255,0,0
Agri-Industrial Zone		AgInd-Z	150,0,200
General Institutional Zone		GI-Z	0,0,255
Parks and Recreation Zone		PR-Z	100,225,100
Cemetery/Memorial Park Zone		C or MP-Z	100,225,100
Infrastructure and Utilities Zone		IU-Z	190,190,190
Road Network Zone		RN-Z	190,190,190
ESWM Park/SLF Zone		EP-Z	190,190,190




















 Republic of the Philippines
 Province of Leyte
MUNICIPALITY OF CAPOOACAN

ZONING MAP BRGY. CULASIAN

LEGEND:






-  Municipal Boundary
-  Barangay Boundary
-  Barangay Proper
-  Road Network

URBAN ZONE



-  General Institutional Zone (GI-Z)
-  Tourism Zone (T-Z)
-  General Commercial Zone (GC-Z)
-  Agri-Industrial Zone (AgInd-Z)
-  Parks and Recreation Zone (PR-Z)
-  Cemetery or Memorial Park Zone (C or MP-Z)
-  Infrastructure and Utilities Zone (IU-Z)
-  General Residential Zone (GR-Z)

WATERS ZONE




Protection:

-  Fishery Refuge and Sanctuary Sub-Zone (FRS-SZ)
-  Mangrove Sub-Zone (Mn-SZ)
-  Foreshore Zone (FS-Z)
-  Sea Grass Beds Zone (SG-Z)
-  Rivers and Creeks Zone (RC-Z)


Production:

-  Mariculture Zone and Park Sub-Zone (MZP-SZ)
-  Municipal Fishing Sub-Zone (MF-SZ)

FOREST ZONE

-  ENGP Zone (EN-Z)
-  Agro-Forestry (Fruit Trees) Zone (AgF-Z)
-  Fuelwood Plantation Zone (FwP-Z)

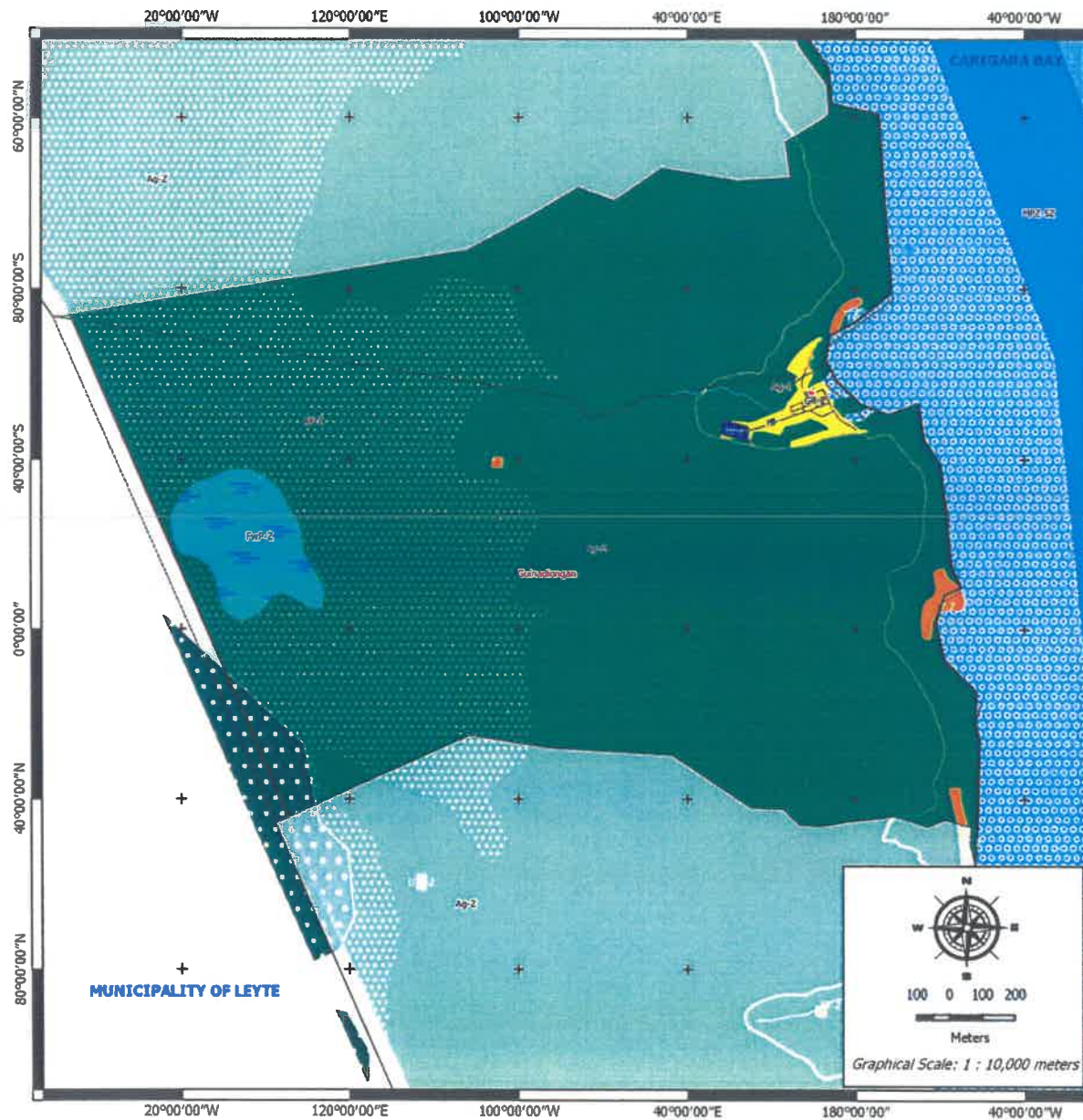
AGRICULTURAL ZONE

-  Agriculture Zone (Ag-Z)

Projection: Universal Transverse Mercator (Zone 51)
Horizontal Datum: World Geodetic System 1984 (WGS 84)

Map Source: DENR PENRO Leyte
 LGU Capooacan

Prepared by: LGU Capooacan TWG

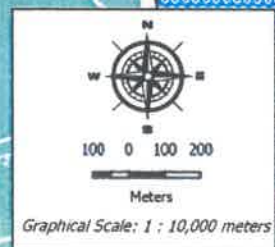


Republic of the Philippines
Province of Leyte
MUNICIPALITY OF CAPOOCAN

ZONING MAP
BRGY. GUINADIONGAN

LEGEND:

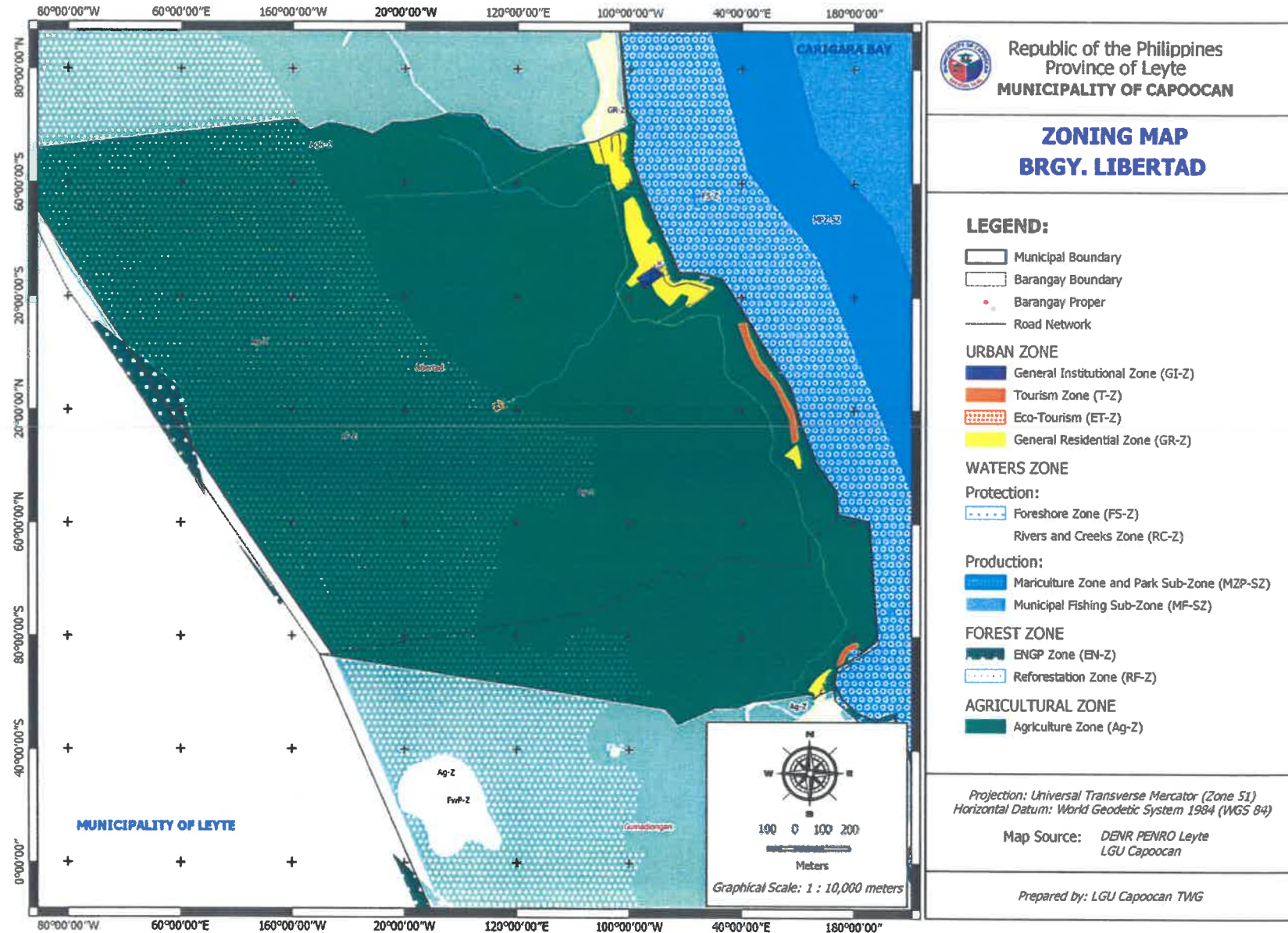
- Municipal Boundary
- Barangay Boundary
- Barangay Proper
- Road Network
- URBAN ZONE**
 - General Institutional Zone (GI-Z)
 - Tourism Zone (T-Z)
 - General Residential Zone (GR-Z)
- WATERS ZONE**
 - Protection:**
 - Foreshore Zone (F5-Z)
 - Rivers and Creeks Zone (RC-Z)
 - Production:**
 - Mariculture Zone and Park Sub-Zone (MZP-SZ)
 - Municipal Fishing Sub-Zone (MF-SZ)
- FOREST ZONE**
 - ENP Zone (EN-Z)
 - Reforestation Zone (RF-Z)
 - Fuelwood Plantation Zone (FwP-Z)
- AGRICULTURAL ZONE**
 - Agriculture Zone (Ag-Z)

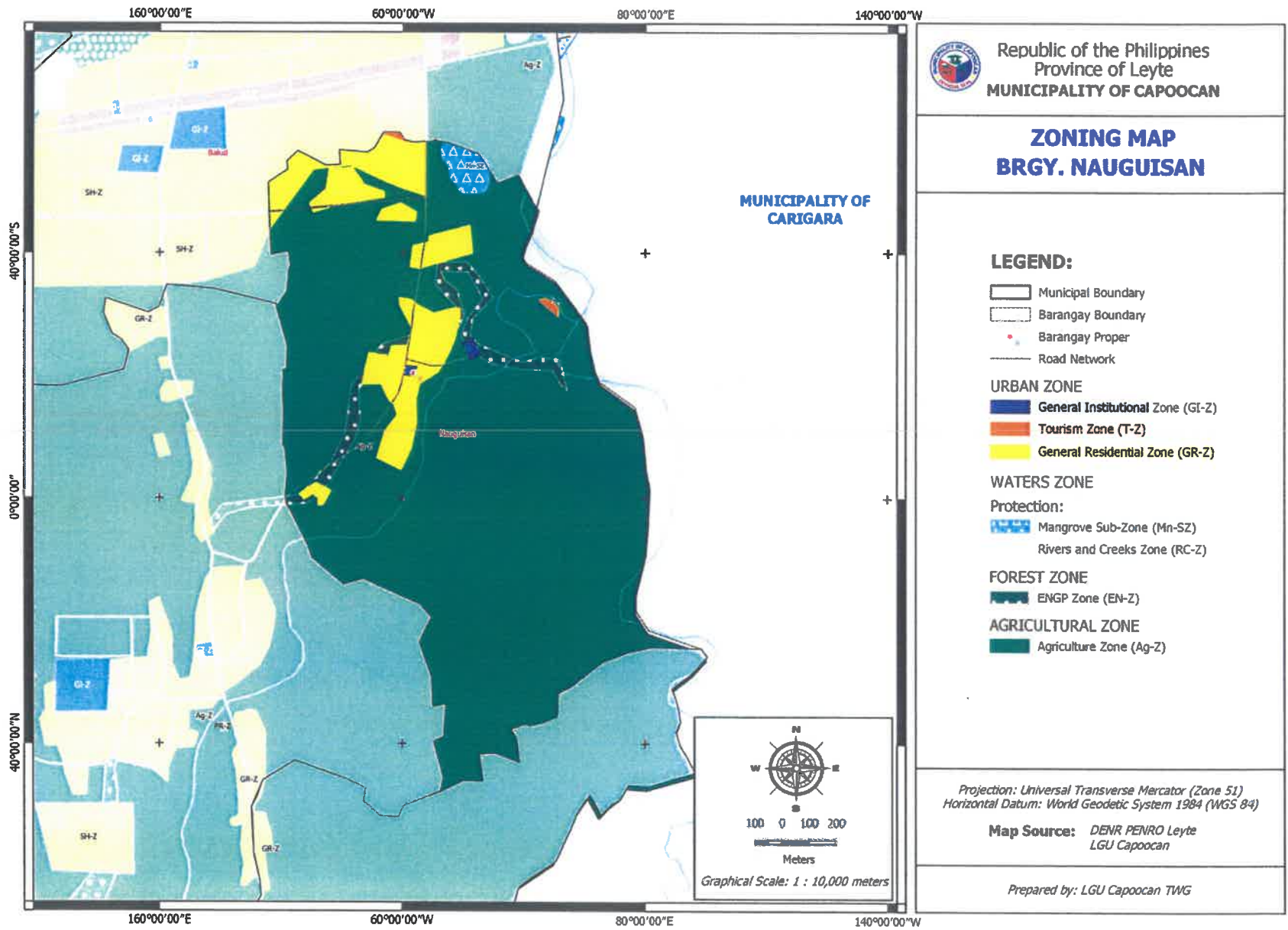


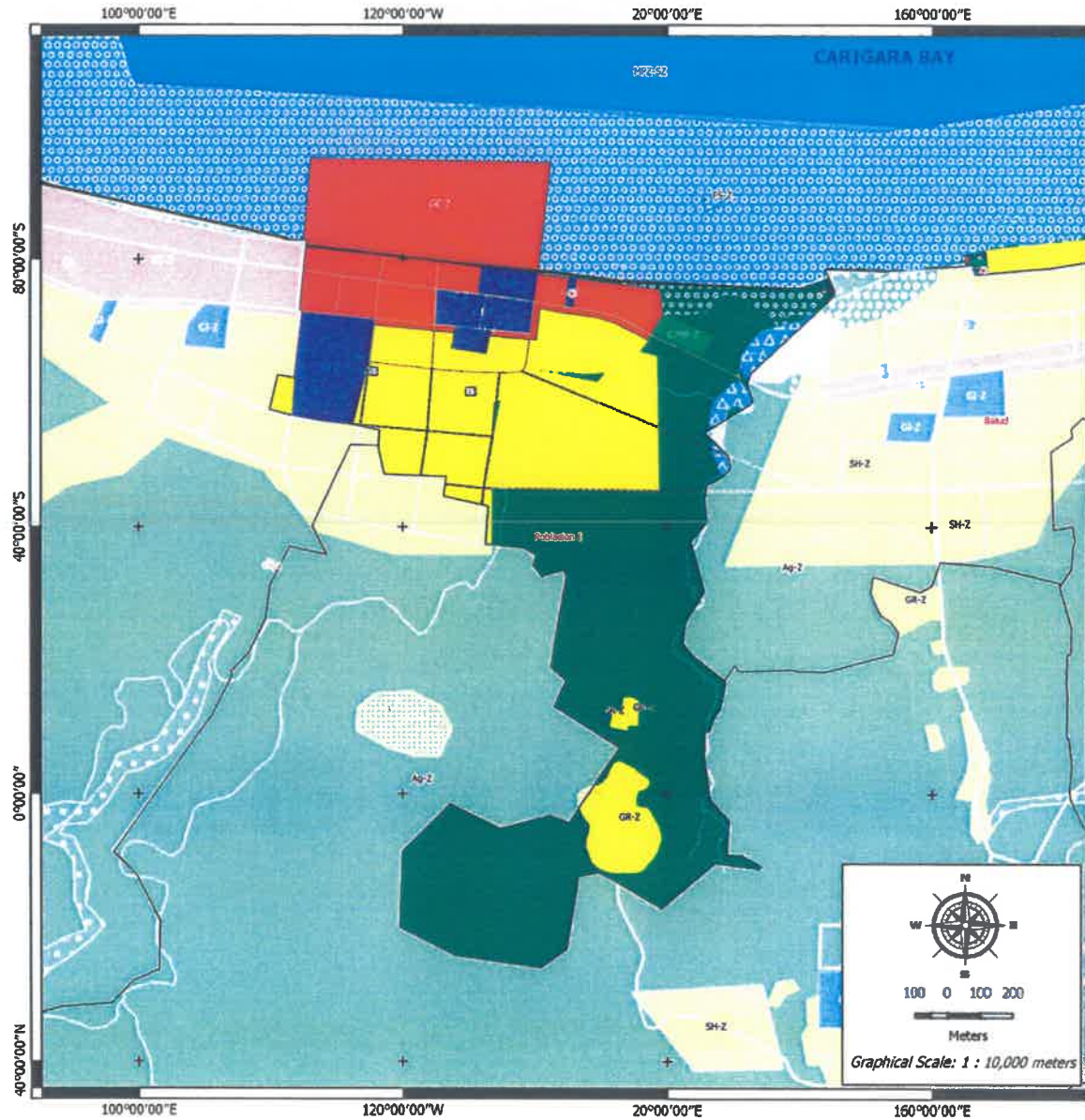
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Republic of the Philippines
Province of Leyte
MUNICIPALITY OF CAPOCCAN

ZONING MAP
BRGY. POBLACION ZONE I

LEGEND:




-  Municipal Boundary
-  Barangay Boundary
-  Barangay Proper
-  Road Network

URBAN ZONE



-  General Institutional Zone (GI-Z)
-  General Commercial Zone (GC-Z)
-  Cemetery or Memorial Park Zone (C or MP-Z)
-  Infrastructure and Utilities Zone (IU-Z)
-  General Residential Zone (GR-Z)

WATERS ZONE


Protection:

-  Mangrove Sub-Zone (Mn-SZ)
-  Foreshore Zone (FS-Z)
-  Rivers and Creeks Zone (RC-Z)

Production:

-  Mariculture Zone and Park Sub-Zone (MZP-SZ)
-  Municipal Fishing Sub-Zone (MF-SZ)

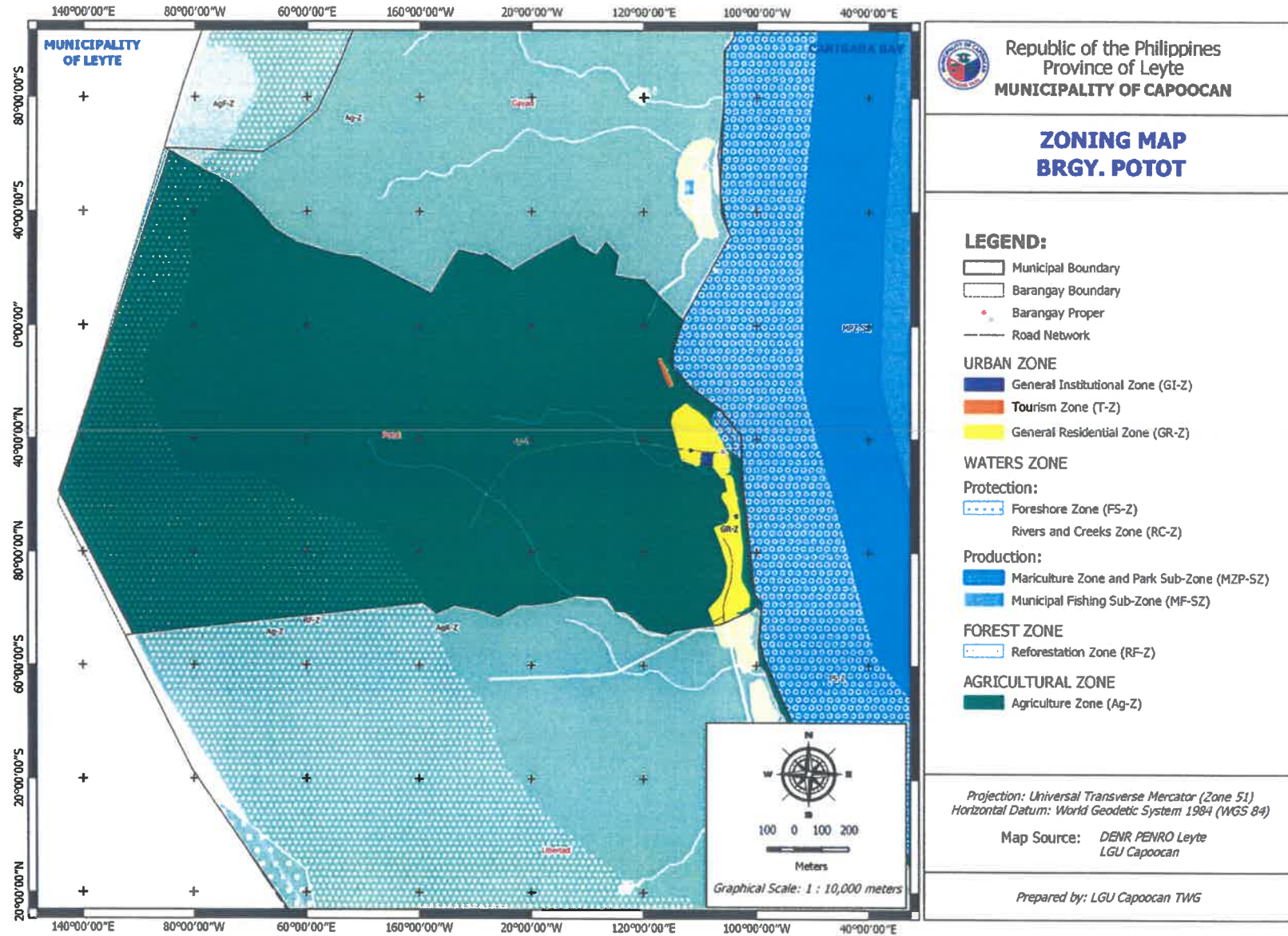
AGRICULTURAL ZONE

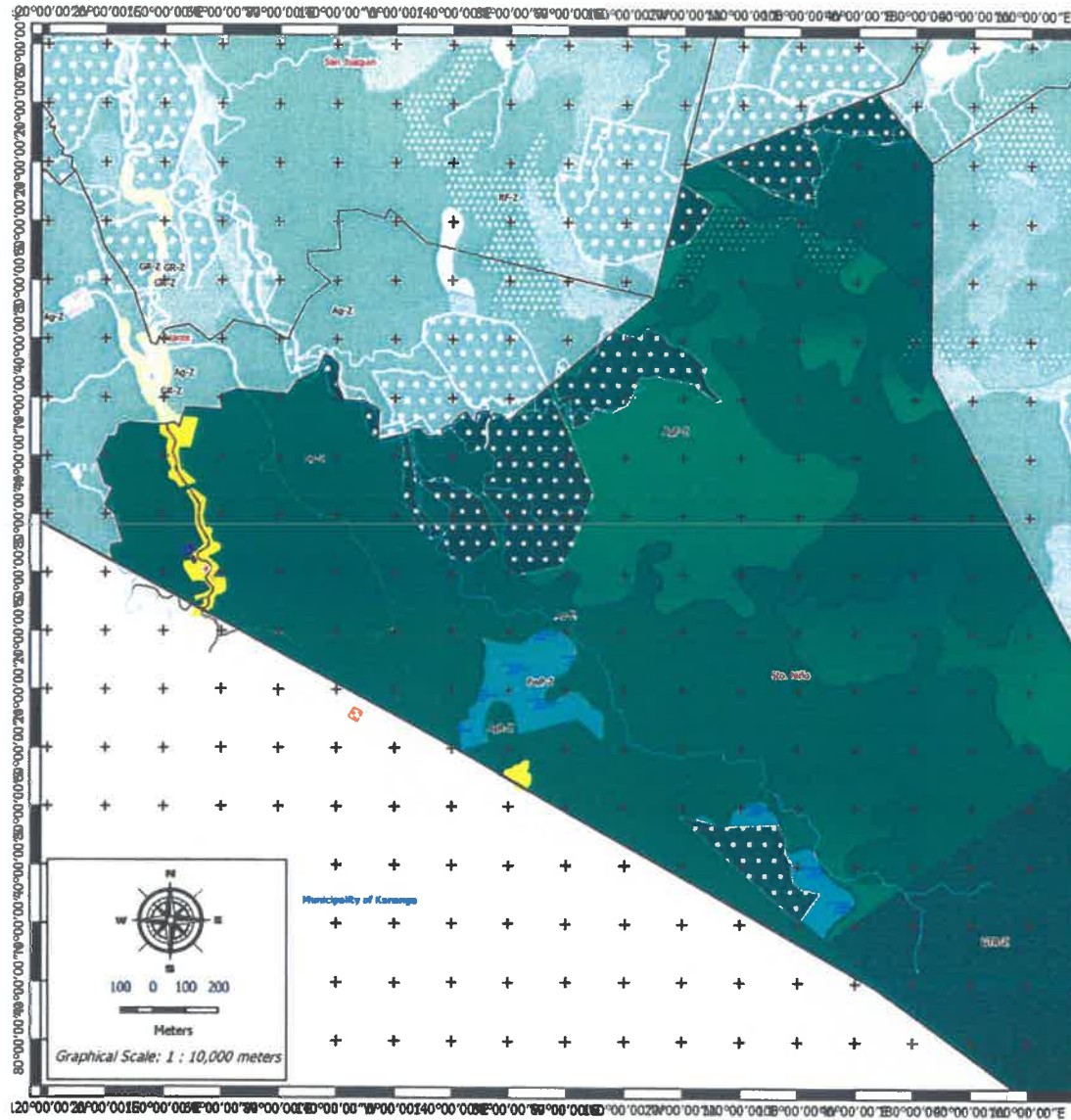
-  Agriculture Zone (Ag-Z)


Projection: Universal Transverse Mercator (Zone 51)
Horizontal Datum: World Geodetic System 1984 (WGS 84)

Map Source: DENR PENRO Leyte
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Republic of the Philippines
Province of Leyte
MUNICIPALITY OF CAPOCCAN

ZONING MAP
BRGY. STO. NIÑO

LEGEND:


-  Municipal Boundary
-  Barangay Boundary
-  Barangay Proper
-  Road Network

URBAN ZONE








-  General Institutional Zone (GI-Z)
-  Eco-Tourism (ET-Z)
-  General Residential Zone (GR-Z)

WATERS ZONE


Protection:

-  Rivers and Creeks Zone (RC-Z)

FOREST ZONE

-  ENGP Zone (EN-Z)
-  CBFMA Zone (CB-Z)
-  Geothermal Reservation Zone (GTR-Z)
-  Reforestation Zone (RF-Z)
-  Agro-Forestry (Root Crops) Zone (AgR-Z)
-  Agro-Forestry (Fruit Trees) Zone (AgF-Z)
-  Fuelwood Plantation Zone (FWP-Z)

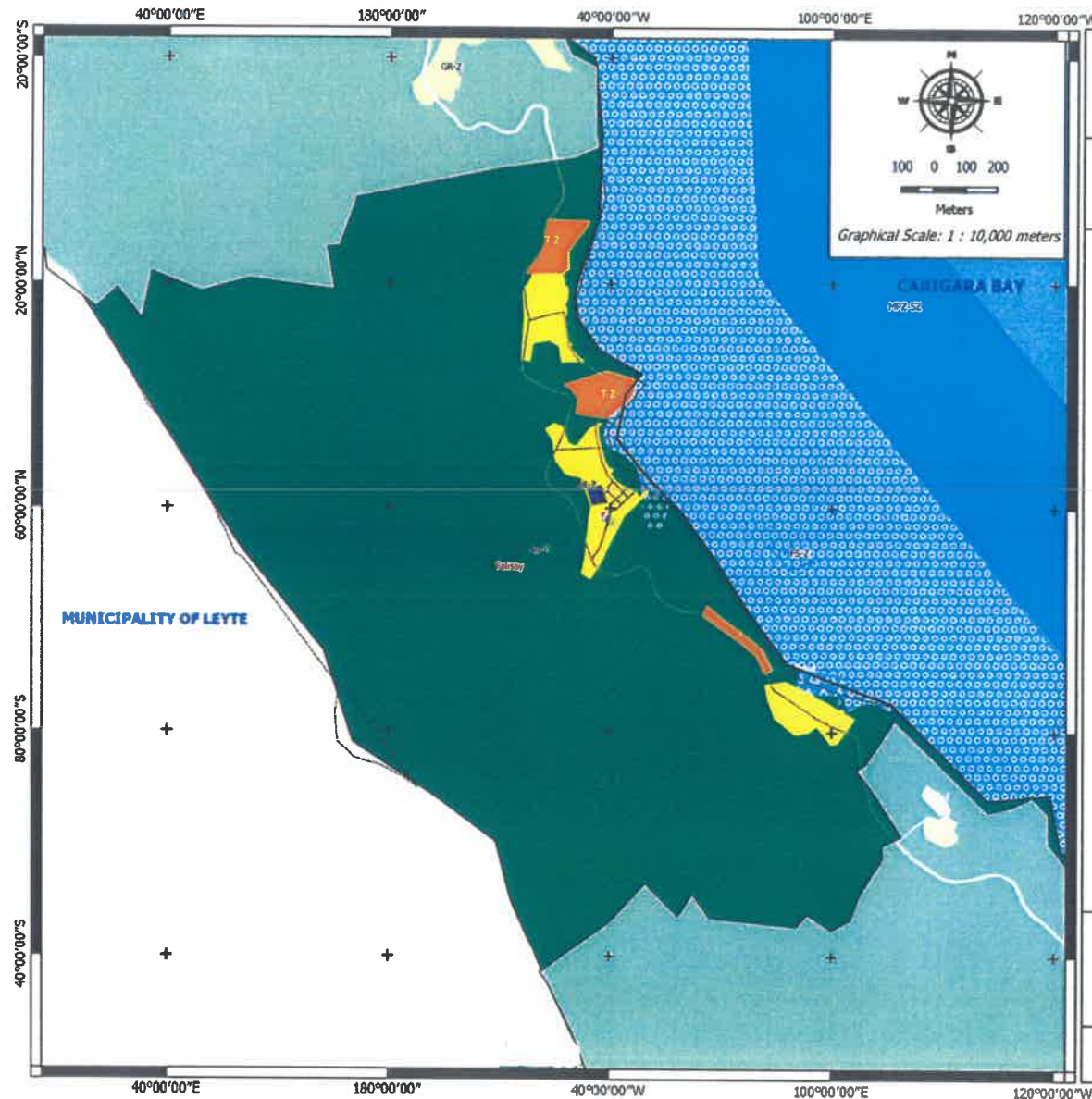
AGRICULTURAL ZONE


-  Agriculture Zone (Ag-Z)

Projection: Universal Transverse Mercator (Zone 51)
 Horizontal Datum: World Geodetic System 1984 (WGS 84)

Map Source: DENR, PENRO Leyte
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Republic of the Philippines
Province of Leyte
MUNICIPALITY OF CAPOOCAN

ZONING MAP
BRGY. TALISAY

LEGEND:




-  Municipal Boundary
-  Barangay Boundary
-  Barangay Proper
-  Road Network

URBAN ZONE



-  General Institutional Zone (GI-Z)
-  Tourism Zone (T-Z)
-  General Residential Zone (GR-Z)

WATERS ZONE


Protection:

-  Mangrove Sub-Zone (Mn-SZ)
-  Foreshore Zone (FS-Z)
-  Rivers and Creeks Zone (RC-Z)

Production:

-  Mariculture Zone and Park Sub-Zone (MZP-SZ)
-  Municipal Fishing Sub-Zone (MF-SZ)

AGRICULTURAL ZONE

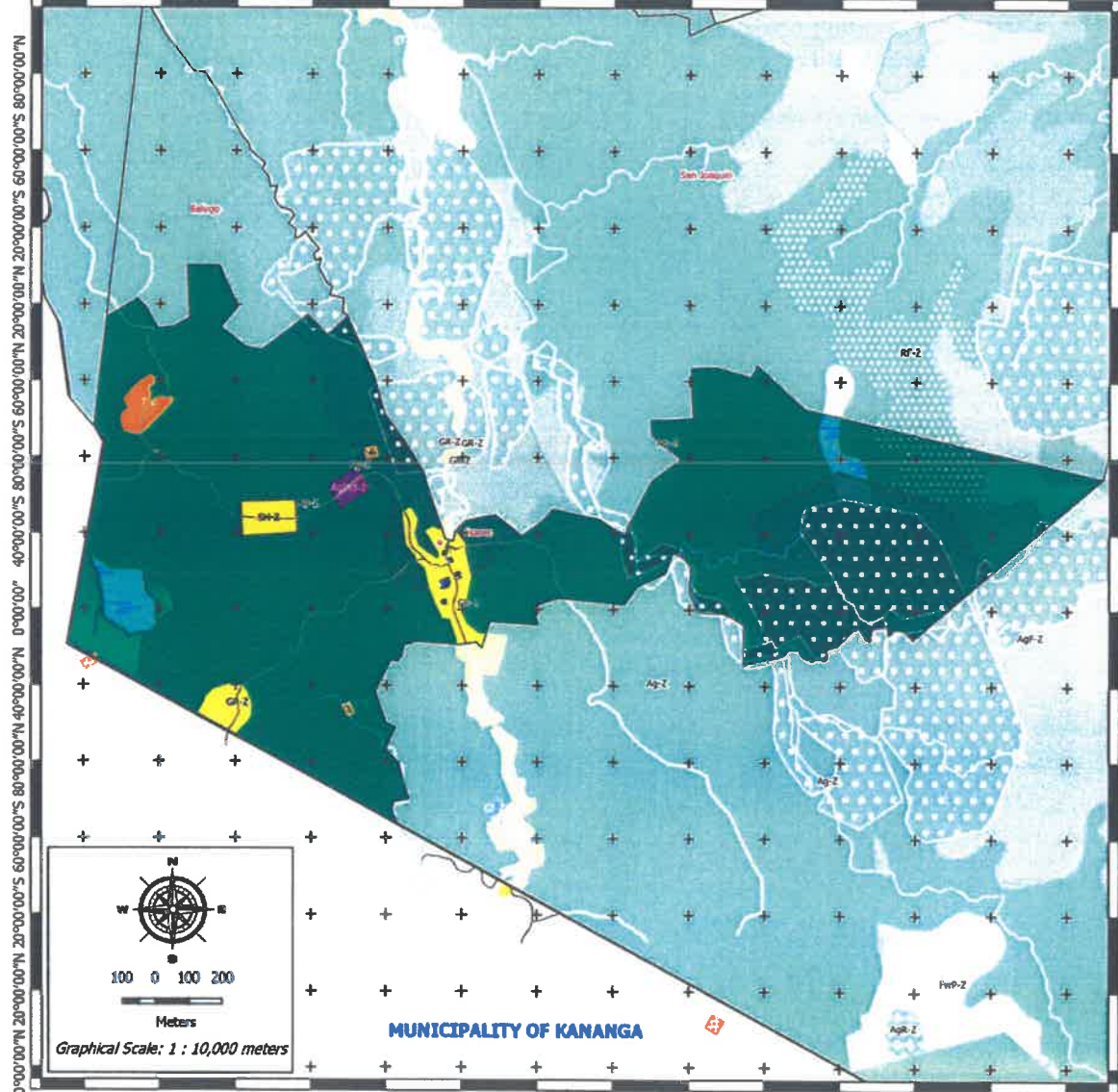
-  Agriculture Zone (Ag-Z)

Projection: Universal Transverse Mercator (Zone 51)
Horizontal Datum: World Geodetic System 1984 (WGS 84)

Map Source: DENR PENRO Leyte
 LGU Capooan

Prepared by: LGU Capooan TWG

180°00'00" 40°00'00" W 100°00'00" E 20°00'00" W 20°00'00" E 160°00'00" E 60°00'00" W 80°00'00" E 140°00'00" W 0°00'00" 140°00'00" E 80°00'00" W 60°00'00" E 160°00'00" W



Republic of the Philippines
Province of Leyte
MUNICIPALITY OF CAPOCAN

**ZONING MAP
BRGY. VISARES**

LEGEND:

- Municipal Boundary
 - Barangay Boundary
 - Barangay Proper
 - Road Network
- URBAN ZONE**
- General Institutional Zone (GI-Z)
 - Tourism Zone (T-Z)
 - Eco-Tourism (ET-Z)
 - Agri-Industrial Zone (AgInd-Z)
 - General Residential Zone (GR-Z)
 - Socialized Housing Zone (SH-Z)
- WATERS ZONE**
- Protection:
- Rivers and Creeks Zone (RC-Z)
- FOREST ZONE**
- ENGP Zone (EN-Z)
 - CBFMA Zone (CB-Z)
 - Reforestation Zone (RF-Z)
 - Agro-Forestry (Root Crops) Zone (AgR-Z)
 - Agro-Forestry (Fruit Trees) Zone (AgF-Z)
 - Fuelwood Plantation Zone (FwP-Z)
- AGRICULTURAL ZONE**
- Agriculture Zone (Ag-Z)

Projection: Universal Transverse Mercator (Zone 51)
Horizontal Datum: World Geodetic System 1984 (WGS 84)

Map Source: DENR PENRO Leyte
LGU Capocan

Prepared by: LGU Capocan TWG

Graphical Scale: 1 : 10,000 meters

VOLUME III

REPUBLIC OF THE PHILIPPINES
OFFICE OF THE REGISTERAR GENERAL
OCT 09 2023
PROVINCE OF LEYTE

Sectoral, Environmental and Special Area Study

A situational analysis for the
Comprehensive Land Use Plan (CLUP) of the
Municipality of Capoocan

2018-2028



Municipality of Capoocan, Province of Leyte

P R E F A C E

An Asian proverb says: “The journey of a thousand miles begins with a single step.” Let it be added that for the journey to reach the intended destination, the step should be in the right direction. For a future of prosperity and equal opportunity to all, set on greater social justice and an environment that is benign and sustainable, the logical one is to do what is always taught in grade school, that is: plan your work. Define the exact goal and chart the way to go there.

For the Municipality of Capoocan, this is the crafting of the Comprehensive Development Plan (CDP) and the Comprehensive Land Use Plan (CLUP), two most important milestones in its one-hundred year history. The decision to do them was a decision to break with the past and blaze a new trail into the future. It realized that Capoocan can no longer continue on going the way of the last five decades or so. The formulation of the CDP and CLUP is a pivotal step towards a course of rapid modernization and growth.

The will to embark on such a departure is manifested not only by the Local Chief Executive’s giving of the green light to the planning process, but the deployment of forces and resources to it. The key person and support staff to take responsibility for the task were designated. Much needed fund was allotted. Time was not wasted in too much deliberation and thinking back-and-forth. The work soon took off.

Part of the task was the gathering of data and the piecing out of all the information required to analyse correctly, get ideas churning, weigh options, and come up with the right decisions. Investigation and research were indispensable. They have to be given due course and all the time required. In fact, more than half of the duration of formulating and preparing the plan goes to them. And more than half of what go into the plan proper comes from them.

The activity’s output consists of three items. One is the database which can actually serve other purposes besides the drafting of the CDP and CLUP. Second is the processed information that lay the basis or give meaning to the premises of the decisions made. Third are the analyses that flesh out the whole study or picture of the area of study, thereby giving strategic context to the decisions. All of the three have been religiously fulfilled.

Here is the output, Volume III – the Sectoral and Special Area Study on the Municipality of Capoocan. This documents the findings on the administrative subdivision’s demography, geological and natural biophysical resources, delivery of social services, economic performance and hardware of development. Also integrated into the study, as vital criteria to the engineering of strategy, is the assessment of the vulnerability of communities here to the impact and effects of projected climate change scenarios over the next thirty years.

The future reality of disasters with increasing severity shadows the charting of the tracks for both CDP and CLUP. A core aspect of both then is the mainstreaming of disaster risk reduction and management considerations to the use and allocation of resources, as well as location of projects. This study addresses such by thoroughly working on the part pertaining to Climate and Disaster Risk Assessment of the area.

The Sectoral and Special Area Study of the Municipality of Capoocan compiles what not only technical persons or professionals but the ordinary layman would understand and need to know to participate in the dynamics of its development. It has been written, styled and packaged for the consumption of everyone who cares about the future of Capoocan and most importantly its people. It is what they are today.

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historical and projected growth of the population brought about by such components as birth, death and migration.

Composition pertains to the characteristics of the population in terms of age-grouping and sex ratio. Data on composition of population are relevant in social and economic planning. Ratios on dependency and labor force are derived from it. The total number of individuals of school age and enrolment participation are drawn from the same characteristic.

The distribution of population, on the other hand, pertains to the geographic pattern of the location of the people. Information on such delineates centers of population, hierarchy of settlements, and growth points. The population distribution pattern also points to urbanization trends and density levels.

How does population and development interrelate? What is its relevance to sectoral planning? People have essential needs to live. Basic of them are food, education, health care, housing, clothing, recreation and security. How they are satisfied in the context of society by the collective efforts of its members takes into account size, composition and distribution of the population. The latter are the most fundamental sets of information in development planning.

Population data set the bases for the level of needs that have to be addressed by social services, such as schools, health centers, recreational facilities, power, water supply, protection, etc. The number of people also determines demand and consequently the amount of goods and services that have to be produced in the area. It also determines the nature, magnitude, and scope of economic activities to be sustained for viable existence.

Area Profile

Land resource and features of the natural environment form part of this study. Capoocan has a rich complement of ecosystems and biophysical attributes laying the excellent groundwork for viable life support as well as the dynamics of development. A most important consideration of such aspect is not only how much can the area support human life, but its carrying capacity vis-à-vis increases in population, and up to what levels of social and economic growth can it remain sustainable.

Geographical characteristics are important matters in development. Strategic location and accessibility for instance build up advantage in production and market. Size of territory as well, territorial subdivisions, and contiguity of settlements also offer spatial potentials, besides access to immediate backward linkages. They favour delivery of greater results by certain socio-economic sectors. They are included here.

A sort of natural resource inventory is undertaken by the ecosystems analysis as an essential part of this study. The particular section portrays the dynamic interaction between the municipality's landscape components from ridge to slopes, plains and coastal portions. It identifies where the headwaters are and establishes the watershed basins along the downward routes of Capoocan's major river systems.

The other subjects of this particular analysis are:

- 1) Topography. The subject includes information on contour, elevation, slope, drainage patterns or bodies of water within the municipality, and buffer sheds.
- 2) Vegetative Cover. The subject maps all of flora in the biosphere, their location and area.
- 3) Soil. The subject looks into earth's top crust where plants and trees grow, the people engage in agriculture, and find habitat to live. Data on this aspect includes type or classification, balance and suitability.

the norm as the deterioration of the environment continues on its downward spiral. Their consideration has to be mainstreamed in strategies and programs for the allocation and management of resources to improve human life.

This part assesses two special areas of concern to the municipality: climate change vulnerability and disaster risk. The first analyses the impact of sea level rise, higher temperature, bigger volumes of rainfall, and long dry spells on vulnerable elements of the community by projected climate change on defined time slices. It looks into how the locality and its parts can be adaptive to the expected meteorological hazards worsened by climate change.

The second analyses the impact and effects of expected hazard events, and the risks to people, housing, facilities, natural resource-based production, etc. it takes into account exposure of communities to disasters brought about by floods, landslides, typhoons, storm surge and tsunami. The study includes hazard profile, maps and tables.

Outcomes of participatory appraisal identify priority areas/sectors, because of their high susceptibility. They also chart frequency, severity and magnitude of disaster occurrences. Information on these guides the delineation of areas for prohibitive land use. They aid in the drafting of proposals or recommendations for action, especially in safeguarding vulnerable elements through judicious land use allocation and management.

The mainstreaming of findings and measures at climate change adaptability and disaster risk reduction and mitigation is now required to be an integral part of the formulation of thrusts, directions and spatial strategies in development. It is a special area for study that this volume has taken great length to elucidate.

Broader Perspective

Although a part of the preparation and formulation of the Comprehensive Land Use Plan, to provide factual and evidentiary bases for its underlying premises, resolutions, and physical-spatial strategies, the Sectoral and Special Area Study is a piece of literature that stands by itself for whatever other purpose it may serve. Its database, sets of information and conclusive findings may be mined to address information need under a different context along the continuing dynamics of development beyond the CLUP.

The modular formatting and styling of this volume make it not only a body of documentation and attachment to the theoretical construct of the land use allocation and management policy of the Municipality of Capooacan. They make the study alone relevant with respect to a broader perspective of use or application.

The product is at hand to provide the information and enlightenment vital to the realization of holistic and sustainable development by the people of Capooacan, as a result of the fundamental changes they make in the socio-economic conditions and situations of their existence.

Outward migration to seek greener pastures and students missed during census having enrolled in other places – thus staying outside, largely accounted for the town’s low population count. Despite the tenfold increase of the population in more than a century, Capoocan nonetheless showed an overall trend of low annual growth. The following is the historical growth of population of Capoocan along 12 census years, 1903-2007:

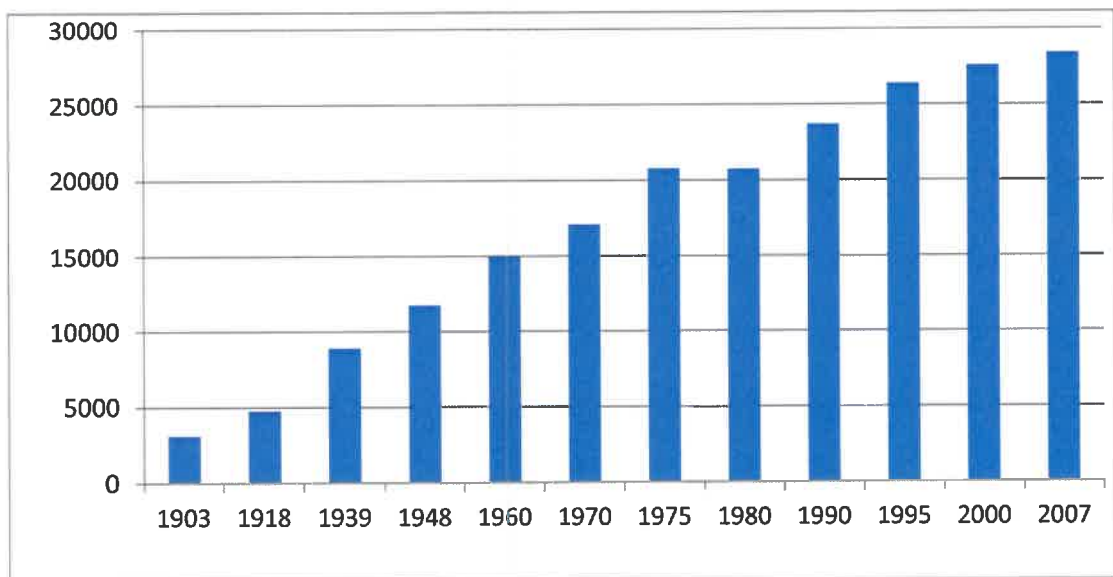
Table 2: Historical Growth of the Population of Capoocan 1903-2007

Census Year	Total Population	Increase/Decrease in Pop.	Average Annual Growth Rate
1903	3,106	----	----
1918	4,772	1,666	2.90%
1939	8,907	4,135	3.02%
1948	11,753	2,846	3.13%
1960	14,948	3,195	2.02%
1970	17,077	2,129	1.34%
1975	20,783	3,706	4.01%
1980	20,726	-57	-0.05%
1990	23,687	2,904	1.34%
1995	26,384	2,697	2.04%
2000	25,593	1,209	0.97%
2007	28,388	795	0.41%

Data Source: Philippine Statistics Authority

The pattern of population growth over a century is shown in the chart below:

Figure 1: Population Growth Trend



Level of Urbanization and Geographical Distribution

The urban areas of the municipality at present are Bgy. Poblacion Zone I with a population of 2,348 and Bgy. Poblacion Zone II with a population of 4,731. Both urban communities have a combined population of 7,079 individuals. They constitute 21.05% of total population.

The rest of the 19 barangays of Capoocan are classified rural areas. They have a combined population of 26,538 individuals and constitute 78.55% of the total municipal population. In its distribution, the municipality is predominantly rural. It has a ratio of four to one (4:1) rural versus urban population. The level of urbanization is 21 percent.

Households

The aggregate number of households for the whole of Capoocan is 6,642. Each household has an average size of five (5.07) members. Households in the barangays classified as urban areas, namely Poblacion Zone I and Poblacion Zone II, total 1,387. The largest barangay in number of households as well as individual population is Poblacion Zone II also known as Daraupay. Among rural barangays, Pinamopoan has the largest number of households as well as individuals.

Table 4: Population and Average Size of Household per Barangay as of Year 2015

Barangay	Households		Population		Average Size of Household
	Number	Proportion	Number	Proportion	
CAPOOCAN	6,642	100	33,617	100	5.0
Poblacion I	460	6.92	2,348	6.98	5.1
Poblacion II	927	14.01	4,731	14.00	5.1
Balucanad	342	5.15	1,621	4.82	5.0
Balud	567	8.53	2,835	8.43	5.0
Balugo	74	1.11	369	1.10	5.0
Cabul-an	383	5.76	1,955	5.81	5.1
Culasi-an	591	8.90	2,957	8.80	5.0
Gayad	149	2.24	763	2.27	5.1
Guinadiong	125	1.90	649	1.93	5.2
Lemon	545	8.20	2,783	8.27	5.1
Libertad	227	3.41	1,136	3.38	5.0
Manloy	138	2.08	693	2.06	5.0
Nauguisan	72	1.08	359	1.07	5.0
Pinamopoan	590	8.90	3,010	8.95	5.1
Potot	167	2.51	853	2.54	5.1
San Joaquin	282	4.24	1,466	4.36	5.2
Sto, Nino	258	3.90	1,289	3.83	5.0
Talairan	185	2.78	943	2.80	5.1
Talisay	128	1.92	642	2.00	5.0
Tolibao	131	1.97	708	2.10	5.4
Visares	301	4.53	1,507	4.48	5.0

Data Source: MPDO – Municipality of Capoocan

Population Density

On the whole, the municipality has a low population density of 1.81 or around two persons per hectare. Among Capoocan's 21 barangays Bgy. Balud has the highest population density with 4.75 or around five persons per hectare. Although Poblacion Zone II has the biggest population with a total of 4,731 individuals, it has a population density of only 4.17. With a population of only 369 individuals, the interior mountain barangay of Balugo has the lowest density of .24 or barely a person per hectare. Yet, compared to Balud with a total population of 2,835, it covers an area of 1,546.59 hectares. The latter covers an area of only 596.50 hectares.

The communities with high population densities are located along the Maharlika Highway, where the municipality's residents are mostly concentrated. This stretches from Bgy. Balud at the boundary with the Municipality of Carigara east of the town, to the poblacion zones in the town

The lack of more updated actual census information constrained this study to adopt 2010 as reference year. As borne out by estimates done in the participatory rapid appraisals of the area's 21 barangays, the actual census statistics from the given year nonetheless reflects the trend in yearly distribution of population by age and sex throughout the municipality. Their percentages and proportions hew closely to facts on the ground. From them, comparative figures could already be derived carrying forward growth projections year on year.

The set of data on Table 6 in the next page show the pattern of distribution of the population of the municipality by age group and sex.

Table 6: Household Population by Age Group and Sex, Municipality of Capoocan, Census Year 2010

Age Group	Both Sexes	Male	Female
All Ages	29,689	15,477	14,212
Under 1	758	383	375
1 – 4	2,999	1,588	1,411
5 – 9	3,884	1,979	1,905
10 – 14	4,075	2,110	1,965
15 – 19	3,314	1,842	1,472
20 – 24	2,188	1,262	926
25 – 29	1,825	960	865
30 – 34	1,730	895	835
35 – 39	1,637	852	785
40 – 44	1,517	787	730
45 – 49	1,327	693	634
50 – 54	1,225	628	597
55 – 59	961	469	492
60 – 64	723	343	380
65 – 69	550	258	292
70 – 74	432	200	232
75 – 79	280	126	154
80 years old and over	264	102	162
0 – 17	13,877	7,268	6,609
18 years old and over	15,812	8,209	7,603

Data Source: PSA 2010 Actual Census

Males outnumber females. The former total 15,477 or 52.13 percent of whole population. The latter total 14,212 or 47.87 percent. The sex ratio is 1.09 or 109 males to 100 females. This goes with almost all age categories. Male predominance in numbers shows. The variance is important to determine participation in work especially wage-earning, occupational structure or arrangements, time allocation, how resources are being managed, spatial mobility (the more prospect of out-migration in big numbers), and even mortality, factoring crime and violence.

More men than women put greater pressure on the maintenance of peace and order. The tendency towards anti-social behaviour and proneness to violence among the menfolk especially the youth require augmentation of protective services. Lack of economic advancement exacerbates them. With the data on population distribution by age and sex, the municipality has at least a peek at priority concerns in, for instance, peace and order and economic revitalization.

Table 7 continued . . .

Highest Grade/ Year Completed, Sex	Household population 5 yrs old & over	Age (in Years)				
		5	6	7	8	9
Female	12,426	373	375	375	370	412
No Grade Completed	659	263	103	47	15	14
Preschool	413	110	211	67	17	1
Elementary	5,847	-	61	261	338	397
1 st – 4 th Grade	3,101	-	61	261	338	397
5 th – 6 th Grade	1,060	-	-	-	-	-
Graduate	1,686	-	-	-	-	-
High School	3,901	-	-	-	-	-
Undergraduate	2,181	-	-	-	-	-
Graduate	1,720	-	-	-	-	-
Female						
Post-Secondary	111	-	-	-	-	-
Undergraduate	33	-	-	-	-	-
Graduate	78	-	-	-	-	-
College Undergraduate	755	-	-	-	-	-
Academic Degree Holder	681	-	-	-	-	-
Post-Baccalaureate	53	-	-	-	-	-
Not Stated	6	-	-	-	-	-

Data Source: PSA

Labor Force

The segment of the labor force starts at the cut-off age of 15 years old. Its age ceiling is 64 years old. Those belonging to it are persons who can already work for earnings either through wage or through profit in self-enterprise or livelihood. The labor force constitutes the productive individuals on whom economic activity and growth depend. The categories of the working age and their numbers in the municipality of Capoocan are detailed in the table below.

Table 8: Household Population by Age Groups 15 – 64 years Old and Sex, Municipality of Capoocan, Year 2010

Age Group	Both Sexes	Male	Female
All Age Groups	16,447	8,731	7,716
15 – 19	3,314	1,842	1,472
20 – 24	2,188	1,262	926
25 – 29	1,825	960	865
30 – 34	1,730	895	835
35 – 39	1,637	852	785
40 – 44	1,517	787	730
45 – 49	1,327	693	634
50 – 54	1,225	628	597
55 – 59	961	469	492
60 – 64	723	343	380

Data Source: PSA

The overall municipal labor force of Capoocan totals 16,447 individuals, 8,731 of them or 53.10 percent are male, while 7,716 or 46.90 percent are female. The number makes up 55.40 percent of the whole population. Out of it, those considered ready for work or at work called the actual labor force total 13,362, deducting those in school for higher education and persons with

The total number of persons for both sexes from ages below 20 to 49 years old is 17,613. These are the ages known to be marked by fertility. Out of the number, 9,715 are single, 5,281 are married. The married females at child-bearing ages – that is, from 20-49 years old number 2,508, the married males number also 2,508. The ratio of married to single persons is .54 or 54 married to 100 single persons. With the number of single females totalling 4,061, the ratio of married to single females, on the age range below 20 to 49 years old, is .6 or 60 married to 100 single females.

The proportion of females with married status to single ones indicates the prospect of relatively low population growth by increase in the number of born persons. Below are data on this.

Table 10: Household Population 10 Years Old And Over By Age Group, Sex and Marital Status, Municipality Of Capoocan, Census Year 2010

Age Group, Sex	HH Population 10 Yrs Old Over	Single	Married	Widowed	Divorced/ Separated	Common- Law/Live-In	Unknown
Both sexes	22,048	9,891	8,140	1,019	330	2,651	17
Below 20	7,389	7,119	78	1	5	179	7
20 – 24	2,188	1,392	330	-	20	444	2
25 – 29	1,825	592	683	7	29	513	1
30 – 34	1,730	254	1,012	11	36	417	-
35 – 39	1,637	165	1,110	15	43	302	2
40 - 44	1,517	124	1,093	30	34	234	2
45 – 49	1,327	69	975	62	38	183	-
50 – 54	1,225	57	899	86	39	142	2
55 – 59	961	45	666	110	34	106	-
60 – 64	723	19	507	115	24	57	1
65 – 69	550	22	354	132	12	30	-
70 – 74	432	8	236	166	5	17	-
75 – 79	280	9	116	131	6	18	-
80 and over	264	16	81	153	5	9	-
Male	11,527	5,730	4,064	270	149	1,306	8
Below 20	3,952	3,887	20	-	2	39	4
20 – 24	1,262	941	132	-	7	181	1
25 – 29	960	392	290	2	13	263	-
30 – 34	895	186	475	2	10	222	-
35 – 39	852	120	534	7	24	166	1
40 – 44	787	80	558	11	13	124	1
45 – 49	693	48	499	26	24	96	-
50 – 54	628	32	476	25	16	79	-
55 – 59	469	18	352	24	13	62	-
60 – 64	343	6	268	26	13	29	1
65 – 69	258	9	195	31	4	19	-
70 – 74	200	3	139	44	5	9	-
75 – 79	126	2	78	31	4	11	-
80 ld and over	102	6	48	41	1	6	-
Female	10,521	4,161	4,076	749	181	1,345	9
Below 20	3,437	3,232	58	1	3	140	3
20 – 24	926	451	198	-	13	263	1
25 – 29	865	200	393	5	16	250	1
30 – 34	835	68	537	9	26	195	-
35 – 39	785	45	576	8	19	136	1
40 – 44	730	44	535	19	21	110	1
45 – 49	634	21	476	36	14	87	-
50 – 54	597	25	423	61	23	63	2
55 – 59	492	27	314	86	21	44	-
60 – 64	380	13	239	89	11	28	-
65 – 69	292	13	159	101	8	11	-
70 – 74	232	5	97	122	-	8	-
75 – 79	154	7	38	100	2	7	-
80 and over	162	10	33	112	4	3	-

decisions, and even settling of disputes. They shape concepts of justice and fairness, and dealings with neighbors. They define preferences in community building, social systems and structures.

Lately, other religious groups have berthed in the locality, most influential of which is the Iglesia ni Kristo. The followers of the Jehovah’s Witness have also implanted a foothold among significant number of households. Sects of the charismatic movement are establishing ground. Christian evangelical churches are taking their piece of the religious pie among the local population. But the numbers of all of these religious groups are still in fractions compared to the pervasive reach and coverage of the Catholic Church.

Population Growth Projection in the Next Ten Years

For a period of more than a hundred years – 1903 to 2015, Capoocan’s population has grown tenfold. But growth in every census year has never made a dramatic break from an average of one to two percent or exceeded four percent at any time. Population growth for the next ten years may be expected not to depart from this pattern.

Using the figure of the 2010 actual census as base year – i.e. 29,834 total population, against the population level of 2015 (actual census) – i.e. a total of 33,617, annual population growth may be projected at 2.53 percent for the next 10 years, that is, from 2016 to 2026. The yearly projected population of the municipality over the said period, therefore, is as follows:

Table 12: Projected Population of the Municipality of Capoocan for the Next 10 Years from Year 2016 to 2026

Year	Household Population (Both Sexes)	Male	Female
2016	34,467	17,067	17,400
2017	35,373	18,440	16,933
2018	36,268	18,906	17,362
2019	37,185	19,384	17,801
2020	38,126	19,875	18,251
2021	39,090	20,377	18,713
2022	40,079	20,893	19,186
2023	41,093	21,421	19,672
2024	42,132	21,963	20,169
2025	43,198	22,519	20,679
2026	44,291	23,089	21,202

Data Source: MPDO – MOC

Conclusion

The present and projected future population of the municipality is neither critical nor explosive. In fact, it leaves much to be desired. The low level of population and its slow growth do not exhibit a trend, and are not likely to cause such, in rapid urbanization and economic growth. The area is predominantly rural where a sluggish pace of life, idleness and stagnancy prevail.

More people, especially on the ages set as the labor force bracket, mean more wealth creators and huge potential for rapid progress. Opposite is the case of Capoocan. The folks who prefer to leave outnumber those who come to stay. Unattractive economic prospects and the meagre means to improve one’s life partly account for this.

Big population increases follow on the heels of soaring prosperity. Folks flock to take their chance at wealth. Population growth therefore comes with economic growth. The population of the municipality manifests a case of lean or nil economic growth. Capoocan does not show high birth

B. PHYSICAL RESOURCES AND THE ENVIRONMENT

1. Geographical and Political-Administrative Domain

Capoocan is a political-administrative subdivision of the Province of Leyte. It is a fourth class municipality. The town fronts the Carigara Bay and the Samar island of Daram father north. It straddles 31 kilometers of the 111-kilometer Tacloban-Ormoc National Highway, mostly at the highway's winding portions. The road is a semi-urbanized economic corridor linking Tacloban and Ormoc and the growth nodes of Carigara and Naval, Biliran.

The Municipality of Capoocan is located 59 kilometers northwest of Tacloban, a highly urbanized city in the island of Leyte, prime business estate, and commercial hub of the Eastern Visayas Region. It is 52 kilometers northeast of Ormoc on the western side of the province, a port city connecting to the major urban center of Cebu. The place lies 962 kilometers southeast of the National Capital Region, starting at zero kilometer in the Luneta Park's Agrifina Circle. It has coordinates of 11°71'41.1" latitude, and 124°38'29.6" longitude.

2. Watershed and Sub-Watershed Profile

The geographic location of the Municipality of Capoocan has four dynamically interactive landscape components. It covers wide areas of ridge, upland, lowland and coastal sections. The ridge area straddles the three contiguous barangays of Manloy, Sto. Nino and Visares on the western boundaries of the municipality. It includes the two adjacent peaks of Mt. Minoro at Bgy. Manloy, and Mt. Camadbaran at Bgy. Sto. Nino.

Mount Minoro with an elevation of 1,000 feet above the sea level contains the headwaters where one of the municipality's major inland water body, the Balucanad River, originates. From this source, the Balucanad River winds downstream to Bgys. Manloy, Balucanad, and Nauguisan. It branches towards Poblacion Zone I, Culasian and Pinamopao where it pours into the Carigara Bay. An artery courses southwards to Bgy. Balud and exits also to the Carigara Bay. This is the Pamintuan Creek that separates Bgy. Poblacion Zone I and Balud. The river's main body hems the town at the southern extremity along the boundary with the Municipality of Carigara, and pours into the bay.

The ridge, upland, lowland and coastal landscapes that descend from the Minoro peak making up the barangays along the route of the Balucanad River and its arteries contain diverse habitats. The various types of natural biophysical communities adapted to the hilly, undulating, and gently rolling terrains and plains of the area interrelate in a dynamic rural system. Their component forest and agricultural and coastal-marine ecosystems constitute a major watershed of the municipality stretching from ridge to reef.

Mt. Camadbaran contains the headwaters where another major inland water body of the municipality, the Dakong Tubig River, originates. From here, the Dakong Tubig River flows across Bgy. Sto. Nino and winds downstream towards Bgys. Visares, San Joaquin and Lemon where it exits and joins the well-known Leyte River in the Municipality of Leyte, Leyte. The topography among the barangays along the river basin is mostly mountainous, hilly and undulating interspersed by steep slopes. Vast parts of these comprise forest and agricultural ecosystems. They make another major watershed basin of the municipality.

The landscape components comprising the Dakong Tubig River watershed are only ridge, upland and elevated flatlands. But they descend eastward along a wall of slopes connecting to the contiguous lowland areas constituting the coastal plains and mudflats of the "ligiron" (seaside) barangays northwest of the Carigara Bay. Springs at the foothills of Mt. Camdbaran feed streams that

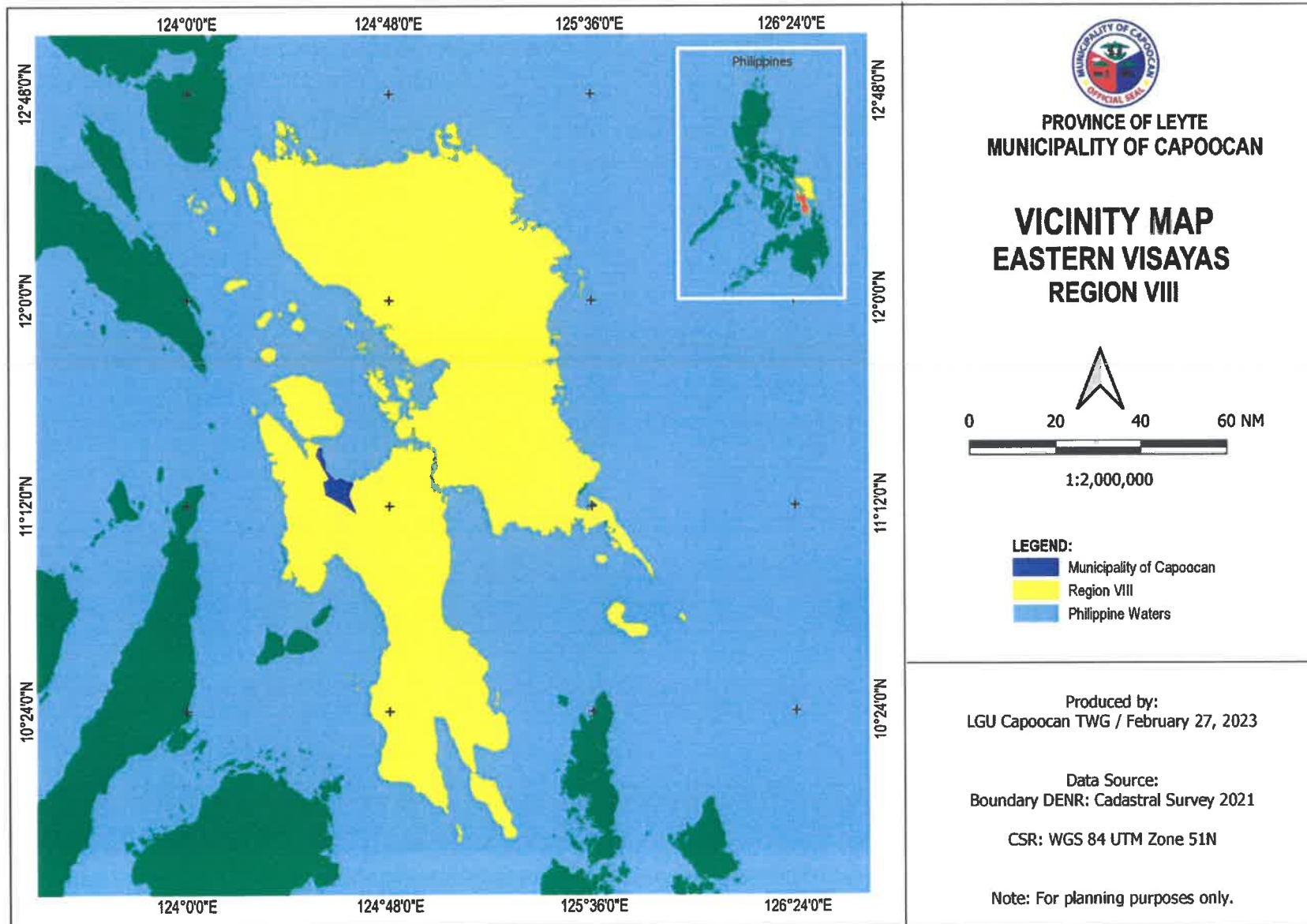
**Table 13: Land Area by Barangay and Percentage of Total
Municipality of Capoocan**

Barangay	Area (Has.)	Percentage to Total (%)
Coastal		
1. Balud	57.45	0.40
2. Poblacion Zone I	341.43	2.36
3. Poblacion Zone II	745.35	5.15
4. Culasian	686.45	4.74
5. Pinamopoan	402.04	2.78
6. Cabul-an	483.66	3.34
7. Taliisay	154.87	1.07
8. Tolibao	304.65	2.10
9. Guinadiong	353.68	2.44
10. Libertad	551.91	3.81
11. Potot	431.75	2.98
12. Gayad	266.27	1.84
13. Talairan	238.24	1.65
Inland		
14. Balucanad	210.51	1.45
15. Nauguisan	63.11	0.44
16. Manloy	1,075.71	7.43
17. Lemon	630.60	4.36
18. San Joaquin	1,934.90	13.36
19. Balugo	534.97	3.69
20. Visares	958.78	6.62
21. Sto. Nino	4,052.48	27.99
T o t a l	14,478.81	100

Source of Data: MPDO, 2015

Figure 4: Vicinity Map, Eastern Visayas Region (Region VIII)

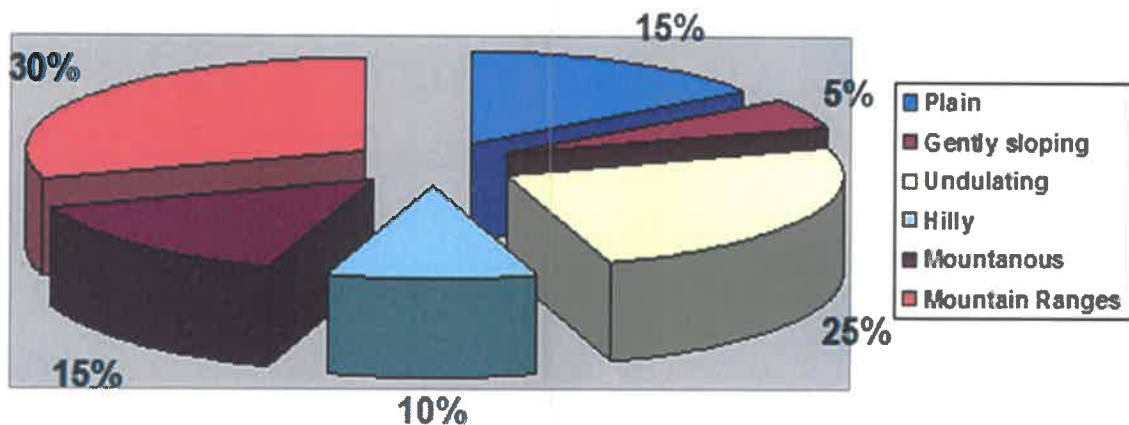
Municipality of Capoocan: located along the 101-kilometer Maharlika Highway, 59 kilometers northwest of Tacloban City, 52 kilometers northeast of Ormoc City.



4. Topography

The land of Capoocan is in most parts rugged. It is 15% plain, 5% gently sloping, 25% undulating, 10% hilly, 15% mountainous, and 30% steep/extremely sloping range. The figure below illustrates the partition of the municipality into landscape components.

Figure 6: Land Topography, Municipality of Capoocan



The plains form a narrow strip of land largely along the coastlines where most settlements in the municipality cluster. These are in the interior foreshore areas called “ligiron” (seaside) that comprise the barangays of Talairan, Gayad, Potot, Libertad, Guinadiongan, Tolibao, Talisay and Cabul-an, located north of the Carigara Bay.

The coastal plains in the *ligiron* barangays widen towards Bgy. Culasian. The widening portion starts from the neighboring barangay of Pinamopoan. From Culasian, an agricultural basin constituting the biggest barangay of the municipality by land area, the same terrain again narrows to a strip towards the urban area barangays of Pob Zone I and Pob Zone II. This coastal sleeve is hemmed by hydrosols with nipa and mangrove growths (now diminishing), and is interrupted by rocks or boulders along tide-washed shores.

Going east after the poblacion barangays, the plains expand to a catchment of rolling fields at Bgy. Balud. The type of topography further widens into Bgys. Nauguisan and Balucanad. In the latter, the lowlands gently slope southward and dissolve into undulating and hilly terrain. Farther is the highest peak of Mount Minoro at Bgy. Manloy. It rises to 1,000 feet above the sea level.

The plains of the northern coastal barangays abruptly rise a few hundred meters inland, where steep slopes connect to the mountain ledge at the foothills of Camadbaran in Bgy. Lemon, and northwest to the rocky ridges along the municipality’s boundary with neighbouring Leyte, Leyte. From the ledge, west, the topography now undulates towards the ranges of Bgys. Sto. Nino (at the boundary with Kananga), Visares, San Joaquin, Balugo, Lemon and Pinamopoan. Their highest elevation is at the ridge overlapping into the localities of Ormoc and Kananga.

Capoocan’s predominantly rugged topography limits the utilization and full development of the land for agricultural as well as commercial and industrial purposes. But what seems a constraint actually gifts it with the traits of a biophysical environment that is fine for ecological balance and sustainable development. The quality does not yet take into consideration such other factors as biodiversity, thick vegetative cover, and dynamically interactive landscape components.

The latter are much needed in reducing risks of disasters from extreme meteorological hazard events, as well as in mitigating the effects of climate change.

Figure 8: Slope Map of the Municipality of Capoocan

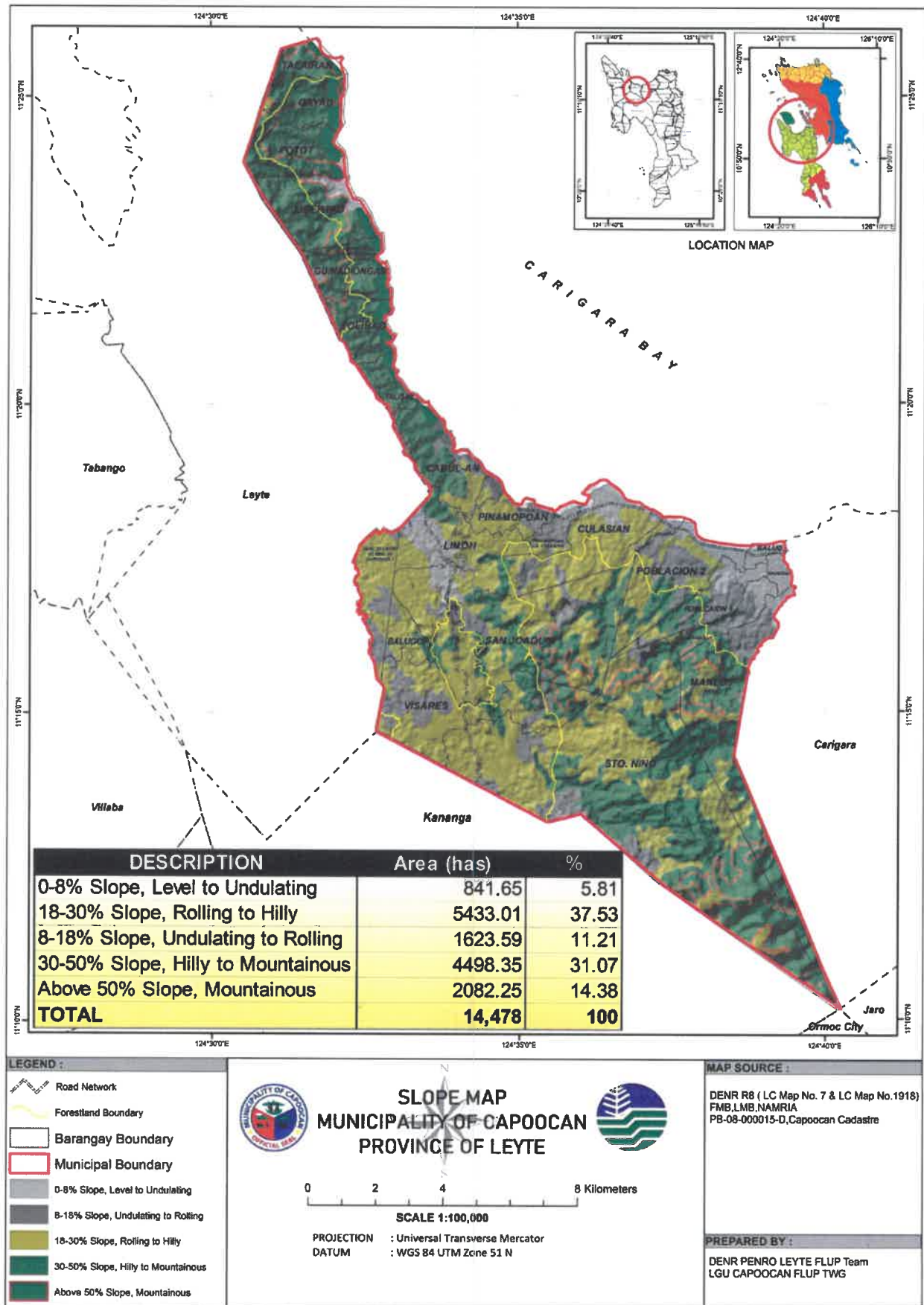


Figure 9: Land/Vegetative Cover Map, Municipality of Capoocan

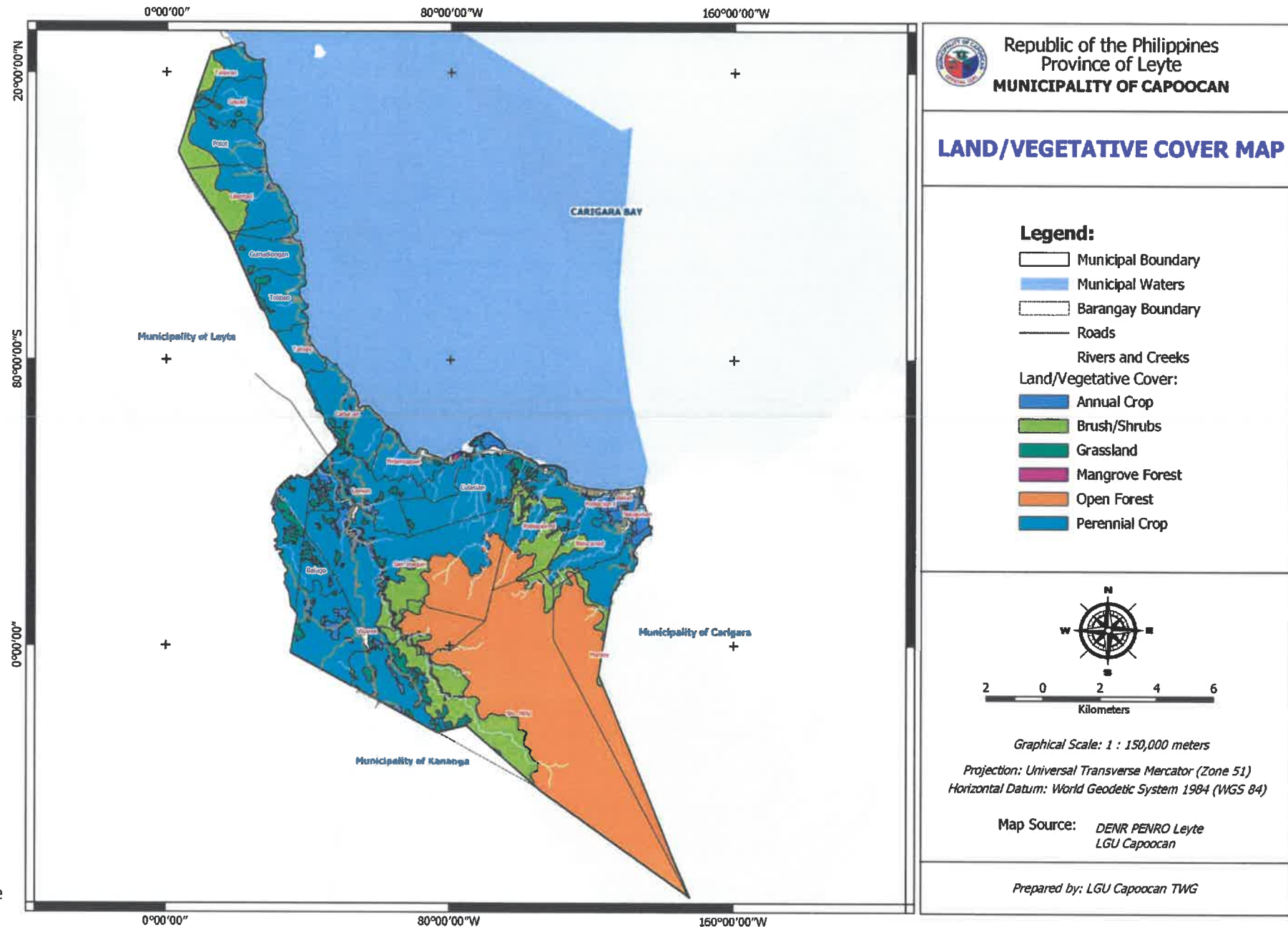


Figure 11: Geologic Map of the Municipality of Capoocan

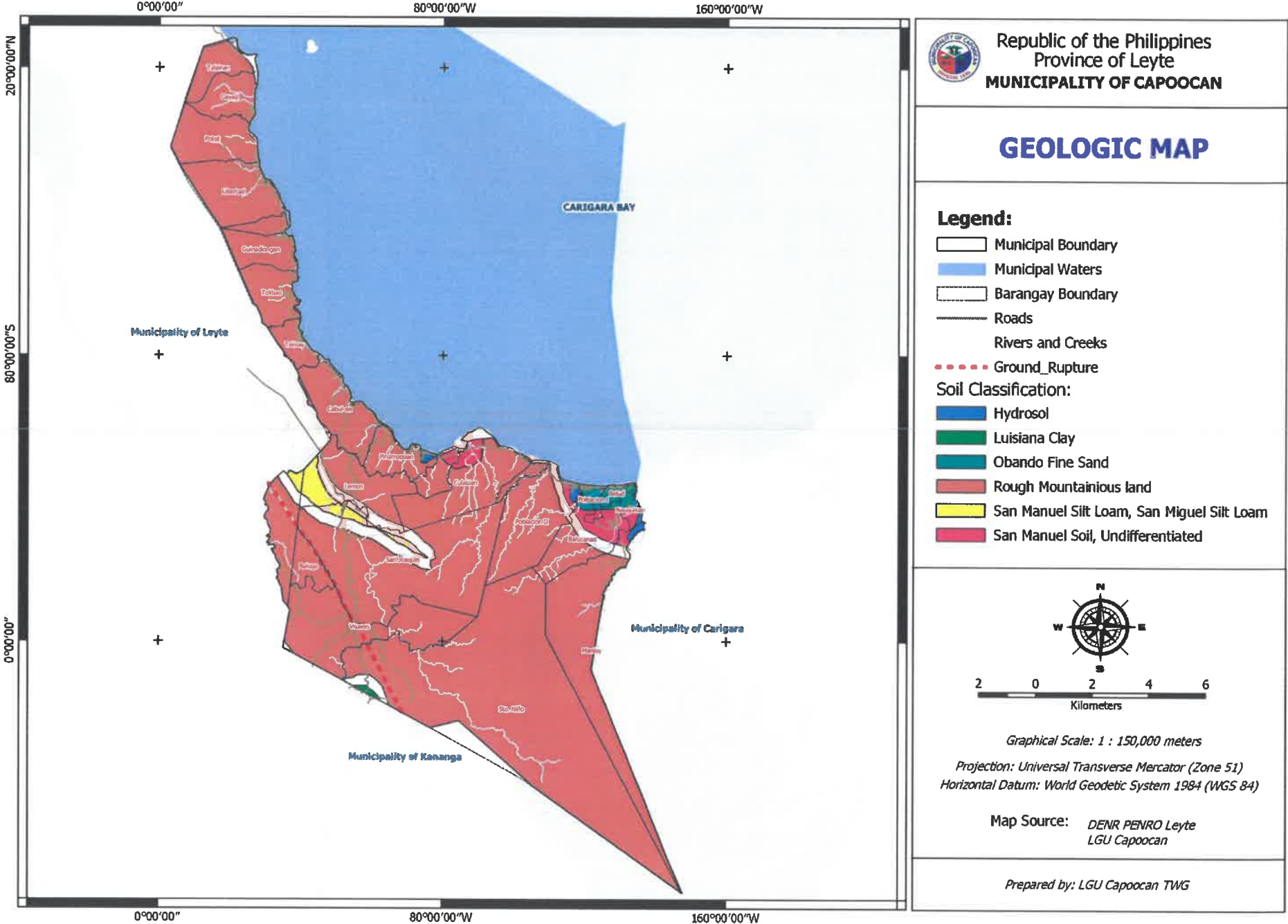
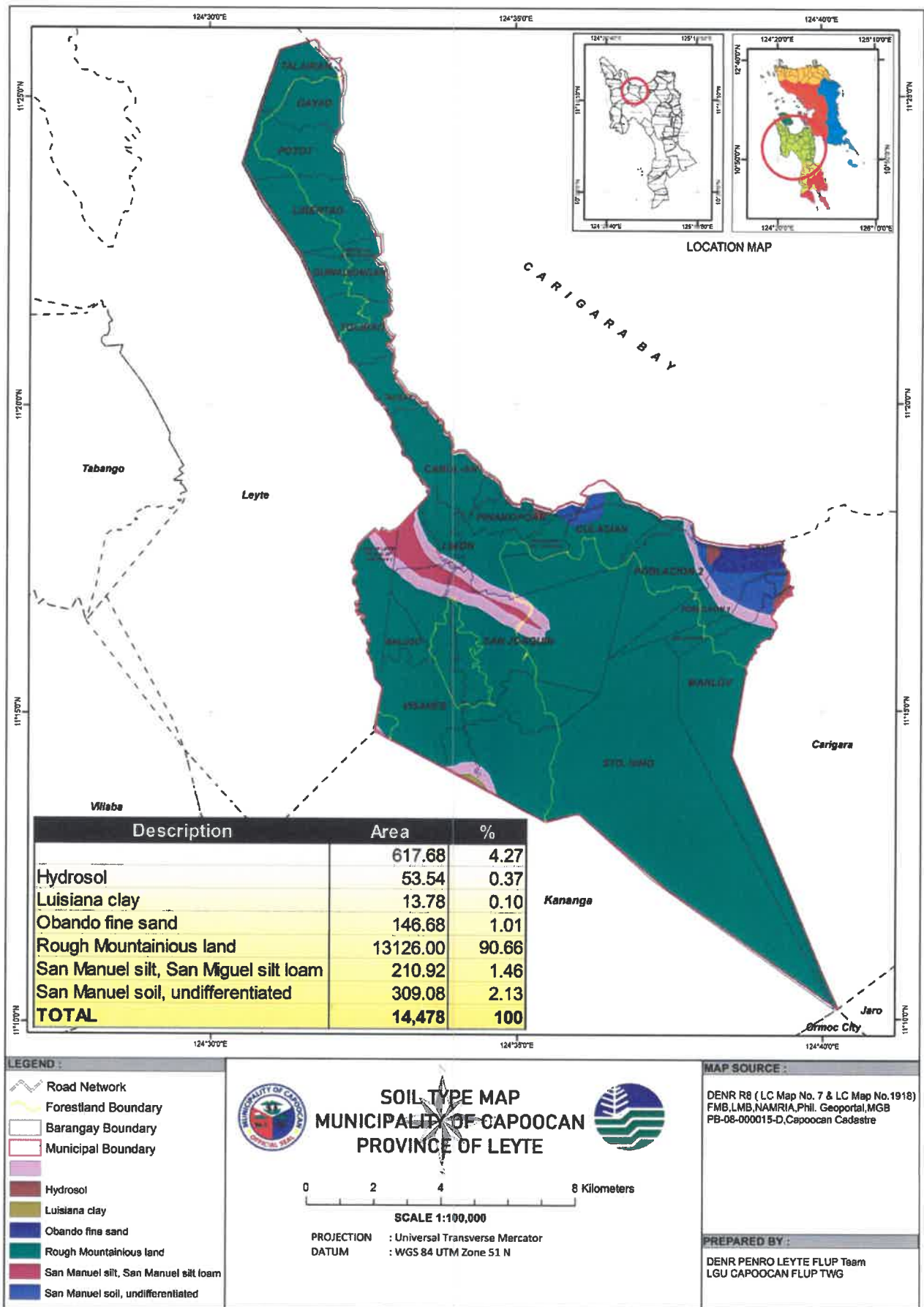


Figure 13: Soil Map of the Municipality of Capoocan



farming and forestry makes the municipality economically viable. Combined with fishery, it serves as a dependable engine of local economic growth.

The existing municipal land use by area and percentage is as follows:

Table 16: Land Use Allocation, Area and Percentage, Municipality of Capoocan

Land Use	Area (Has.)	Percentage (%)
Forest and Forest Land	7,182.00	49.60
Agriculture	6,926.90	47.84
Urban Use Areas:		
Tourism	15.62	0.11
Residential	212.91	1.47
Socialized Housing	5.00	0.03
Commercial	4.38	0.03
Institutional	17.85	0.12
Parks and Recreation	3.25	0.02
Cemetery/Memorial Park	5.2	0.04
Infrastructure and Utilities	0.51	0.004
Road Network	102.36	00.71
ESWM Park/SLF	2.83	0.02
T O T A L	14,478.81	100.00

Source of Data: MPDO

A judicious allocation, use and management of land assure prosperity and the continuity of benefits to future generations. At optimum levels, it rakes the biggest economic gains. On the long term, it ensures the sustainability of the environment through balanced ecosystems and retention of the critical elements therein. Current land use still assures Capoocan of much of these advantages.

Figure 16: Existing Land Use Allocation Map

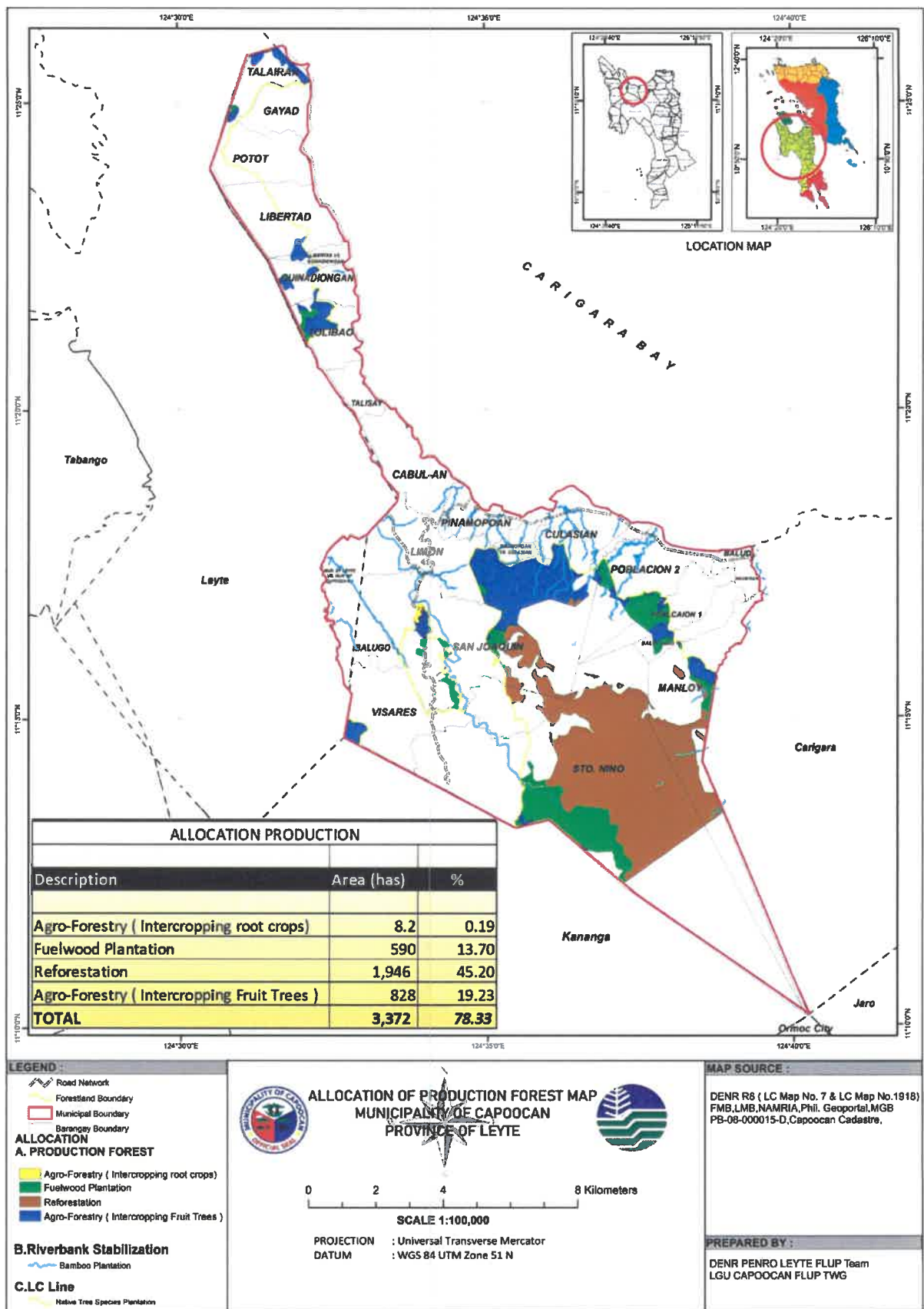


Table 18: Number of ARBs in the ARC Barangays

ARBs	Given CLOA	Given EP	Given LHC	Total
Male	502	51	94	647
Female	306	1	56	363
Sum Total	808	52	150	1,010

Data Source: MARO.DF Capoocan

Beneficiaries of CARP are also present in barangays that are not part of the ARC. Although their number is much less than those in the AR community, it is still significant. The CLOA recipients for instance number 286. Together with the EP recipients – 78, and LHC awardees – 33, the ARBs living in the non-ARC barangays total 406. The data below detail the number of AR beneficiaries in the barangays not included in the ARC by the tenure entitlement they hold.

Table 19: Number of ARBs in the Non-ARC Barangays

ARBs	With CLOA	With EP	With LHC	Total
Male	198	65	33	296
Female	88	13	9	110
Sum Total	286	78	42	406

Data Source: MARO Capoocan

Part of ARC building is the organizing of the Agrarian Reform Beneficiaries. Collective strength is necessary to accomplish big tasks and manage development. It is not enough for the farmers to finally have control of their means of production that is land. They have to win in the economic war to make first and foremost their possession of it viable over the long term. Their association guarantees that support systems to enhance productivity and bolster their own regimes of production will be sustained.

The organizational development of the ARBs set up their own structures for decision making and setting in motion endeavors at further reform and rural enterprise success. Organizations, like the Sto. Nino-Visares Multipurpose Cooperative (SAVIMCO) and the Lemon Agrarian Reform Cooperative (LARC) institutionalize the farmer beneficiaries' organs of empowerment in both political and economic sphere. They also boost their market competitiveness through product integration. The next data give a profile of the Capoocan ARB organizations by area, membership and services provided.

Table 20: Inventory of People's Organizations in the ARC

Name of Organization	Area	No. of Members	Services Provided	Organizational Maturity Rating (2009 ALDA)	Remarks
Sto. Niño-Visares Multi-Purpose Cooperative (SAVIMCO)	Bgy. Sto. Niño and Visares	142	Transport, haul trucks for rent, BIO-N Production, Lending, Farm Equipment for Rent	Level 5	To be Strengthened
Lemon (Lemon Agrarian Reform Cooperative)	Lemon	126	Lending	Level 4	For Re-org & strengthening
Cabul-an Fisherfolk MPC (CAFIMCO)	Cabul-an	54	Micro-Lending	Level 3	For Re-org & strengthening

Data Source: MARO/DF Capoocan

local law totally bans mangrove cutting and the use of such fishing gears as Trawl, Danish Purse Seine (hulbot-hulbot), commercial fishing, dynamite fishing, and nets with mesh less than three centimeters in size.

But the enforcement of regulations to protect and preserve the marine wealth would run into problems and obstacles. The lack of political will among local leaders is one. It has bedevilled the apprehension and meting of penalties on violators, as resolutely doing them can affect the elective officials' chances at the next polls.

In a Participatory Rapid Appraisal, the Municipal Agriculture Office graphically narrated that the Carigara Bay could now only yield a bin of fish catch for an equivalent of 20 bins 25 years ago. It won't be too long when the coastal resources of the municipality will no longer be a reliable source of food and livelihood for the local folks.

3. Fresh Water Resources

Capoocan has two major rivers. One is the Balucanad River, which originates from Mt. Minoro at Bgy. Manloy. The river flows through Bgys. Manloy, Balucanad and Nauguisan. It branches towards Poblacion I, Culasian and Pinamopoan, where it pours into the Carigara Bay.

The other is the Dakong Tubig River, touted to be a potential source of hydroelectric power. The river originates from Mt. Camadbaran at Bgy. Sto. Nino. It courses through Bgys. Visares, San Joaquin and Lemon where it exits and joins the well-known Leyte River in the Municipality of Leyte, Leyte. The Balucanad and Dakong Tubig Rivers feed irrigation systems on farmlands. They also supply water for household consumption and other domestic needs.

Majority of the barangay constituents get their water supply from the Level II water systems. The latter draw water from springs abounding in the area. But the potable water requirements of Poblacion Zone I and two are met only with augmentation from the Metro Carigara Water District at Carigara, Leyte. The satisfaction of the need for clean and potable water in the town, especially in the urban areas, has yet to benefit from sufficient flow of water 24/7.

Rainwater may be harnessed for irrigation on farms, washing, cleaning and cooking. Small water impounding systems have helped to satisfy the water requirements of certain communities.

Table 21: Coastal and Fishery Resources, Municipality of Capoocan

	Barangay	Shoreline	1 Kilometer	7 Kilometers	15 kilometers
Coastal and Fishery Resources	Balud	Mangroves	Crabs, Shrimps, Sea Shells, & Prawns	Demersal and Pelagic Fish	Demersal and Pelagic Fish
	Poblacion Zone I		Crabs, Shrimps, Sea Shells, & Prawns	Demersal and Pelagic Fish	Demersal and Pelagic Fish
	Poblacion Zone II	Mangroves	Crabs, Shrimps, Sea Shells & Prawns	Demersal and Pelagic Fish	Demersal and Pelagic Fish

Figure 18: Coastal Resource Map, Municipality of Capoocan

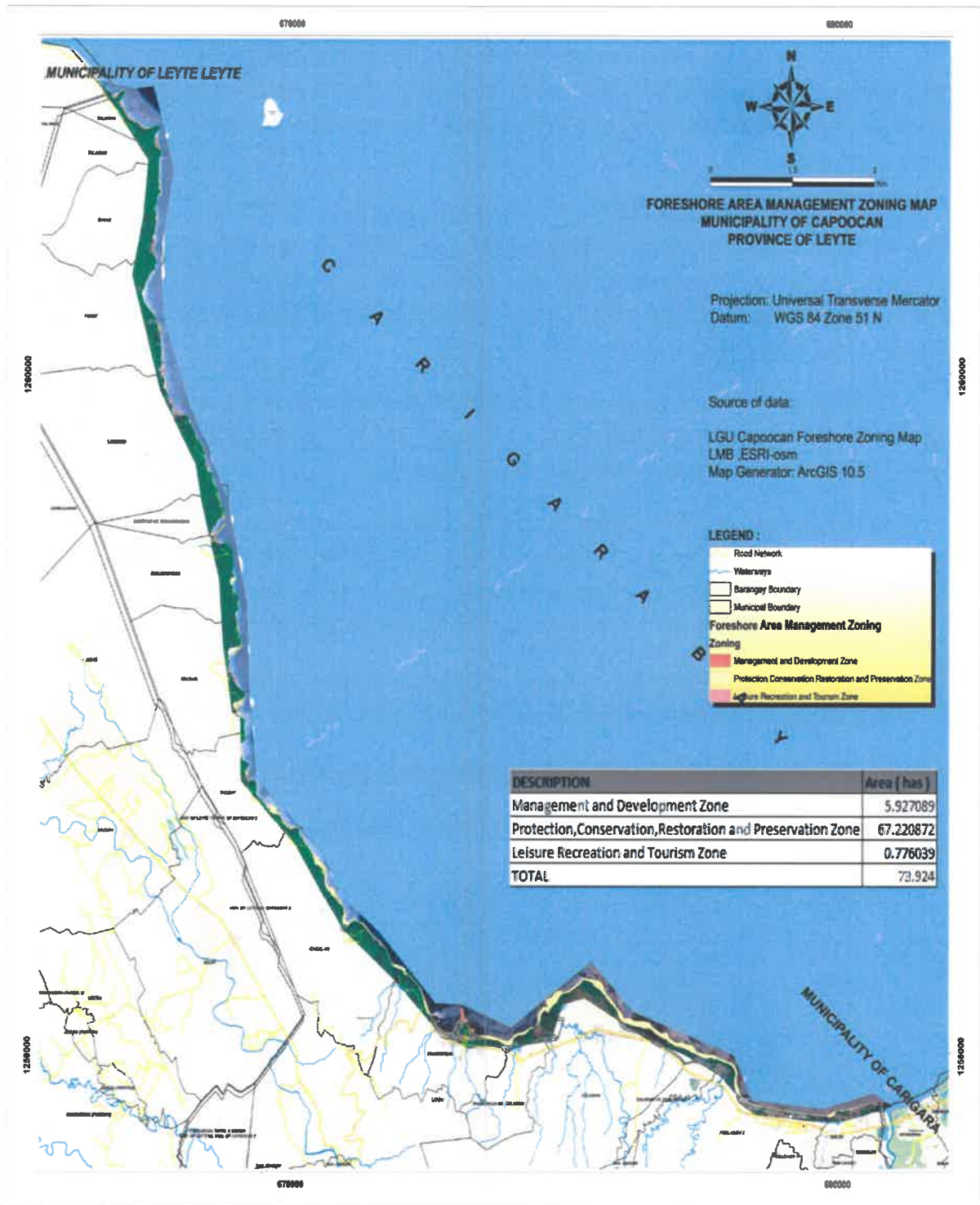


Table 23: Occupied Housing Units, No. of Households, Household Population, and Ratio of Households and Household Population to Occupied Housing Units by Type of Building, Municipality of Capocan, Year 2010

Type of Building/ House	Total Occupied Housing Units	Number of Households	Household Population	Ratio	
				Households to Occupied Housing Units	Household Pop. to Occupied Housing Units
T o t a l	6,109	6,173	29,689	1.0	4.9
Single House	5,966	6,030	29,073	1.0	4.9
Duplex	91	91	416	1.0	4.6
Multi-unit Residential	17	17	69	1.0	4.1
Commercial/ Industrial/Agricultural	11	11	43	1.0	3.9
Institutional Living Quarters	-	-	-	-	-
Other Housing Unit	23	23	82	1.0	3.6
Not Reported	-	-	-	-	-

Data source: Philippine Statistics Authority, 2010

Quality of Housing

Quantity alone, however, does not indicate that housing is already satisfactory. It is important also to look into the kind of house people have. This determines the acceptability of housing units. Acceptability concerns with structural quality or the construction materials the walls and roofs of houses are made of: concrete, semi-concrete, mixed and light materials, barong-barongs and others.

Normally, five percent of units made of mixed and light materials are estimated lost due to obsolescence and decay annually. Lost and obsolete units are for replacement of new ones. They add up to the accounted backlogs in the determination of housing need/demand.

Most of the 6,109 occupied housing units of the municipality are made up of durable outer wall construction materials, that is: 1,285 made up of concrete/brick/stone, 1,250 made up of wood, and 1,495 half concrete/brick/stone and half wood. They total 4,030.

The occupied housing units made up of lighter outer wall construction materials, such as bamboo, sawali, cogon or nipa total 1,853. The latter are included in the watch list as far as housing need over the near and far future is concerned.

Occupied housing units made up of galvanized iron/aluminium construction materials for roof total 3,401, while the ones made up of cogon/nipa/anahaw total 2,120. Although majority of the total number of units is expected to endure over the next 10 years and beyond as far as roofing is concerned, a sizeable portion of it would already be a matter of concern within the same period.

The need for shelter is not just satisfied by any kind of dwelling. Besides durable and all-weather construction, human-social standard of historical necessity demands that it should at least afford a decent space for a family to move with ease, and rest with a modicum of comfort. Shelter quality must therefore withstand the harsh impact of the elements particularly the moment they act no longer in a normal way, while at the same time offering habitation fit for humans at this time and age.

The kind of houses folks have, not just how their number to match need by the existing level of population, forms part of the assessment of the situation in this social sector. Housing need is satisfied, not just by the number of dwellings available, but by their quality.

assessment's still designated reference year, out of the total occupied housing units of 6,109, those that do not need repair, or need only minor repair, with year built dating back to 1970 or earlier, number 4,171. The ones that need major repair number 1,591, while the dilapidated or condemned number 19. The dataset below details the condition through a time line of 40 years.

Table 26: Occupied Housing Units by Condition (State of Repair) of the Building and Year Built, Municipality of Capocan, Year 2010

Year Built	Total Occupied Housing Units	Condition (State of Repair) of the Building			
		Needs no repair/needs minor repair	Needs Major Repair	Dilapidated/Condemned	Under Renovation/Being Repaired
Total	6,109	4,171	1,591	19	40
2010	168	98	42	-	3
2009	353	229	91	-	7
2008	346	233	90	-	6
2007	343	212	107	-	1
2006	359	238	103	1	2
2001-2005	1,363	910	379	4	5
1991-2000	1,467	1,045	349	4	8
1981-1990	841	600	196	5	3
1971-1980	427	304	107	1	3
1970/earlier	290	207	74	2	1
Not reported	152	95	53	2	1

Data source: Philippine Statistics Authority, 2010

Density Per Unit

How many persons occupy a housing unit, and what is the floor area of the unit occupied? Answer to this determines if there is congestion and what space is available in each. Density per shelter renders also a picture of the quality of housing.

Out of 6,109 occupied housing units in the municipality (reference year 2010), 1,433 cover a floor area of 10-19 square meters each (108-209 sq. f.), the bulk of which has three to five occupants per unit, that is: 231 units with three, 228 with four, and 239 with five occupants.

The next is 1,220 units covering a floor area of 20-29 square meters each (210-317 sq. f.), the bulk of which have three to six occupants per unit, that is: 168 units with three, 197 with four, 213 with five, and 162 with six occupants. Following is 1,162 units covering an area of 30-49 square meters each (318-532 sq. f.), the bulk of which have three to six occupants per unit, that is: 173 units with three, 199 with four, 218 with five, and 152 with six occupants.

Even with four to six occupants, the greater number of occupied housing units in the municipality ranging from 10-19 square meters to 30-49 square meters affords modest space for shelter. The situation does not depict residents being packed like sardines in cramped dwellings. The space afforded by most shelter construction gives enough leeway for ease of movement, and air for comfort.

The density of housing occupancy in the whole municipality can be described as ecologically sound. It is also socially equitable. Dwellings are basically roomy and airy. Moreover, as ocular investigation would bear out, they are surrounded by woody or green buffers almost everywhere. What may already be considered luxurious and high-end in big urban centers and real estate hubs is typical of the kind of housing being availed of by common folks here, that is: availability and affordability of ample space.

Table 28: Number of Households by Type of Building and Tenure Status of the Lot, Municipality of Capoocan, Year 2010

Tenure Status of the Lot	Total Households	Type of Building		
		Single House	Duplex	Multi-Unit Residential
Total	6,173	6,030	91	17
Owned/Being Amortized	2,169	2,100	58	6
Rented	832	813	9	1
Rent-free w/ consent of owner	3,045	2,997	18	9
Rent-free w/o consent of owner	59	58	-	1
Not Applicable	68	62	6	-

Data source: Philippine Statistics Authority, 2010

Household Needs

The households in occupied housing units face a variety of needs for their socio-economic wellbeing. Among these are public infrastructure, access to vital services, and improved ownership. A large number of housing units needs structural upgrading or repair.

The ultimate goal of improvement in tenure status is the shift from rent-based residency to ownership, or to rent occupancy secured by law. With the lag in progress due to the economic condition prevailing in the municipality, the government takes the lead in pushing programs for adequate housing through promotion of investments its direction, usually in partnership with the private sector. Strategically located and favourable sites, for instance, are being identified and proposed for zoning legislation.

Expanded residential estate development can boost economic growth even as it secures adequate housing to folks deciding to live here. In cities that have achieved phenomenal progress, it has accelerated urban development while at the same time serving as economic growth driver. In reality, many localities have achieved phenomenal by this route. The same can happen to Capoocan.

Growing communities also need common amenities and infrastructure in support of efforts at further socio-economic well being. Amon such are better and wider road networks, bridges, institutional facilities, common work stations, venues for public gatherings, plazas/parks etc. Like security of tenure status, they ensure permanent, confident and productive residency.

As a growing community, especially when accelerated development kicks in, Capoocan has to build accompanying socio-economic support infra in tandem with housing development. In advance, it must already be able to select, conceptualize and plan projects of such nature. It should also lay the groundwork by identifying locations and sites for them.

Access to social and enterprise support services is another area to consider. As much as possible, they should be positioned onsite, like education, health care, family welfare, protection and housing. Support to enterprise or livelihood on the other hand may take the form of productivity enhancement training, capital mobilization, technological infusion or development, and opening of new non-traditional markets.

In relation to the above, programs/projects/initiatives should already be identified, conceptualized and planned. These measures must likewise be matched by appropriate land resource management strategies.

2. Public Health Care

The people or human resources of an area are its chief wealth. Ensuring good health for the whole of the citizenry is ensuring wealth. It is part of the responsibility by the LGU of achieving fullest development as self-reliant community.

Sound health for all residents of the municipality of Capooan is seen to it by the Rural Health Unit. Manned by one (1) Doctor, one (1) Nurse, five (5) Midwives, one (1) Sanitary Inspector, and two (2) Administrative Aides, the RHU caters to the health needs of 33,617 individuals, or 6,642 households. The local personnel are reinforced by a contingent of health staff paid by the province – a Medical Technologist, Dentist and Aide.

From time to time, the apparent dearth of health service workers is offset by the hiring of additional midwives, nurse and laboratory technician on job-order basis. All over the municipality, the LGU deploys four (4) Barangay Health Stations, with catchment villages attended by a Rural Health Midwife. Following are data on existing medical and health facilities:

Table 30: Medical Health Facilities and Personnel Municipality of Capooan

Facility				Personnel								
Barangay	Type of Health Services/ Facilities	Capacity	Physical Condition	Doctor	Nurses	Midwives	Sanitary	Admin Aide	Lab.	3 Prov'l. Paid Personnel	BHW	Total
Poblacion I	RHU/MHC		Needs improvement	1	4	6	1	2	2	1-MTech 1-Dentist, 1-Dental Aide	-	19
Poblacion II	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Balucanad	Bgy. Health Center		Functional	-	-	-	-	-	-	-	4	4
Balud	Bgy. Health Station		Functional	-	-	-	-	-	-	-	5	5
Balugo	Bgy. Health Center		Functional	-	-	-	-	-	-	-	2	2
Cabul-an	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Culasian	Bgy. Health Center		Functional	-	-	-	-	-	-	-	5	5
	Lying in Clinic		Functional	-	-	-	-	-	-	-	1	1
Gayad	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Guinadiongan	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Lemon	Bgy. Health Center		Functional	-	-	-	-	-	-	-	4	4
Libertad	Bgy. Health Center		Functional	-	-	-	-	-	-	-	2	2
Nauguisan	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Manloy	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Pinamopoan	Bgy. Health Station		Functional	-	-	-	-	-	-	-	2	2
Potot	Bgy. Health Station		Functional	-	-	-	-	-	-	-	4	4
San Joaquin	Bgy. Health Station		Functional	-	-	-	-	-	-	-	2	2
Sto. Niño	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Talairan	Bgy. Health Center		Functional	-	-	-	-	-	-	-	3	3
Talisay	Bgy. Health Center		Functional	-	-	-	-	-	-	-	2	2
Tolibao	Bgy. Health Center		Functional	-	-	-	-	-	-	-	2	2
Visares	Bgy. Health Center		Functional	-	-	-	-	-	-	-	4	4

Data source: LGU, Municipal Health Office

Table 32: Ten Leading Causes of Morbidity for the Last Three Years

Causes	Number of Deaths		
	2013	2014	2015
URTI	101	105	88
Pneumonia	95	89	81
Scabies/Skin Diseases	89	81	78
Influenza	75	78	74
Common Colds	68	68	62
Diarrhea	55	51	58
Wounds	39	42	45
Essential HPN	42	48	52
Ear Infection	32	38	42
Peripheral Neuritis	27	33	35
Total	623	633	615

Source: Municipal Health Office, 2007-2009

Basing on the number of deaths caused by pneumonia from first to third year of the sampled period for mortality, this type of illness appears to be the top killer among the ten leading causes of death in the municipality. It was followed by ATHEROSCLEROSIS, which from topping in first and second year however dropped to fifth killer disease in the third year.

The top three among the leading causes of death for the last three years and the number of persons sent to their grave by these types of illness define the gravity of the health situation in the municipality. The set of data below enumerates the ten leading causes of mortality in the municipality of Capooan over the three-year period of 2014-2016.

Table 33: Ten Leading Causes of Mortality for the Last Three Years

2014		2015		2016	
Causes	Number of Deaths	Causes	Number of Deaths	Causes	Number of Deaths
Pneumonia	15	ATHEROSCLEROSIS	19	ATHEROSCLEROSIS	14
HCVD	12	Pneumonia	14	Pneumonia	11
PTB	11	PTB	12	PTB	11
CHF	11	Hemorrhage Severe 2 to Stab Wound	10	HCVD	6
ATHEROSCLEROSIS	10	HCVD	6	CHF	5
SENELITY	9	CHF	5	Congenital Anomaly	4
Diabetes Mellitus	8	Bleeding Peptic Ulcer	4	Myocardial Infraction	4
Bleeding Peptic Ulcer	6	SENELITY	3	Hemorrhage Severe 2 to Stab Wound	4
Hemorrhage Severe 2 to Stab Wound	4	Leukemia	3	Severe Anemia	3
Liver Cirrhosis	2	Diabetes Mellitus	2	Liver Cirrhosis	2

Source: Municipal Health Office, 2007-2009

Malnutrition

Hunger would be ultimately defined by studies as malnutrition or undernutrition. The children are the most vulnerable age-group to the worst effects of this type of health issue and social ill. This is the case with the municipality of Capooan.

The significant number of children here victimized by malnutrition for the last three years does not augur well for conditions in the near future. It raises alarm. From a total of 838 children

Live Births

Another snap shot of the health situation in the municipality is of live births and method of delivery with year 2015 as reference. One single year has had a total of 685 live births, 342 male, 343 female. Of the total, 98% or 671 babies weighed 2,500 grams upwards, while less than one percent weighed below 2,500 grams. There was no death at birth due to maternal malnutrition. The prevalent weights of live births, shown below, paint a rosy picture of the health situation around the locality.

Midwives attended to the greater number of deliveries totaling 509 or 74.30% of all live births, 267 male, 246 female. This aspect shows a practice where the specific health need for natal ministry can be adequately meet by them. A dependable reinforcement to fill in the health personnel gap is the time immemorial hilot/TBA.

Table 36: Live Births by Weight and Delivery, Municipality of Capoocan, 2015

BIRTHS BY WEIGHT AND DELIVERY	NUMBER		TOTAL	%
	Male	Female		
Live Births	342	343	685	100.00
Weight				
LB w/ weights 2,500 grams & greater	337	334	671	98.00
LB w/ weights less than 2,500 grams	5	7	14	0.14
LB not known weight	-	-	-	-
Delivery				
LB delivered by doctors	45	58	103	15.00
LB delivered by nurses	-	-	-	-
LB delivered by midwives	267	246	509	74.30
LB delivered by hilot/TBA	36	37	73	11.00
LB delivered by others	-	-	-	-

Data Source: RHU Capoocan 2015

Family Planning

Reproductive health care has gained currency as an important aspect in the improvement of life especially among the poor. The cause of gender equality and women empowerment, one of the UN Millennium Development Goals, necessitated that it seriously be taken by the state and carried on by households, more so that negligence of it is reported to impact gravely on maternal and child mortality.

Advocacy of choice by women on how to treat their bodies related to managing pregnancies has prodded the government to take more decisive steps in family planning. Thus, among the needs that the Municipality of Capoocan's health care services address is of avoiding pregnancy to manage size of families.

Measures along this line have consisted mostly in prescribing use of contraceptives besides other more natural birth control methods. The contraceptive NFP-LAM is the method with the biggest number of acceptors totaling 556, and current users totaling 742. It has a Contraceptive Prevalence Rate of 18%.

Second is the pill with 552 current users and 13% CPR. All the available data show that family planning practice through birth control methods is well subscribed by folks in the municipality. The next set of data present how, detailing acceptors, current users and CPR percentage.

Table from previous page continued . . .

Barangay	No. of Households	Toilet Facilities				
		A	B	C	D	E
Manloy	133	67	-	-	-	66
Pinamopoan	535	284	-	-	-	251
Potot	142	60	-	-	-	82
San Joaquin	226	121	-	-	-	105
Sto. Niño	259	175	-	-	-	84
Talairan	161	57	-	-	-	104
Talisay	143	133	-	-	-	10
Tolibao	107	36	-	-	-	71
Visares	321	106	-	-	-	215
Total	5,605	2,821				2,783

Source: LCR/NSO/MEO/MSWDO, 2009

Legend:

A = Water Sealed

B = Septic Tank Used Exclusively by the Household, Water-Sealed, Sewer

C = Septic Tank Shared with Other Household, Water-Sealed

D = Other Depository Used Exclusively by the Household, Water-Sealed

E = Other Depository Shared with Other Household, Closed Pit, Open Pit, Others (Pail System, Etc.)

Cemeteries/Memorial Parks

Right now, the municipality has one site north of Poblacion Zone II serving as public cemetery. Capoocan's former cemetery right at the center of the town has been abandoned about seven years ago. It is being planned for other uses. Burial has since been transferred to the new one.

A modernized and spacious, but privately owned, park designed to offer aesthetic architectural ambiance and comfort is being proposed to be an alternative gravesite for residents with means to afford the burial lot, the estate's services and amenities. The data below detail the existing and proposed cemeteries in the municipality.

Table 39: Existing Cemeteries and Memorial Parks, Year 2016

Name of Cemeteries/Memorial Parks	Barangay	Ownership (Public/Private)	Area	Capacity	Remarks
Capoocan Public Cemetery	Poblacion II	Public	5.24 Has.	21,475P lot	Still Sufficient for Burial
Capoocan Memorial Gardens	Balucanad	Private	5.045 Ha	-	Proposed

Source: Municipal Health Office/MEO, 2015

Projected Health Sector Requirements

Even at current annual population growth rate, the municipality would need to augment assets and facilities to adequately meet the citizenry's growing demand for basic health care in the immediate years ahead. This does not yet factor in upgrading of standards for much better quality health care, disease prevention and medical services.

More personnel and community-based stations, and greater access to affordable medicines, for instance, are likewise needed. More than half of the barangays expresses the

3. Education

Not so long ago, education in the country struggled over recurring problems year by year. Acute lack in classrooms, books and personnel perennially hounded its delivery. But municipalities, like Capoocan today, tend to show that they are becoming a thing of the past. More and more children of school-going age get to enroll in school and enjoy consistent public support, facilities and all other amenities for a conducive learning environment.

How the citizenry can avail of education is generally not the lookout of the local government unit. It is the purview and responsibility of the national agency concerned. Dearth in facilities, personnel and other requirements, for instance, are dealt by it. The Department of Education (DepEd), which is not a devolved government agency, assesses progress or conditions on the educational front, and on the basis of its findings formulates measures, policies and projects/initiatives. Now, even at the secondary level the public school system already dominates in the delivery of free education and accompanying forms of support.

Schools, Type and Condition

The public school system satisfies the educational requirements of the municipality. Of 21 barangays, 16 have complete public elementary schools, five have only primary schools, and four have public secondary schools. Though not all of the barangays have schools with complete grade levels, those that have them are located nearby and are easily accessible to those that don't have them. The national high schools are situated in the big semi-urbanizing barangays that function as nucleus to clusters of communities lying along major communication routes.

Two learning institutions from the private sector supplement them at the higher level. The Eastern Visayas Polytechnic Academy, a privately owned school located at Poblacion Zone II, offers short-term vocational courses with possibilities of immediate employment after graduation. DISOP, a Non-Government Organization supported by the Belgian government, implements a Family Farm School project at Bgy. Sto. Nino. The latter is a holistic learning program anchored on the acquisition of productive and entrepreneurial skills for immediate application in livelihood by the family. It is modeled after a similar prototype popularized in France in the early 20th century.

The next data on schools by level, type, facilities and condition with their locations gives a conclusive glimpse of the situation of the education sector and status of its delivery in the municipality of Capoocan.

**Table 41: Schools by Level, Type, Facilities and Condition
Municipality of Capoocan**

Schools	Location	Area (has.)	Type		Facilities and Condition					
			Public	Private	Lab	Shop	Library	CR	PG	Clinic
Elementary										
Capoocan Central Sch.	Poblacion I	2.4569	✓		N	C	P	P	G	G
Balucanad Elem. Sch.	Balucanad	1.1	✓		P	P	P	G	P	P
Balud Elem. Sch.	Balud	0.8610	✓		N	N	N	G	P	N
Balugo Primary Sch.	Balugo	0.1	✓		N	N	N	P	P	N
Cabul-an Elem. Sch.	Cabul-an	0.5	✓		N	N	N	P	P	N
Culasian Elem. Sch.	Culasian	0.786	✓		N	N	C	G	C	C
Gayad Elem. School	Gayad	1.7154	✓		N	N	N	G	C	N
Guinadiongan Elementary School	Guinadiongan	1.4852 91	✓		N	N	N	G	G	N

Table 43: Inventory of Schools in the Municipality of Capooacan

Name Of School	Location/ Barangay	No. of Bldgs.	Type Of Bldg.	No. of Classrooms	Year Constructed	Status	No. of Teachers		
							M	F	Total
ELEMENTARY									
Balucanad Elementary School	Balucanad	1	Marcos-Type	2	1970	Needs major repair	0	7	7
		1	Bagong Lipunan	3	1979	Needs major repair			
		1	Bagong Lipunan	3	1985	Needs major repair			
		1	TEEP	3	2006	Needs minor repair			
Sub-Total		4							
Balugo Primary School	Balugo	1	DPWH	1	2003	Needs minor repair	1	0	1
Sub-Total		1							
Cabul-an Elementary School	Cabul-an	1	DPWH	1	2003	Needs minor repair	2	8	10
		1	DPWH	1	2003	Needs minor repair			
		1	DPWH	1	1997	Needs minor repair			
		1	Bagong Lipunan	3	1982	Needs minor repair			
		1	DPWH	1	2007	Needs minor repair			
		1	TEEP	3	2005	Needs minor repair			
Sub-Total		6							
Culasian Elementary School	Culasian	1	Marcos Type	3	1968	Needs major repair	1	12	13
		1	Bagong Lipunan	2	1990	Needs major repair			
		1	DPWH	1	1995	Needs major repair			
		1	DPWH	1	1997	Needs major repair			
		1	DPWH	1	2003	Needs major repair			
		1	USAID	3	1981	Needs major repair			
		1	TEEP	2	2004	Good condition			
		1	TEEP	3	2005	Good condition			
Sub-Total		8							

Name Of School	Location/ Barangay	No. of Bldgs.	Type Of Bldg.	No. of Classrooms	Year Constructed	Status	No. of Teachers		
		1	Bagong Lipunan	2	1980	Needs major repair			
		1	Bagong Lipunan	3	1985	Needs minor repair			
		1	Bagong Lipunan	3	1990	Good condition			
	Sub-Total	8							
Potot Elementary School	Potot	1	Bagong Lipunan	2	1984	Needs major repair	0	5	5
		1	DPWH	3	1980	Needs major repair			
	Sub-Total	2							
Sto. Niño Elementary School	Sto. Niño	1	DPWH		2006	Good condition	0	3	3
		1	TEEP		2006	Needs minor repair			
	Sub-Total	2							
Talairan Elementary School	Talairan	1	Marcos Type	1	1975	Needs major repair	1	4	5
		1	Bagong Lipunan	2	1985	Needs minor repair			
		1	DPWH	2	1990	Needs minor repair			
	Sub-Total	3							
Talisay Elementary School	Talisay	1	Marcos Type	3	1969	1 room needs major repair	0	3	3
		1	DPWH	1	1995	Needs minor repair			
		1	DPWH	1	2007	Good condition			
		1	TEEP	1	2002	Good condition			
	Sub-Total	4							
Tolibao Elementary School	Tolibao	1	Bagong Lipunan	3	1980	Needs minor repair	1	2	3
	Sub-Total	1							
Visares Elementary School	Visares	1	Marcos Type		1969	Needs minor repair	0	10	10
		1	Bagong Lipunan		1979	Needs minor repair			
		1	DPWH		1990	Needs minor repair			
		1	Marcos Type		2005	Needs minor repair			
		1	Bagong Lipunan		2006	Needs minor repair			
	Sub-Total	5							

Name Of School	Location/ Barangay	No. of Bldgs.	Type Of Bldg.	No. of Classrooms	Year Constructed	Status	No. of Teachers		
		1	FFCCC II	2	2002	Good condition			
		1	DPWH	1	2003	Good condition			
		1	TEEP	5	2005	Good condition			
		1	DPWH	1	2007	Good condition			
Sub-Total		10							
SECONDARY									
Asuncion S. Melgar National High School (ASMNHS)	Pob. Zone II	12	JICA	18	1987		2	24	26
			SEDP		1992				
			DPWH		2002				
			DPWH		2007				
			SEDIP		2008				
			SEDIP		2009				
Sub-Total		12							
Don Mariano Salvacion Memorial National High School (DMSMNHS)	Lemon	1	PAGCOR	2	1993	For rehabilitation	6	7	13
		1	DPWH(Pres. Aquino)	2	1994	For repair			
		1	Foreign Assisted	3	2000	For completion			
		1	DPWH(Cong. Apostol)	2	1996	for minor repair			
		1	DPWH	1	2006	For repair			
		1	SEDIP(Science Lab.)	1	2008	For repair			
		1	Principal Led	2	2009	For repair			
Sub-Total		7							
Libertad National High School (LNHS)	Libertad	1	Marcos Type	7	1995	Ant infested	5	2	7
		1	Marcos Type		1996	Ant infested			
		1	SEDIP		2007	New			
		1	SEDIP		2008	new			
Sub-Total		4							

Teacher and Classroom

A common metric for assessment if the education needs of the populace are being met or not is the teacher-student/pupil ratio and the student/pupil-classroom ratio. The match between available personnel and facilities, primarily classrooms, and the school-going age population shows whether or not delivery by the sector is sufficient at various levels.

In the case of Capocan, the teacher-student/pupil ratio indicates that requirement at the pre-elementary and elementary levels is adequately being addressed in accordance with DepEd standards. A total of 138 teachers cater to 5,152 pupils for a ratio of one to 37. But a high ratio average manifests at the secondary level among all the four public high schools. It surpasses the minimum standard of 40 students to one teacher.

Teacher requirements at the secondary level vary depending on the particular situation of the school concerned. What may already be enough for one school may be sorely lacking in the other. The Asuncion S. Melgar National High School at Poblacion II needs most additional teachers. The ASMNHS has 22 teachers serving 1,052 students. The proportion is one to 48.

The Don Mariano Salvacion Memorial National High School has 11 teachers catering to 518 students. Same as the Libertad National High School with eight teachers catering to 377 students, the DMSMNHS has a 47 to one student-teacher ratio. The Pinamopoan National High School with 13 teachers catering to 515 students, or a student-teacher proportion of 39 to one, requires no additional teachers anymore

Although the student/pupil-classroom ratio is already ideal at the pre-elementary and elementary levels, more classrooms are needed in three (3) elementary schools, namely Lemon, Cabul-an, and Tolibao Elementary Schools. The additions are in anticipation of an expected increase in enrolment over the years ahead.

Meanwhile, some elementary school buildings have to be rehabilitated to ensure safe and favorable facilities. Nonetheless, the record of the sector has been satisfying as far as adequately meeting requirements especially of classrooms at the grade school level is concerned.

The secondary level is different. High school student-classroom ratio in the poblacion reflects an acute need for the construction of more classrooms to accommodate students. The ASMNHS, in particular, has a high student-classroom ratio of 66:1. Data below show the ratios at two educational levels in the municipality.

Table 44: Student-Teacher and Student-Classroom Ratio by Levels

Type/Level	No. Of Enrollees			No. of Teachers	Total No. of Classrooms	S-T Ratio	S-C Ratio
	Male	Female	Total				
Private							
Elementary	-	-	-	-	-	-	-
Secondary	-	-	-	-	-	-	-
Public							
Elementary	2,650	2,502	5,152	138	146	38:1	36:1
Secondary							
Asuncion S. Melgar Nat'l High School	528	524	1,052	22	16	48:1	66:1
Pinamopoan NHS	254	261	515	13	10	40:1	53:1
Don Mariano Salvacion Memorial NHS	241	269	518	11	12	47:1	43:1
Libertad NHS	174	203	377	8	8	47:1	47:1

Data Source: DepEd District Office, 2010-2020

Helping the citizenry get another chance at going to school through the ALS has become a regular part of education delivery in the municipality. More of it in the next set of data.

Table 46: Alternative Learning System (ALS), Municipality of Capoocan, 2012-2015

CY	PROGRAMS/ PROJECTS	ENROLMENT			COMPLETERS			TAKERS			PASSERS		
		M	F	T	M	F	T	M	F	T	M	F	T
2012	BLP	8	17	25	8	17	25	0	0	0	0	0	0
	A & E (Elementary)	2	1	3	2	1	3	0	1	1	0	1	1
2013	BLP	13	12	25	9	10	19	0	0	0	0	0	0
	A & E (Secondary)	8	12	20	4	8	12	4	6	10	1	2	3
2014	BLP	8	2	10	6	1	7	0	0	0	0	0	0
	A & E (Secondary)	28	34	62	22	28	50	10	11	21	1	4	5
2015	BLP	2	1	3	2	1	3	0	0	0			
	A & E (Elementary &	18	2	20	18	2	20	3	0	3	NO RESULT		
	Secondary	109	44	153	101	41	142	13	9	22			

Data Source: DepEd Capoocan District

Strategy Enunciation

The education needs of the municipality of Capoocan have grown and continue to grow in pace with the yearly increase in population. These are being met at the national sphere, specifically by the Department of Education. Though delivery of services at this sector has been quite satisfactory in the case of the municipality, issues and concerns that have to do with requirements for classrooms and teachers and better facilities at the secondary level remain. They may no longer be the purview of the LGU. But higher enrollment participation rate by resolving hindrances at the family and community level, and resource augmentation to raise the quality of education through more conducive learning environments are.

The lack of classrooms, textbooks and teachers, amounting to the cramping of space and time for daily sessions with spillover numbers of students/pupils, has almost always been a malaise every opening of classes especially in the major urban centers of the country. But recent years have seen the problem being gradually lessened and ultimately overcome. The municipality is not hounded by such, more so at the grade school level. Yet, it certainly needs to improve delivery not only to adequately meet physical, infrastructural, material and human resource requirements at all levels, but to upgrade the system towards a much better quality of education for its citizenry.

The sole route to the vision of high quality, functional and globally competitive education for the Capoocanons is socially equitable economic progress. Goods and services in the locality must be produced in phenomenal quantities. Wealth must be created where it did not exist before. Incomes per household must go up, and bigger public resources must be available, within arms' reach and at the command of local administration. Then only can the municipality afford excellence in the delivery of service at this sphere.

To such end, it cannot overemphasize the role of integrated development planning that derives utmost strategic value on the use and management of resources, most especially land. It must be able to plot the course of local economic modernization translating this to holistic human advancement in a manner that does not sacrifice the sustainability of the area's natural life support systems. Development means access to better education. Better education for the citizenry, on the other hand, means higher levels of development.

Law enforcement personnel in the municipality total 22. On the three-year reference period 2010-2012 cited, the police to population ratio was at 1 per 1,131 persons. Variance to the standard ratio of 1:1,000 would go high as the municipal population rose in the next three years. But the difference can be considered significant since Capoocan is not a crime-prone municipality. Below are the data on police personnel number.

Table 48: Total # Of Police Personnel And Police-Population Ratio

YEAR	Total # Of Police Personnel	Police-Population Ratio
2010	22 PNP Members	1:1,131
2011	22 PNP Members	1:1,131
2012	22 PNP Members	1:1,131

Data Source: PNP Capoocan 2012

- ❖ Ideal Police-To-Population Ratio is 1:500 Persons
- ❖ Minimum Standard Police-To-Population Ratio is 1:1,000 Person
- ❖ Total Population Demand for Policemen
 - = Population X Standard Ratio
 - = 28,388 X 1 / 1,000
 - = 28 as of 2012

Barangay Augmentation

The deficit in the regular law enforcement force is remedied by the augmentation of the Barangay Tanods. The villages' civilian contingents assigned to supplement the maintenance of peace and order, the Tanods, keep watch on communities even or especially during the night, conduct *ronda* (patrol) around neighborhoods, function as backup crime prevention units to the police, and serve arrest summons. They are under the auspices and command of the barangay LGUs or the Sangguniang Barangays. Their honoraria are paid by them.

The village watchmen have grown in function, strength and roles over the years. They are often the sole force the local folks depend on to keep their communities safe from misfits and wrongdoers. They are the constant presence within reach of every nook and cranny when something goes bad or a misdeed is in progress. They are the elements the local community immediately runs to during times of trouble. They act as marshals in special events, help arbitrate or settle disputes, call the attention of trouble makers to desist, conduct disaster rescue, and assist in managing traffic.

Watched only by a regular police contingent that is inadequate in safeguarding a big area and 33 thousand townfolk, the municipality of Capoocan has looked up to the Barangay Tanods to fill gaps in protective services. Years of practice have made them an indispensable plank in peace keeping and crime fighting or busting.

The data below show the protective services as far as the Barangay Tanods are concerned.

Table 49: Barangay Tanod by Type of Service, Year 2010

Type of Services	Number of Volunteer/Staff	Facilities Equipment	Condition Of Facilities
Traffic, Peace and Order	Brgy Tanods – 310	ERV-(3 Multicabs) Sto. Niño, San Joaquin and Lemon	Serviceable
Disaster Auxiliary Services			
Others	48 Brgy. Tanods trained as Volunteer Fire Brigade in every Barangay		-

Source: Barangay Offices, 2010

The municipality aspires for a more comprehensive program to give wholesome sports engagement and recreational satisfaction to the citizenry through greatly upgraded venues, facilities, equipment and accessories. The youth as a whole, for example, are not served by having no other sports than basketball. The municipality is finding ways to advance a more beneficial approach at the delivery of services in this sphere encompassing the greater number of them.

The department responsible for it believes that the Capoocan youth can participate or fare better at future athletic competition in other events. They can attain higher competitiveness and game excellence in suitable sports that fit the native Filipino physique, rather than in persisting at basketball. But the needed resources and support systems for these have yet to be generated. Such is the challenge in the coming years.

The current performance and accomplishments can already serve as a stage to get on to much better delivery. The awareness of needs and better study of shortcomings so far are being banked on to set goals and plan action. The next set of data on Table 48 shows the municipality's sports and recreational facilities by their location, area and present condition.

Table 51: Existing Sports and Recreational Facilities, Municipality of Capoocan

Barangay	Area (Sq. M.)	Sports Facilities	Recreational Facilities	Ownership	Physical Condition
Poblacion I	750	Basketball Court	-	2-Public (15x30 & 12x25)	Good Condition
	1,256.64	-	(Oval) Playground	Public (r=20m)	Good Condition
Poblacion II	364	Basketball Court	-	1-Public (14x26)	Good Condition
Balucanad	325	Basketball Court	-	1-Public (13x25)	Good Condition
Balud	350	Basketball Court	-	1-Public (14x25)	Good Condition
Balugo	350	Basketball Court	-	1-Public (14x25)	Good Condition
Cabul-an	364	Basketball Court	-	1-Public (14x26)	Good Condition
Culasian	814	Basketball Court	-	2-Public (15x30 & 14x26)	Good Condition
	160	-	School Playground	Public (8x20)	Good Condition
Gayad	390	Basketball Court	-	1-Public (15x26)	Good Condition
	450	-	School Playground	Public (15x30)	Good Condition
Guinadiongan	364	Basketball Court	-	1-Public (14x26)	Good Condition
Lemon	350	Basketball Court	-	1-Public (14x25)	Good Condition
	450	-	School Playground	Public (15x30)	Good Condition
Libertad	364	Basketball Court	-	1-Public (14x26)	Good Condition
	160	-	School Playground	Public (8x20)	Good Condition
Nauguisan	240	Basketball Court	-	1-Public (12x20)	Good Condition
Manloy	250	Basketball Court	-	1-Public (10x25)	Good Condition
	420	Basketball Court	-	1-Public (14x30)	Good Condition
Pinamopooan	600	-	School Playground	Public (20x30)	Good Condition
	364	Basketball Court	-	1-Public (14x26)	Good Condition
San Joaquin	450	Basketball Court	-	1-Public (15x30)	Good Condition
Sto. Niño	390	Basketball Court	-	1-Public (15x26)	Good Condition
Talairan	450	Basketball Court	-	1-Public (15x30)	Good Condition
Talisay	450	Basketball Court	-	1-Public (15x30)	Good Condition
Tolibao	364	Basketball Court	-	1-Public (14x26)	Good Condition
Visares	364	Basketball Court	-	1-Public (14x26)	Good Condition

Data Source: MEO, MPDO as culled out from CLUP 2010-2020

6. Social Welfare

Social welfare governance has evolved. Its scope and services have expanded from stop-gap measures at welfare to more holistic interventions in improving lives especially of the

Child Welfare

Capoocan fosters a child welfare program covering several barangays. This provides services to hundreds of pre-school children. The program's centerpiece measure is the provision of day care facilities in compliance with the Republic Act 6972, named: Barangay Level Total Development and Protection Act.

The LGU has constructed Day Care Centers in 16 Barangays, while the other five barangays utilize temporary or makeshift shelters for Early Childhood Care and Development activities. In 2009, 20 barangays were already conducting ECCD activities for 3-4 year olds totaling 628 children. From 2009 to 2013, day care services catered to hundreds of children beneficiaries, as follows:

Table 53: Number of Recognized Children Graduates

SCHOOL YEAR	MALE	FEMALE	TOTAL
2012-2013	312	267	579
2010-2011	218	235	453
2009-2010	188	226	414

Data Source: MSWDO Capoocan 2012

Recognition equates to graduation in the higher levels of formal education. It follows a usually one-year stint at ECCD activities. Thus, children enrolled for instance in SY 2012-2013 are slated to be recognized by March or April of the year. The data below sample the prevalent size of enrollees at any given time with the number of enrollees over a reference three-year period, that is: from School Year 2010-2011 to 2012-2013.

Table 54: Enrollees

SCHOOL YEAR	MALE	FEMALE	TOTAL
2012-2013	370	377	747
2011-2012	309	359	453
2010-2011	205	231	436

Data Source: MSWDO Capoocan 2012

Since the last decade, Day Care Centers have become a common sight in most barangays of the municipality. They have sprouted as priority projects of the Barangay Local Government Units, requesting counterpart financial assistance from the province or national government through the Priority Development Assistance Fund allocations of the district representative under which Capoocan belongs. Envisioned at first as mere infra project, their functionality and latter effectiveness would grow over the years through practice.

It didn't take a long time for a corollary systematized and well-thought of child welfare program to take place. The entry of players in the form of competent, dedicated and more or less professional workers helped to make this materialize. Staffing was as equally important as constructing the concrete structure for the facilities. Later, donors would introduce equipment and other accessories to enhance the centers' functionality and effectiveness.

All of the 21 barangays of the municipality undertake child welfare programs in 22 DCCs. Poblacion Zone I has two DCCs. They serve an aggregate total of 747 children coming from two age groups, that is: 3-4 years old and 5 years old and above. The children are attended to by 22 Day Care workers, or one worker per center. A couple of barangays, namely Nauguisan and Manloy, still has buildings for venue made of light materials. One barangay, Talairan, conducts day care activities in a barangay stage.

Table 55: Day Care Centers by Location and Condition, Municipality of Capoocan

NO. OF REGISTERED CHILDREN						Grand Total	Name & Address of Day Caree Center	Number of Session	Name Of Brgys. Without Day Care Center/Status	Name of DCCs Needing Repair And Improvement
Male		Female		Total						
3-4 YO	5 YO & Above	3-4 YO	5 YO & Above	3-4 YO	5 YO & Above					
9	0	17	0	26	0	26	Visares Day Care Center	1	-	Concrete
45	0	20	0	65	0	65	Pinamopoan Day Care Center	2	-	Concrete
8	0	9	0	17	0	17	Nauguisan Day Care Center	1	Made of light materials	Needs improvement
14	0	10	0	24	0	24	San Joaquin Day Care Center	1	-	Concrete
12	0	6	0	18	0	18	Potot Day Care Center	1	-	Needs improvement
28	0	29	0	57	0	57	Lemon Day Care Center	2	-	Concrete
25	0	31	0	56	0	56	Culasian Day Care Center	1	-	Concrete
19	0	18	0	37	0	37	Sto. Nino DC Center	1	-	Concrete
10	0	12	0	22	0	22	Balucanad Day Care Center	1	-	Concrete
12	0	14	0	26	0	26	Talisay Day Care Center	1	-	Concrete
8	0	9	0	17	0	17	Pob. Zone I Day Care Center	1	-	Concrete
16	0	13	0	29	0	29	Pob. Zone I Day Care Center	1	-	Concrete
2	0	6	0	8	0	8	Balugo Day Care Center	1	-	Needs improvement
38	24	19	22	57	46	103	Pob. Zone II Day Care Center	2	-	Concrete
15	0	30	0	45	0	45	Libertad Day Care Center	2	-	Concrete
9	0	11	0	20	0	20	Tolibao Day Care Center	1	-	Concrete
12	0	18	0	30	0	30	Guinadiong Day Care Center	1	-	Concrete
7	0	10	0	17	0	17	Manloy Day Care Center	-	Made of light materials	Light materials
9	0	19	0	28	0	28	Gayad Day Care Center	1	-	Concrete
22	0	27	0	49	0	49	Balud Day Care Center	2	-	Concrete
10	0	11	0	21	0	21	Talairan Day Care Center	-	Session at the Brgy. Stage	For improvement
17	0	15	0	32	0	32	Cabul-an Day Care Center	1	-	for improvement
				701	46	747				

Data Source: MSWDO Capoocan 2012

Table 57: Philhealth Beneficiaries of the Municipality of Capoocan, 2010-2012

SPONSOR BARANGAY	2010						2011						2012					
	LGU			DOH			LGU			DOH			LGU			DOH		
	M	F	TOTAL	M	F	TOTAL	M	F	TOTAL	M	F	TOTAL	M	F	TOTAL	M	F	TOTAL
Balucanad	16	4	20	4	5	9	16	4	20	-	-	-	6	16	22	-	-	-
Balud	12	7	19	3	3	6	12	7	19	-	-	-	10	4	14	-	-	-
Balugo	11	4	15	4	2	6	11	4	15	-	-	-	2	4	6	-	-	-
Cabul-an	18	1	19	22	9	31	18	1	19	-	-	-	10	8	18	-	-	-
Culasian	15	4	19	2	4	6	15	4	19	-	-	-	1	10	11	-	-	-
Gayad	18	2	20	-	-	-	18	2	20	-	-	-	2	1	3	-	-	-
Guinadiongan	19	1	20	-	-	-	19	1	20	-	-	-	4	2	6	-	-	-
Lemon	17	3	20	-	-	-	17	3	20	-	-	-	11	13	24	-	-	-
Libertad	19	1	20	-	-	-	19	1	20	-	-	-	3	16	19	-	-	-
Manloy	16	-	16	-	-	-	16	-	16	-	-	-	2	3	5	-	-	-
Nauguisan	14	2	16	-	-	-	14	2	16	-	-	-	1	6	7	-	-	-
Pinamopoan	6	14	20	-	-	-	6	14	20	-	-	-	3	7	10	-	-	-
Pob. Zone I	14	6	20	9	3	12	14	6	20	-	-	-	12	4	16	-	-	-
Pob. Zone II	19	1	20	71	20	91	19	1	20	-	-	-	3	11	14	-	-	-
Potot	19	1	20	-	-	-	19	1	20	-	-	-	-	2	2	-	-	-
San Joaquin	19	1	20	41	8	49	19	1	20	-	-	-	4	7	11	-	-	-
Sto. Niño	14	-	14	63	3	66	14	-	14	-	-	-	5	6	11	-	-	-
Talairan	18	2	20	14	3	17	18	2	20	-	-	-	-	-	-	-	-	-
Talisay	15	1	16	12	3	15	15	1	16	-	-	-	1	9	10	-	-	-
Tolibao	15	1	16	20	5	25	15	1	16	-	-	-	6	2	8	-	-	-
Visares	19	1	20	86	8	94	19	1	20	-	-	-	-	1	1	-	-	-
TOTAL	338	57	395	351	76	427	338	57	395	-	-	-	86	132	218	-	-	-

Data Source: MSWDO Capoocan 2012

Marriage and Good Parenting Support

Marriage counseling is undertaken by the local social welfare office. The service is done once a month by the MSWDO through an accredited or licensed marriage counselor. A good number of clients participated in the sessions as shown by data from a three-year reference period, namely: 2010, 2011 and 2012. In the first year, a total 92 couples participated. This dropped to 78 in the second year. Counseling participants rose to 136 in the last year of 2012.

Once a year, the LGU conducts Parent Effectiveness Service for unwed couples or *amancebados* to prepare them for mass wedding in the month of March. Data on it however is unavailable.

Table 60: Marriage Counsel and Parent Effectiveness Services

	2010			2011			2012		
	M	F	Total	M	F	Total	M	F	Total
MCS	46	46	92	39	39	78	68	68	136
PES	-	-	-	-	-	-	-	-	-
TOTAL	46	46	92	39	39	78	68	68	136

Data Source: MSWDO Capoocan 2011

Senior Citizens Welfare

The state gives senior citizens a share in the welfare and development pie. Besides being entitled to substantial discount in food, medicine and grocery purchases, LGUs are mandated to provide them support in addressing sectoral issues and concerns. Together with the Persons with Disability, they part with three (3) percent of the Internal Revenue Allotment of LGUs to fund programs/projects/activities in line with their socio-economic aspirations.

Individuals belonging to the age groups 60 years old and above are called by law as senior citizens. Right now, the municipality has not yet selected and conceptualized any strategy to address holistically the concrete welfare and development needs of senior citizens. Assistance under the statutory fund allotted to them is random and piece-meal.

Senior citizens are issued an ID. The card is more than just a valid means at identification by the bearer. It is a ticket to avail of the bundle of benefits granted by law to the older members of society. As welfare assistance package, the senior citizens ID system reaps the greater and most substantial benefits the government affords the sector. The SCID gets its bearer 20% discounts in restaurants, public utility vehicle ride, airplane ticket, grocery items, and most especially medicines. It would also be an important piece of cardboard to usher a holder into the priority lane in offices, banks and other commercial establishments.

The municipal LGU of Capoocan, through the Office of Senior Citizens Affairs (OSCA) processes applications and issues the SCID. Through its releases of the card, hundreds of Capoocanons in their senior years have been ushered to the sphere of social and economic privileges that the state provides. The next set of data shows the pattern of issuances of the SCID by number of applicants/entrees annually over a three-year period: 2010 to 2012.

Table 61: Senior Citizens ID Issuance by Year, 2010-2012

YEAR	Issued OSCA ID To		
	MALE	FEMALE	TOTAL
2012	67	93	160
2011	92	128	220
2010	172	219	391

Data Source: Office of the Senior Citizen Affair (OSCA) Capoocan, Leyte 2011

Data about the group are updated from time to time. This is done through a survey by the MSWDO in coordination with the Day Care Workers from different barangays of Capoocan. If there are changes, they are mostly quantitative and minimal, borne by such developments as a PWD going to other places, like Manila, to seek treatment or enjoy the amenities of urban living. Others want to take chance of the opportunity for betterment in a relative's place.

The set of data below show in detail the Culasian SEA-K project, its beneficiaries, type of disability, and age.

Table 64: SEA-K for PWD Project Beneficiaries Profile, Barangay Culasian, Municipality of Capoocan, Leyte

Age	Gender	Disability	Educational Attainment
15	Female	Polio	4 th H.S.
13	Male	Underdeveloped RL	Grade V
33	Male	MOM	Grade III
36	Female	Polio	H.S. Grad.
11	Male	Total Speech Impairment	Grade I
16	Female	Total Speech Impairment	None
18	Female	CP	None
14	Male	Underdeveloped LH	Grade I
50	Male	Paralyzed both hand	3 rd H.S.
29	Female	Total Speech Impairment	Elem. Grad.
28	Female	Total Speech Impairment	None
25	Male	Hunchback	H.S. Grad.

Data Source: MSWDO Capoocan

Government Anti-Poverty Thrust

With the aid of international financial institutions, the national government launched the Kapitbisig Laban sa Kahirapan (KALAH) to address poverty more decisively through programs, projects or initiatives applying the community-driven development approach. KALAH consistently recognized the role of the people themselves as makers of history by adopting participatory tools and methodologies in its conduct.

The anti-poverty thrust proffers no ready answers or solution but convenes and facilitates decision-making and action by the people on the ground. They vote on what project to implement, process its development, and take active part in its execution.

KALAH assumes the character of a movement but takes on a quasi-government institutional personality. As an institution, it provides professional technical support and backstaffing to local folks involving in its spinoff programs and projects.

In Capoocan, the KALAH-Community Initiative for Development Support Services (CIDSS) had a contingent of local government counterpart personnel and regional KALAH assigned field workers by the DSWD. The team planned, developed and implemented several Cycle I Projects in a span of three years. Among these were sea wall, flood control and drainage system projects. The recent ones were a continuity of previous engagement, which implemented Level II gravity-flow water system projects

Next are data on the KALAH-CIDSS implemented projects in the municipality under the social welfare and development sector.

E. ECONOMIC SECTORS

How do the community as a whole and households in particular meet needs? What does the area produce, and by what means? On these aspects, Capoocan is not uniquely different but similar to municipalities in the greater part of the country. One, its chief means of production is land. And because it has marine waters, fishing combines with farming to make up the people's principal means of earning a living.

Secondly, agriculture employs most of its labor force. Around 80% of the population live in the rural areas and meet their needs either through cash income generation or natural self-sufficient production out of resources in the environment. The abundance of natural resources in land and sea, not yet external finance, basically fuels the local folks' economic pursuits. This means they do not subsist purely on cash economy.

Third, though most of the populace are based in agriculture and depend on it for a living, the sector could not provide enough to meet basic needs, much more generate surplus to fuel progress. It languishes in a backward mode of production restricted by a feudal system of economic relationships and administration. The communities depending on it are not self-reliant and in later years would be more and more driven to seek external assistance. The condition points to the need for socio-economic reforms and technological modernization.

Production on the land and extraction from the natural biophysical environment have sustained the people through the years. Farming, fishing and forestry have made Capoocan a viable community. The three principal means of livelihood have been the base of the local economy since first settlement in the place, then named Kapook, during the Spanish era. They have made up the engines that drove its growth up to the community that it is today.

Nature and geography have endowed the municipality with tremendous potentials for economic production and wealth creation. Capoocan is not landlocked. It immensely draws a wellspring of sustenance from open access to the sea, near and far. Long before the place has been cleared of jungle growths, and farming became a principal livelihood, the locals lived on the yield from the rich fishing ground of the Carigara Bay. Fish catch has since the early settlers nourished and supported the community from generation to generation.

The thick forests have given raw materials to nascent industries and crafts, such as rattan and wood furniture, basket weaving and hat making. They also provided timber for the construction of houses, as well as logs or lumber for commerce. The lush flora on its ridges and uplands, besides products, has gifted the locality with magnificent scenes and sights to attract visitors and more settlers.

1. Agriculture

Once cleared, the municipality's arable plains and gently rolling uplands became a primary means of livelihood. Cultivation over large tracts of lands gave Capoocan its main source of income and wealth, agriculture.

In time, agriculture surpassed fishery and became Capoocan's dominant economic sector. The greater number of households turned to crop production for their basic needs. It generated and circulated the cash going around the local economy. Even commerce would thrive on the circulation of earnings pumped in by the market of agricultural produce.

The cultivation of coconut for copra (desiccated coconut meat) tops the municipality's crop production. Produced for export, the agricultural commodity would be Capoocan's biggest

Table 66: Type of Crops by Area, Yield per Hectare, and Production per Year in Metric Ton, Municipality of Capoocan

Crops	Area in Hectares	Yield Per Ha. (M.T.)	Yearly Production (M.T.)
Rice	666	3.00	1,998.0
Coconut	3,535	1.20	4,242.0
Sugarcane	508	5 piculs	2,540.0
Banana	880	4.50	3,960.0
Rootcrops	360	5.00	1,800.00
Pineapple	275	7.50	2,062.5
Abaca	98	1.00	98.0
Fruit trees	95	2.00	190.0
Corn	59	2.50	147.5
Vegetables	34	2.00	68.0
Other crops	122	0.95	115.9
TOTAL	6,632		17,221.9

Data Source: OMA Capoocan

Animal Component

The nurturing of animals forms part of Capoocan's farm life. They are commonly raised in backyards as secondary or tertiary means of livelihood. But pig and poultry raising do not only satisfy household needs directly. They also add to the gross local output from agriculture every year. For either livestock or poultry, local production is not in economies of scale.

Animal culture even for commercial purposes requires minute space, but earns more per unit of production compared to plant crops. A minimal amount of land is needed for animal-raising that it doesn't figure in the overall allocation of land for agricultural use.

The output from current poultry and livestock production in the area is not yet able to satisfy local needs in meat. With an upbeat market, large-scale production of both boosted by higher productivity can make them a bankable engine of growth.

But livestock and poultry production in the area at present meets only 30 to 40 percent of domestic consumption. Swine population has the biggest number among all livestock with 2,773 heads in an average year. Carabao, the second, has 526 heads. The whole livestock production including cattle, goat and sheep registers 3,437 heads.

Among poultry species, chicken tops with 42,023 bird population. Ducks come far second with 263 bird population. Including turkey, the fowls come up with a total population of 43,311 birds. The numbers are a pity, for they could be increased tenfold to meet household needs and contribute meaningfully to the municipality's cash economy.

Overall, the locality's livestock and poultry production chalks up 369.4275 metric tons, with livestock registering 326.96 MT, and poultry 42.467 MT. Right now, Capoocan does not produce livestock and poultry in commercial quantities. They are still backyard affairs intended more for home consumption than main source of income.

The local market itself for meat presents a big opportunity for animal production to evolve into economies of scale and become a formidable growth engine for Capoocan. It needs only to adopt technologies and production systems suited to enterprise on a medium scale.

Next data below show in detail animal production by individual population and volume.

Table 68: Type of Fishing, Number of Fishermen Engaged, Area Covered in Hectares, and Production Output per Annum in Metric Tons

Type of Fishing	No. of Fishermen	Area (Has.)	Annual Production (MT)
1. Inland Fishing	32	7.08	35.0
2. Brackish Water	1	6	30.0
3. Coastal Fishing	1,055	22,000	2,737.5
TOTAL	1,088	22,013.08	2,802.5

Data Source: OMA Capoocan

Consumption Requirements

In rice, meat, eggs and vegetables, yearly output fails to meet consumption requirements of the municipality. The deficits are 1,113.19 metric tons for rice and corn, and 286.20 metric tons for vegetables. Meat and eggs are short by 739.28 metric tons. Banana yields a surplus of 3,552.00 metric tons over annual consumption requirement, sugarcane 1,952.00 metric tons, and root crops 1,619.90. These mean that the more important and basic food items - rice, corn, vegetables, meat and eggs, have to be imported.

Cereals get 70 percent of daily expenditures for a family of five having an income of only Php30,000 or less per year. The inability to sufficiently produce them exacerbates misery and the incidence of households below the subsistence threshold. Folks cannot live on banana as substitute staple. Neither can they subsist on the cash crop, sugarcane, which the big landowners anyway appropriate. The mismatches of production with actual needs of the general populace tell that the orientation of agriculture in the area needs to be righted.

Fish has come out as a saving grace. Fishery yields a surplus of 1,952.30 metric tons per year. Issues on the environment aside, the marine resource is still quite abundant. Surplus yields here are in demand. The municipal fishery industry not only caters to household consumption, but commerce getting big cash income for the municipality. The following data provide a comparative analysis of crops, livestock, poultry and fishery outputs vis-à-vis consumption requirements.

Table 69: Crops, Livestock, Poultry and Fish Production, and Consumption Requirement in the Municipality of Capoocan

Agricultural Crops	Production Per Year (MT)	Yearly Per Capita Requirement (MT)	Surplus/ Deficit Per Year
Grains (Rice and Corn)	2,145.50	3,258.69	(1,113.19)
Banana	3,960.00	408.00	3,552.00
Sugarcane	2,540.00	588.00	1,952.00
Rootcrops	1,860.00	204.10	1,619.90
Vegetables	68.00	354.20	(286.20)
Meat and Eggs	188.36	927.64	(739.28)
Fish	2,802.5	850.20	1,952.30
TOTAL	13,504.30		

Data Source: OMA Capoocan 2010

3. Services

The service sector has gained prominence as a major contributor to the municipality's income base. With the sluggish growth in agriculture, or its stagnation in some areas, Capoocan had to bank more on liquidity generated from services.

Three (3) other registered wholesale and retail outlets operate in the municipality selling dry goods, grocery items, beverages, hardware supply and construction materials. The establishments have a combined total sales of PhP1,382,000 per year. Along with two (2) gasoline stations which lump yearly sales of PhP9,125,000.00, Capocan's commercial establishments on record garner an overall annual sales of PhP13,604,804.00. The establishments employ 47 workers. The data below show in detail the wholesale and retail establishments in the locality, their sales and number of employees.

Table 71: Wholesale-Retail Trade by Enterprises, Sales and No. of Employees

Name of Stores/Enterprises	Yearly Volume of Sales in Pesos (M)	Employees
1. Barangay Bagsakan		
- Agricultural Products	0.298,968	6
- Fishery Products	2.798,836	12
2. Opiasa Store	0.822,000	11
3. Aclao Store	0.436,000	5
4. Joriz Ian Enterprises	0.124,000	5
5. Macapus Gasoline Station	1.825,000	4
6. Madriaga Gasoline Station	7.300,000	4
TOTAL	13,604,804	47

Data Sources: BIR & DACAMPCI 2009

The mentioned enterprises are only those on record. They belong to the formal economy. More small ones conduct hole-in-the-wall variety goods trading (sari-sari stores), food processing, street vending, and eatery services, among others. They have been equally vital in making the community economically viable and the populace survive through vicissitudes and crises. Their informal sector helps the municipality's commerce function and thrive on a daily basis.

Recently, nationwide business franchises have come to the locality. One of them is the Palawan Express money sender and pawnshop. The other is the grilled chicken restaurant outfit named Andoks, which has put up a fast-food branch at Bgy. Lemon's highway crossing. The contribution of the two establishment chains to the local economy may not yet be determined, but observers note that they unmistakably signify progress, basing on the local market's capacity to absorb them.

Job Order Outfits

Shops catering to job order services have lately sprouted in the municipality. They form part of the services sector, but ply trades that already borders on being industrial. Offering direct labor with special skills or specializations, they exemplify the old craftsmen at the pre-manufacturing or pre-industrial stage of social development. As labor forces that have also become micro-entrepreneurs, they employ themselves.

The municipality has 26 outfits of this type. Most in number are tailoring. There are eight (8) local tailoring outfits, employing 16 workers. Welding has six (6) outfits. Second in number, it employs a bigger labor with 25 workers. All personal services employ a total of 67 workers. The quality of their labor is distinctly more advanced. By their skills, level of performance and application of higher technologies – mechanical and even digital, the job order enterprises may well be the shape of nascent industrial beginnings in the area.

Another of such kind is the arrastre and stevedoring services at Barangay Pinamopoan. Local parlance categorized them as community enterprise. The arrastre and stevedoring services enterprise deploys stevedores, manages labor, and facilitates pier shipment processes at the

The municipal reforestation-production projects involve the planting and nurturing of forest timber and non-timber species, such as rattan, bamboo and a vine locally called Nito for medium- to long-term commercial consumption. These are done by community-based people's organizations, among which are: UMACAP, DACAMPCI, ACUFI, RIC & KALIPI. The forestry program employs 282 full-time workers. The associations are entitled to their harvest.

Forestry production of raw timber materials through reforestation has become a burgeoning micro-economy of Capoocan. The local folks generate income through the market or processing of its products. The initiative has once more ignited the hope of reviving the rattan furniture, wood furniture and woodcraft industries. It may not yet significantly contribute to the gross municipal output, but it may later become an engine of economic growth. The data below portray the nascent forestry-based production subsector in the municipality by the type of forest raw material products, volume of produce annually, and labor forces engaged.

Table 74: Forestry-Based Production by Type, Volume of Output and Workers in the Municipality of Capoocan

Type of Forest Product	Production Per Annum	No. of Work Forces
Timber	400,140 board foot	175
Rattan	205,070 poles/bft	44
Bamboo	8,760 poles	15
Nito (assorted)	960 dozen (finish product)	18
Anahaw		
- Salukot	1,040 dozen	16
- Hand Fan	5,200 dozen	14
TOTAL		282

Data Sources: UMACAP, ACUFI, DACAMPCI, RIC & KALIPI 2010

5. Tourism

The tourism industry has not even reach yet the embryonic stage of development in the municipality. But it deserves mention already as a subsector that promises to be a major growth driver of the local economy.

Divine providence has blessed Capoocan with scenic wonders and alluring panoramic landscapes. Its geographical, topographic and other biophysical features offer nature lovers and adventure-seekers a magnificent spot to explore. Convenience in reaching the said places and the availability of facilities with excellent amenities for comfortable sojourn can make the locality truly a haven for tourists.

But besides the place's natural beauty and wonders, Capoocan exudes a historic aura reminding of the epic battle that raged along its rugged mountain terrains during the culmination of World War II. Memory and homage by the relatives of those who perished here have sanctified the historic spots by putting sacred markers. The narratives about them speak with valuable insights and lessons to travelers on what Capoocan had gone through in that past.

All these are still potentials. Tourism development has yet to reach even the drawing board. But right now, certain spots with very good potentials may be promoted and marketed for business investments. These are:

1. The *Breakneck Ridge*. The spot offers a spectacular view of Leyte, Leyte's sprawling green valley and the mirror-like tranquility of the Carigara Bay. It is ideal for leisurely nature-scene watching and tarrying for stop-and-shop amenities. It is located at Sitio Ansubas, Brgy. Lemon on the shoulders of the Tacloban-Ormoc national highway.

2. The *Japanese Shrine*. The quaint piece of architecture and garden landscape has been built by latter visiting countrymen as a tribute to the fallen Japanese soldiers in the same place where the Japanese Imperial Army held its last line of defense against the advancing American

F. INFRASTRUCTURE, FACILITIES AND UTILITIES

Infrastructure or built-up features is the backbone of every society's economy. It is the social superstructure's hardware component. The construction of this aspect is how cities rise, and communities anchor for the long term. Human settlements are unimaginable without houses, commercial buildings, industrial complexes, roads and bridges.

The municipality of Capoocan has a modest infrastrure setup. Residences, brick-and-mortar businesses, institutional facilities, school buildings, roads, bridges and seawalls give the place familiar identity. They establish the municipality. They give it market value as piece of real estate. While infrastructure in itself – or the construction of it, is big business, it also puts the community in business.

Here are the major public works in the municipality.

1. Bridges

If roads link places, bridges link roads. Bridge building has been a priority item in the budget for Philippine socio-economic development since the second half of the past century. Rivers, gorges and streams are all over the archipelago. They hinder movement to and from residential areas, schools, workplaces, government centers, business hubs, markets for produce thereby making life extremely difficult. Putting spans on them is critical.

Capoocan is crisscrossed by rivers and streams. At various points, routes are cut. The 30 kilometers length of the national highway, from Bgy. Balud at the boundary with the Municipality of Carigara to Bgy. Sto. Nino at the boundary with the Municipality of Kanangga, is sliced by inland water bodies. The highway is useless, if spans are not built across them.

The municipality has a total of 15 bridges of different types and capacity. Eight of them are Reinforced Concrete Deck Girders located along the Maharlika Highway. Four (4) are Reinforced Concrete Pipe Culverts, and three (3) Foot Bridges. The spans connect the arterial network to various locations in the municipality. The next data make an inventory of the bridges in the area, their specific location, type, capacity and physical condition.

Table 75: Inventory of Bridges by Location, Type, Capacity and Condition in the Municipality of Capoocan

Bridge Name	Location (Bgy.)	Type	Road Capacity (Tons)	Physical Condition
Pinamitinan	Poblacion I	RCDG	10T	GOOD
Atipolo (Guti)	Poblacion II	RCDG	10T	GOOD
Atipolo (Daku)	Poblacion II	RCDG	10T	GOOD
Poblacion II	Poblacion II	RCPC	1T	GOOD
Dumiri	Culasian	RCDG	10T	GOOD
Candulman	Culasian	RCDG	10T	GOOD
Pinamopoan	Pinamopoan	RCDG	10T	GOOD
Masalago	Pinamopoan	RCDG	10T	GOOD
Lemon	Lemon	RCDG	15T	GOOD
Nauguisan	Nauguisan	FOOT BRIDGE	1T	GOOD
Manloy	Manloy	RCPC	1T	GOOD
Balucanad	Balucanad	RCPC	1T	GOOD
Culasian	Culasian	FOOT BRIDGE	1T	GOOD
Cabul-an	Cabul-an	FOOT BRIDGE	1T	GOOD
Cabul-an	Cabul-an	RCPC	1T	GOOD

Source: DPWH/MEO, 2010

Note: RCDG – Reinforced Concrete Deck Girder

RCPC – Reinforced Concrete Pipe Culvert

Table 77: Inventory of Buildings in the Municipality of Capoocan

Type Of Building	No. of Units	Type	Location
Municipal Building	1	Concrete	Pob. Zone I
School Building	113	concrete	21 Brgys.
Legislative	1	Concrete/on-going	Pob. Zone I
Rural Health Station	1	Concrete	Pob. Zone I
GAD Resource Center	1	Concrete	Pob. Zone I
Capoocan Multi-Purpose & Sports Center	1	Concrete	Pob. Zone I
PNP Station	1	Concrete	Pob. Zone I
Brgy. Halls	20	Concrete	All Brgys. Except Talairan

Data Source: MEO / DepED Capoocan

4. Utilities

The utilities subsector of the municipality includes a wide range of services to make society operational and functioning. Major ones are public transport, electric power distribution, clean water system and technological infrastructure. They constitute the bloodstreams of society where resources, energy, products, people and information flow. Their delivery is vital, and failure here can cause social paralysis. In a rapidly modernizing world, they have become critical fixtures for community survival and development.

In most cases, utilities are systems that go beyond territorial jurisdictions. Like the rest of the country, Capoocan shares them with several other localities over a wide swathe of the province. Public transport for instance services not just the municipality, but neighboring towns and the entire length of the Tacloban-Ormoc national highway and the Tacloban-Biliran national highway – all passing through it. The same is with power distribution, a network that runs across more or less ten municipalities under the Leyeco III facility.

Water is supplied to the municipality, not just from its springs and pipelines. Shortfall in the greater requirements for the domestic water consumption of its urban areas, Poblacion Zone I and Poblacion Zonne II, are filled up by the Carigara Metro Water District, which augments the local water system in fulfilling the needs of the townsfolk.

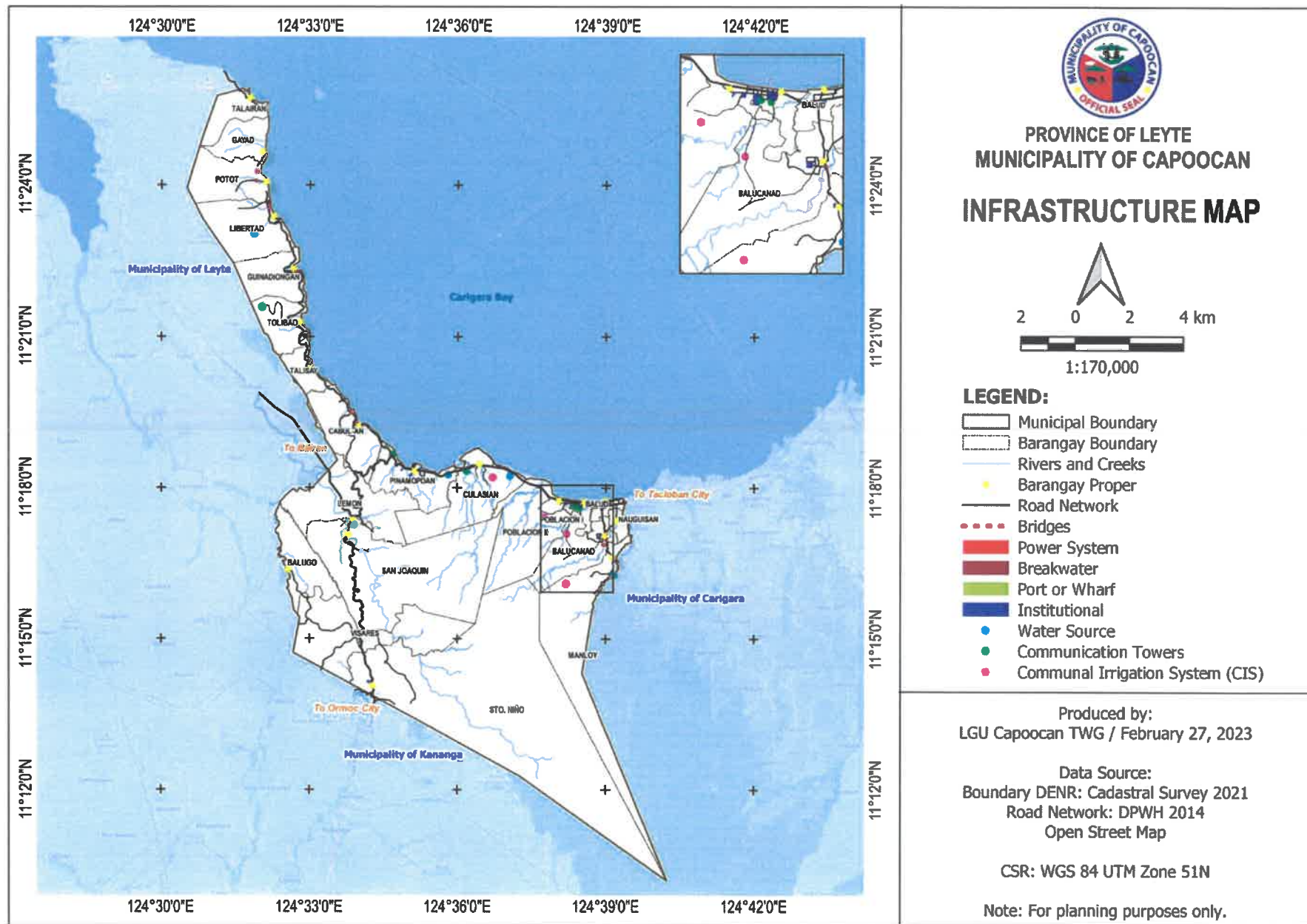
The outmoded telephone lines of the past century never got to reach Capoocan. In the areas it covered however, applications for land line connection already entailed years of processing up to approval. The municipality no longer has to wait for eternity to avail of the poor and laggard service. In the advent of rapid technological advancement, communication over long distances and even overseas has come to the place through broadband technology and the cellphone.

The world has become narrower and climes much more connected. This has been made possible by the levels that science and technology have reached today. Phenomenal technological and industrial innovations have drawn the municipality to the worldwide information superhighway. They afford power and reach unimagined three decades ago.

5. Transportation/Road Network

From a nook in an outlying area of the Municipality of Carigara notable for the distinct obstructions of jungle growths, Capoocan has become a highly accessible place along a now semi-urbanized growth corridor. It has cleared trails and built up an extensive road network that linked localities with speedier and more convenient modes of travel.

Figure 19: Infrastructure Map, Municipality of Capoocan



Public Transport

Capoocan has two modes of transportation: land and sea. Most of its places are accessed by land through public utility vehicles. But barangays in the coastal areas adjacent to Leyte, Leyte and Biliran have remained inaccessible by land. They are reached via sea through motorized sea crafts. Everyday, the two means of transportation via land and water have moved people, products and materials in the locality for the past four decades.

Land transport is serviced by five (5) types of public utility vehicles: bus, jeepney, motorized tricycle, pedicab/padyak and habal-habal. The more numerous are the habal-habals which number 100. They ply barangay to barangay routes. The pedicabs or dipadyaks – non-motorized trikes, number 62. They also ply barangay to barangay routes. Motorized tricycles number 55. They ply not only the rural villages but the town center. The barangay to poblacion connection is serviced by 15 jeepneys and four buses, plying the Maharlika Highway route.

Since the municipality sits on a 30-kilometer stretch of the Tacloban-Ormoc, Tacloban-Biliran and Tacloban-Palompon national highway, the big bus lines and public utility express vans on these routes pass through Capoocan. They connect its barangays along the highway to destinations within and outside the locality. The PUV lines become part of the daily public transport contingent moving people, goods, materials and belongings in and out of the municipality. The local folks benefit from them, not only in greater accessibility and convenience, but in advantages and opportunities to facilitate rapid progress.

Table 80: Inventory of Public Land Transportation Vehicles by Type and Routes

Type of Public Utility Vehicle	Registered to Municipality					From Other Municipality	
	Total Number	Within Barangay	Barangay to Barangay	Barangay to Municipal Center	Municipal Center	Total Number	Route Destination
Buses	4	-	-	4	-	-	-
Jeepney	15	-	-	15	-	-	-
Tricycles	55	-	55	-	-	-	-
Padyak	62	-	62	-	-	-	-
Habal-habal	100	-	100	-	-	-	-

Source: LTO/LTFRB/MTO, 2010

Some coastal barangays cannot be reached by road. Access to them is by sea transport along the Carigara Bay. Boats actually have been a mode of transportation in parts of the municipality for decades. Up until the 2000s, folks in shoreline barangays, like Talairan, Gayad, Potot, Libertad and Guinadiongan go to places through bangkas (outrigger canoes), usually motorized. Below are data on them, passenger capacity per boat, and frequency of daily trips.

Table 81: Other Modes of Transport and Facilities

MODES	FACILITY	CAPACITY	LOCATION	CONDITION	FREQUENCY OF SERVICE/TRIPS
Sea Transport (Balik-balik)	Boat	12 Passenger	Coastal Barangays	Good	Daily trips every 2 hours

Source: PPA/MTO/MEO, 2010

6. Agriculture and Support Facilities

Out of the municipality's total land area of 18,540 hectares, around one third goes to agriculture. This comprises 6,632 hectares. Overall crop production is diversified, due in part to varied terrain, mostly sloped and hilly. By volume, the major produces are coconut, rice, banana, sugarcane,

seat capacity warehouses and also six (6) rice mills. The facilities were intended to make farm work efficient and eliminate significant amount of crop wastage.

Capital for land preparation and planting is a perennial cry among farmers. Now, credit can be gotten at low interest. The support is provided by six (6) financial services facilities in the municipality. In addition, to cushion the devastating impact of economic losses from crop failures or natural calamities, a crop insurance facility is on hand for farmers to avail of.

The following data detail the agricultural support facilities extended to farmers in the area.

Table 83: Production and Post-Harvest Facilities

A. Production Facilities	No. Of Units
1. 4Wheel Tractor	2
2. Hand Tractor	19
3. Power Sprayer	1
4. Corn Seeder	1
5. Knap Sack Sprayer	36
Sub Total	59
B. POST HARVEST FACILITIES	
	NO. OF UNITS
1. Rice Reaper	1
2. Rice Thresher	6
3. Rice Blower	12
4. Mechanical Dryer	3
5. Solar Dryer	12
6. Warehouse (500 chairs capacity)	6
7. Corn Shredder	2
8. Rice Mill	6
Sub Total	48
GRAND TOTAL	107
C. OTHER SUPPORT SERVICES	
	NO. OF FACILITIES
1. Credit	6
2. Crop Insurance	1
3. Animal Feeds & Veterinary Product	6
TOTAL	13

Data Source: OMA Capoocan 2010

Irrigation Facilities

Another assistance to agricultural production in the municipality is the Communal Irrigation System (CIS). The engineering feature serves six (6) barangays, namely: Balucanad, Nauguisan, Manloy, Culasian, San Joaquin and Sto. Nino. It satisfies the need for high volumes of water to feed large tracts of lowlands where farmers engage in rice production.

While Capoocan's hilly and mountainous parts contain the headwaters of streams and rivers that flow downstream to different parts of the land, crop production is virtually impossible in some of them because of the forbidding terrain. Most cultivation occurs in the plains and foothills where farming is not only conducive, but receive generous supply of water facilitated by the Communal Irrigation System. To shallow tube wells and small farm reservoirs, water flows via the CIS feeding 592 hectares of farmland.

The data below show the distribution of water through the system.

Water System

Capoocan is endowed with abundant water resources. Clean and potable water from springs abounds in its upper parts. The providence owes to the still intact ecosystems along the river basin watersheds cascading down from the Mount Minoro-Mount Camadbaran ridge.

Although its urban barangays – Poblacion Zone I and Poblacion Zone, and the adjacent barangay of Balud offset water shortfalls through additional supply from the Carigara Metro Water District System in the Municipality of Carigara, the bulk of residents of the rest of its barangays gets water from the area itself. This is through the Gravity-Fed Level II Water System. Over the years, the municipality with external help has built the system to provide residents regular access to clean and potable water.

The locality benefits from springs in 16 barangays, namely: Poblacion Zone II, Cabul-an, Guinadiangan, Libertad, Manloy, Potot, Pinamopoan, Visares, San Joaquin, Lemon, Talisay, Culasian, Talairan, Sto. Nino, Gayad and Tolibao. The sources supply water through the Level II System using 427 communal faucets that are installed on all of Capoocan’s 21 barangays. They serve 5,478 households. The benign environment continues to gift the community with such an indispensable life support system.

Although some households complain that their supply of water is inadequate, the natural supply of water assures that the local folks won’t have to seek the resource from other places and be dependent on them over a long future. The Level II Water Systems only have to be maintained and enhanced. The ecological integrity of the area should not be compromised to sate the insatiable greed of a few. Rampant logging for lust of money has extensively denuded watersheds and threatened their precious life support. This shall be stopped.

Not all of the municipality’s households however are being served. Access to clean and potable water and sanitation continue to be critical concerns in some areas. They exacerbate ill-being and bring extreme hardships to the already poorest. Overcoming these problems is part of the LGUs thrusts towards the eradication of poverty.

Projects to further expand the network of water supply and meet growing requirements have been implemented in recent years, thanks to the help of the KALAH I program of the national government. Others are being implemented, like the Spring Water Development Project at Bgy. Manloy. The latter is intended to add supply to eight (8) barangays, namely: Manloy, Nauguisan, Balucanad, Balud, Pob. Zone I and 2, Culasian and Pinamopoan. The following data on next page show the status of the water system, manner of delivery, type of facilities, and the barangays and household population served.

Table 87: Level II Water Supply System by Type and No. of Population Served

Water Source	Number of Pumps	No. of Communal Faucets	Barangay Served	Households Served
Poblacion II (Spring)	-	19	Poblacion II	388
Cabul-an (Spring)	-	12	Cabul-an	353
Guinadiangan (Spring)	-	10	Guinadiangan	123
Libertad (Spring)	-	13	Libertad	171
So. Minoro, Manloy (Spring)	-	30	Manloy (So. Minoro)	53
Manloy (Manloy Spring Development)	-	30	Balucanad	288
	-	10	Manloy Proper	80
	-	7	Nauguisan	79
	-	30	Balud	265
	-	43	Poblacion I	430

Table 89: Water Supply of the Municipality of Capocan

LEVEL III	BENEFICIARIES		LOCATION
	Served by MCWD		
	Residential	Commercial WSC	
-do-	284	12	Pob. Zone I & 2
-do-	139	6	Balud
<i>Data Source: MCWD 2012</i>			
LEVEL II	Communal Faucet		
-do-	142		Potot
-do-	472		Pob. Zone I
-do-	171		Libertad
-do-	430		Balud
-do-	353		Cabul-an
-do-	226		San Joaquin
-do-	123		Guinadiong
-do-	161		Talairan
-do-	563		Culasi-an
-do-	143		Talisay
-do-	388		Pob. Zone II
-do-	288		Lemon
-do-	563		Culasi-an
-do-	161		Talairan
-do-	259		Sto. Niño
-do-	133		Manloy

Data Source: MSWDO-KALAHI:CIDSS/ME

Surface Water Supply

Surface water also serves the needs of the populace for farm irrigation and domestic use. Among its uses are washing of clothes, cleaning of house articles, and bathing. Rivers and streams in their still unpolluted state assume public utility. The following are the existing surface water resources by type and classification in the locality:

Table 90: Existing Surface Water Resources by Type and Classification

Surface Water	Location	Classification
Rivers		
Balucanad/Nauguisan River	Balucanad	Class B, Class D1
	Balud	Class B, Class C1, Class D1
	Manloy	Class B, Class D1
	Nauguisan	Class B, Class D1
	Poblacion I	Class B
	Poblacion II	Class B
Cabul-an River	Cabul-an	Class B
Kanduman/Dumiri River	Culasian	Class B
Dacung Tubig	Lemon	Class B
	San Joaquin	Class B
	Visares	Class B
	Pinamopoan	Class B
	Poblacion I	Class B
	Sto. Nino	Class B
Potot River	Potot	Class B

8. Waste Management

Waste is both a health and environmental concern. High and unregulated generation coupled with poor disposal of it contaminates water, air and soil bringing illnesses to humans and disrupting ecological balance.

The municipality diligently collects and disposes solid waste keeping to the minimum and preventing from reaching problematic levels its generation. The townsfolk contribute in large part to the moderation and regulation of trash. Dump trucks with a crew from the general services department collect the garbage disposed by households. They haul it to a site.

The whole system of collection and disposal observes safeguards against despoiling the ecological integrity of the area.

The next data pertain to solid waste generation and disposal in the municipality.

Table 92: Solid Waste Generation by Source, Year 2016

Source	Types of Waste	Volume of Solid Waste Generated (Kgs./Day)	Volume of Solid Waste Disposed (Kgs/Day)	Disposal Methods/ Treatment Facilities	Disposal Site
Residential	-	11,111.80	3,187.45		ESWMP
Commercial	-	592.5	169.76		ESWMP
Industrial		34.75	9.80		ESWMP
Institutional		462.14	129.51		ESWMP
Total		16,200.04	3,500.24		

General Services Office - MOC

The dataset below sums up the potential hazards affecting the Municipality of Capooacan.

Table 93: Summary of Hazards Affecting the Municipality

Municipality	Hazard Type														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Capooacan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓

Note:

1	Flood (5yr)	9	Storm Surge (5m)
2	Flood (25yr)	10	Earthquake-Induced Landslide
3	Flood (50yr)	11	Ground Rupture
4	Flood (100yr)	12	Ground Shaking*
5	Rain-Induced Landslide	13	Tsunami
6	Storm Surge (2m)	14	Volcanic Hazard
7	Storm Surge (3m)	15	Liquefaction
8	Storm Surge (4m)		

Earthquake-Induced Landslide

Seismic activity triggers landslides. Intense ground-shaking can generate a landslide of various scales. Areas with steep slopes such as mountains, hills, escarpments, riverbanks, and sea cliffs are prone to it, broadly classified as fall, topple, or slide, depending on the failure mechanism.

The effect of an earthquake is described by intensity. The intensity scale is a series of values representing different levels of impact, arranged in an ascending manner to mark the degree of damage of each value. The strength of an earthquake could be measured by the use of two scales, namely, Modified Marcella Scale and the Richter Scale.

The assessment for the earthquake disaster risk of Capooacan used the Modified Mercalli Intensity Scale (see Table B.1 of Annex B). The measurement is made up of twelve levels with respective equivalent Richter magnitudes. In this scale, each affected area has its respective degree/s of impact.

The municipality of Capooacan is prone to earthquake-induced landslides with varying intensities as follows:

- 19 percent of affected barangays have an intensity of 0.07 MMI-VII, PEIS-VII, 0.15 MMI-VIII, PEIS-VIII & 0.3 MMI-IX, PEIS-VIII;
- 5 percent of affected barangays have an intensity of 0.07 MMI-VII, PEIS-VII, 0.15 MMI-VIII, PEIS-VIII & Not Susceptible;
- 10 percent of affected barangays have an intensity of 0.15 MMI-VIII; PEIS-VIII & Not Susceptible;
- 48 percent of affected barangays have an intensity of 0.15 MMI-VIII, PEIS-VIII, 0.3 MMI-IX, PEIS-VIII & Not Susceptible;
- 10 percent of affected barangays have an intensity of 0.3 MMI-IX, PEIS-VIII & Not Susceptible; and
- 10 percent of affected barangays are considered as Not Susceptible.

Ground Rupture

Ground rupture or surface rupture is a manifestation of fault movement. This may extend horizontally from several meters up to several kilometers, and vertically from a few millimeters to several meters. It may occur abruptly during an earthquake or gradually in the form of fault creep. Ground ruptures along hilly and mountainous slopes can also produce landslides. Faults maps are crucial for they illustrate major problems in infrastructure (Newton, 2016).

Weather Service, 2016). In the Philippines, floods are caused by tropical cyclones, monsoons and thunderstorms. Although mainly caused by natural causes, the flood problem in the country is aggravated by anthropogenic causes, including deforestation, sprawl of urban concrete, and clogged drainage due to improper waste disposal (Lagmay et al, 2015).

Based on the analysis of inundation for the municipality of Capoocan, 10 percent of the barangays may experience low to moderate hazard and 90 percent of the barangays may experience low to high hazard for 5-year return period. For 25-, 50- and 100-year flood return period, 100 percent of the barangays may experience low to high hazard. Recurrence intervals in the analysis, pertains to the expanse of time that passes on average between successive events of similar magnitude of rain and consequent floods in a particular setting.

Rain-Induced Landslide

Aside from earthquakes, rain can also cause landslides. Areas with steep slopes such as mountains, hills, escarpments, riverbanks, and sea cliffs are prone to landslides, broadly classified either as fall, topple, or slide depending on the failure mechanism.

The municipality of Capoocan is exposed to rain-induced landslide. Out of 21 barangays, 86 percent are considered to have low to high susceptibility, and 14 percent are considered to have moderate to high susceptibility.

Storm Surge

A storm surge is the abnormal rise of the sea water level over and above the predicted astronomical tide in the event of a tropical cyclone. Storm tide, conversely, is the result of the combination of storm surge and astronomical tide.

Several factors affect the generation and magnitude of storm surges. These are the storm's central pressure, wind intensity, translational forward speed, storm radius, the angle of approach to the coast, coastal topography and the seafloor bathymetry. The inundation caused by storm surges has caused casualties and coastal damages over the years. The Philippines, facing the vast Pacific Ocean to its east, and having one of the longest coastlines in the world, is one of the most vulnerable areas to storm surges in the world.

In order to increase overall awareness and discernment of the storm surge threats, Project NOAH established an advisory system to inhibit losses from this type of hazard. For the study of Capoocan's disaster risk, the advisory mechanism was used. The Storm Surge Advisory of Project NOAH is categorized into four levels, exemplifying degree of damage. Storm Surge Advisory Level 1 is characterized by a storm surge having a height of up to 2 meters. Storm surge level 2 indicates a storm surge height of up to 3 meters, and storm surge level 3 indicates a storm surge height of 4 meters. The highest advisory level is 4, which means a storm surge height of 5 meters.

The municipality of Capoocan is susceptible to storm surge of different levels. For Storm Surge Advisory Level 1, 14 percent of the barangays may experience moderate storm surges, and 43 percent of the barangays may experience moderate to high storm surges. For Storm Surge Advisory Level 1 to 3, 10 percent of barangays may experience low to high storm surges. For Storm Surge Advisory Level 2 to 3, 57 percent of barangays may experience moderate to high storm surges. Lastly, for Storm Surge Advisory Level 4, 67 percent of the barangays may experience low to high storm surges and 5 percent may experience moderate to high storm surges.

Barangay	Hazard Type														
	Flood (5yr)	Flood (25yr)	Flood (50yr)	Flood (100yr)	Rain-Induced Landslide	Storm Surge (2m)	Storm Surge (3m)	Storm Surge (4m)	Storm Surge (5m)	Earthquake-Induced Landslide	Ground Rupture	Ground Shaking*	Tsunami	Volcanic Hazard	Liquefaction
Pinamopaoan	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	M,H	L,M,H	L,M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VII,VIII			
Poblacion Zone I	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	M,H	M,H	M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VII,VIII			H
Poblacion Zone II	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	M,H	M,H	M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VII,VIII			H
Potot	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	M,H	M,H	M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VIII			
San Joaquin	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H					0.07 MMI-VII; PEIS-VII,0.15 MMI-VIII; PEIS-VIII & 0.3 MMI-IX; PEIS-VIII	Susceptible	VII			
Santo Nino	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H					0.07 MMI-VII; PEIS-VII,0.15 MMI-VIII; PEIS-VIII & 0.3 MMI-IX; PEIS-VIII	Susceptible	VIII			
Talairan	L,M	L,M,H	L,M,H	L,M,H	L,M,H	M	M,H	M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VII			
Talisay	L,M	L,M,H	L,M,H	L,M,H	L,M,H	M,H	M,H	M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII,0.3 MMI-IX; PEIS-VIII & Not Susceptible		VIII			H
Tolibao	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H	M,H	M,H	M,H	L,M,H	0.15 MMI-VIII; PEIS-VIII & Not Susceptible		VII			H
Visares	L,M,H	L,M,H	L,M,H	L,M,H	L,M,H					0.07 MMI-VII; PEIS-VII,0.15 MMI-VIII; PEIS-VIII & 0.3 MMI-IX; PEIS-VIII	Susceptible	VII,VIII			

Legend: L - Low; M - Moderate; H - High

*PHIVOLCS Earthquake Intensity Scale

For storm surge hazards, 67 percent of the barangays for population exposure unit are exposed to the hazard with sensitivity ranging from moderate to high, while natural resource-based production areas of 71 percent of the barangays are exposed to the hazard with low to very high sensitivity. There are 21 barangays with urban use areas in the municipality with exposure ranging from 0 to 0.53 hectare (12 urban use areas not included due to the lack of data). Forty percent (40%) of the identified urban use categories are exposed to storm surge with moderate to high sensitivity. Critical point facilities have 50 percent exposure (three barangays not included due to the lack of data), while lifeline utilities have 56 percent (five barangays not included due to the lack of data). Their sensitivities range from none to very high.

Degree of Impact

This study assigned scores for each exposure percentage and sensitivity indicators using the suggested rating scales based on NDCC Memo no. 4, series of 1998. The total sum of the exposure and average sensitivity score identifies the degree of impact and is rated as follows: 6-9 as high, 4-5.9 as moderate, and 2-3.99 as low. The following table shows the summary of degree of impact rating for each exposure unit.

Table 97: Number of Barangays and Corresponding Degree of Impact Rating to Flood Hazard, Municipality of Capoocan, Leyte

EXPOSURE UNIT	DEGREE OF IMPACT		
	LOW	MODERATE	HIGH
Population	2	1	18
Natural Resource-Based Production	1	17	3
Urban Use Areas	5	1	4
Critical Point Facilities	5	10	3
Lifeline Utilities	0	9	7

Table 98: Number of Barangays and Corresponding Degree of Impact Rating to Storm Surge Hazard, Municipality of Capoocan, Leyte

EXPOSURE UNIT	DEGREE OF IMPACT		
	LOW	MODERATE	HIGH
Population	7	1	13
Natural Resource-Based Production	8	12	1
Urban Use Areas	6	0	4
Critical Point Facilities	9	6	3
Lifeline Utilities	4	9	3

For population exposure unit, 86 percent of the barangays have high degree of impact caused by flooding, while natural resource-based production areas and urban use areas have 14 percent and 40 percent of the barangays respectively. Furthermore, 17 percent of barangays have high degree of impact for critical point facilities and 44 percent for lifeline utilities. In addition, 62 percent of the barangays have high degree of impact caused by storm surge, while natural resource-based production areas and urban use areas have 5 percent and 40 percent of the barangays respectively. Furthermore, 17 percent of barangays have high degree of impact for critical point facilities and 19 percent for lifeline utilities.

Table 100: Natural Resource-Based Production Areas Climate Change Vulnerability Assessment to Flood Hazard - Capocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	
EXPOSURE									SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY				
Barangay	Product Classification	Annual production output (metric tons)	Production area size (ha)	Number of farming dependent households	Total Agriculture Area (GIS-derived in ha)	Exposed area (ha)	Exposure Percentage	Exposure Score	Percent of farmers without access to climate information	Score	Percent of farmers / areas not employing sustainable production techniques	Score	Percent of farmers / areas without access to irrigation	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Access to financing	Alternative livelihood	Government Extension Programs	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category	
							(H/G) X100								$\frac{(-+N+D)/3}$	$\frac{J+Q}{2}$								$\frac{(W+X+Y)/3}$	SXZ		
Balucanad	Rice	664	83	105	882.20	94.07	10.66	2	60.00	4	73.61	4	15.66	2	3.33	5.33	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Copra	FFS-Techno Demo	2	2	2	2.00	4.00	Moderate	
Balud	Rice	64	8	20	75.04	46.07	61.40	4	50.00	4	0.00	0	0.00	0	1.33	5.33	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	None	FFS-Rice	2	2	2	2.00	4.00	Moderate	
Balugo	Rice	168	24	30	419.60	39.70	9.46	2	70.00	4	0.00	0	100	4	2.67	4.67	2	PHCCI, OCCCI	None	FFS	3	2	3	2.67	5.33	Moderate	
	Corn	90	10	25																							
	Root Crops	45	5	45																							
Cabul-an	Root Crops	54	6	35	299.00	21.65	7.24	2	60.00	4	23.33	3	72.22	4	3.67	5.67	2	PHCCI, OCCCI	Fishing	FFS-Techno Demo	2	2	2	2.00	4.00	Moderate	
	Banana	240	20	50																							

Table 100: Natural Resource-Based Production Areas Climate Change Vulnerability Assessment to Flood Hazard - Capocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
EXPOSURE									SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Product Classification	Annual production output (metric tons)	Production area size (ha)	Number of farming dependent households	Total Agriculture Area (GIS-derived in ha)	Exposed area (ha)	Exposure Percentage	Exposure Score	Percent of farmers without access to climate information	Score	Percent of farmers / areas not employing sustainable production techniques	Score	Percent of farmers / areas without access to irrigation	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Access to financing	Alternative livelihood	Government Extension Programs	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H/G) X100								(L+N +P)/3	J+Q								(W+X + Y)/3	SXZ	
	Root Crops	168	14	45																						
Libertad	Copra	1,200	150	75	264.70	22.23	8.40	2	55.00	4	20.00	2	77.78	4	3.33	5.33	2	PHCCI, OCCCI	Fishing	IPM-Coconut, GAP Banana, IPM-Rice	2	2	2	2.00	4.00	Moderate
	Banana	540	60	80																						
	Rice	120	15	11																						
Manloy	Rice	576	72	95	1080.00	102.31	9.47	2	60.00	4	25.00	3	72.22	4	3.67	5.67	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	None	FFS-Demo	2	2	2	2.00	4.00	Moderate
	Root Crops	300	25	50																						
Nauguisan	Rice	544	68	80	70.48	53.37	75.73	4	70.00	4	20.59	3	51.47	4	3.67	7.67	3	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	None	FFS-Demo	2	2	2	2.00	6.00	Moderate

Table 100: Natural Resource-Based Production Areas Climate Change Vulnerability Assessment to Flood Hazard - Capocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
EXPOSURE									SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Product Classification	Annual production output (metric tons)	Production area size (ha)	Number of farming dependent households	Total Agriculture Area (GIS-derived in ha)	Exposed area (ha)	Exposure Percentage	Exposure Score	Percent of farmers without access to climate information	Score	Percent of farmers / areas not employing sustainable production techniques	Score	Percent of farmers / areas without access to irrigation	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Access to financing	Alternative livelihood	Government Extension Programs	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H/G) X100								$(L+N+P)/3$	$\frac{L+Q}{2}$								$(W+X+Y)/3$	SXZ	
	Rice	77	11	8																						
San Joaquin	Rice	334	44	30	1288.00	148.8	11.56	2	60.00	4	21.88	3	76.14	4	3.67	5.67	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Backyard, Swine	FFS-IPM Rice	2	2	2	2.00	4.00	Moderate
	Root Crops	192	16	75																						
Sto. Niño	Corn	477	53	65	1573.00	126.61	8.05	2	65.00	4	19.81	2	62.26	4	3.33	5.33	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	None	FFS-IPM Corn	2	2	2	2.00	4.00	Moderate
	Rice	314	43																							
Talisay	Copra	1,464	183	45	494.00	108.70	22.00	3	55.00	4	6.74	2	100.00	4	3.33	6.33	3	PHCCI, OCCCI	Fishing	GAP Banana	2	2	2	2.00	6.00	Moderate
	Banana	120	10	20																						
	Root Crops	135	15	35																						
Talairan	Copra	1,980	165	95	687.60	32.95	4.79	1	60.00	4	20.16	3	100.00	4	3.67	4.67	2	PHCCI, OCCCI	Fishing	GAP Banana	2	2	2	2.00	4.00	Moderate

Table 101: Urban Use Areas Climate Change Vulnerability Assessment to Flood Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
EXPOSURE						SENSITIVITY						IMPACT		ADAPTIVE CAPACITY			VULNERABILITY				
Barangay	Land Use Category	Total Area Allocation per Land Use (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Percentage of structures classified as dilapidated or condemned	Score	Structure employing hazard mitigation design	Percentage of structures not employing site preparation, hazard resistant, and/or climate proofed design standards	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Government regulations	Available alternative sites	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
				(E/D) X 100							$\frac{(I+L)}{2}$	G+M							$\frac{(R+S+T)}{3}$	OXU	
Balucanad	Commercial	0.41	0.00	0.54	1	0.00	0	none	100.00	4	2.00	3.00	1	yes	none	2	2	2	2.00	2.00	Low
Balud	Commercial	0.12	0.02	16.40	2	0.00	0	none	100.00	4	2.00	4.00	2	yes	none	2	2	2	2.00	4.00	Moderate
Balugo	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>3</i>	<i>3</i>	<i>3</i>	<i>3.00</i>		
Cabul-an	Commercial	0.36	0.00	0.00	0	0.00	0	none	100.00	4	2.00	2.00	1	yes	none	2	2	2	2.00	2.00	Low
Gayad	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		
Culasian	Cemetery	0.08	0.00	0.00	0	0.00	0	none	100.00	4	2.00	2.00	1	yes	none	2	2	2	2.00	2.00	Low
Guinadiongan	<i>parks & recreation</i>					<i>0.00</i>	<i>0</i>	<i>none</i>	<i>100.00</i>	<i>4</i>	<i>2.00</i>			<i>yes</i>	<i>none</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>2.00</i>		

Table 102: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
						$(G/F) \times 100$								$\frac{(I+J)}{2}$	I+P								$(V+W+X)/3$	RXY	
Pob. Zone 1	Hospital	Capoocan RHU	120.77	4.31	2.01	46.50	4	Poor	12.50	3	yes	0.00	0	3.00	7.00	3	Yes	Yes	Yes	2	2	2	2.00	6.00	Moderate
	School	Capoocan CS						Good			yes														
	School	DCC						Good			yes														
	Social Welfare Facilities	DSWD, Senior Citizen						Good			yes														
	Gov't Building	Municipal Building, Gymnasium/EC, RHU,BFP,GAD, Market, Brgy. Hall						Good			yes														
	Protective Service	PNP						Good			yes														
	Sports Facilities	Multipurpose Gymnasium/ Basketball Court	750.00					Good			yes														
	Other CPF	Waiting Shed						Good			yes														
Pob. Zone 2	Sports Facilities	Basketball Court/EC	364.00	23.75	5.21	21.95	4	Good	0.00	0	yes	0.00	0	0.00	4.00	2	Yes	Yes	Yes	2	2	2	2.00	4.00	Moderate
	Evacuation Center.	Basketball Court/EC						Good			yes														
	Gov't Building	Brgy. Hall						Good			yes														

Table 102: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capooacan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
						(G/F) X 100								$\frac{(I+O)}{2}$	I+P								$\frac{(V+W+X)}{3}$	RXY	
	School	Brgy. Hall/DCC, Balud ES						Good			yes														
	Protective Service	Tanod Outpost						Good			yes														
	Other CPF	Waiting Shed						Good			yes														
Balugo	Sports Facilities	Basketball Court	350.00	0.00	0.00	0.00	0	Good	0.00	0	yes	0.00	0	0.00	0.00	1	Yes	Yes	No	3	3	3	3.00	3.00	Low
	Government Building	Brgy. Hall						Good			yes														
	School	DCC						Good			yes														
	Hospital	Brgy. Health Center						Good			yes														
	Other CPF	Brgy. Stage						Good			yes														
Cabul-an	Sports Facilities	Basketball Court	364.00	0.04	0.00	0.00	0	Good	0.00	0	yes	0.00	0	0.00	0.00	1	Yes	Yes	No	2	2	2	2.00	2.00	Low
	School	Cabul-an ES, DCC						Good			yes														
	Government Building	Brgy. Hall						Good			yes														
	Hospital	Brgy. Health Center						Good			yes														
	Other CPF	Brgy. Stage						Good			yes														

Table 102: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
						(G / F) X 100								$\frac{(L+O)}{2}$	I+P								$\frac{(V+W+X)}{3}$	RXY	
	School	Guinadiangan ES, DCC						Good			yes														
	Hospital	Brgy. Hall/Health Center						Good			yes														
	Government Building	Brgy. Hall/Health Center						Good			yes														
	Protective Service	Tanod Outpost						Good			yes														
	Other CPF	Waiting Shed						Good			yes														
Lemon	Sports Facilities	Basketball Court, School Playground	350.00	0.95	0.43	44.94	4	Good	25.00	4	yes	0.00	0	4.00	8.00	3	Yes	Yes	No	2	2	2	2.00	6.00	Moderate
	Government Building	Basketball Court/Lemon EC						Good			yes														
	Hospital	Health Center	450.00					Poor			yes														
	School	Don Mariano Salvacion NHS, Lemon ES, DCC						Good			yes														

Table 102: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
						(G/F) X 100								$\frac{(L+O)}{2}$	L+P								$\frac{(V+W+X)}{3}$	RXY	
							1									1									
	Government Building	Brgy. Hall						Good			yes														
	School	Manloy ES						Good			yes														
	Other CPF	Waiting Shed						Good			yes														
Pinamoponan	Sports Facilities	Basketball Court, School Playground	420.00	2.78	0.05	1.83	1	Good	0.00	0	yes	0.00	0	0.00	1.00	1	Yes	Yes	No	2	2	2	2.00	2.00	Low
	Hospital	Pinamoponan Health Center						Good			yes														
	School	Pinamoponan NHS, Pinamoponan ES, DCC						Good			yes														
	CPF	Sea Port						Good			yes														
	Protective Service	RPSB, Brgy. Outpost						Good			yes														
	Other CPF	Stage, Waiting Shed	600.00					Good			yes														
Potot	Sports Facilities	Basketball Court	364.00	0.12	0.12	100.00	4	Good	0.00	0	yes	0.00	0	0.00	4.00	2	Yes	Yes	No	2	2	2	2.00	4.00	Moderate

Table 102: Critical Point Facilities Climate Change Vulnerability Assessment to Flood Hazard - Capooan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq. m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
						(G / F) X 100								$\frac{(I+O)}{2}$	I+P								$\frac{(V+W+X)}{3}$	RXY	
Talairan	Sports Facilities	Basketball Court	450.00	0.26	0.00	0.00	0	Good	50.00	4	yes	0.00	0	4.00	4.00	2	Yes	No	No	2	2	2	2.00	4.00	Moderate
	Government Building	Brgy. Hall						Poor			yes														
	School	Talairan ES						Good			yes														
	School	DCC						Poor			yes														
Talisay	Sports Facilities	Basketball Court		0.11	0.09	78.74	4	Good	0.00	0	yes	0.00	0	0.00	4.00	2	Yes	No	No	2	2	2	2.00	4.00	Moderate
	Government Building	Brgy. Hall						Good			yes														
	School	Talisay ES, DCC						Good			yes														
Tolibao	Sports Facilities	Basketball Court	364.00	0.09	0.00	0.00	0	Good	20.00	4	yes	0.00	0	4.00	4.00	2	Yes	Yes	No	2	2	2	2.00	4.00	Moderate
	School	Tolibao ES						Good			yes														
	School	DCC						Poor			yes														
	Government Office	Barangay Hall						Good			yes														
	Other CPF	Brgy. Stage						Good			yes														
Visares	Sports Facilities	Basketball Court	364.00	0.49	0.00	0.00	0	Good	16.67	3	yes	0.00	0	3.00	3.00	1	Yes	Yes	No	2	2	2	2.00	2.00	Low
	Government Office	Barangay Hall						Good			yes														
	School	Visares ES						Good			yes														
	School	DCC						Poor			yes														

Table 103: Lifeline Utilities Climate Change Vulnerability Assessment to Flood Hazard - Capooan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY			VULNERABILITY			
Barangay	Classification	Name	Length / Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H / G) X 100					M + J						(Q+R+S)/3	OXT	
Balucanad	Road	Provincial Road	2.00	2,400,000.00	0.36	0.06	15.96	2	Good	33.33	3	5	2	No	2.33	2.33	2.33	2.33	4.67	Moderate
	Power Line	LEYECO III	2.00						Good					No						
	Water Line	Manloy Devt. Spring	2.00						Poor					No						
Balud	Road	National Road	1.00	1,200,000.00	1.49	0.65	43.80	4	Good	40.00	4	8	3	No	2.20	2.20	2.20	2.20	6.60	High
	Road	Brgy. Road	1.00						Poor					No						
	Power Line	LEYECO III	1.00						Good					No						
	Water Line	Manloy Devt. Spring	1.00						Poor					No						
	Water Line	NAWASA Carigara	1.00						Good					No						
Balugo	Road	Farm to Market Road	25.50	30,600,000.00			#DIV/0!	#DIV/0!	Poor	66.67	4	#DIV/0!	#DIV/0!	No	2.33	2.33	2.33	2.33	#DIV/0!	#DIV/0!
	Power Line	LEYECO III	25.50						Good					No						
	Water Line	Balugo Water Spring	25.50						Poor					No						
Cabul-an	Road	Provincial Road	9.50	11,400,000.00	2.98	0.26	8.71	1	Good	33.33	3	4	2	No	2.33	2.33	2.33	2.33	4.67	Moderate
	Power Line	LEYECO III	9.50						Good					No						
	Water Line	Cabul-an Water Spring	9.50						Poor					No						

Table 103: Lifeline Utilities Climate Change Vulnerability Assessment to Flood Hazard - Capocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT			ADAPTIVE CAPACITY			VULNERABILITY		
Barangay	Classification	Name	Length / Distance (from Pob. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H / G) X 100				M	N	O					(Q+R+S) / 3	OXT	
	Communication Line	Globe Cell Site	14.00						Good					No						
	Communication Line	Smart Cell Site	14.00						Good					No						
Libertad	Road	Provincial Road	21.65	25,980,000.00	1.74	0.19	10.74	2	Poor	66.67	4	6	3	No	2.33	2.33	2.33	2.33	7.00	High
	Power Line	LEYECO III	21.65						Good					No						
	Water Line	Libertad Water Spring	21.65						Poor					No						
Manloy	Road	Provincial Road	3.50	4,200,000.00			#DIV/0!	#DIV/0!	Good	50.00	4	#DIV/0!	#DIV/0!	No	2.25	2.25	2.25	2.25	#DIV/0!	#DIV/0!
	Road	Brgy. Road	3.50						Poor					No						
	Power Line	LEYECO III	3.50						Good					No						
	Water Line	Manloy Spring Development.	3.50						Poor					No						
Nauguisan	Road	Provincial Road	1.50	1,800,000.00			#DIV/0!	#DIV/0!	Good	50.00	4	#DIV/0!	#DIV/0!	No	2.25	2.25	2.25	2.25	#DIV/0!	#DIV/0!

Table 103: Lifeline Utilities Climate Change Vulnerability Assessment to Flood Hazard - Capocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY			VULNERABILITY			
Barangay	Classification	Name	Length / Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H / G) X 100					M + J						(Q+R+S) / 3	OXT	
	Power Line	LEYECO III	0.50						Good					No						
	Water Line	NAWASA Carigara	0.50						Good					No						
	Water Line	Pop. Zone-2 Spring Water	0.50						Poor					No						
Potot	Road	Provincial Road	22.40	26,880,000.00	0.94	0.04	4.27	1	Poor	50.00	4	5	2	No	2.25	2.25	2.25	2.25	4.50	Moderate
	Road	Brgy. Road	22.40						Good					No						
	Power Line	LEYECO III	22.40						Good					No						
	Water Line	Potot Water Spring	22.40						Poor					No						
San Joaquin	Road	National Road	15.00	18,000,000.00	4.26	0.56	13.11	2	Good	25.00	3	5	2	No	2.25	2.25	2.25	2.25	4.50	Moderate
	Road	Brgy. Road	15.00						Good					No						
	Power Line	LEYECO III	15.00						Good					No						
	Water Line	San Joaquin Water Spring	15.00						Poor					No						
Santo Niño	Road	National Road	21.00	25,200,000.00	1.50	0.18	11.92	2	Good	25.00	3	5	2	No	2.25	2.25	2.25	2.25	4.50	Moderate
	Road	Brgy. Road	21.00						Good					No						
	Power Line	LEYECO III	21.00						Good					No						
	Water Line	Santo Niño Water Spring	21.00						Poor					No						
Talairan	Road	Provincial Road	27.00	32,400,000.00			#DIV/0!	#DIV/0!	Poor	75.00	4	#DIV/0!	#DIV/0!	No	2.25	2.25	2.25	2.25	#DIV/0!	#DIV/0!

Table 103: Lifeline Utilities Climate Change Vulnerability Assessment to Flood Hazard - Capooacan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY			VULNERABILITY			
Barangay	Classification	Name	Length / Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							(H / G) X 100					M + J						$\frac{Q + R + S}{3}$	IXT	
	Communication Line	Globe Cell Site	19.00						Good					No						

Table 105: Natural Resource-Based Production Areas Climate Change Vulnerability Assessment to Storm Surge Hazard - Capooacan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
EXPOSURE									SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Product Classification	Annual production output (metric tons)	Production area size (ha)	Number of farming dependent households	Total Agriculture Area (GIS-derived in ha)	Exposed area (ha)	Exposure Percentage	Exposure Score	Percent of farmers without access to climate information	Score	Percent of farmers / areas not employing sustainable production techniques	Score	Percent of farmers / areas without access to irrigation	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Access to financing	Alternative livelihood	Government Extension Programs	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
							$(H/G) \times 100$								$(L+N+P)/3$	J+Q								$(W+X+Y)/3$	SXZ	
Balucanad	Rice	664	83	105	882.2	0.0	0.0	1	60	4	73.6	4	15.7	2	3.3	4.3	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Copra	FFS-Techno Demo	2	2	2	2.0	4.0	Moderate
Balud	Rice	64	8	20	75.0	67.8	90.3	4	50	4	0.0	0	0.0	0	1.3	5.3	2		None	FFS-Rice	2	2	2	2.0	4.0	Moderate
Cabul-an	Root Crops	54	6	35	299.0	1.4	0.5	1	60	4	23.3	3	72.2	4	3.7	4.7	2	PHCCI, OCCCI	Fishing	FFS-Techno Demo	2	2	2	2.0	4.0	Moderate
	Banana	240	20	50																						
	Rice	408	51	48																						
Culasian	Rice	552	69	85	1273.0	81.1	6.4	2	50	4	27.5	3	52.9	4	3.7	5.7	2	BUKAS Lending, Ramirez Lending, Dunganon Lending, CARD Lending, REYNALDO Lending, PHCCI, OCCCI	Fishing	Techno-Demo	2	2	2	2.0	4.0	Moderate
	Banana	204	17	45																						
Gayad	Copra	2,28	286	75	379.1	1.7	0.4	1	60	4	10.1	2	100.0	4	3.3	4.3	2	PHCCI, OCCCI	Fishing	none	2	2	2	2.0	4.0	Moderate
	Banana	420	35	50																						
Guinadiong	Copra	952	119	60	402.7	1.6	0.4	1	60	4	18.4	2	98.0	4	3.3	4.3	2	PHCCI, OCCCI	Fishing	IPM-Coconut, GAP Banana	2	2	2	2.0	4.0	Moderate
	Banana	1,18	132	35																						
	Root Crops	189	21	40																						
Libertad	Copra	1,20	150	75	264.7	1.7	0.7	1	55.0	4	20.0	2	77.8	4	3.3	4.3	2	PHCCI, OCCCI	Fishing	IPM-Coconut, GAP Banana, IPM-Rice	2	2	2	2.0	4.0	Moderate

Table 106: Urban Use Areas Climate Change Vulnerability Assessment to Storm Surge Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
EXPOSURE					SENSITIVITY						IMPACT			ADAPTIVE CAPACITY					VULNERABILITY		
Barangay	Land Use Category	Total Area Allocation per Land Use (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Percentage of structures classified as dilapidated or condemned	Score	Structure employing hazard mitigation	Percentage of structures not employing site preparation, hazard resistant, and/or climate proofed design standards	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Government regulations	Available alternative sites	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category
				(E/D)X100							(I+L)/2	G + M							(R+S+T)/3	QXU	
Balud	Commercial	0.1	0.1	100.0	4	0.0	0	none	100.0	4	2.0	6.0	3	yes	none	2	2	2	2.0	6.0	Moderate
Balugo	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	3	3	3	3.0		
Gayad	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
Guinadiangan	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
Libertad	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
Nauguisan	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
Pinamopoan	Commercial	0.5	0.4	77.1	4	0.0	0	none	100.0	4	2.0	6.0	3	yes	none	2	2	2	2.0	6.0	Moderate
Poblacion Zone I	Commercial	0.3	0.3	100.0	4	0.0	0	none	100.0	4	2.0	6.0	3	yes	none	2	2	2	2.0	6.0	Moderate
Poblacion Zone II	Commercial	0.7	0.5	77.4	4	0.0	0	none	100.0	4	2.0	6.0	3	yes	none	2	2	2	2.0	6.0	Moderate
Potot	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
San Joaquin	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
Santo Niño	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
Talairan	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
Talisay	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
Tolibao	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		
Visares	parks & recreation					0.0	0	none	100.0	4	2.0			yes	none	2	2	2	2.0		

Table 107: Critical Point Facilities Climate Change Vulnerability Assessment to Storm Surge Hazard - Capocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	
EXPOSURE								SENSITIVITY						IMPACT		ADAPTIVE CAPACITY						VULNERABILITY				
Barangay	Classification	Name	Floor Area (sq m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing hazard mitigation design	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category	
						(G/F) X 100								$\frac{(L+O)}{2}$	I + P									$\frac{(V+W+X)}{3}$	RXY	
	Government Building	Brgy. Hall						Good			yes															
	School	DCC						Good			yes															
	Hospital	Brgy. Health Center						Good			yes															
	Other CPF	Waiting Shed						Good			yes															
Balud	Sports Facilities	Basketball Court	350.0	0.0	0.0	100.0	4	Good	16.7	3	yes	0.00	0	3.0	7.0	3	Yes	Yes	Yes	2	2	2	2.0	6.0	Moderate	
	Other CPF	Wet Market						Poor			yes															
	Government Building	Brgy. Hall/DCC						Good			yes															
	School	Balud ES						Good			yes															
	Protective Service	Tanod Outpost						Good			yes															
	Other CPF	Waiting Shed						Good			yes															
Cabul-an	Sports Facilities	Basketball Court	364.0	0.0	0.0	76.6	4	Good	0.0	0	yes	0.00	0	0.0	4.0	2	Yes	Yes	No	2	2	2	2.0	4.0	Moderate	
	School	Cabul-an ES, DCC						Good			yes															
	Gov't Building	Brgy. Hall						Good			yes															
	Hospital	Brgy. Health Center						Good			yes															
	Other CPF	Brgy. Stage						Good			yes															

Table 107: Critical Point Facilities Climate Change Vulnerability Assessment to Storm Surge Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	
EXPOSURE								SENSITIVITY						IMPACT			ADAPTIVE CAPACITY						VULNERABILITY			
Barangay	Classification	Name	Floor Area (sq m)	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Building condition	Percent of lifeline utilities with poor condition	Score	Structure employing hazard mitigation design	Percent of structures not employing hazard mitigation design	Score	Sensitivity Average Score	Exposure + Sensitivity Score	Degree of Impact Score	Capacity and willingness to retrofit or relocate	Available alternative sites	Available alternative structures	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index	Vulnerability Category	
						(G/F) X 100								$\frac{F+O}{2}$	I + P									$\frac{V+W+X}{3}$	RXY	
	Government Building	Brgy. Hall						Good			yes															
	School	Nauguisan ES						Good			yes															
	Other CPF	Stage						Good			yes															
Manloy	Sports Facilities	Basketball Court	250.0			#DIV/0!	#DIV/0!	Good	0.0	0	yes	0.00	0	0.0	#DIV/0!	#DIV/0!	Yes	Yes	No	2	2	2	2.0	#DIV/0!	#DIV/0!	
	Government Building	Brgy. Hall						Good			yes															
	School	Manloy ES						Good			yes															
	Other CPF	Waiting Shed						Good			yes															
Pinamopoan	Sports Facilities	Basketball Court, School Playground	420.0	2.8	0.2	7.1	2	Good	0.0	0	yes	0.00	0	0.0	2.0	1	Yes	Yes	No	2	2	2	2.0	2.0	Low	
	Hospital	Pinamopoan Health Center						Good			yes															
	School	Pinamopoan NHS, Pinamopoan ES, DCC						Good			yes															
	CPF	Sea Port						Good			yes															

Table 108: Lifeline Utilities Climate Change Vulnerability Assessment to Storm Surge Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY				VULNERAE	
Barangay	Classification	Name	Length/Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score	Degree of Impact Score	Government Infrastructure related Investment	Group 1	Group 2	Group 3	Adaptive Capacity Score	Vulnerability Index
							(H/G)X100					M+J						(Q+R+S)/3	DXT
Balud	Road	National Road	1.00	1,200,000.0	1.5	1.4	95.3	4	Good	40.0	4	8	3	No	2.2	2.2	2.2	2.2	6.6
	Road	Brgy. Road	1.00						Poor					No					
	Power Line	LEYECO III	1.00						Good					No					
	Water Line	Manloy Devt. Spring	1.00						Poor					No					
	Water Line	NAWASA Carigara	1.00						Good					No					
Balugo	Road	Farm to Market Road	25.50	30,600,000.0			#DIV/0!	#DI/V/0!	Poor	66.7	4	#DI/V/0!	#DI/V/0!	No	2.3	2.3	2.3	2.3	#DIV/0!
	Power Line	LEYECO III	25.50						Good					No					
	Water Line	Balugo Water Spring	25.50						Poor					No					
Cabul-an	Road	Provincial Road	9.50	11,400,000.0	3.0	0.2	8.1	1	Good	33.3	3	4	2	No	2.3	2.3	2.3	2.3	4.7
	Power Line	LEYECO III	9.50						Good					No					
	Water Line	Cabul-an Water Spring	9.50						Poor					No					
Gayad	Road	Provincial Road	24.55	29,460,000.0			#DIV/0!	#DI/V/0!	Poor	66.7	4	#DI/V/0!	#DI/V/0!	No	2.3	2.3	2.3	2.3	#DIV/0!
	Power Line	LEYECO III	24.55						Good					No					
	Water Line	Gayad Water Spring	24.55						Poor					No					
Culasian	Road	National Road	3.00	3,600,000.0	2.2	0.3	13.8	2	Good	25.0	3	5	2	No	2.3	2.3	2.3	2.3	4.5

Table 108: Lifeline Utilities Climate Change Vulnerability Assessment to Storm Surge Hazard - Capoocan, Leyte

B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
EXPOSURE									SENSITIVITY			IMPACT		ADAPTIVE CAPACITY				VULNERABILITY INDEX		
Barangay	Classification	Name	Length/Distance (from Pop. Municipal Building in km)	Construction / Replacement Cost	Total Area (ha)	Exposed Area (ha)	Exposure Percentage (H/G)X100	Exposure Score	Condition	Percent of lifeline utilities with poor condition	Sensitivity Score	Exposure + Sensitivity Score M+J	Degree of Impact Score	Government Infrastructure related Investment	Group 1	Group 2	Group 3	Adaptive Capacity Score (Q+R+S)/3	Vulnerability Index DXT	
	Communication Line	Globe Cell Site	7.50						Good					No						
Pob. Zone I	Road	National Road	0.00	0.0	2.3	2.3	100.0	4	Good	0.0	0	4	2	No	2.6	2.6	2.6	2.6	5.2	Mc
	Power Line	LEYECO III	0.00						Good					No						
	Water Line	NAWASA Carigara	0.00						Good					No						
	Communication Line	Globe Cell Site	0.00						Good					No						
	Communication Line	Smart Cell Site	0.00						Good					No						
Pob. Zone II	Road	National Road	0.50	600,000.0	1.1	0.3	28.8	3	Good	25.0	3	6	3	No	2.3	2.3	2.3	2.3	6.8	
	Power Line	LEYECO III	0.50						Good					No						
	Water Line	NAWASA Carigara	0.50						Good					No						
	Water Line	Pob. Zone-2 Spring Water	0.50						Poor					No						
Talairan	Road	Provincial Road	27.00	32,400,000.0			#DIV/0!	#DIV/0!	Poor	75.0	4	#DIV/0!	#DIV/0!	No	2.3	2.3	2.3	2.3	#DIV/0!	#
	Road	Brgy. Road	27.00						Poor					No						
	Power Line	LEYECO III	27.00						Good					No						
	Water Line	Talairan Water Spring	27.00						Poor					No						
Talisay	Road	Provincial Road	12.85	15,420,000.0	4.6	0.4	9.0	1	Good	50.0	4	5	2	No	2.3	2.3	2.3	2.3	4.5	Mc
	Road	Brgy. Road	12.85						Poor					No						
	Power Line	LEYECO III	12.85						Good					No						
	Water Line	Cabul-an Water Spring	12.85						Poor					No						

3. Risk Assessment

The assessment of risk for the municipality of Capoocan considered different scenarios of hazard event outbreaks and anticipated the different level of impacts from natural hazards and climate change. The scenario-based risk assessment was intended to provide a comprehensive baseline in the development of mitigation plans and adaptation strategies. The goal is to identify areas at risk that is defined as a function of severity of consequence and likelihood of occurrence (HLURB, 2015). Assigning the likelihood of occurrence values to exposure units and evaluating severity of consequence, risk scores are estimated by cross-tabulating the values.

Likelihood of Occurrence (LOO)

The likelihood of the hazard is an approximate calculation of the amount of time a hazard is likely to happen again. This computation is important to have an idea on how frequent the hazards may be expected. To take advantage of the available multi-scenario maps from DOST-Project NOAH, a scoring matrix was developed translating the hazard levels for the different scenario maps. The method resulted to an integrated scoring.

For flood hazard return period gives an idea of the timeframe for a magnitude of flooding to recur (i.e. 5-year has a $1/5 = 0.2$ or 20 percent chance of being exceeded in any one year). A higher return period entails a larger level of risk in terms of scale or magnitude. Following the logic, likelihood scores are assigned to each hazard rating for different scenarios giving higher scores for hazard ratings that occur on shorter return periods because they happen more often. The same processes are applied to a storm surge's likelihood of occurrence.

The chart below scores the likelihood of occurrence (LOO) for NOAH flood hazard maps by the period in years it is assumed to return, the hazard rating – i.e. high, moderate or low, and likelihood – i.e. frequent, moderate or occasional.

Table 109: LOO for NOAH Flood Hazard Maps

Return Period in Years	Hazard Rating	LOO Score	Likelihood
5	High	5	Frequent
	Moderate	4	Moderate
	Low	3	Occasional
25	High	4	Moderate
	Moderate	3	Occasional
	Low	2	Improbable
100	High	3	Occasional
	Moderate	2	Improbable
	Low	1	Rare

In the case of landslide hazard maps, the areas are classified into High, Moderate and Low probability areas. The high probability area corresponds to more landslide occurrence for the same amount of area of moderate probability and much more of low probability. This translates to lower chances of landslides happening in areas classified low probability versus high probability area. The chart below scores the likelihood of occurrence for NOAH rain-induced landslide hazard maps by hazard rating or probability.

Table 110: LOO for NOAH Rain-Induced Landslide Hazard Maps

Hazard Rating / Probability	Likelihood Score
High	3
Moderate	2
Low	1

Using the processes set in the preceding discussion, this assessment computed the likelihood of occurrence, severity of consequence and risk levels of each barangay for the municipality. The computations and findings on the multiple hazard scenarios are shown in Tables 26-40. The following chart, on the other hand, summarizes the percentage of risk for each exposure unit all over the entire municipality.

Table 113: Percentage of Area at Risk per Exposure Unit

Exposure Unit	Flood	Storm Surge	Rain-Induced Landslide
Population	37.38%	38.93%	11.03%
Natural Resource-Based Production	11.80%	1.75%	7.97%
Urban Use Areas	17.55%	13.57%	38.38%
Critical Point Facilities	26.45%	14.28%	48.68%
Lifeline Utilities	97.44%	15.59%	29.55%

In the foregoing assessment, maps have been drawn to render a more graphic portrayal of the hazards, the levels of vulnerability of the various exposure units, scale of impact, and adaptive capacity of the different areas in the municipality. With a base map of Capoocan, imaging of the details set in the tables was done by physically overlaying color codes and symbols to represent them. Participatory workshops among stakeholders and concerned sectors took care of this.

The use of the probabilistic maps in the climate change vulnerability and disaster risk assessment paves the way for the preparation of the place athwart events that previously devastated it and are most likely to recur. This also helps in anticipating scenarios about future disasters. Appropriate plans for disaster risk reduction and mitigation along such scenarios foster the corollary effect of developing a culture of preparedness. Habituation to such culture provides the best hope of resiliency in the face of disasters.

The next pages contain the sets of data that chart the assessment of risk for the different exposed elements, scale of exposure, sensitivity and severity of consequence. The study is by barangays including such details as residential area, vulnerable households and segments of the population likely to absorb the direst effects/consequences of the particular disaster occurrence. The tables show the factual findings laid on the hazard maps.

Table 114: Population Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
	2	18.36	0.76	4.12	0.00	60.00	13.73	2.00	7.00	44.00	2	2	2	2.00	4.00	Low
	3	18.36	1.38	7.51	0.00	60.00	13.73	2.00	7.00	44.00	2	2	2	2.00	6.00	Moderate
	4	18.36	2.44	13.27	0.00	60.00	13.73	2.00	7.00	44.00	2	2	2	2.00	8.00	Moderate
Guinadiongan	5	18.36	0.83	4.54	0.00	60.00	13.73	2.00	7.00	44.00	2	2	2	2.00	10.00	High
	1	5.90	0.14	2.46	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	2.00	Low
	2	5.90	0.26	4.45	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	4.00	Low
	3	5.90	0.79	13.36	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	6.00	Moderate
Lemon	4	5.90	0.72	12.16	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	8.00	Moderate
	1	16.19	0.44	2.72	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	2.00	Low
	2	16.19	0.60	3.70	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	4.00	Low
	3	16.19	1.27	7.84	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	6.00	Moderate
Libertad	4	16.19	1.18	7.27	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	8.00	Moderate
	5	16.19	1.60	9.90	0.00	49.00	12.86	5.00	4.00	51.00	2	2	2	2.00	10.00	High
	1	3.93	0.08	2.01	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	2.00	Low
	2	3.93	0.10	2.63	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	4.00	Low
Manloy	3	3.93	0.50	12.79	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	6.00	Moderate
	4	3.93	2.55	64.78	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	8.00	Moderate
	5	3.93	0.003	0.07	0.00	62.00	12.59	7.00	5.00	58.00	2	2	2	2.00	10.00	High
	1	11.08	0.24	2.19	0.00	64.00	17.75	8.00	2.00	69.00	2	2	2	2.00	2.00	Low
	2	11.08	0.60	5.45	0.00	64.00	17.75	8.00	2.00	69.00	2	2	2	2.00	4.00	Low
	3	11.08	1.27	11.45	0.00	64.00	17.75	8.00	2.00	69.00	2	2	2	2.00	6.00	Moderate

Table 114: Population Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
	3	7.86	1.44	18.31	0.00	70.00	13.60	7.00	3.00	64.00	2	2	2	2.00	6.00	Moderate
	4	7.86	0.73	9.33	0.00	70.00	13.60	7.00	3.00	64.00	2	2	2	2.00	8.00	Moderate
	5	7.86	0.001	0.01	0.00	70.00	13.60	7.00	3.00	64.00	2	2	2	2.00	10.00	High
San Joaquin	1	10.20	0.16	1.55	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	2.00	Low
	2	10.20	0.34	3.37	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	4.00	Low
	3	10.20	0.93	9.11	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	6.00	Moderate
	4	10.20	1.63	16.01	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	8.00	Moderate
	5	10.20	1.44	14.09	0.00	63.00	7.44	5.00	2.00	60.00	2	2	2	2.00	10.00	High
Santo Niño	1	7.46	0.18	2.46	0.00	63.00	10.86	7.00	2.00	60.00	2	2	2	2.00	2.00	Low
	2	7.46	0.24	3.18	0.00	63.00	10.86	7.00	2.00	60.00	2	2	2	2.00	4.00	Low
	3	7.46	0.37	4.98	0.00	63.00	10.86	7.00	2.00	60.00	2	2	2	2.00	6.00	Moderate
	4	7.46	0.004	0.05	0.00	63.00	10.86	7.00	2.00	60.00	2	2	2	2.00	8.00	Moderate
Talairan	1	4.21	0.19	4.47	0.00	49.00	12.41	5.00	2.00	56.00	2	2	2	2.00	2.00	Low
	2	4.21	0.22	5.29	0.00	49.00	12.41	5.00	2.00	56.00	2	2	2	2.00	4.00	Low
	3	4.21	0.51	12.20	0.00	49.00	12.41	5.00	2.00	56.00	2	2	2	2.00	6.00	Moderate
	4	4.21	0.49	11.54	0.00	49.00	12.41	5.00	2.00	56.00	2	2	2	2.00	8.00	Moderate
Talisay	2	20.38	1.09	5.35	0.00	62.00	13.71	9.00	2.00	54.00	2	2	2	2.00	4.00	Low
	3	20.38	2.42	11.88	0.00	62.00	13.71	9.00	2.00	54.00	2	2	2	2.00	6.00	Moderate
	4	20.38	1.58	7.75	0.00	62.00	13.71	9.00	2.00	54.00	2	2	2	2.00	8.00	Moderate
	5	20.38	0.01	0.04	0.00	62.00	13.71	9.00	2.00	54.00	2	2	2	2.00	10.00	High
Tolibao	1	5.90	0.19	3.23	0.00	72.00	13.70	7.00	2.00	69.00	2	2	2	2.00	2.00	Low

Table 115: Urban Use Areas Risk Assessment to Flood Hazard – Capooan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure				Sensitivity		Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Land Use Category	Total Area Allocation per Land Use (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of structures classified as dilapidated or condemned	Percentage of structures not employing site preparation, hazard resistant, and/or climate proofed design standards	Group 1	Group 2	Group 3	Average	Score	Rating
					(E / D) X 100						(I + J + K) / 3	B X L	
Balucanad	1	Commercial	0.41	0.002	0.54	0.00	100.00	2	2	2	2.00	2.00	Low
Balud	2	Commercial	0.12	0.02	16.40	0.00	100.00	2	2	2	2.00	4.00	Low
<i>Balugo</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Cabul-an	0	Commercial	0.36	0.00	0.00	0.00	100.00						
<i>Gayad</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Culasian	0	Cemetery	0.08	0.00	0.00	0.00	100.00						
<i>Guinadiongan</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Lemon	1	Commercial	0.95	0.02	2.15	0.00	100.00	2	2	2	2.00	2.00	Low
	2	Commercial	0.95	0.06	6.28	0.00	100.00	2	2	2	2.00	4.00	Low
	3	Commercial	0.95	0.03	2.85	0.00	100.00	2	2	2	2.00	6.00	Moderate
	4	Commercial	0.95	0.13	13.69	0.00	100.00	2	2	2	2.00	8.00	Moderate
	5	Commercial	0.95	0.14	15.08	0.00	100.00	2	2	2	2.00	10.00	High
<i>Libertad</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Manloy	1	Commercial	4.59	0.06	1.33	0.00	100.00	2	2	2	2.00	2.00	Low
	2	Commercial	4.59	0.07	1.42	0.00	100.00	2	2	2	2.00	4.00	Low
	3	Commercial	4.59	0.11	2.47	0.00	100.00	2	2	2	2.00	6.00	Moderate
	4	Commercial	4.59	0.02	0.43	0.00	100.00	2	2	2	2.00	8.00	Moderate
<i>Nauguisan</i>		<i>Parks and Recreation</i>				<i>0.00</i>	<i>100.00</i>						
Pinamopon	1	Commercial	0.52	0.05	9.57	0.00	100.00	2	2	2	2.00	2.00	Low

Table 116: Natural Resource-Based Production Areas Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100							(I + J + K) / 3	B X L	
Balucanad	1	882.20	10.79	1.22	60.00	73.61	15.66	2	2	2	2.00	2.00	Low
	2	882.20	15.76	1.79	60.00	73.61	15.66	2	2	2	2.00	4.00	Low
	3	882.20	30.10	3.41	60.00	73.61	15.66	2	2	2	2.00	6.00	Moderate
	4	882.20	18.37	2.08	60.00	73.61	15.66	2	2	2	2.00	8.00	Moderate
	5	882.20	19.05	2.16	60.00	73.61	15.66	2	2	2	2.00	10.00	High
Balud	1	75.04	3.54	4.71	50.00	0.00	0.00	2	2	2	2.00	2.00	Low
	2	75.04	7.68	10.23	50.00	0.00	0.00	2	2	2	2.00	4.00	Low
	3	75.04	12.99	17.31	50.00	0.00	0.00	2	2	2	2.00	6.00	Moderate
	4	75.04	13.62	18.15	50.00	0.00	0.00	2	2	2	2.00	8.00	Moderate
	5	75.04	8.25	10.99	50.00	0.00	0.00	2	2	2	2.00	10.00	High
Balugo	1	419.60	3.47	0.83	70.00	0.00	100.00	1	1	1	1.00	1.00	Low
	2	419.60	5.29	1.26	70.00	0.00	100.00	1	1	1	1.00	2.00	Low
	3	419.60	12.31	2.93	70.00	0.00	100.00	1	1	1	1.00	3.00	Low
	4	419.60	10.40	2.48	70.00	0.00	100.00	1	1	1	1.00	4.00	Low
	5	419.60	8.24	1.96	70.00	0.00	100.00	1	1	1	1.00	5.00	Moderate
Cabul-an	1	299.00	2.72	0.91	60.00	23.33	72.22	2	2	2	2.00	2.00	Low
	2	299.00	4.18	1.40	60.00	23.33	72.22	2	2	2	2.00	4.00	Low
	3	299.00	8.20	2.74	60.00	23.33	72.22	2	2	2	2.00	6.00	Moderate
	4	299.00	5.72	1.91	60.00	23.33	72.22	2	2	2	2.00	8.00	Moderate
	5	299.00	0.83	0.28	60.00	23.33	72.22	2	2	2	2.00	10.00	High
Culasian	1	1,273.00	14.59	1.15	50.00	27.50	52.90	2	2	2	2.00	2.00	Low

Table 116: Natural Resource-Based Production Areas Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100							(I + J + K) / 3	B X L	
	3	264.70	7.71	2.91	55.00	20.00	77.78	3	3	3	3.00	9.00	Moderate
	4	264.70	5.82	2.20	55.00	20.00	77.78	3	3	3	3.00	12.00	High
	5	264.70	1.66	0.63	55.00	20.00	77.78	3	3	3	3.00	15.00	High
Manloy	1	1,080.00	10.83	1.00	60.00	25.00	72.22	3	2	3	3.00	3.00	Low
	2	1,080.00	17.79	1.65	60.00	25.00	72.22	3	2	3	3.00	6.00	Moderate
	3	1,080.00	29.76	2.76	60.00	25.00	72.22	3	2	3	3.00	9.00	Moderate
	4	1,080.00	21.03	1.95	60.00	25.00	72.22	3	2	3	3.00	12.00	High
	5	1,080.00	22.91	2.12	60.00	25.00	72.22	3	2	3	3.00	15.00	High
Nauguisan	1	70.48	5.63	7.99	70.00	20.59	51.47	2	2	3	2.00	2.00	Low
	2	70.48	10.70	15.19	70.00	20.59	51.47	2	2	3	2.00	4.00	Low
	3	70.48	12.94	18.36	70.00	20.59	51.47	2	2	3	2.00	6.00	Moderate
	4	70.48	15.20	21.56	70.00	20.59	51.47	2	2	3	2.00	8.00	Moderate
	5	70.48	8.90	12.63	70.00	20.59	51.47	2	2	3	2.00	10.00	High
Pinamopao	1	610.20	5.99	0.98	60.00	24.62	100.00	2	2	2	2.00	2.00	Low
	2	610.20	9.34	1.53	60.00	24.62	100.00	2	2	2	2.00	4.00	Low
	3	610.20	22.93	3.76	60.00	24.62	100.00	2	2	2	2.00	6.00	Moderate
	4	610.20	11.11	1.82	60.00	24.62	100.00	2	2	2	2.00	8.00	Moderate
	5	610.20	7.35	1.21	60.00	24.62	100.00	2	2	2	2.00	10.00	High
Pob. Zone 1	1	291.40	4.33	1.49	60.00	0.00	0.00	2	2	2	2.00	2.00	Low
	2	291.40	7.80	2.68	60.00	0.00	0.00	2	2	2	2.00	4.00	Low
	3	291.40	15.07	5.17	60.00	0.00	0.00	2	2	2	2.00	6.00	Moderate

Table 116: Natural Resource-Based Production Areas Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100							(I + J + K) / 3	B X L	
	5	1,573.00	26.85	1.71	65.00	19.81	62.26	3	3	2	3.00	15.00	High
Talisay	1	494.00	9.64	1.95	55.00	6.74	100.00	3	3	3	3.00	3.00	Low
	2	494.00	14.35	2.91	55.00	6.74	100.00	3	3	3	3.00	6.00	Moderate
	3	494.00	30.30	6.13	55.00	6.74	100.00	3	3	3	3.00	9.00	Moderate
	4	494.00	30.27	6.13	55.00	6.74	100.00	3	3	3	3.00	12.00	High
	5	494.00	24.13	4.88	55.00	6.74	100.00	3	3	3	3.00	15.00	High
Talairan	1	687.60	4.56	0.66	60.00	20.16	100.00	3	3	3	3.00	3.00	Low
	2	687.60	6.78	0.99	60.00	20.16	100.00	3	3	3	3.00	6.00	Moderate
	3	687.60	12.66	1.84	60.00	20.16	100.00	3	3	3	3.00	9.00	Moderate
	4	687.60	6.81	0.99	60.00	20.16	100.00	3	3	3	3.00	12.00	High
	5	687.60	2.14	0.31	60.00	20.16	100.00	3	3	3	3.00	15.00	High
Tolibao	1	353.00	9.50	2.69	55.00	12.99	100.00	3	3	3	3.00	3.00	Low
	2	353.00	16.36	4.64	55.00	12.99	100.00	3	3	3	3.00	6.00	Moderate
	3	353.00	27.56	7.81	55.00	12.99	100.00	3	3	3	3.00	9.00	Moderate
	4	353.00	12.44	3.52	55.00	12.99	100.00	3	3	3	3.00	12.00	High
	5	353.00	0.61	0.17	55.00	12.99	100.00	3	3	3	3.00	15.00	High
Visares	1	941.90	9.12	0.97	65.00	14.81	86.44	3	3	3	3.00	3.00	Low
	2	941.90	15.10	1.60	65.00	14.81	86.44	3	3	3	3.00	6.00	Moderate
	3	941.90	29.18	3.10	65.00	14.81	86.44	3	3	3	3.00	9.00	Moderate
	4	941.90	32.38	3.44	65.00	14.81	86.44	3	3	3	3.00	12.00	High
	5	941.90	21.80	2.31	65.00	14.81	86.44	3	3	3	3.00	15.00	High

Table 117: Critical Point Facilities Risk Assessment to Flood Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M
Hazard		Exposure			Sensitivity		Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Percent of structures in poor condition	Percent of structures not employing hazard mitigation design	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100						(H + I + J) / 3	B X K	
	4	0.95	0.002	0.22	25.00	0.00	1	2	1	1.00	4.00	Low
	5	0.95	0.04	4.29	25.00	0.00	1	2	1	1.00	5.00	Moderate
Libertad	4	0.14	0.14	97.84	0.00	0.00	1	2	1	1.00	4.00	Low
<i>Manloy</i>					0.00	0.00						
<i>Nauguisan</i>					0.00	0.00						
Pinamopoan	1	2.78	0.004	0.14	0.00	0.00	1	1	1	1.00	1.00	Low
	2	2.78	0.02	0.63	0.00	0.00	1	1	1	1.00	2.00	Low
	3	2.78	0.03	0.98	0.00	0.00	1	1	1	1.00	3.00	Low
	4	2.78	0.002	0.07	0.00	0.00	1	1	1	1.00	4.00	Low
Pob. Zone 1	1	4.31	0.36	8.37	12.50	0.00	1	1	1	1.00	1.00	Low
	2	4.31	0.43	9.97	12.50	0.00	1	1	1	1.00	2.00	Low
	3	4.31	0.60	13.95	12.50	0.00	1	1	1	1.00	3.00	Low
	4	4.31	0.61	14.21	12.50	0.00	1	1	1	1.00	4.00	Low
Pob. Zone 2	1	23.75	0.46	1.95	0.00	0.00	1	1	1	1.00	1.00	Low
	2	23.75	0.39	1.66	0.00	0.00	1	1	1	1.00	2.00	Low
	3	23.75	0.70	2.96	0.00	0.00	1	1	1	1.00	3.00	Low
	4	23.75	1.07	4.51	0.00	0.00	1	1	1	1.00	4.00	Low
	5	23.75	2.58	10.87	0.00	0.00	1	1	1	1.00	5.00	Moderate
Potot	4	0.12	0.12	100.00	0.00	0.00	2	2	1	2.00	8.00	Moderate

Table 118: Lifeline Utilities Risk Assessment to Flood Hazard – Capooacan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L
Hazard		Exposure			Sensitivity	Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Total Area (ha)	Exposed Area (ha)	Exposure Percentage (D/C) X 100	Percent of lifeline utilities in poor condition	Group 1	Group 2	Group 3	Average (G+H+I) / 3	Score B X J	Rating
Balucanad	1	0.36	0.02	4.95	33.33	2	3	2	2.00	2.00	Low
	2	0.36	0.03	7.08	33.33	2	3	2	2.00	4.00	Low
	3	0.36	0.01	3.93	33.33	2	3	2	2.00	6.00	Moderate
Balud	1	1.49	0.13	8.61	40.00	2	2	3	2.00	2.00	Low
	2	1.49	0.08	5.53	40.00	2	2	3	2.00	4.00	Low
	3	1.49	0.19	12.84	40.00	2	2	3	2.00	6.00	Moderate
	4	1.49	0.18	12.20	40.00	2	2	3	2.00	8.00	Moderate
	5	1.49	0.07	4.62	40.00	2	2	3	2.00	10.00	High
<i>Balugo</i>					<i>66.67</i>						
Cabul-an	1	2.98	0.05	1.84	33.33	3	2	2	2.00	2.00	Low
	2	2.98	0.05	1.51	33.33	3	2	2	2.00	4.00	Low
	3	2.98	0.04	1.32	33.33	3	2	2	2.00	6.00	Moderate
	4	2.98	0.11	3.55	33.33	3	2	2	2.00	8.00	Moderate
	5	2.98	0.01	0.49	33.33	3	2	2	2.00	10.00	High
Culasian	1	2.25	0.07	3.08	25.00	2	3	2	2.00	2.00	Low
	2	2.25	0.14	6.04	25.00	2	3	2	2.00	4.00	Low
	3	2.25	0.28	12.57	25.00	2	3	2	2.00	6.00	Moderate
	4	2.25	0.27	11.87	25.00	2	3	2	2.00	8.00	Moderate
	5	2.25	0.06	2.74	25.00	2	3	2	2.00	10.00	High
<i>Gayad</i>					<i>66.67</i>						
Guinadiongan	1	3.02	0.02	0.79	75.00	2	2	3	2.00	2.00	Low
	2	3.02	0.02	0.53	75.00	2	2	3	2.00	4.00	Low
	3	3.02	0.04	1.36	75.00	2	2	3	2.00	6.00	Moderate
	4	3.02	0.08	2.50	75.00	2	2	3	2.00	8.00	Moderate
	5	3.02	0.01	0.44	75.00	2	2	3	2.00	10.00	High
Lemon	1	5.10	0.12	2.28	33.33	2	2	3	2.00	2.00	Low
	2	5.10	0.16	3.04	33.33	2	2	3	2.00	4.00	Low
	3	5.10	0.47	9.24	33.33	2	2	3	2.00	6.00	Moderate
	4	5.10	0.19	3.76	33.33	2	2	3	2.00	8.00	Moderate
	5	5.10	0.05	0.89	33.33	2	2	3	2.00	10.00	High
Libertad	1	1.74	0.01	0.29	66.67	3	2	2	2.00	2.00	Low
	2	1.74	0.03	1.79	66.67	3	2	2	2.00	4.00	Low
	3	1.74	0.06	3.22	66.67	3	2	2	2.00	6.00	Moderate
	4	1.74	0.06	3.55	66.67	3	2	2	2.00	8.00	Moderate
	5	1.74	0.03	1.89	66.67	3	2	2	2.00	10.00	High
<i>Manloy</i>					<i>50.00</i>						
<i>Nauguisan</i>					<i>50.00</i>						
Pinamopoan	1	3.52	0.05	1.53	25.00	2	2	3	2.00	2.00	Low
	2	3.52	0.08	2.32	25.00	2	2	3	2.00	4.00	Low
	3	3.52	0.48	13.51	25.00	2	2	3	2.00	6.00	Moderate
	4	3.52	0.50	14.16	25.00	2	2	3	2.00	8.00	Moderate
	5	3.52	0.03	0.73	25.00	2	2	3	2.00	10.00	High
Pob. Zone I	1	2.27	0.08	3.74	0.00	3	2	2	2.00	2.00	Low
	2	2.27	0.37	16.33	0.00	3	2	2	2.00	4.00	Low
	3	2.27	0.92	40.42	0.00	3	2	2	2.00	6.00	Moderate
	4	2.27	0.53	23.47	0.00	3	2	2	2.00	8.00	Moderate
Pob. Zone II	1	1.08	0.01	0.68	25.00	3	2	2	2.00	2.00	Low

Table 119: Population Risk Assessment to Storm Surge Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
Balucanad	0	0.00	0.00		0.00	62.00	13.39	7.00	2.00	55.00						
Balud	1	13.53	0.16	1.17	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	2.00	Low
	2	13.53	0.80	5.91	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	4.00	Low
	3	13.53	3.10	22.94	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	6.00	Low
	4	13.53	7.51	55.54	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	8.00	Moderate
	5	13.53	1.41	10.45	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	10.00	Moderate
	6	13.53	0.35	2.58	0.00	58.00	14.25	7.00	4.00	43.00	2	3	2	2.00	12.00	Moderate
Balugo	0	0.00	0.00		0.00	83.00	17.07	4.00	2.00	83.00						
Cabul-an	1	8.46	0.22	2.54	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	2.00	Low
	2	8.46	0.52	6.10	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	4.00	Low
	3	8.46	1.09	12.86	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	6.00	Low
	4	8.46	1.65	19.45	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	8.00	Moderate
	5	8.46	1.11	13.12	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	10.00	Moderate
	6	8.46	0.08	0.92	0.00	56.00	13.61	6.00	3.00	58.00	2	3	2	2.00	12.00	Moderate
Gayad	1	7.63	0.10	1.36	0.00	52.00	15.07	27.00	1.00	52.00	3	2	2	2.00	2.00	Low
	2	7.63	0.68	8.87	0.00	52.00	15.07	27.00	1.00	52.00	3	2	2	2.00	4.00	Low
	3	7.63	1.24	16.29	0.00	52.00	15.07	27.00	1.00	52.00	3	2	2	2.00	6.00	Low
	4	7.63	1.24	16.28	0.00	52.00	15.07	27.00	1.00	52.00	3	2	2	2.00	8.00	Moderate

Table 119: Population Risk Assessment to Storm Surge Hazard – Capooacan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
	2	18.36	0.46	2.53	0.00	60.00	13.73	2.00	7.00	44.00	2	3	2	2.00	4.00	Low
	3	18.36	0.06	0.31	0.00	60.00	13.73	2.00	7.00	44.00	2	3	2	2.00	6.00	Low
Guinadiongan	2	5.90	0.65	11.01	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	4.00	Low
	3	5.90	0.31	5.28	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	6.00	Low
	4	5.90	0.78	13.20	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	8.00	Moderate
	5	5.90	0.55	9.39	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	10.00	Moderate
	6	5.90	0.04	0.61	0.00	70.00	10.02	8.00	3.00	60.00	2	3	2	2.00	12.00	Moderate
Lemon	0	0.00	0.00		0.00	49.00	12.86	5.00	4.00	51.00						
Libertad	1	3.93	0.06	1.43	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	2.00	Low
	2	3.93	0.31	7.92	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	4.00	Low
	3	3.93	0.36		0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	6.00	Low
	4	3.93	0.75	19.08	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	8.00	Moderate
	5	3.93	1.21	30.84	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	10.00	Moderate
	6	3.93	0.07	1.71	0.00	62.00	12.59	7.00	5.00	58.00	2	3	2	2.00	12.00	Moderate
Manloy	0	0.00	0.00		0.00	64.00	17.75	8.00	2.00	69.00						
Nauguisan	1	1.61	0.27	16.91	0.00	62.00	15.32	9.00	5.00	63.00	1	1	1	1.00	1.00	Low
	2	1.61	0.40	24.69	0.00	62.00	15.32	9.00	5.00	63.00	1	1	1	1.00	2.00	Low
	3	1.61	0.08	5.10	0.00	62.00	15.32	9.00	5.00	63.00	1	1	1	1.00	3.00	Low

Table 119: Population Risk Assessment to Storm Surge Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
	6	12.38	0.00	0.02	0.00	58.00	7.86	4.00	4.00	48.00	3	2	2	2.00	12.00	Moderate
Potot	1	7.86	0.19	2.47	0.00	70.00	13.60	7.00	3.00	64.00	2	3	2	2.00	2.00	Low
	2	7.86	0.35	4.41	0.00	70.00	13.60	7.00	3.00	64.00	2	3	2	2.00	4.00	Low
	3	7.86	1.79	22.81	0.00	70.00	13.60	7.00	3.00	64.00	2	3	2	2.00	6.00	Low
	4	7.86	3.05	38.83	0.00	70.00	13.60	7.00	3.00	64.00	2	3	2	2.00	8.00	Moderate
	5	7.86	1.13	14.43	0.00	70.00	13.60	7.00	3.00	64.00	2	3	2	2.00	10.00	Moderate
	6	7.86	0.09	1.14	0.00	70.00	13.60	7.00	3.00	64.00	2	3	2	2.00	12.00	Moderate
San Joaquin	0	0.00	0.00		0.00	63.00	7.44	5.00	2.00	60.00						
Santo Niño	0	0.00	0.00		0.00	63.00	10.86	7.00	2.00	60.00						
Talairan	1	4.21	0.18	4.28	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	2.00	Low
	2	4.21	0.54	12.84	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	4.00	Low
	3	4.21	0.24	5.78	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	6.00	Low
	4	4.21	0.56	13.43	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	8.00	Moderate
	5	4.21	0.08	1.80	0.00	49.00	12.41	5.00	2.00	56.00	3	2	2	2.00	10.00	Moderate
Talisay	1	20.38	0.14	0.70	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	2.00	Low
	2	20.38	0.98	4.81	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	4.00	Low
	3	20.38	1.97	9.65	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	6.00	Low
	4	20.38	2.44	11.95	0.00	62.00	13.71	9.00	2.00	54.00	2	2	3	2.00	8.00	Moderate

Table 120: Urban Use Areas Risk Assessment to Storm Surge Hazard – Capoocan

A	C	B	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure				Sensitivity		Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence	Land Use Category	Total Area Allocation per Land Use (ha)	Exposed Area (ha)	Exposure Percentage (E/D) X 100	Percentage of structures classified as dilapidated or condemned	Percentage of structures not employing site preparation, hazard resistant, and/or climate proofed design standards	Group 1	Group 2	Group 3	Average (I+J+K)/3	Score B X L	Rating
Balucanad	0	Commercial	0.00	0.00		0.00	100.00						
Balud	4	Commercial	0.12	0.03	26.36	0.00	100.00	2	2	2	2.00	8.00	Moderate
	5	Commercial	0.12	0.09	73.64	0.00	100.00	2	2	2	2.00	10.00	Moderate
<i>Balugo</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Cabul-an	0	Commercial	0.00	0.00		0.00	100.00						
<i>Gayad</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Culasian	0	Cemetery	0.00	0.00		0.00	100.00						
<i>Guinadiongan</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Lemon	0	Commercial	0.00	0.00		0.00	100.00						
<i>Libertad</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Manloy	0	Commercial	0.00	0.00		0.00	100.00						
<i>Nauguisan</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
Pinamopoan	4	Commercial	0.52	0.04	7.82	0.00	100.00	2	3	2	2.00	8.00	Moderate
	5	Commercial	0.52	0.35	67.13	0.00	100.00	2	3	2	2.00	10.00	Moderate
	6	Commercial	0.52	0.01	2.10	0.00	100.00	2	3	2	2.00	12.00	Moderate
Poblacion Zone I	4	Commercial	0.26	0.23	88.14	0.00	100.00	2	3	2	2.00	8.00	Moderate
	5	Commercial	0.26	0.03	11.86	0.00	100.00	2	3	2	2.00	10.00	Moderate
Poblacion Zone II	2	Commercial	0.69	0.06	9.12	0.00	100.00	2	3	2	2.00	4.00	Low
	3	Commercial	0.69	0.17	25.38	0.00	100.00	2	3	2	2.00	6.00	Low
	4	Commercial	0.69	0.30	42.91	0.00	100.00	2	3	2	2.00	8.00	Moderate
<i>Potot</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>San Joaquin</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Santo Niño</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Talairan</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Talisay</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Tolibao</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						
<i>Visares</i>	<i>0</i>	<i>Parks & Recreation</i>	<i>0.00</i>	<i>0.00</i>		<i>0.00</i>	<i>100.00</i>						

Table 121: Natural Resource-Based Production Areas Risk Assessment to Storm Surge Hazard - Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100							(I+J + K) / 3	B X L	
	3	610.20	3.83	0.63	60.00	24.62	100.00	1	2	2	2.00	6.00	Low
	4	610.20	5.94	0.97	60.00	24.62	100.00	1	2	2	2.00	8.00	Moderate
	5	610.20	1.03	0.17	60.00	24.62	100.00	1	2	2	2.00	10.00	Moderate
	6	610.20	0.20	0.03	60.00	24.62	100.00	1	2	2	2.00	12.00	Moderate
Pob. Zone 1	1	291.40	1.80	0.62	60.00	0.00	0.00	2	2	1	2.00	2.00	Low
	2	291.40	5.96	2.05	60.00	0.00	0.00	2	2	1	2.00	4.00	Low
	3	291.40	9.40	3.23	60.00	0.00	0.00	2	2	1	2.00	6.00	Low
	4	291.40	6.50	2.23	60.00	0.00	0.00	2	2	1	2.00	8.00	Moderate
Pob. Zone 2	1	1123.00	0.58	0.05	60.00	0.00	11.76	2	2	1	2.00	2.00	Low
	2	1123.00	2.39	0.21	60.00	0.00	11.76	2	2	1	2.00	4.00	Low
	3	1123.00	6.31	0.56	60.00	0.00	11.76	2	2	1	2.00	6.00	Low
	4	1123.00	11.07	0.99	60.00	0.00	11.76	2	2	1	2.00	8.00	Moderate
	5	1123.00	2.45	0.22	60.00	0.00	11.76	2	2	1	2.00	10.00	Moderate
	6	1123.00	0.11	0.01	60.00	0.00	11.76	2	2	1	2.00	12.00	Moderate
Potot	1	452.60	0.84	0.19	65.00	13.38	98.76	1	2	2	2.00	2.00	Low
	2	452.60	1.93	0.43	65.00	13.38	98.76	1	2	2	2.00	4.00	Low
	3	452.60	2.49	0.55	65.00	13.38	98.76	1	2	2	2.00	6.00	Low
	4	452.60	0.24	0.05	65.00	13.38	98.76	1	2	2	2.00	8.00	Moderate
	5	452.60	0.00	0.00	65.00	13.38	98.76	1	2	2	2.00	10.00	Moderate
San Joaquin	0	0.00	0.00		60.00	21.88	76.14						
Sto. Niño	0	0.00	0.00		65.00	19.81	62.26						
Talisay	1	494.00	0.25	0.05	55.00	6.74	100.00						
	2	494.00	1.07	0.22	55.00	6.74	100.00	2	1	1	1.00	2.00	Low
	3	494.00	0.97	0.20	55.00	6.74	100.00	2	1	1	1.00	3.00	Low
	4	494.00	0.04	0.01	55.00	6.74	100.00	2	1	1	1.00	4.00	Low
	5	494.00	0.19	0.04	55.00	6.74	100.00	2	1	1	1.00	5.00	Low
	6	494.00	0.04	0.01	55.00	6.74	100.00	2	1	1	1.00	6.00	Low
Talairan	1	687.60	1.03	0.15	60.00	20.16	100.00	2	1	1	1.00	1.00	Low
	2	687.60	0.97	0.14	60.00	20.16	100.00	2	1	1	1.00	2.00	Low
	3	687.60	1.21	0.18	60.00	20.16	100.00	2	1	1	1.00	3.00	Low
	4	687.60	0.71	0.10	60.00	20.16	100.00	2	1	1	1.00	4.00	Low
	5	687.60	0.21	0.03	60.00	20.16	100.00	2	1	1	1.00	5.00	Low
Tolibao	1	353.00	0.53	0.15	55.00	12.99	100.00	2	1	2	2.00	2.00	Low
	2	353.00	0.32	0.09	55.00	12.99	100.00	2	1	2	2.00	4.00	Low
	3	353.00	0.80	0.23	55.00	12.99	100.00	2	1	2	2.00	6.00	Low
	4	353.00	0.36	0.10	55.00	12.99	100.00	2	1	2	2.00	8.00	Moderate
	5	353.00	0.35	0.10	55.00	12.99	100.00	2	1	2	2.00	10.00	Moderate
	6	353.00	0.03	0.01	55.00	12.99	100.00	2	1	2	2.00	12.00	Moderate
Visares	0	0.00	0.00		65.00	14.81	86.44						

**Table 123: Lifeline Utilities Risk Assessment to Storm Surge Hazard –
Capoocan, Leyte**

A	B	C	D	E	F	G	H	I	J	K	L
Hazard		Exposure			Sensitiv ity	Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence	Total Area (ha)	Exposed Area (ha)	Exposure Percentage	Percent of lifeline utilities in poor condition	Group 1	Group 2	Group 3	Average	Score	Rating
				(D/C) X 100					(G+H+I) /3	B X J	
Balucanad	0	0.00	0.00		33.33						
Balud	1	1.49	0.06	4.14	40.00	2	2	2	2.00	2.00	Low
	2	1.49	0.17	11.44	40.00	2	2	2	2.00	4.00	Low
	3	1.49	0.37	24.67	40.00	2	2	2	2.00	6.00	Low
	4	1.49	0.62	41.82	40.00	2	2	2	2.00	8.00	Moderate
	5	1.49	0.20	13.18	40.00	2	2	2	2.00	10.00	Moderate
<i>Balugo</i>	<i>0</i>	<i>0.00</i>	<i>0.00</i>		<i>66.67</i>						
Cabul-an	1	2.98	0.02	0.60	33.33	2	2	2	2.00	2.00	Low
	2	2.98	0.07	2.37	33.33	2	2	2	2.00	4.00	Low
	3	2.98	0.05	1.57	33.33	2	2	2	2.00	6.00	Low
	4	2.98	0.05	1.74	33.33	2	2	2	2.00	8.00	Moderate
	5	2.98	0.05	1.80	33.33	2	2	2	2.00	10.00	Moderate
Culasian	1	2.25	0.09	4.01	25.00	2	2	2	2.00	2.00	Low
	2	2.25	0.11	4.93	25.00	2	2	2	2.00	4.00	Low
	3	2.25	0.10	4.54	25.00	2	2	2	2.00	6.00	Low
	4	2.25	0.01	0.33	25.00	2	2	2	2.00	8.00	Moderate
<i>Gayad</i>	<i>0</i>	<i>0.00</i>	<i>0.00</i>		<i>66.67</i>						
Guinadiongan	0	0.00	0.00		75.00						
Lemon	0	0.00	0.00		33.33						
Libertad	1	1.74	0.01	0.84	66.67	2	2	2	2.00	2.00	Low
	2	1.74	0.01	0.48	66.67	2	2	2	2.00	4.00	Low
<i>Manloy</i>	<i>0</i>	<i>0.00</i>	<i>0.00</i>		<i>50.00</i>						
<i>Nauguisan</i>	<i>0</i>	<i>0.00</i>	<i>0.00</i>		<i>50.00</i>						
Pinamopoan	1	3.52	0.14	4.09	25.00	2	2	2	2.00	2.00	Low
	2	3.52	0.21	6.08	25.00	2	2	2	2.00	4.00	Low
	3	3.52	0.31	8.94	25.00	2	2	2	2.00	6.00	Low
	4	3.52	0.10	2.83	25.00	2	2	2	2.00	8.00	Moderate
	5	3.52	0.11	3.22	25.00	2	2	2	2.00	10.00	Moderate
Poblacion Zone I	3	2.27	0.23	10.04	0.00	2	2	2	2.00	6.00	Low
	4	2.27	2.04	89.93	0.00	2	2	2	2.00	8.00	Moderate
	5	2.27	0.00	0.02	0.00	2	2	2	2.00	10.00	Moderate
Poblacion Zone II	1	1.08	0.06	5.68	25.00	2	2	2	2.00	2.00	Low
	2	1.08	0.05	4.17	25.00	2	2	2	2.00	4.00	Low
	3	1.08	0.05	4.29	25.00	2	2	2	2.00	6.00	Low
	4	1.08	0.16	14.68	25.00	2	2	2	2.00	8.00	Moderate
Potot	0	0.00	0.00		50.00						

Table 124: Population Risk Assessment to Landslide Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100										(L + M + N) / 3	B X O	
Balucanad	1	9.98	0.01	0.15	0.00	62.00	13.39	7.00	2.00	55.00	2	3	3	3.00	3.00	Low
	2	9.98	0.01	0.10	0.00	62.00	13.39	7.00	2.00	55.00	2	3	3	3.00	6.00	Moderate
Balud	2	13.53	0.02	0.15	0.00	58.00	14.25	7.00	4.00	43.00	1	1	1	1.00	2.00	Low
Balugo	1	0.24	0.03	11.78	0.00	83.00	17.07	4.00	2.00	83.00	3	3	3	3.00	3.00	Low
	2	0.24	0.02	9.95	0.00	83.00	17.07	4.00	2.00	83.00	3	3	3	3.00	6.00	Moderate
Cabul-an	1	8.46	1.07	12.62	0.00	56.00	13.61	6.00	3.00	58.00	3	3	3	3.00	3.00	Low
	2	8.46	0.63	7.46	0.00	56.00	13.61	6.00	3.00	58.00	3	3	3	3.00	6.00	Moderate
Gayad	1	7.63	0.61	7.94	0.00	52.00	15.07	27.00	1.00	52.00	3	4	3	3.00	3.00	Low
	2	7.63	0.45	5.90	0.00	52.00	15.07	27.00	1.00	52.00	3	4	3	3.00	6.00	Moderate
Culasian	1	18.36	0.13	0.70	0.00	60.00	13.73	2.00	7.00	44.00	1	2	2	2.00	2.00	Low
	2	18.36	0.09	0.49	0.00	60.00	13.73	2.00	7.00	44.00	1	2	2	2.00	4.00	Moderate
Guinadiongan	1	5.90	0.26	4.40	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	2.00	Low
	2	5.90	0.75	12.71	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	4.00	Moderate
	3	5.90	0.49	8.31	0.00	70.00	10.02	8.00	3.00	60.00	2	2	2	2.00	6.00	Moderate
Lemon	1	16.19	0.82	5.04	0.00	49.00	12.86	5.00	4.00	51.00	3	2	3	3.00	3.00	Low
	2	16.19	0.41	2.52	0.00	49.00	12.86	5.00	4.00	51.00	3	2	3	3.00	6.00	Moderate

Table 124: Population Risk Assessment to Landslide Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Hazard		Exposure			Sensitivity						Severity of Consequence			Risk		
Barangay	Likelihood of Occurrence Score	Residential area per barangay allocation (ha)	Exposed Area (ha)	Exposure Percentage	Percentage of Informal Settler Households	Percentage of households living with walls made from predominantly light, salvaged makeshift type materials	Percentage of Children	Percentage of Senior Citizens	Percentage of Households with PWDs	Percentage of Poor Households	Group 1	Group 2	Group 3	Average	Score	Rating
				(D/C) X 100										(L + M + N) / 3	B X O	
	2	7.46	0.29	3.92	0.00	63.00	10.86	7.00	2.00	60.00	2	4	2	3.00	6.00	Moderate
Talairan	1	4.21	0.10	2.40	0.00	49.00	12.41	5.00	2.00	56.00	3	4	4	4.00	4.00	Moderate
	2	4.21	0.23	5.41	0.00	49.00	12.41	5.00	2.00	56.00	3	4	4	4.00	8.00	High
Talisay	1	20.38	1.11	5.45	0.00	62.00	13.71	9.00	2.00	54.00	2	3	4	3.00	3.00	Low
	2	20.38	1.13	5.53	0.00	62.00	13.71	9.00	2.00	54.00	2	3	4	3.00	6.00	Moderate
Tolibao	1	5.90	0.13	2.22	0.00	72.00	13.70	7.00	2.00	69.00	2	3	4	3.00	3.00	Low
	2	5.90	0.20	3.32	0.00	72.00	13.70	7.00	2.00	69.00	2	3	4	3.00	6.00	Moderate
	3	5.90	2.37	40.22	0.00	72.00	13.70	7.00	2.00	69.00	2	3	4	3.00	9.00	High
Visares	1	10.91	0.68	6.22	0.00	53.00	12.41	8.00	0.00	56.00	2	3	4	3.00	3.00	Low
	2	10.91	0.71	6.54	0.00	53.00	12.41	8.00	0.00	56.00	2	3	4	3.00	6.00	Moderate

Table 126: Natural Resource-Based Production Areas Risk Assessment to Landslide Hazard - Capooacan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M	N
Hazard		Exposure			Sensitivity			Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence Class	Total Agricultural Area (GIS-derived in ha)	Exposed Area (ha)	Exposure Percentage	Percent of farmers without access to climate information	Percent of farmers / areas not employing sustainable production techniques	Percent of farmers / areas without access to irrigation	Group 1	Group 2	Group 3	Average	Score	Rating
				(D/C) X 100							(I+J+K)/3	B X L	
Balucanad	1	882.20	68.88	7.81	60.00	73.61	15.66	1	1	1	1.00	1.00	Low
	2	882.20	253.07	28.69	60.00	73.61	15.66	1	1	1	1.00	2.00	Low
	3	882.20	351.90	39.89	60.00	73.61	15.66	1	1	1	1.00	3.00	Low
Balud	1	75.04	0.21	0.28	50.00	0.00	0.00	1	1	1	1.00	1.00	Low
	2	75.04	0.04	0.06	50.00	0.00	0.00	1	1	1	1.00	2.00	Low
Balugo	1	419.60	54.68	13.03	70.00	0.00	100.00	1	2	1	1.00	1.00	Low
	2	419.60	168.03	40.05	70.00	0.00	100.00	1	2	1	1.00	2.00	Low
	3	419.60	8.26	1.97	70.00	0.00	100.00	1	2	1	1.00	3.00	Low
Cabul-an	1	299.00	58.02	19.41	60.00	23.33	72.22	2	2	2	2.00	2.00	Low
	2	299.00	113.92	38.10	60.00	23.33	72.22	2	2	2	2.00	4.00	Moderate
	3	299.00	5.39	1.80	60.00	23.33	72.22	2	2	2	2.00	6.00	Moderate
Culasian	1	1273.00	121.79	9.57	50.00	27.50	52.90	2	1	2	2.00	2.00	Low
	2	1273.00	424.91	33.38	50.00	27.50	52.90	2	1	2	2.00	4.00	Moderate
	3	1273.00	375.12	29.47	50.00	27.50	52.90	2	1	2	2.00	6.00	Moderate
Gayad	1	379.10	27.91	7.36	60.00	10.14	100.00	1	2	2	2.00	2.00	Low
	2	379.10	182.32	48.09	60.00	10.14	100.00	1	2	2	2.00	4.00	Moderate
	3	379.10	116.82	30.81	60.00	10.14	100.00	1	2	2	2.00	6.00	Moderate
Guinadiongan	1	402.70	39.58	9.83	60.00	18.44	98.04	2	1	1	1.00	1.00	Low
	2	402.70	203.70	50.58	60.00	18.44	98.04	2	1	1	1.00	2.00	Low
	3	402.70	107.74	26.75	60.00	18.44	98.04	2	1	1	1.00	3.00	Low
Lemon	1	1139.00	139.14	12.22	65.00	10.00	75.56	2	2	2	2.00	2.00	Low
	2	1139.00	256.34	22.51	65.00	10.00	75.56	2	2	2	2.00	4.00	Moderate
	3	1139.00	77.75	6.83	65.00	10.00	75.56	2	2	2	2.00	6.00	Moderate
Libertad	1	264.70	15.97	6.03	55.00	20.00	77.78	2	2	2	2.00	2.00	Low
	2	264.70	128.15	48.41	55.00	20.00	77.78	2	2	2	2.00	4.00	Moderate
	3	264.70	95.06	35.91	55.00	20.00	77.78	2	2	2	2.00	6.00	Moderate
Manloy	1	1080.00	56.27	5.21	60.00	25.00	72.22	2	2	2	2.00	2.00	Low
	2	1080.00	310.19	28.72	60.00	25.00	72.22	2	2	2	2.00	4.00	Moderate
	3	1080.00	535.85	49.62	60.00	25.00	72.22	2	2	2	2.00	6.00	Moderate
Nauguisan	1	70.48	0.18	0.25	70.00	20.59	51.47	1	1	1	1.00	1.00	Low
	2	70.48	0.18	0.25	70.00	20.59	51.47	1	1	1	1.00	2.00	Low
Pinamopao	1	610.20	90.00	14.75	60.00	24.62	100.00	1	2	2	2.00	2.00	Low
	2	610.20	261.85	42.91	60.00	24.62	100.00	1	2	2	2.00	4.00	Moderate
	3	610.20	46.62	7.64	60.00	24.62	100.00	1	2	2	2.00	6.00	Moderate
Pob. Zone 1	1	291.40	24.91	8.55	60.00	0.00	0.00	1	1	1	1.00	1.00	Low
	2	291.40	66.69	22.89	60.00	0.00	0.00	1	1	1	1.00	2.00	Low
	3	291.40	102.92	35.32	60.00	0.00	0.00	1	1	1	1.00	3.00	Low
Pob. Zone 2	1	1123.00	99.23	8.84	60.00	0.00	11.76	1	1	1	1.00	1.00	Low
	2	1123.00	429.59	38.25	60.00	0.00	11.76	1	1	1	1.00	2.00	Low
	3	1123.00	389.23	34.66	60.00	0.00	11.76	1	1	1	1.00	3.00	Low
Potot	1	452.60	21.94	4.85	65.00	13.38	98.76	2	2	2	2.00	2.00	Low
	2	452.60	275.98	60.98	65.00	13.38	98.76	2	2	2	2.00	4.00	Moderate
	3	452.60	110.46	24.41	65.00	13.38	98.76	2	2	2	2.00	6.00	Moderate
San Joaquin	1	1288.00	116.59	9.05	60.00	21.88	76.14	2	2	2	2.00	2.00	Low
	2	1288.00	352.12	27.34	60.00	21.88	76.14	2	2	2	2.00	4.00	Moderate

Table 127: Critical Point Facilities Risk Assessment to Landslide Hazard – Capoocan, Leyte

A	B	C	D	E	F	G	H	I	J	K	L	M
Hazard		Exposure			Sensitivity		Severity of Consequence				Risk	
Barangay	Likelihood of Occurrence	Total Institutional Area (ha)	Exposed Area (ha)	Exposure Percentage	Percent of structures in poor condition	Percent of structures not employing hazard mitigation design	Group 1	Group 2	Group 3	Average	Score	Rating
				(D / C) X 100						(H++ J) / 3	B X K	
<i>Balucanad</i>					0.00	0.00						
Balud	0	0.03	0.00	0.00	16.67	0.00						
Balugo	0	0.003	0.00	0.00	0.00	0.00						
Cabul-an	1	0.04	0.01	17.83	0.00	0.00	2	2	2	2.00	2.00	Low
Culasian	0	0.41	0.00	0.00	0.00	0.00						
Gayad	1	0.18	0.04	19.76	0.00	0.00	1	2	1	1.00	1.00	Low
Guinadiongan	1	0.20	0.01	4.14	0.00	0.00	1	2	1	1.00	1.00	Low
Lemon	1	0.95	0.08	8.53	25.00	0.00	2	3	2	2.00	2.00	Low
Libertad	0	0.14	0.00	0.00	0.00	0.00						
<i>Manloy</i>					0.00	0.00						
<i>Nauguisan</i>					0.00	0.00						
Pinamopooan	1	2.78	0.15	5.35	0.00	0.00	2	3	2	2.00	2.00	Low
	2	2.78	0.30	10.70	0.00	0.00	2	3	2	2.00	4.00	Moderate
Pob. Zone 1	0	4.31	0.00	0.00	12.50	0.00						
Pob. Zone 2	1	23.75	3.17	13.34	0.00	0.00	2	2	2	2.00	2.00	Low
	2	23.75	10.52	44.28	0.00	0.00	2	2	2	2.00	4.00	Moderate
	3	23.75	2.70	11.38	0.00	0.00	2	2	2	2.00	6.00	Moderate
Potot	0	0.12	0.00	0.00	0.00	0.00						
San Joaquin	1	0.86	0.00	0.12	0.00	0.00	1	2	1	1.00	1.00	Low
Sto. Niño	1	0.29	0.02	7.14	0.00	0.00	1	2	1	1.00	1.00	Low
	2	0.29	0.01	2.43	0.00	0.00	1	2	1	1.00	2.00	Low
Talairan	1	0.26	0.03	11.55	50.00	0.00	2	1	1	1.00	1.00	Low
	2	0.26	0.00	1.57	50.00	0.00	2	1	1	1.00	2.00	Low
Talisay	0	0.11	0.00	0.00	0.00	0.00						
Tolibao	1	0.09	0.01	14.30	20.00	0.00	2	2	2	2.00	2.00	Low
	2	0.09	0.00	1.26	20.00	0.00	2	2	2	2.00	4.00	Moderate
Visares	0	0.49	0.00	0.00	16.67	0.00						

Figure 21: Flood Hazard Map, Municipality of Capoocan

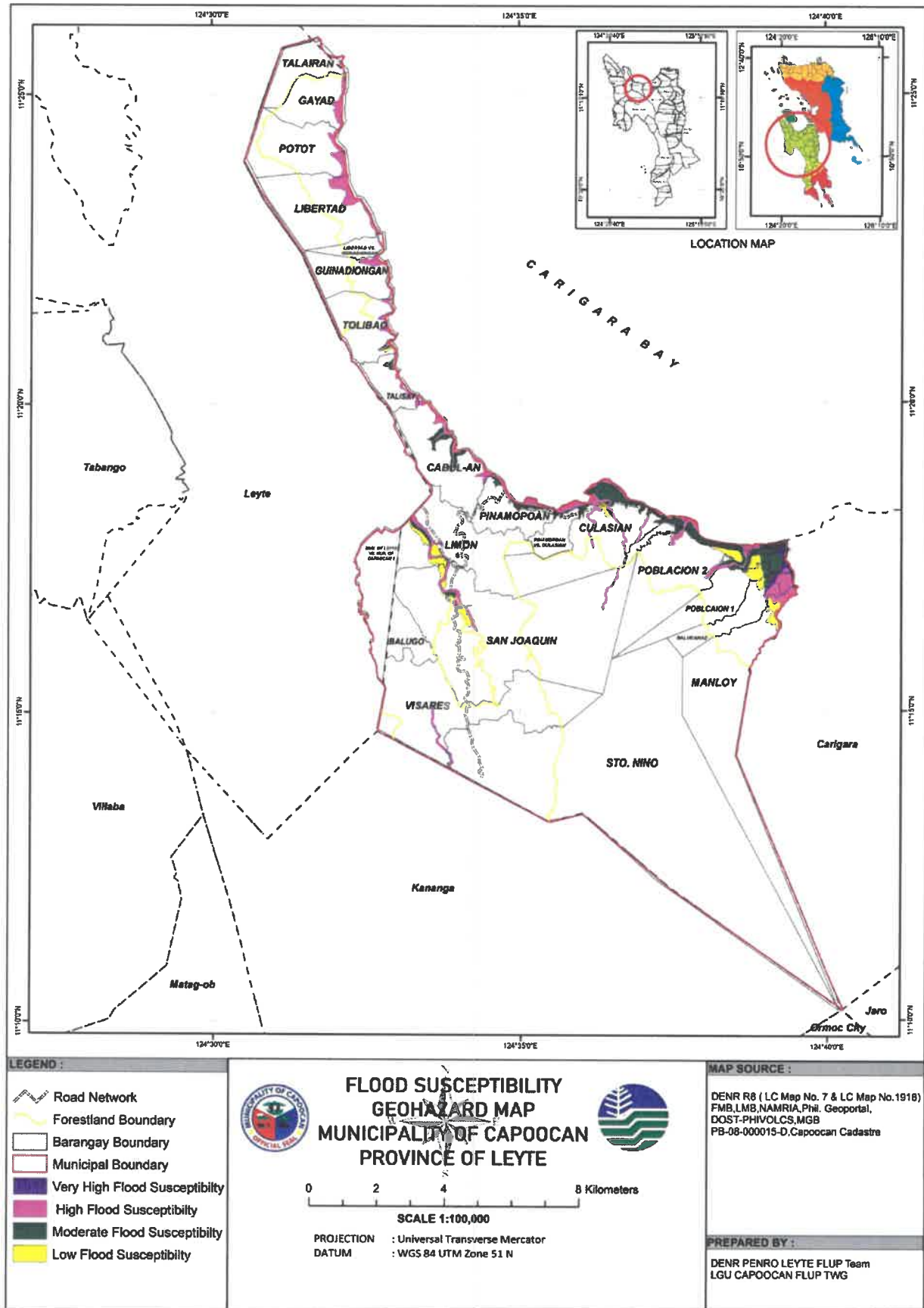


Figure 23: Storm Surge Hazard Map, Municipality of Capoocan

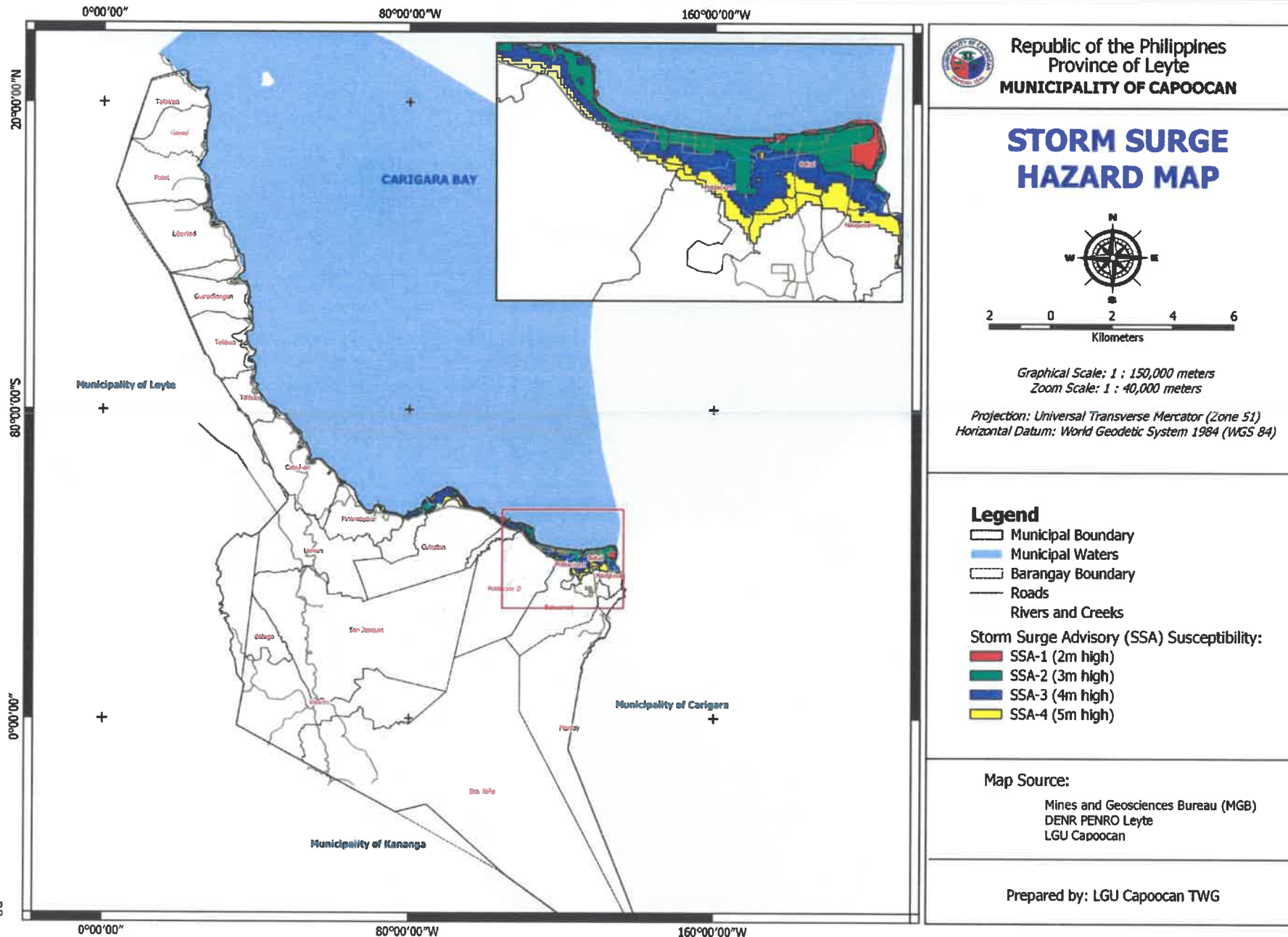


Figure 25: Ground Shaking Hazard Map, Municipality of Capoocan

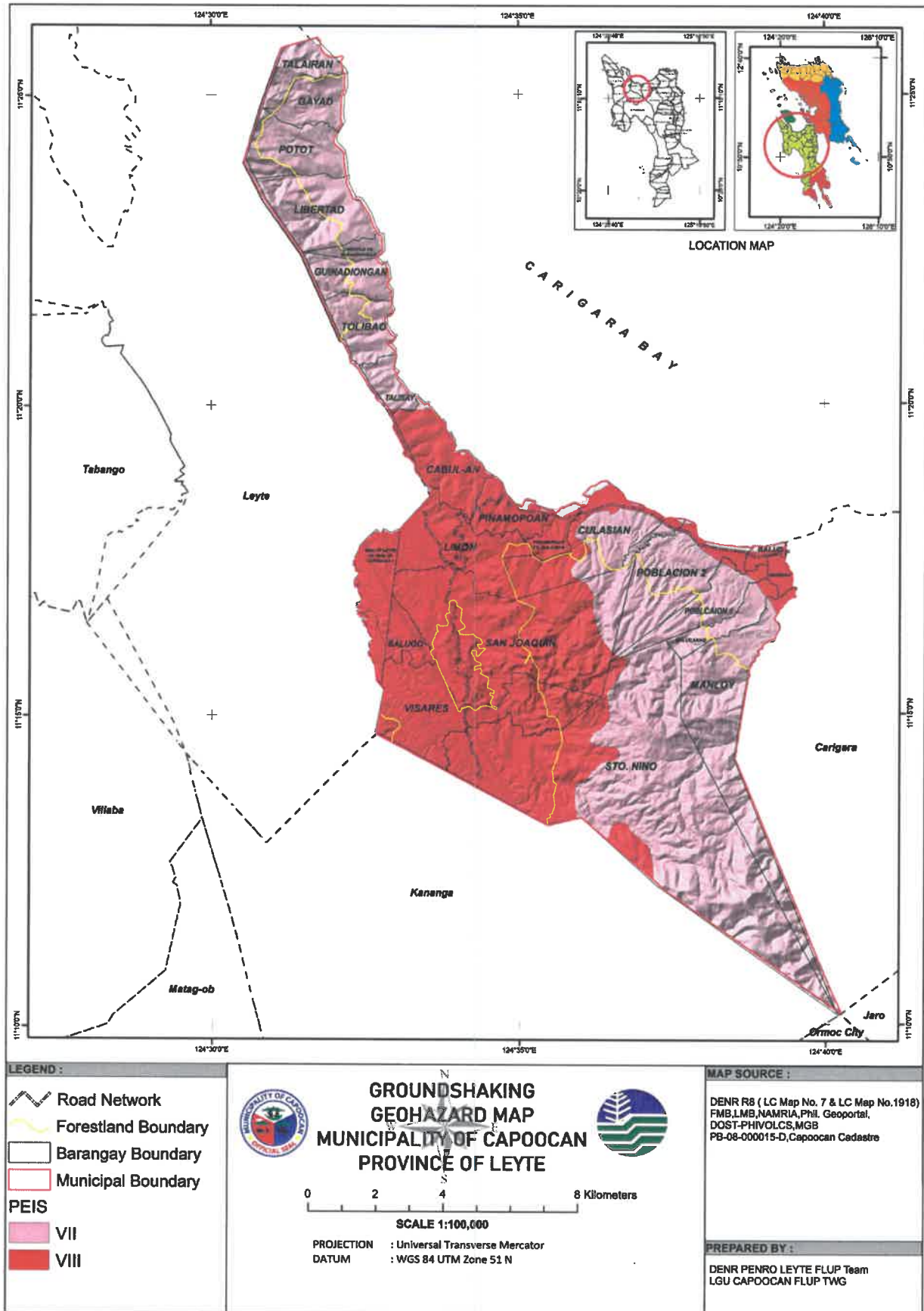


Figure 27: Ground Rupture Hazard Map

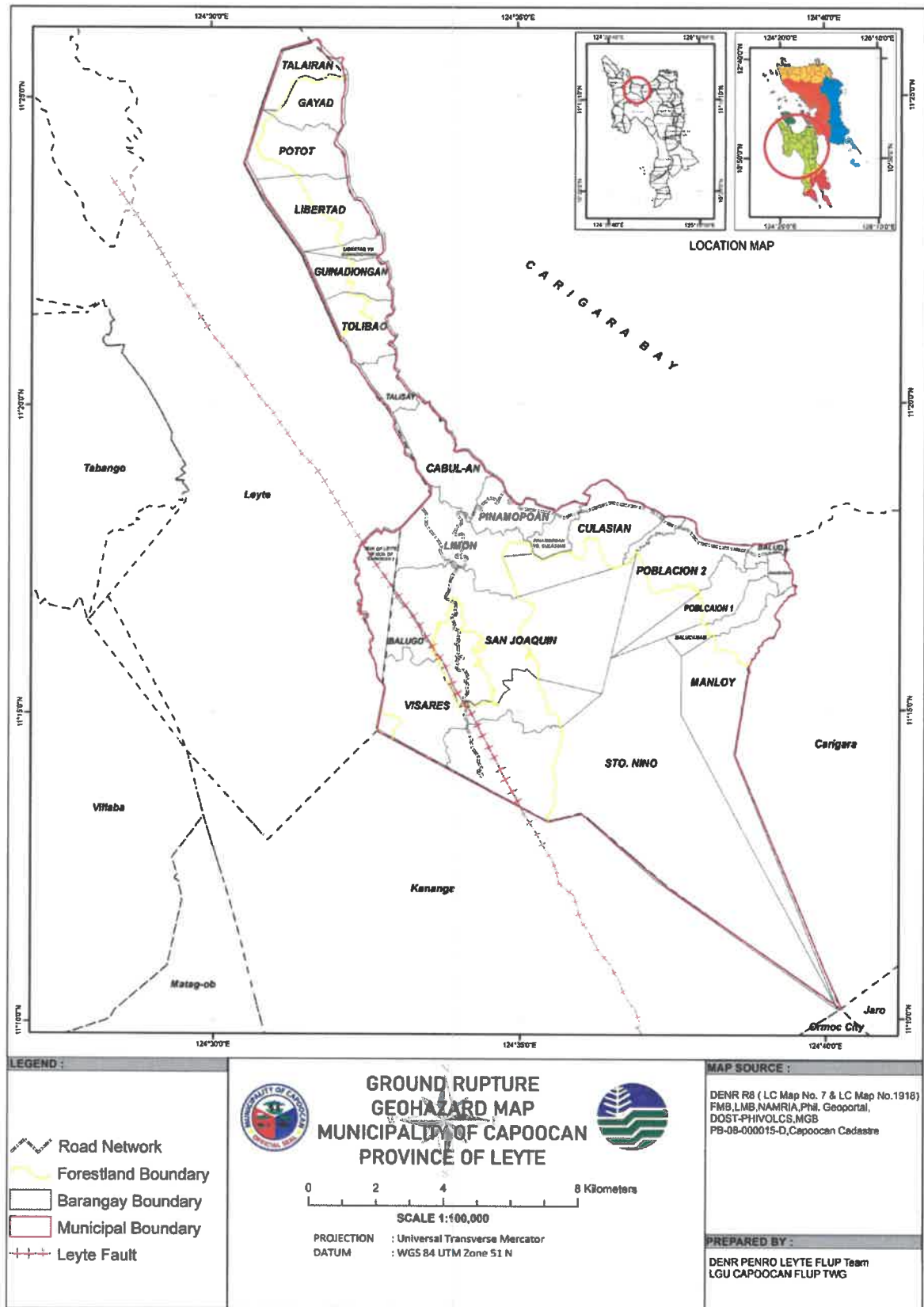


Figure 29: Urban Use Exposed to Flood Hazard

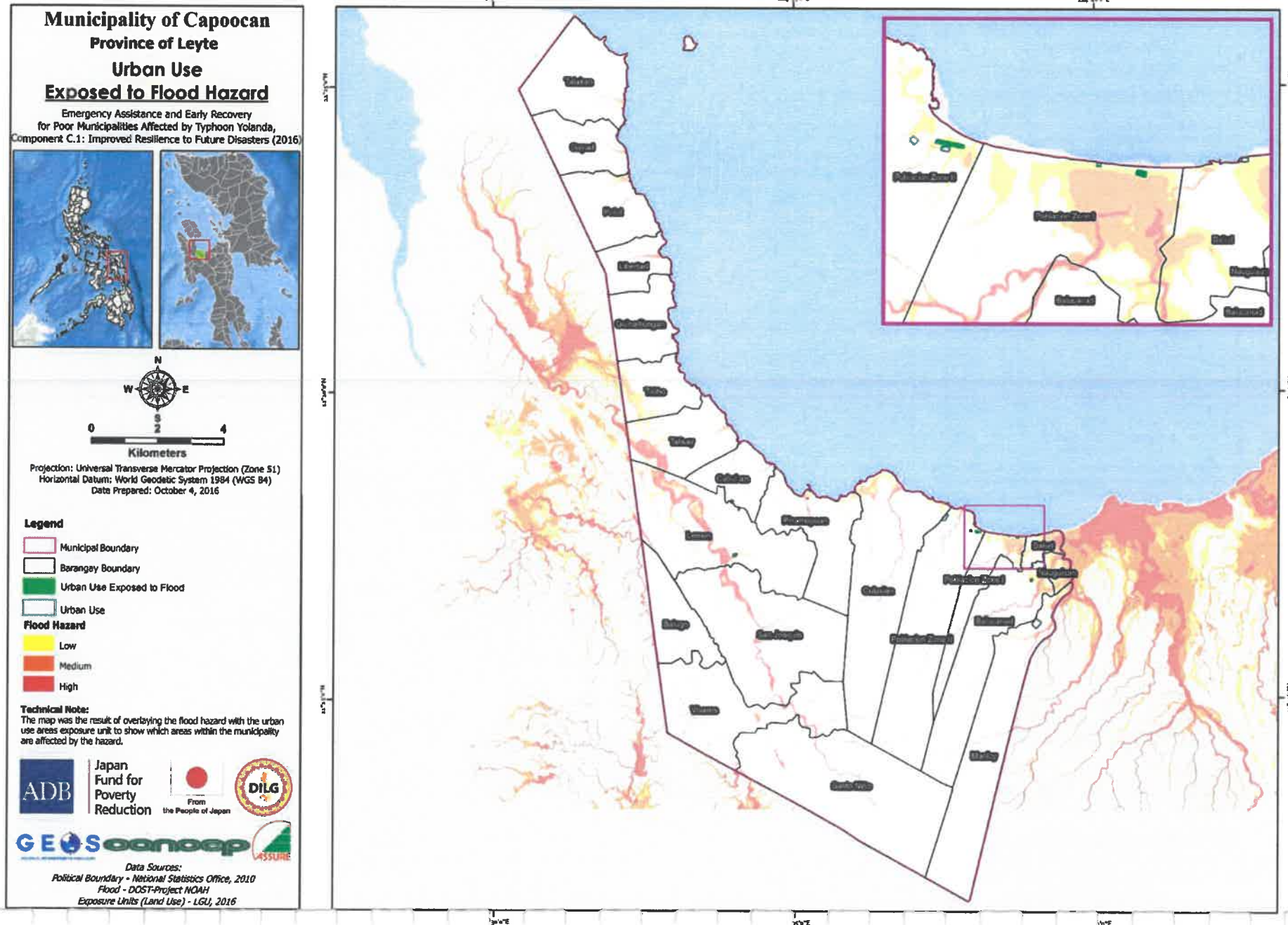


Figure 31: Critical Point Facilities Exposed to Flood Hazard

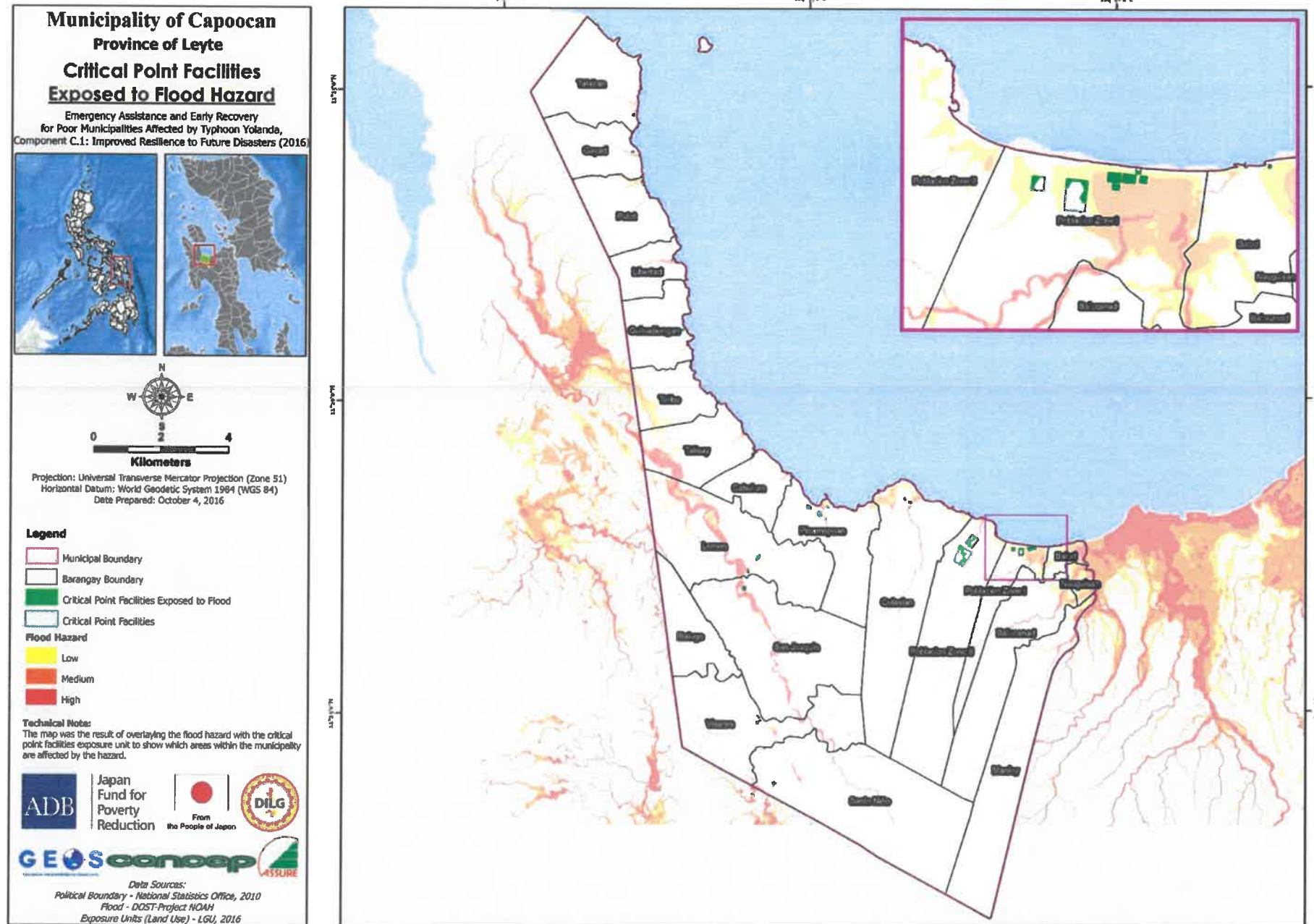


Figure 33: Population Exposed to Storm Surge Hazard

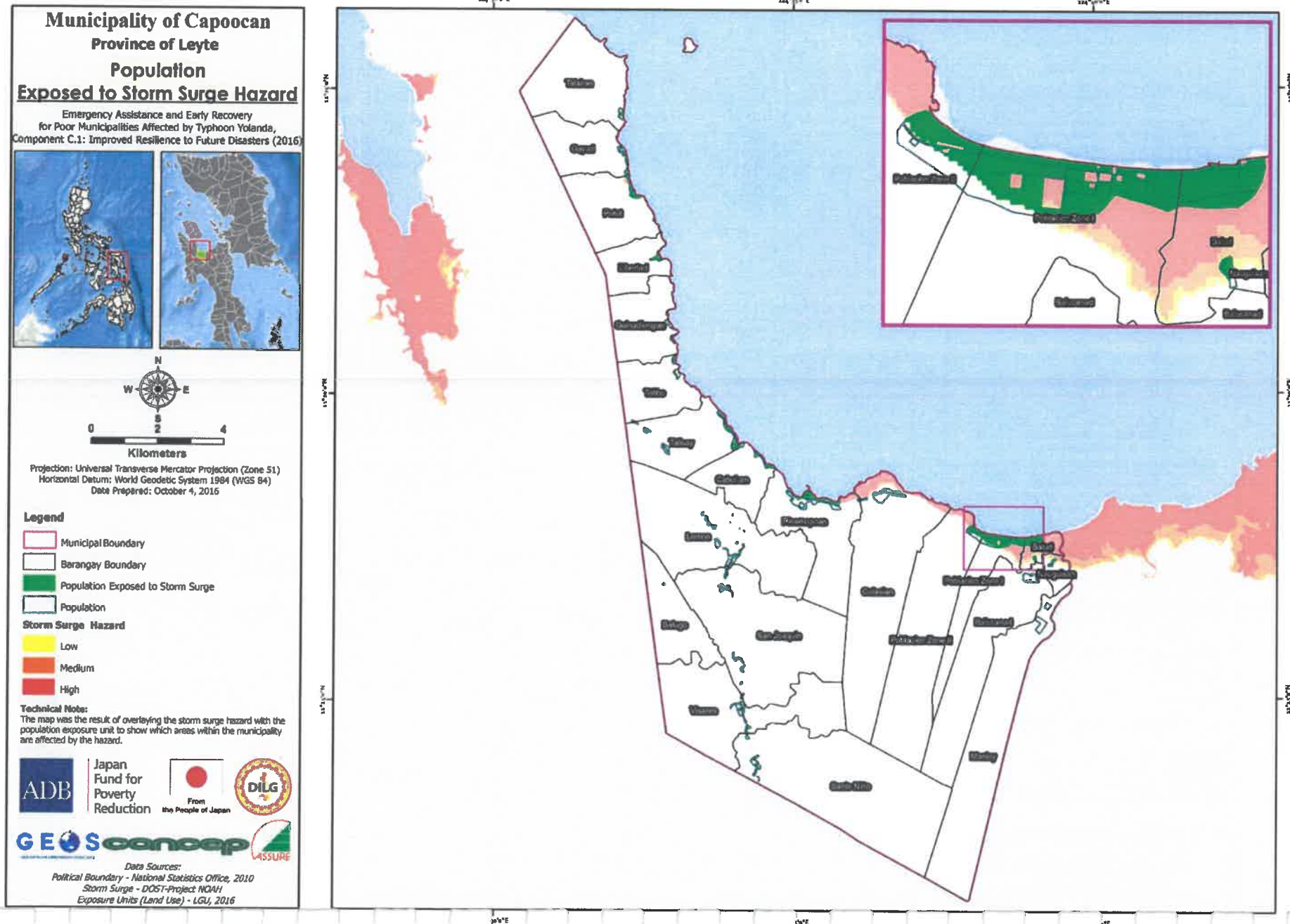


Figure 35: Natural Resource Exposed to Storm Surge Hazard

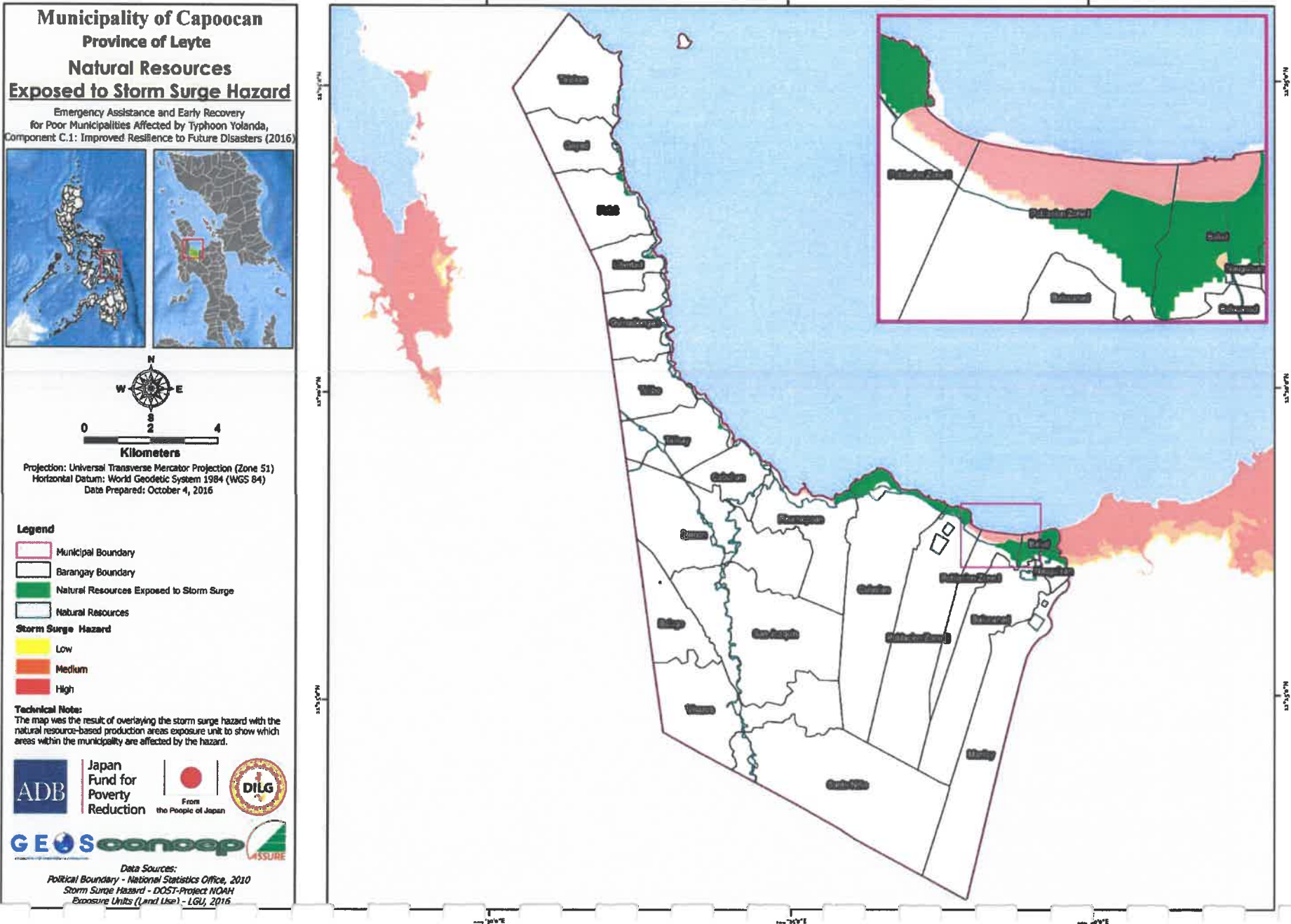


Figure 37: Lifeline Utilities Exposed to Storm Surge Hazard

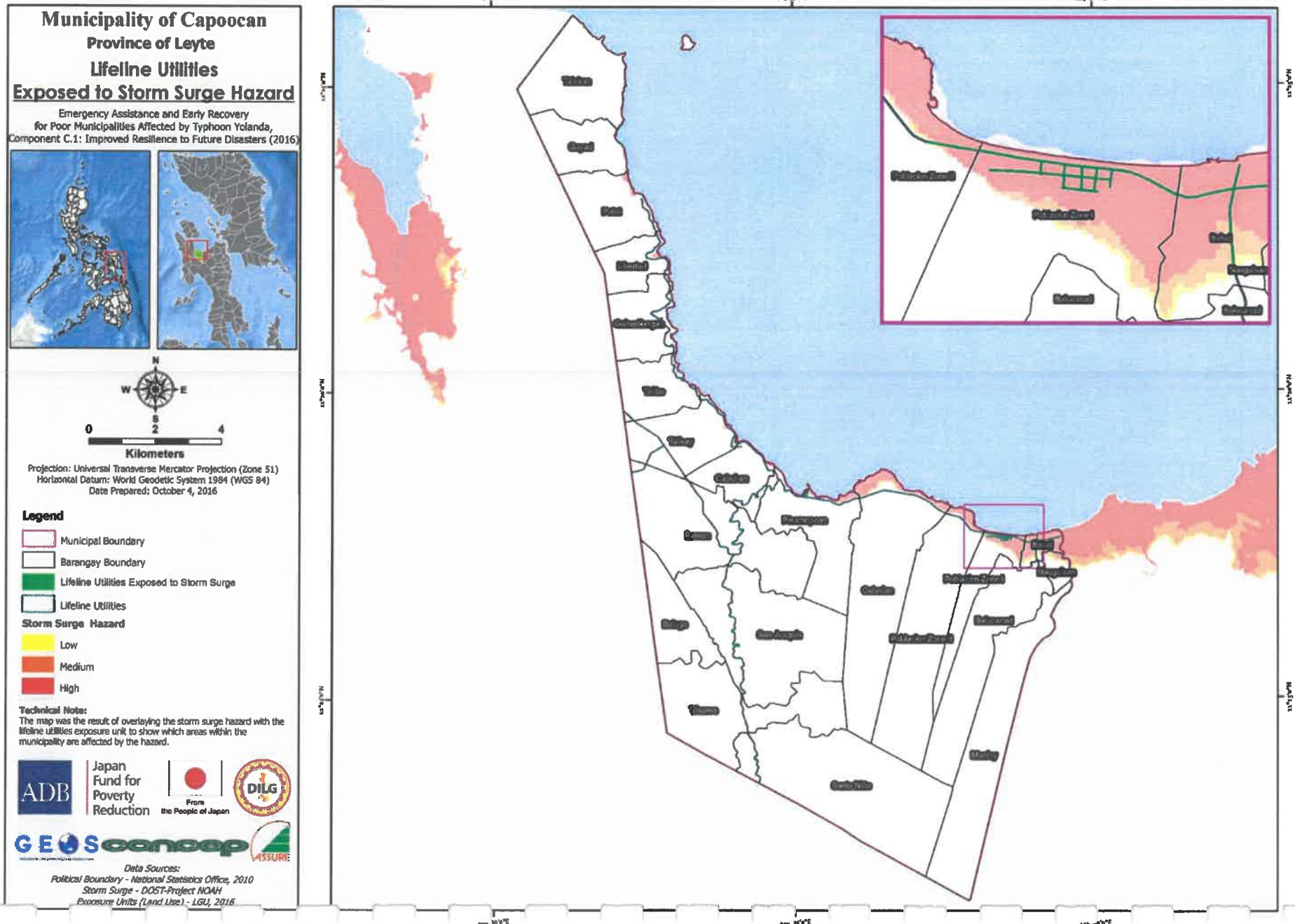


Figure 39: Urban Use Exposed to Landslide Hazard

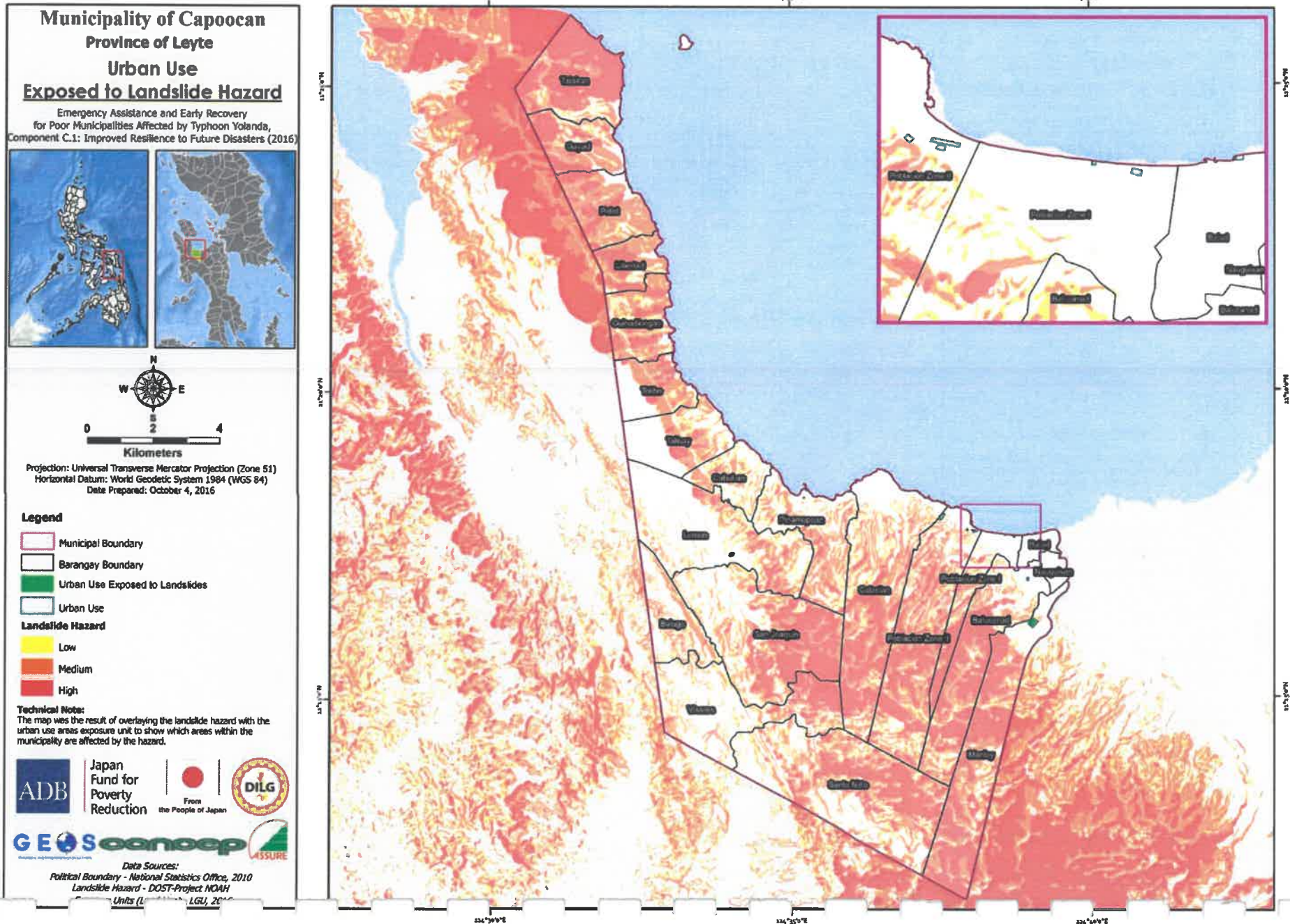






Figure 41: Critical Point Facilities Exposed to Landslide Hazard





Municipality of Capoocan
Province of Leyte
Critical Point Facilities
Exposed to Landslide Hazard

Emergency Assistance and Early Recovery
 for Poor Municipalities Affected by Typhoon Yolanda,
 Component C.1: Improved Resilience to Future Disasters (2016)









Projection: Universal Transverse Mercator Projection (Zone 51)
 Horizontal Datum: World Geodetic System 1984 (WGS 84)
 Date Prepared: October 4, 2016



Legend

-  Municipal Boundary
-  Barangay Boundary
-  Critical Point Facilities Exposed to Landslides
-  Critical Point Facilities

Landslide Hazard

-  Low
-  Medium
-  High

Technical Note:
 The map was the result of overlaying the landslide hazard with the critical point facilities exposure unit to show which areas within the municipality are affected by the hazard.

Data Sources:
 Political Boundary - National Statistics Office, 2010
 Landslide Hazard - DOST-Project NOAA
 Exposure Units (Land Use) - LGU, 2016

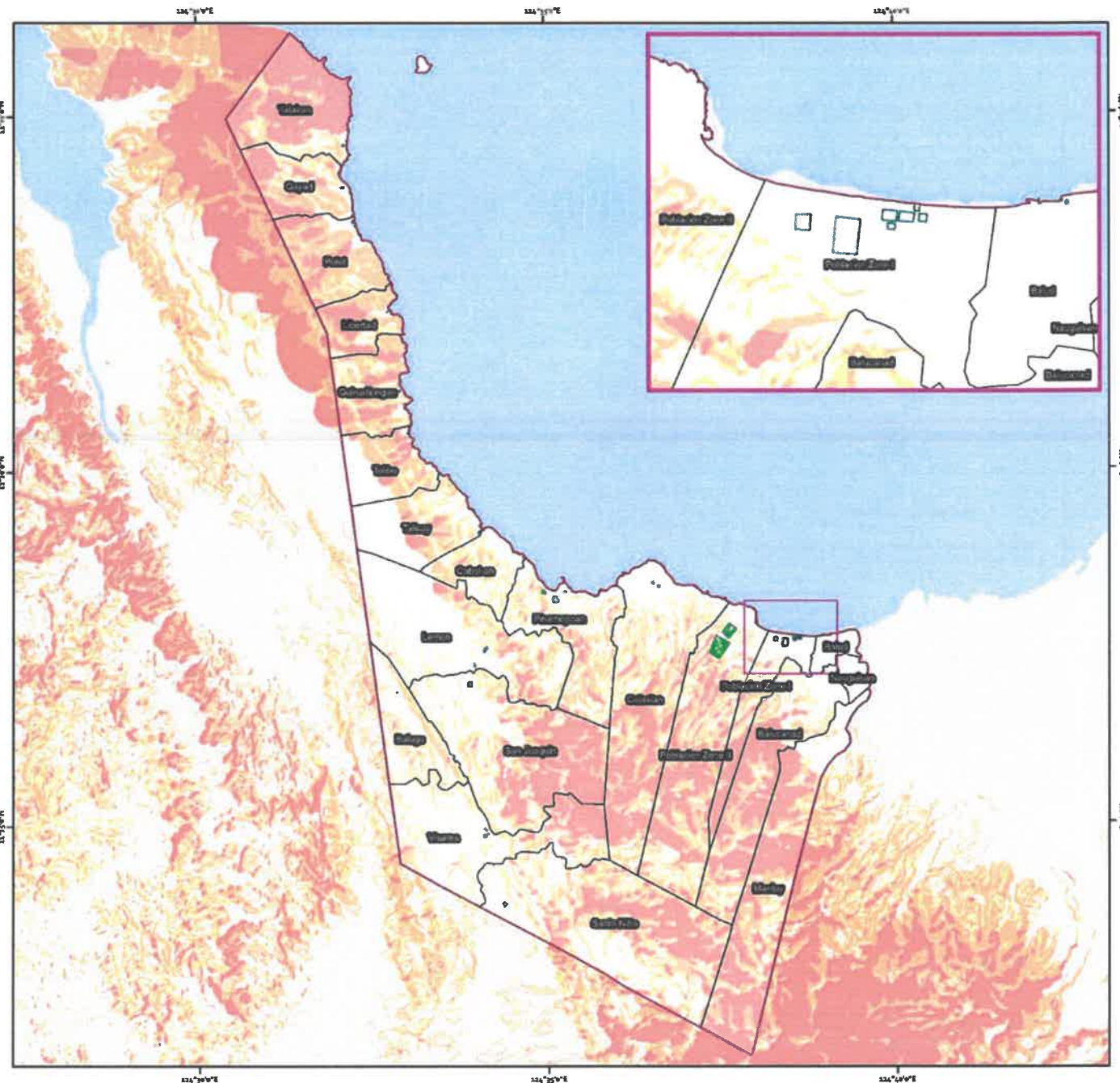


Figure 45: Urban Use Flood Vulnerability

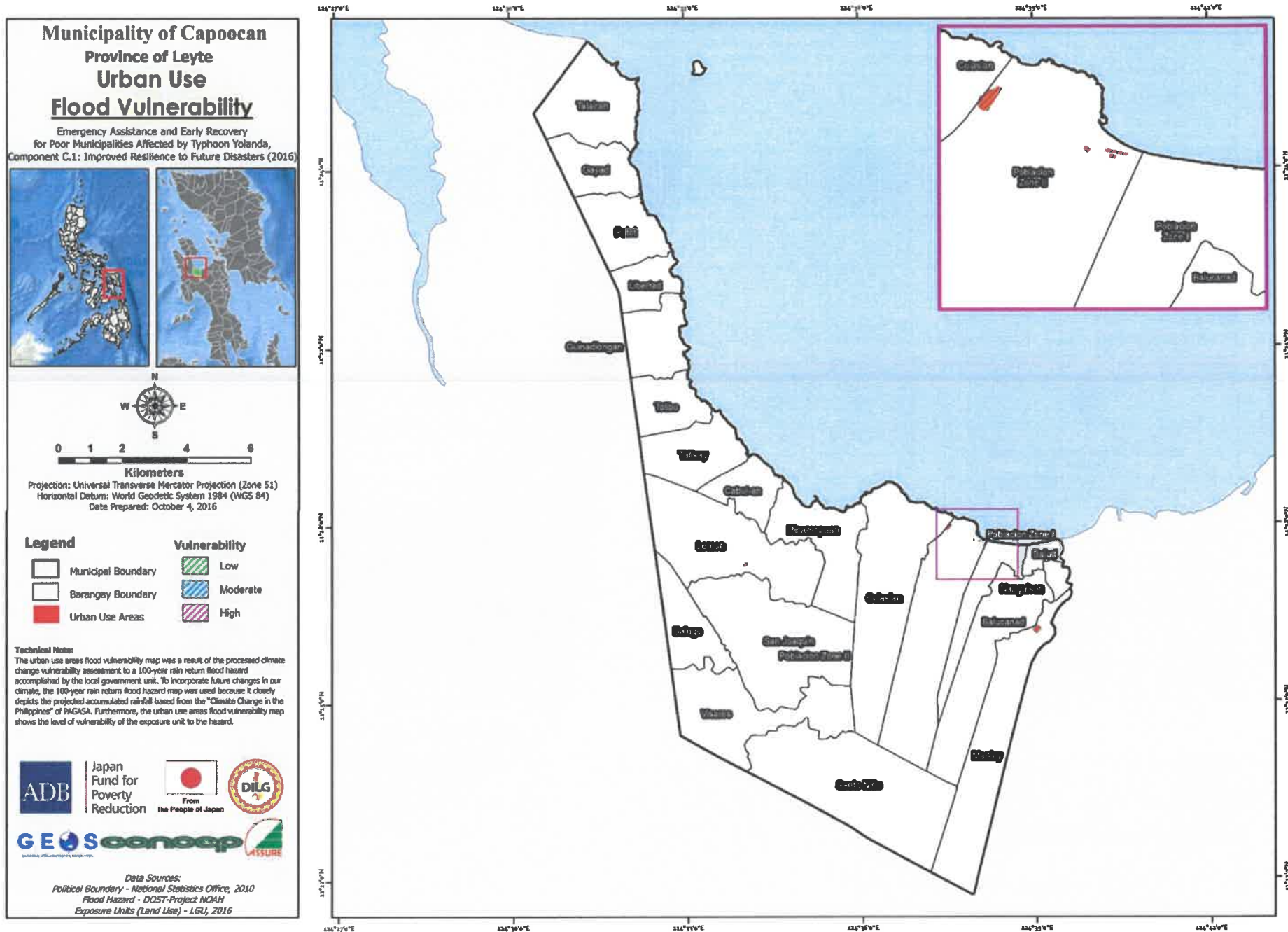


Figure 47: Critical Point Facilities Flood Vulnerability

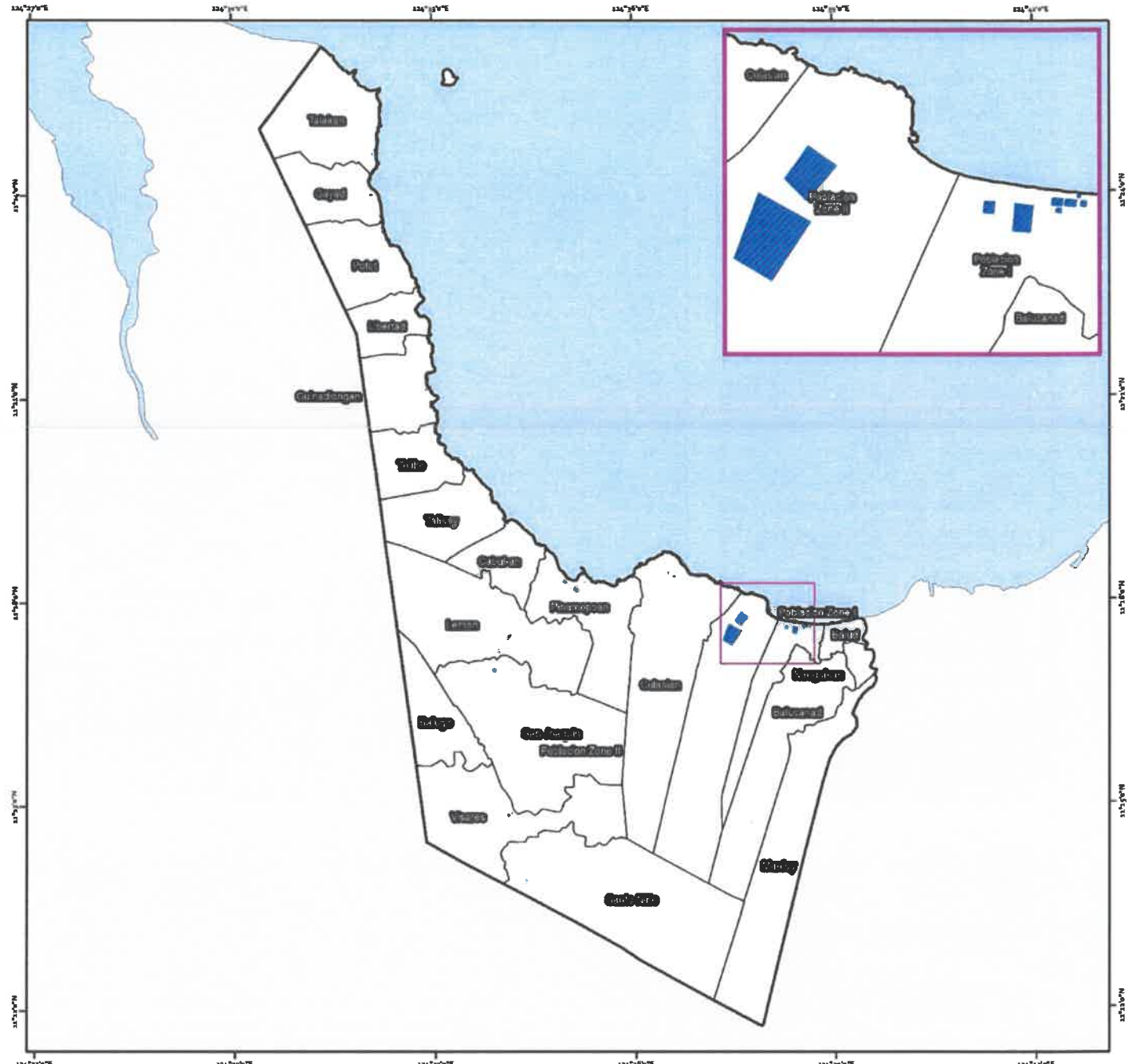
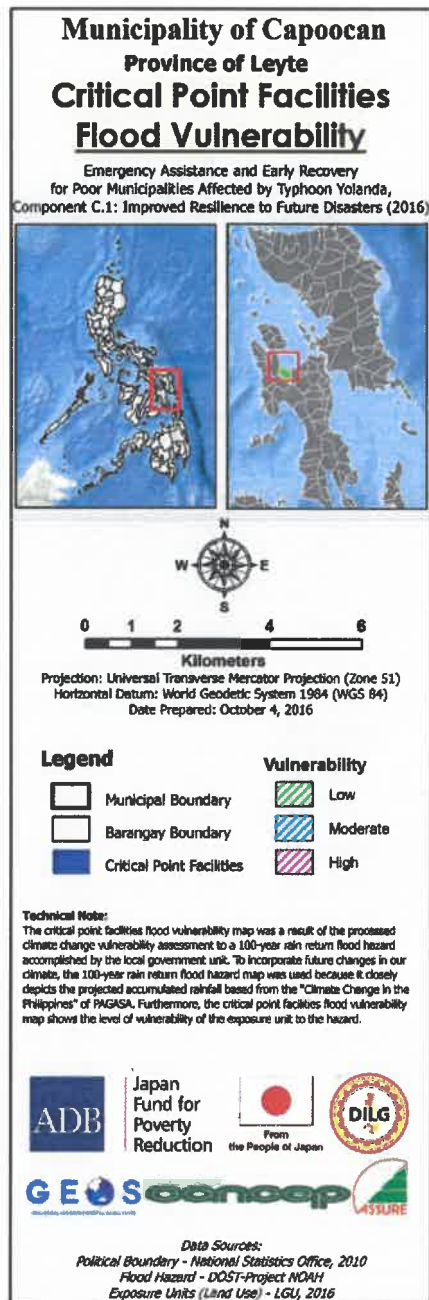


Figure 49: Exposure Unit Storm Surge Vulnerability

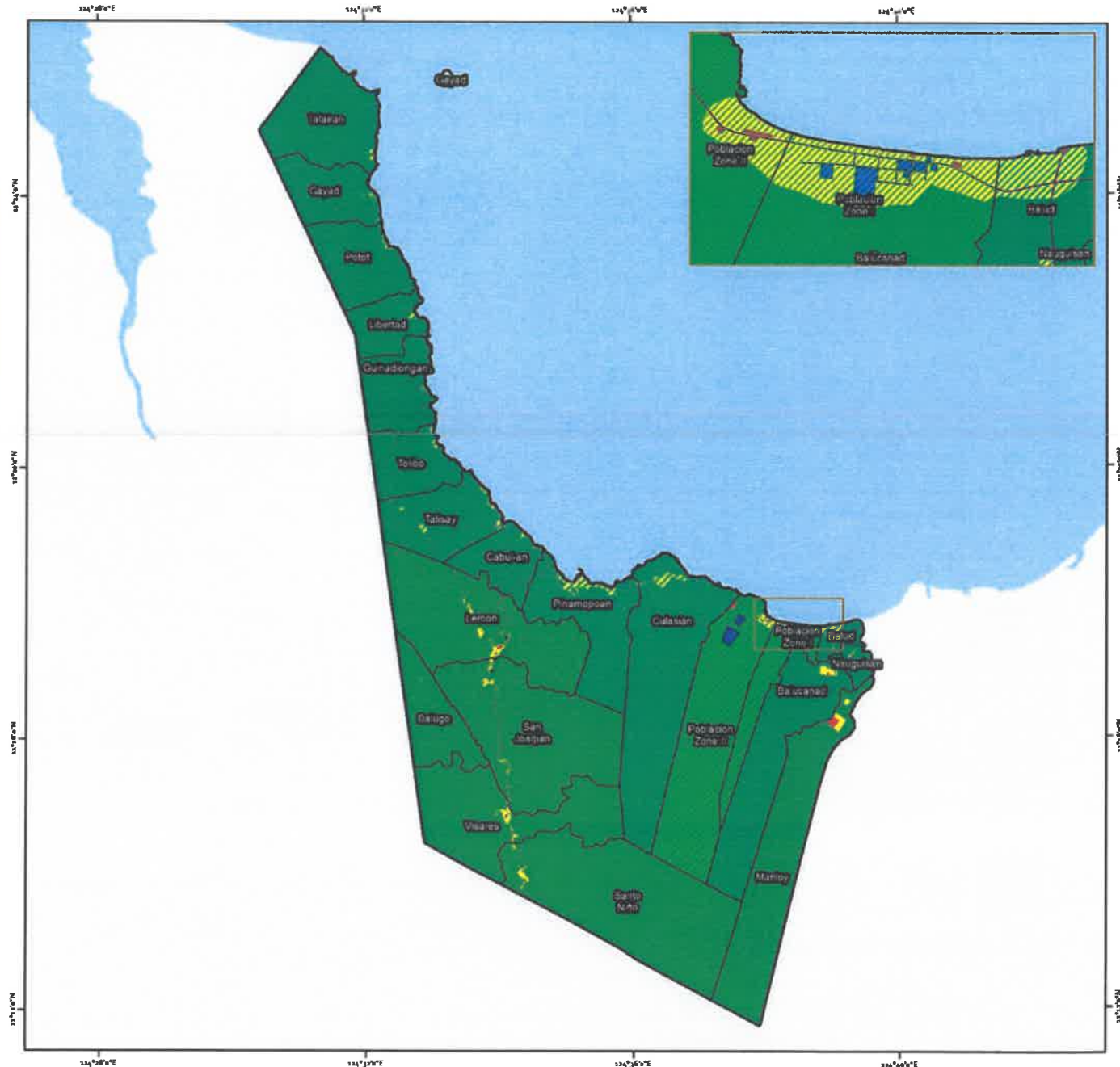
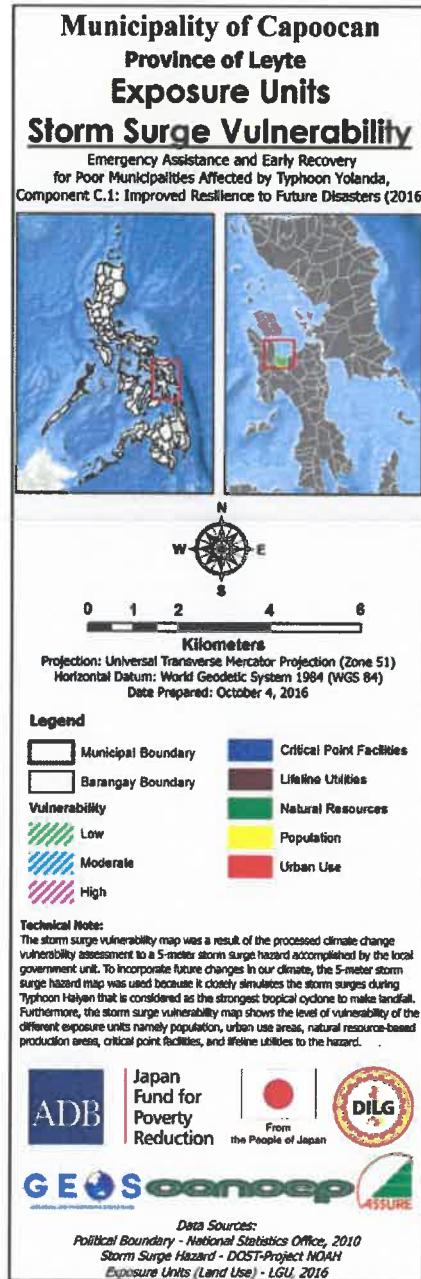


Figure 51: Urban Use Storm Surge Vulnerability

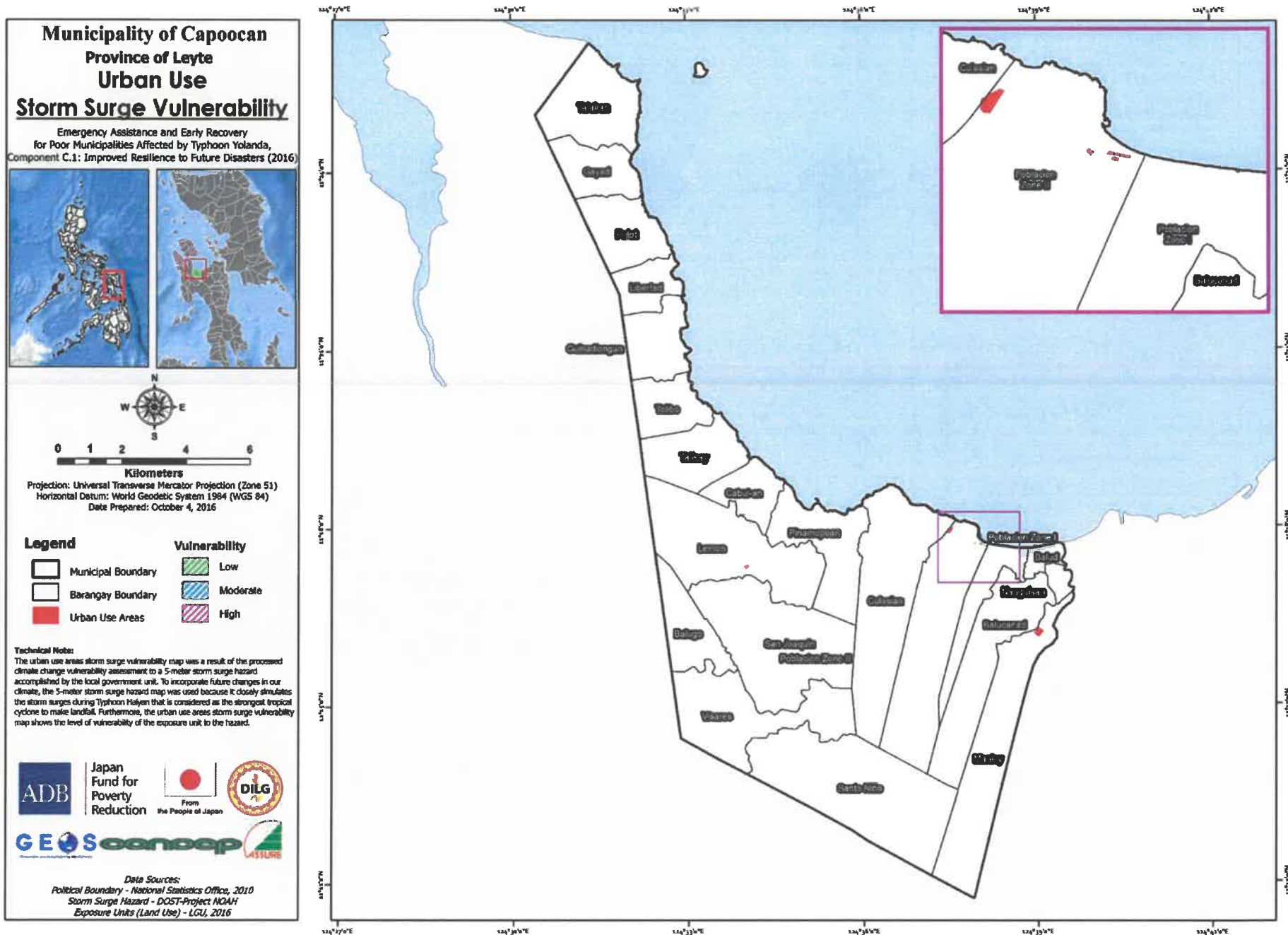


Figure 53: Critical Point Facilities Storm Surge Vulnerability

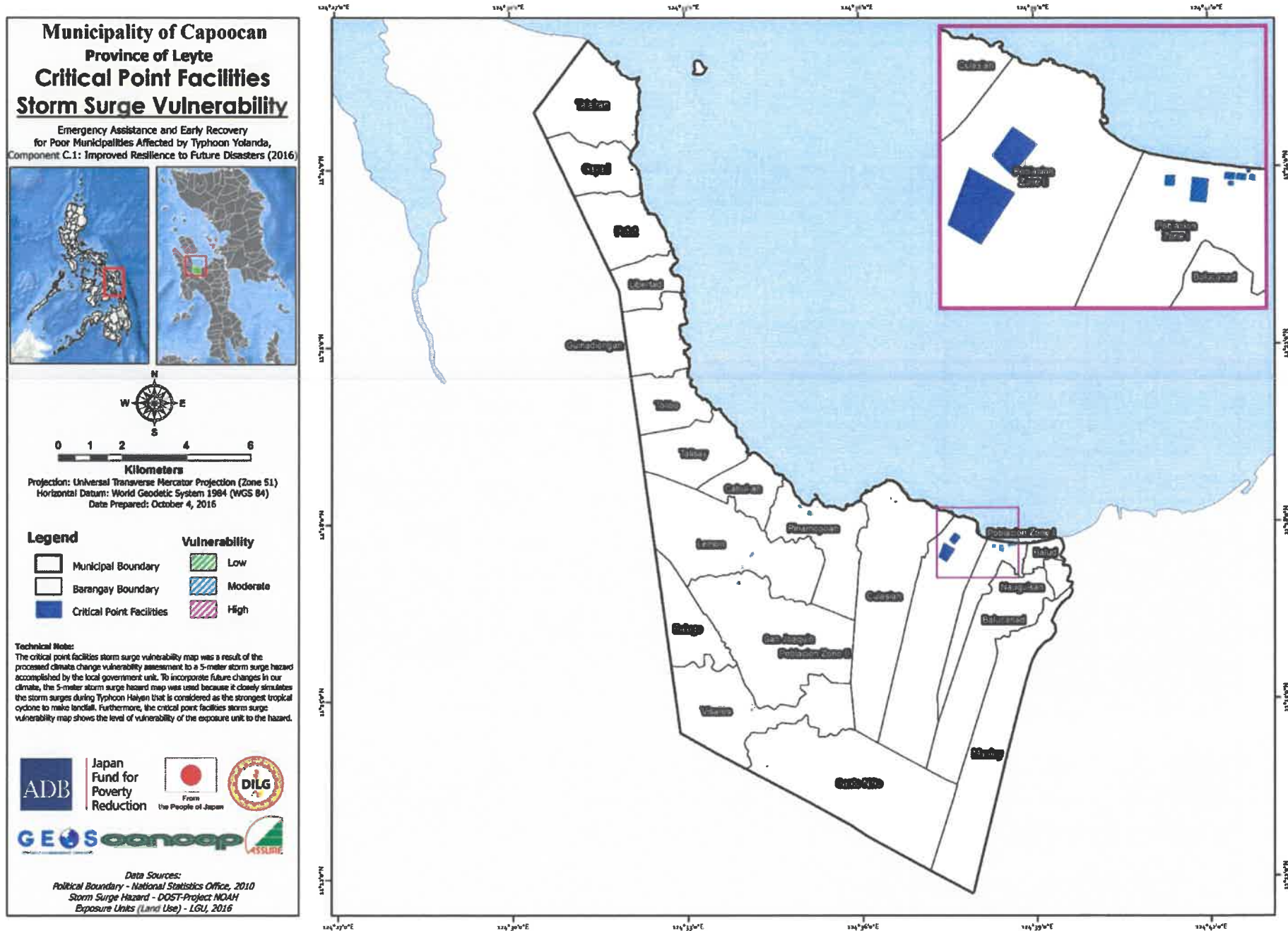
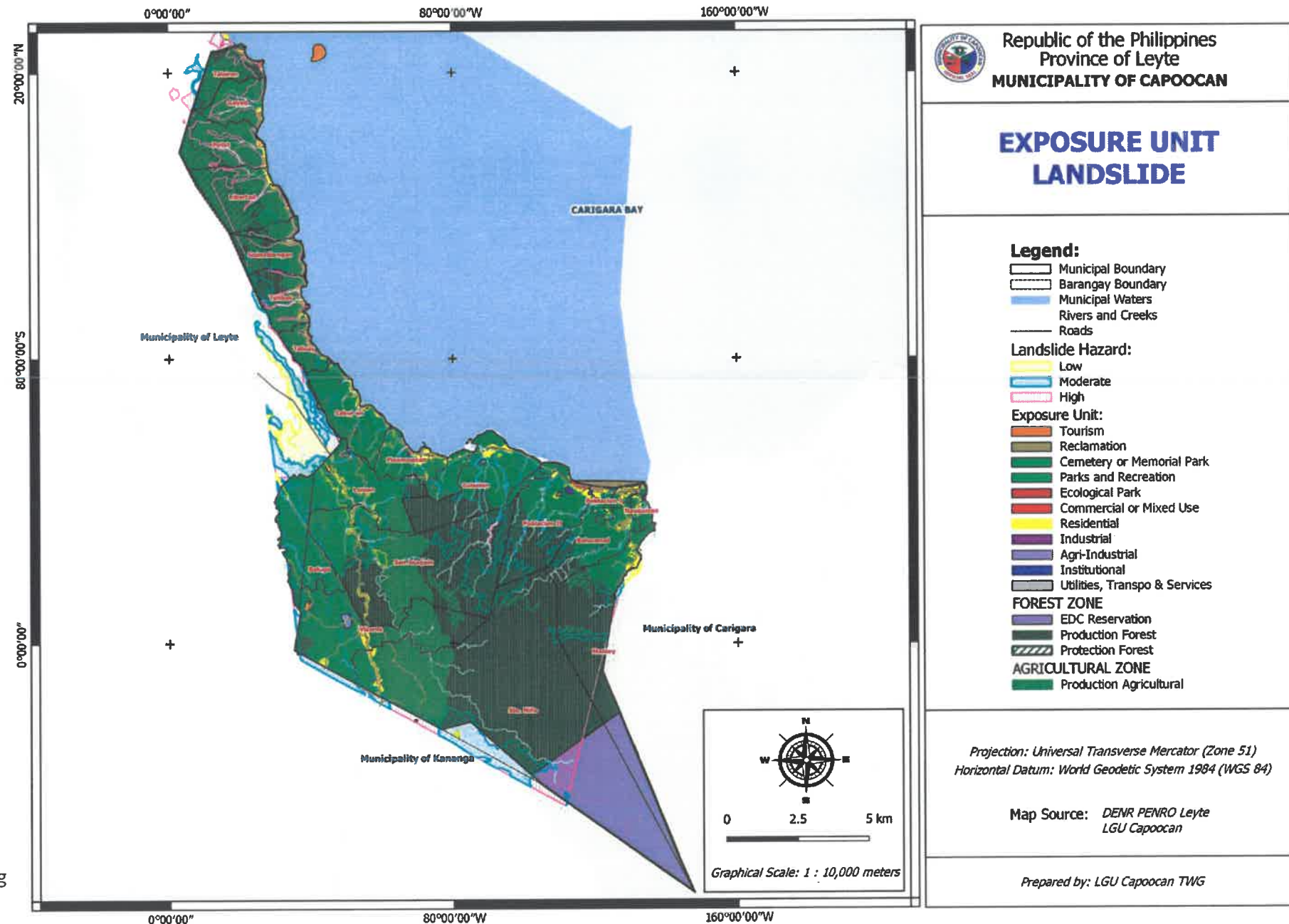

























Figure 55: Exposure Unit Landslide Vulnerability




Republic of the Philippines
Province of Leyte
MUNICIPALITY OF CAPOOCAN

EXPOSURE UNIT LANDSLIDE

- Legend:**
-  Municipal Boundary
 -  Barangay Boundary
 -  Municipal Waters
 -  Rivers and Creeks
 -  Roads
- Landslide Hazard:**
-  Low
 -  Moderate
 -  High
- Exposure Unit:**
-  Tourism
 -  Reclamation
 -  Cemetery or Memorial Park
 -  Parks and Recreation
 -  Ecological Park
 -  Commercial or Mixed Use
 -  Residential
 -  Industrial
 -  Agri-Industrial
 -  Institutional
 -  Utilities, Transpo & Services
- FOREST ZONE**
-  EDC Reservation
 -  Production Forest
 -  Protection Forest
- AGRICULTURAL ZONE**
-  Production Agricultural

Projection: Universal Transverse Mercator (Zone 51)
Horizontal Datum: World Geodetic System 1984 (WGS 84)

Map Source: DENR PENRO Leyte
 LGU Capoocan

Prepared by: LGU Capoocan TWG

Figure 57: Urban Use Landslide Vulnerability

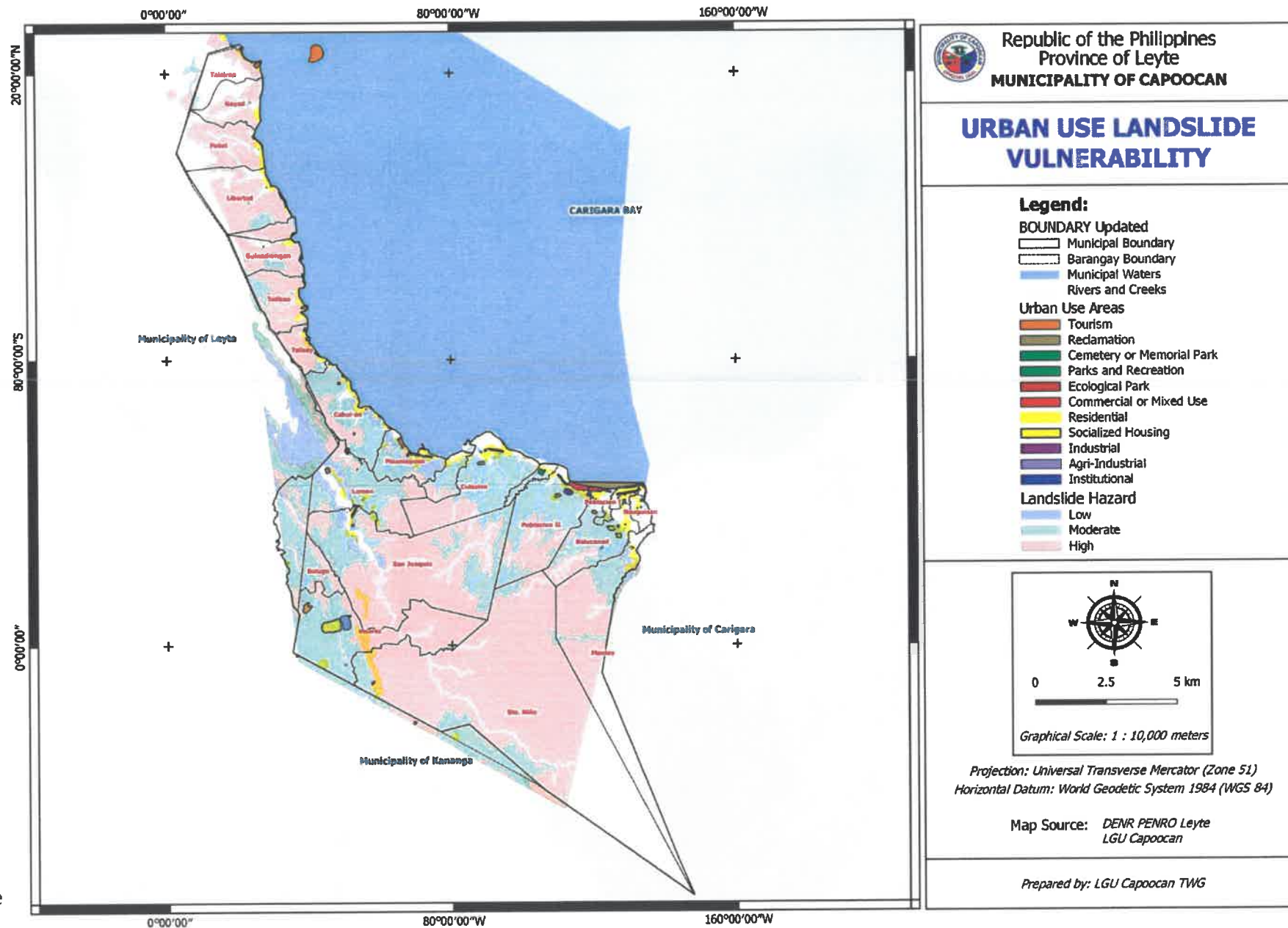


Figure 59: Critical Point Facilities Landslide Vulnerability

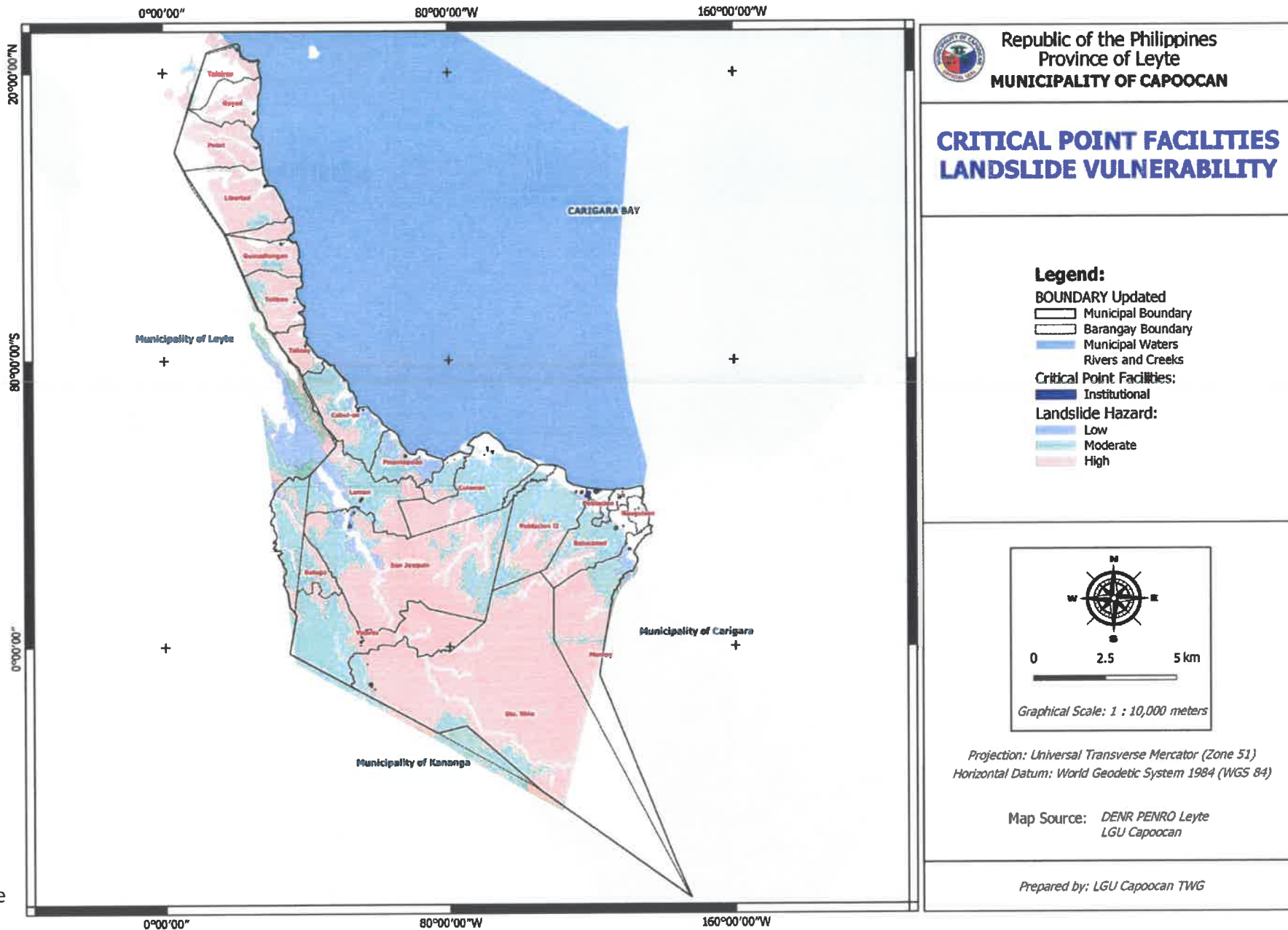


Figure 61: Population Risk to Flood Hazard

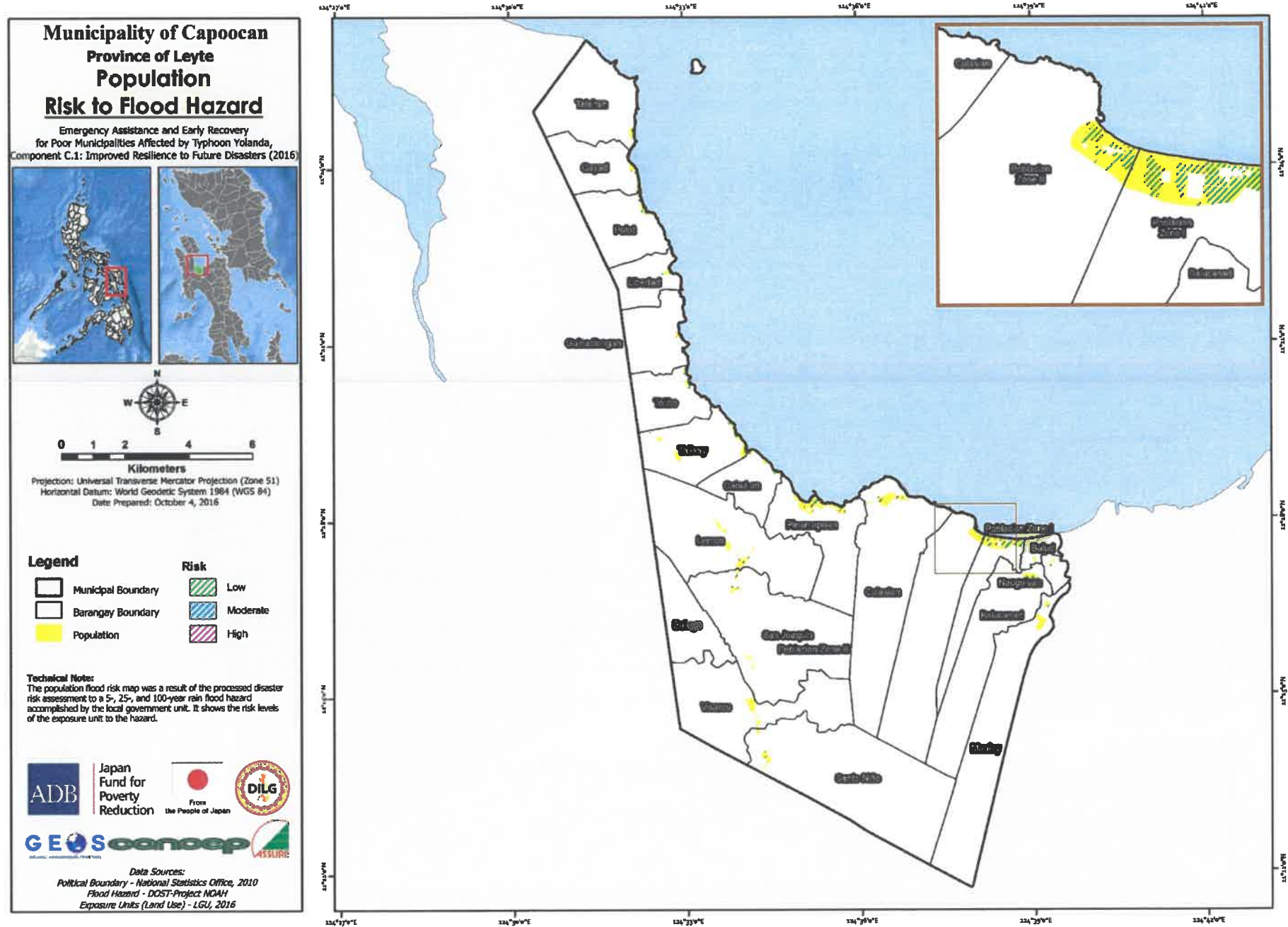


Figure 63: Urban Use Risk to Flood Hazard

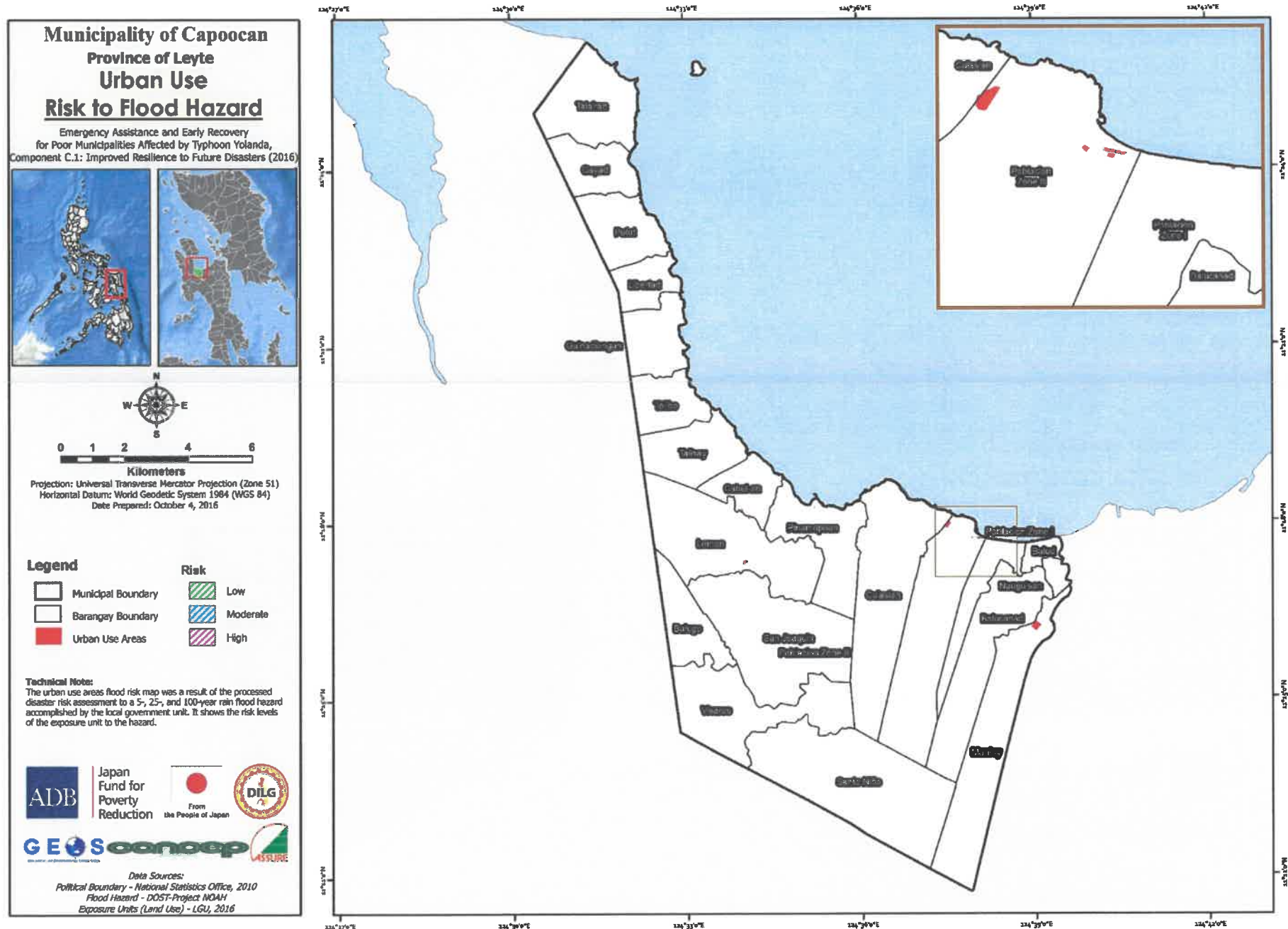


Figure 67: Population Risk to Landslide Hazard

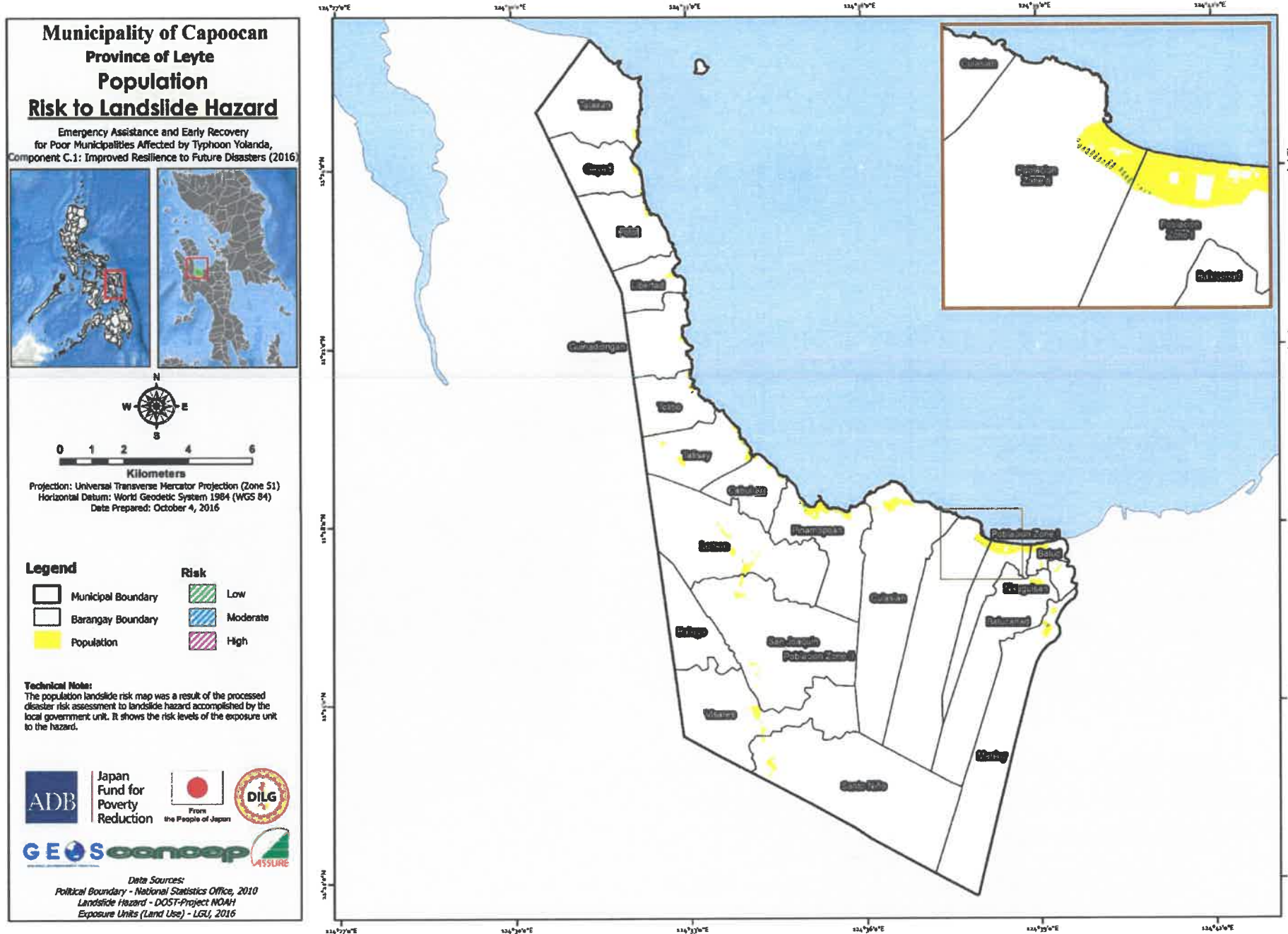


Figure 69: Urban Use Risk to Landslide Hazard

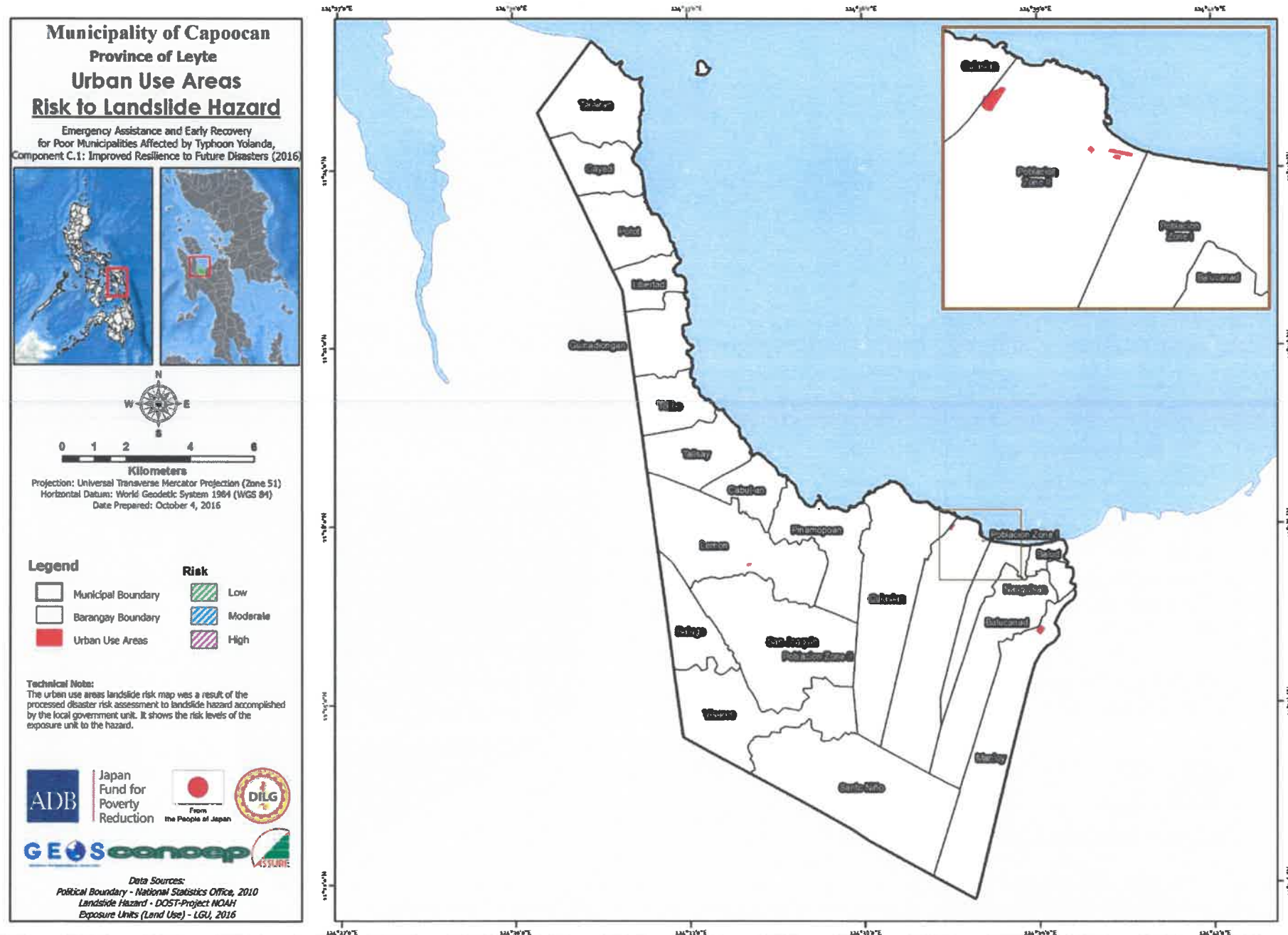


Figure 71: Critical Point Facilities Risk to Landslide Hazard

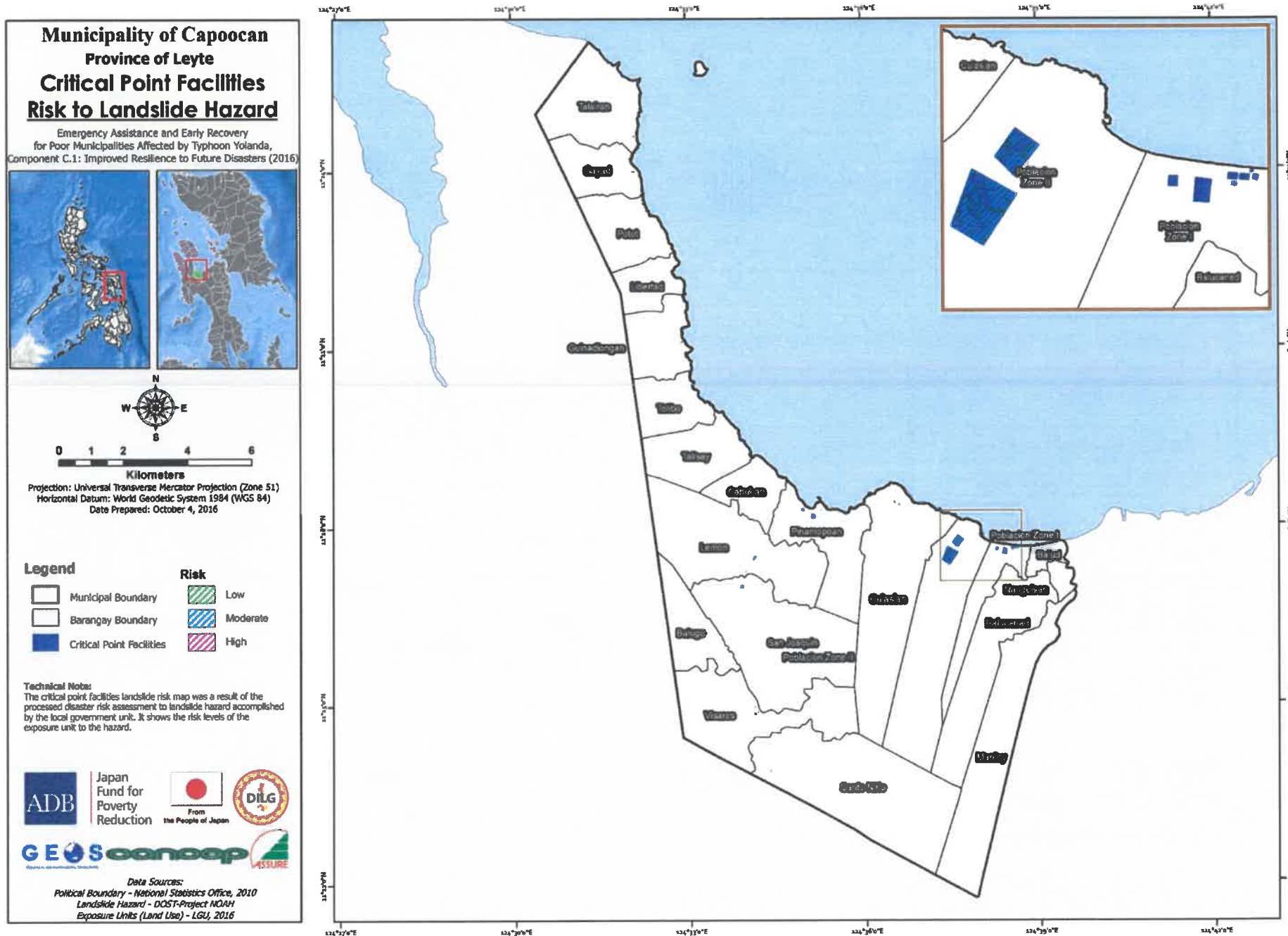


Figure 73: Population Risk to Storm Surge Hazard

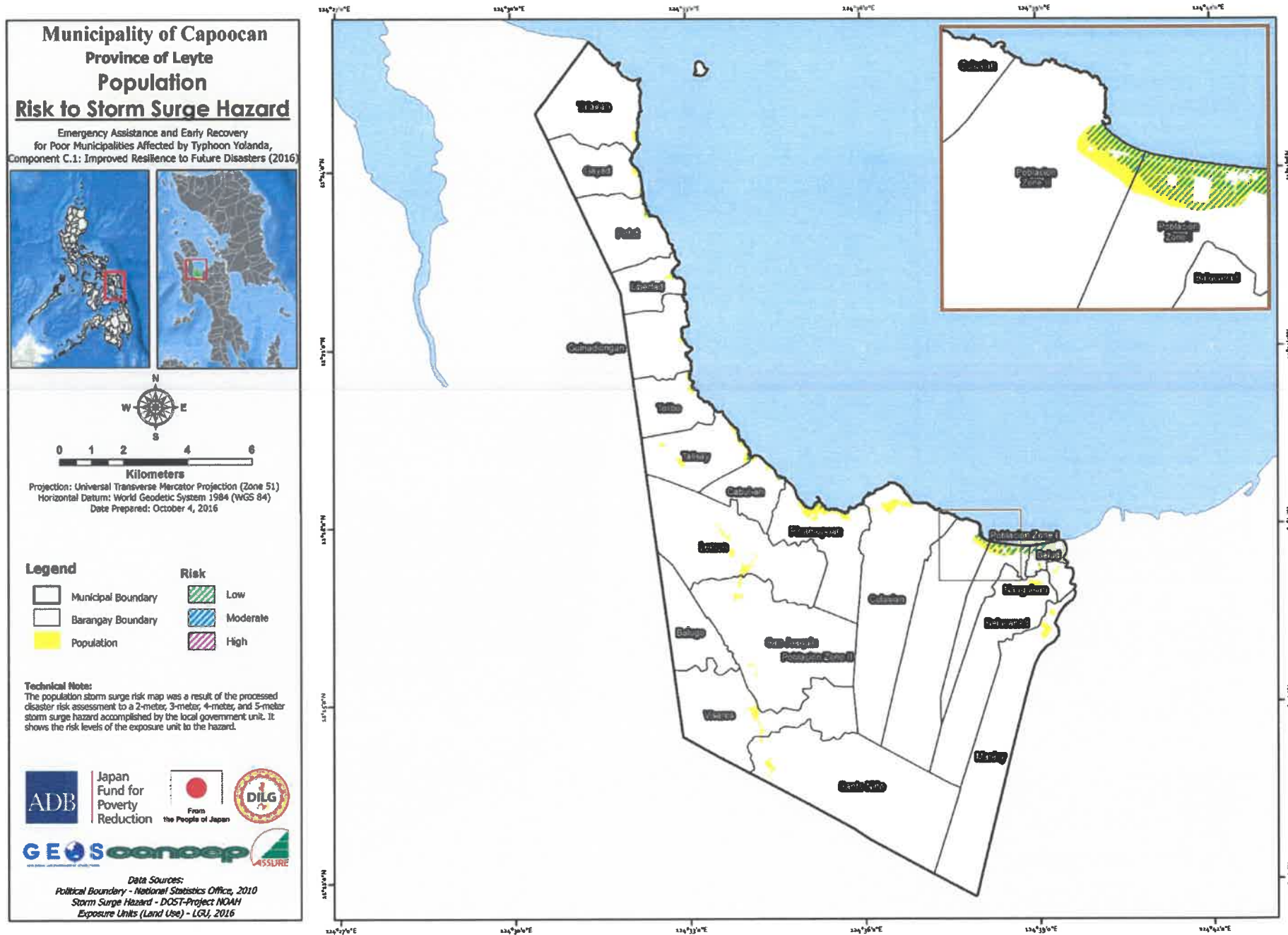


Figure 75: Urban Use Risk to Storm Surge Hazard

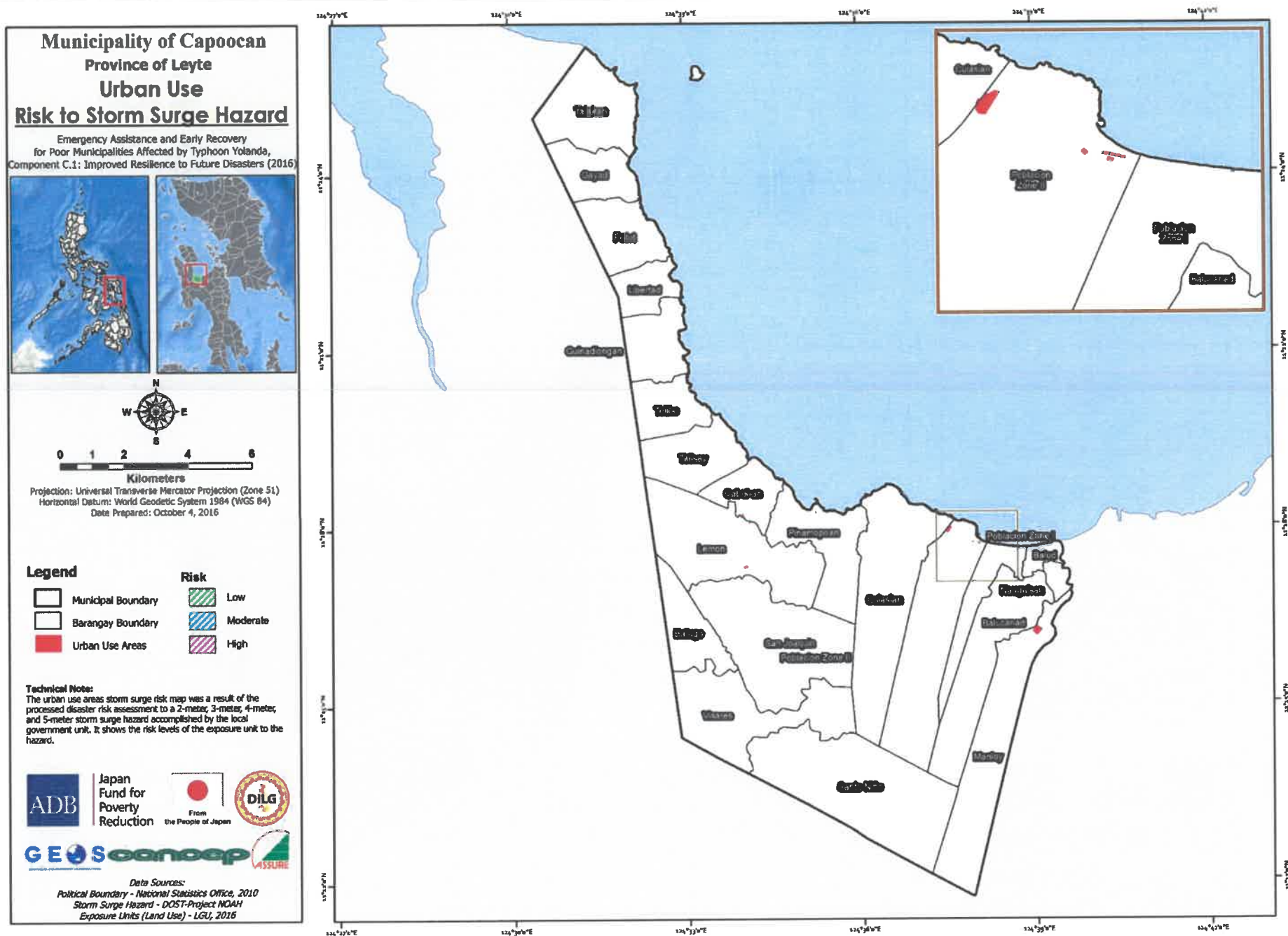
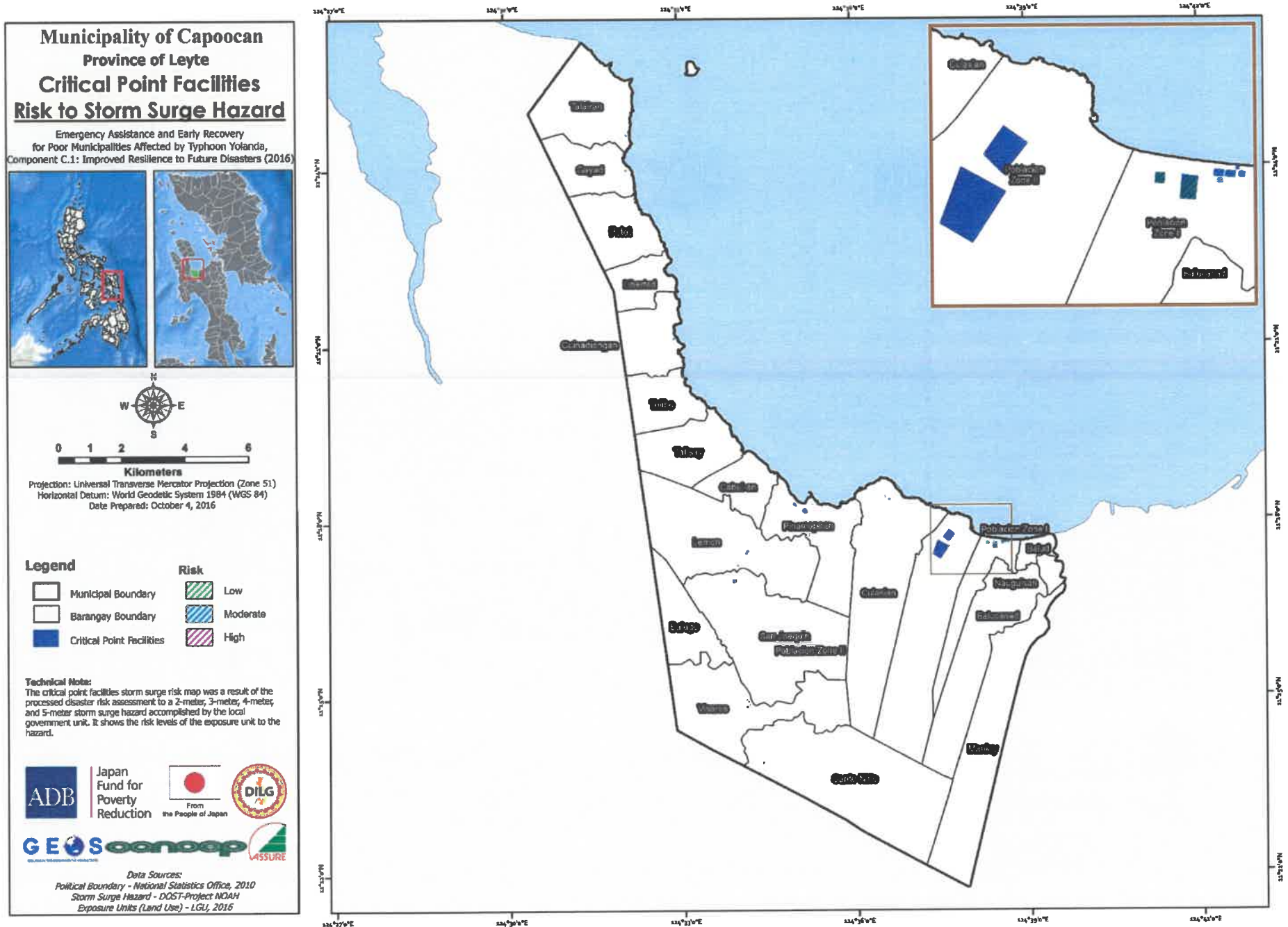


Figure 77: Critical Point Facilities Risk to Storm Surge Hazard



4. Recommended Actions/Measures

The body of information and corresponding analysis on the subject of climate change vulnerability and climate and disaster risk is already expansive reflecting the scale, severity and extent of impact as well as effects of expected hazard events on exposed elements of the municipality. In consonance with findings on the main topics of this special study area, key sectoral representatives from the local communities conducted focused group interactions to track and recommend immediately foreseeable action responses. Results of the activity are documented in matrix here.

Times have rapidly changed for localities like Capooacan. This is not to sound unnecessary alarms, but empirical and historical data portray dangers over the near and far future from highly catastrophic and more frequent disasters brought about by extreme hazard events. Calamities that haven't hitherto happened are occurring and paying visits to formerly safe communities. The consideration of data and projections on the two main topics of Climate Change Vulnerability Assessment (CCVA) and Climate and Disaster Risk Assessment (CDRA) calls for not merely quick response or knee-jerk reactions, but strategic and comprehensive measures at preparedness, adaptability and resilience.

Actions to mitigate or obviate the impact and most severe effects of anticipated disasters should range from immediate to short-term, medium-term and long-term. Three of the immediate steps that may be taken for risk reduction and management are:

- Vigorous education and awareness raising primarily targeted at concerned communities re areas and elements identified to be highly exposed and strongly vulnerable;
- Acquisition and prepositioning of resources and assets, such as calamity fund, equipment, tools, vehicles, alarms and relief materials;
- Organization and training of regularly employed personnel, volunteers and rescue responders for quick deployment and operation during emergencies;
- Posting of signs to instruct, direct, warn or make the public aware of what to avoid or do before, at the time, and after disaster hits;
- Most of all regular bulletins on unfolding situation of dire calamity.

But beyond this study, the municipality has to address the broader framework of preparedness, adaptability and resilience to incorporate into its roadmap, strategic directions and programs at holistic and sustainable development. The work takes a more profound and comprehensive view of the paramount concern. It is urgently recommended that the sectors, agencies and branches responsible engineer, enunciate/enact, and implement the following:

- 1) A joint, holistic and periodic (i.e. from short- to long-term framework strategy for disaster risk reduction and management down to program of action;
- 2) Plan, develop and execute projects to address key result areas towards establishing climate change adaptive and disaster resilient communities;
- 3) Legislate and pass related ordinances or resolutions therein;
- 4) Undertake vigorous and concentrated efforts at resource mobilization in line with the execution of programs/projects/initiatives along the said area of concern;
- 5) Institutionalize the structure, systems, deployment of forces/actors, and participation of other major players within the community on this particular sphere of governance.

The recommended courses go short of saying that the matter of disaster preparedness and response, as well as risk reduction and management should not just be subsumed under other matters like land use allocation. It should be treated independently.

Table 129: Population Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	0 percent of the total households considered informal settlers, while 43.4 percent are below the poverty threshold.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.
	The households do not have the capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to flooding is low to high		
	The population of Barangay Balugo has Low vulnerability or no risk to flooding.	Barangays prone to flooding may have an increase in morbidity rate.	No policy intervention needed.
	Low proportion of the population specifically 0 percent of residential area is exposed to flooding.		
Cabul-an	82.7 percent of households that are living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.	
	High proportion of the population specifically 17.1% children, while Low proportion or 4.3 percent are senior citizens.	Needs assistance during evacuation.	
	Low proportion of households or 1.9 percent are with PWDs.		
	0 percent of total households are considered informal settlers, while 82.7 percent are below the poverty threshold.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.
	The households do not have the capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	The population of Barangay Cabul-an has Moderate vulnerability to flooding.	Barangays prone to flooding may have an increase in morbidity rate.	Information dissemination and flood drill.
Very High proportion of the population specifically 41.9 percent of residential area is exposed to flooding.		Information dissemination and flood drill.	

Table 129: Population Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	Risk level to flooding is low to high		
	The population of Barangay Gayad has Moderate vulnerability to flooding.	Barangays prone to flooding may have an increase in morbidity rate.	Information dissemination and flood drill.
	Very High proportion of the population specifically 20.3 percent of residential area is exposed to flooding.		Information dissemination and flood drill.
Guinadiongan	51.9 percent of households that are living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.	
	High proportion of the population specifically 15.1% children, while Very High proportion or 27 percent are senior citizens.	Needs assistance during evacuation.	
	Low proportion of households or 0.6 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 51.9 percent are below the poverty threshold.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.
	The households do not have the capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to flooding is low to moderate		
	The population of Barangay Guinadiongan has Moderate vulnerability to flooding.	Barangays prone to flooding may have an increase in morbidity rate.	Conduct of information dissemination and flood drill.
	Very High proportion of the population specifically 32.4 percent of residential area is exposed to flooding.		Conduct of information dissemination and flood drill.
Lemon	70 percent of households living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.	
	Moderate proportion of the population specifically 10% is children, moderate proportion or 8.3 percent senior citizens.	Needs assistance during evacuation.	

Table 129: Population Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	Very High proportion of the population specifically 82.3 percent of residential area is exposed to flooding.		
Manloy	61.9 percent of households that are living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.	Information dissemination and flood drill.
	High proportion of the population specifically 12.6 % children, while Moderate proportion or 7.4 percent are senior citizens.	Needs assistance during evacuation.	
	Low proportion of households or 4.6 percent are with PWDs.		
	0 percent of total households are considered informal settlers, while 57.7 percent are living below the poverty threshold.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.
	The households do not have the capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to flooding is low to high		
	The population of Barangay Manloy has High vulnerability to flooding.	Barangays prone to flooding may have an increase in morbidity rate.	Information dissemination and flood drill.
	Very High proportion of the population specifically 23.8 percent of residential area is exposed to flooding.		Information dissemination and flood drill.
Nauguisan	64.2 percent of households that are living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.	
	High proportion of the population specifically 17.7% children, while Moderate proportion or 7.6 percent are senior citizens.	Needs assistance during evacuation.	
	Low proportion of households or 1.8 percent are with PWDs.		
	0 percent of total households are considered informal settlers, while 68.8 percent are living below the poverty threshold.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.

Table 129: Population Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	High proportion of the population specifically 11.7 percent children, while Moderate proportion or 8.5 percent are senior citizens.	Needs assistance during evacuation.	
	Low proportion of households or 4.4 percent are with PWDs.		
	0 percent of the total households are considered informal settlers, while 46.6 percent are living below the poverty threshold.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.
	The households do not have the capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to flooding is low to high		
	The population of Barangay Poblacion Zone I has Low vulnerability to flooding.	Barangays prone to flooding may have an increase in morbidity rate.	No policy intervention needed.
	Very High proportion of the population specifically 62.7 percent of residential area is exposed to flooding.		Information dissemination and flood drill.
Poblacion Zone II	47.4 percent of households that are living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.	
	Moderate proportion of the population specifically 8.2 percent children, High proportion or 10.6 percent are senior citizens.	Needs assistance during evacuation.	
	Moderate proportion of households or 6.1 percent with PWDs.		
	0 percent of total households are considered informal settlers, while 36.8 percent are living below the poverty threshold.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.
	The households do not have the capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to flooding is low to moderate		

Table 129: Population Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s	
	The households do not have the capacity to relocate or retrofit.		Capability building (Carpentry).	
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.	
	Risk level to flooding is low to high			
	The population of Barangay San Joaquin has Moderate vulnerability to flooding.		Barangays prone to flooding may have an increase in morbidity rate.	Information dissemination and flood drill.
	Very High proportion of the population specifically 44.4 percent of residential area is exposed to flooding.			Information dissemination and flood drill.
Santo Niño	63.4 percent of households that are living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.		
	Moderate proportion of the population specifically 7.4 percent children, Low proportion or 4.8 percent are senior citizens.	Needs assistance during evacuation.		
	Low proportion of households or 2.1 percent are with PWDs.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.	
	0 percent of total households are considered informal settlers, while 60 percent are living below the poverty threshold.			
	The households do not have the capacity to relocate or retrofit.			
	There are existing government resources to help the population adapt to disasters.			
	Capability building (Carpentry).			
	Provision of financial and technical assistance.			
	Risk level to flooding is low to high			
	The population of Barangay Santo Niño has Moderate vulnerability to flooding.			Barangays prone to flooding may have an increase in morbidity rate.
High proportion of the population specifically 10.4 percent of residential area is exposed to flooding.		Information dissemination and flood drill.		
Talairan	63.2 percent of households that are living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.		

Table 129: Population Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	Very High proportion of the population specifically 28 percent of residential area is exposed to flooding.		Information dissemination and flood drill.
Tolibao	62.3 percent of households that are living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.	
	High proportion of the population specifically 13.7 percent are children, while Moderate proportion or 9.2 percent are senior citizens.	Needs assistance during evacuation.	
	Low proportion of households or 2.3 percent are with PWDs.		
	0 percent of the total households are considered informal settlers, while 53.8 percent are living below the poverty threshold.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.
	The households do not have the capacity to relocate or retrofit.		Conduct of capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to flooding is low to high		
	The population of Barangay Tolibao has Moderate vulnerability to flooding.	Barangays prone to flooding may have an increase in morbidity rate.	Information dissemination and flood drill.
Very High proportion of the population specifically 31.9 percent of residential area is exposed to flooding.		Information dissemination and flood drill.	
Visares	71.9 percent of households that are living with walls made from light or salvageable materials.	Household dwellings made up of light or salvageable materials are more vulnerable to damages caused by flooding.	
	High proportion of the population specifically 13.7% children, while Moderate proportion or 7.3 percent are senior citizens.	Needs assistance during evacuation.	
	Low proportion of households or 1.7 percent are with PWDs.		
	0 percent of total households are considered informal settlers, while 69.4 percent are living below the poverty threshold.	High poverty incidence requires LGU assistance.	Resettlement and provision of housing unit to informal settlers.
	The households do not have the capacity to relocate or retrofit.		Capability building (Carpentry).

Table 130: Natural Resource-Based Production Areas Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
Balucanad	The production area of Barangay Balucanad has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	94.1 hectare/s or 10.7 percent of the total production area are exposed to flooding.		
	60 percent of the farmers have no access to climate information.	Low adaptive capacity against the effects of flooding	
	73.6 percent of the farmers are not employing sustainable production techniques.		
	15.7 percent of the production areas have no access to irrigation facilities.	Loss of soil fertility	
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to flooding is low to high		
Balud	The production area of Barangay Balud has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	46.1 hectare/s or 61.4 percent of the total production area are exposed to flooding.		
	50 percent of the farmers have no access to climate information.	Low adaptive capacity against the effects of flooding	
	0 percent of the farmers are not employing sustainable production techniques.		
	0 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers extension programs but not alternative livelihood.		
	Risk level to flooding is low to high		
Balugo	The production area of Barangay Balugo has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	39.7 hectare/s or 9.5 percent of the total production area are exposed to flooding.		
	70 percent of the farmers have no access to climate information.	Low adaptive capacity against the effects of flooding	
	0 percent of the farmers are not employing sustainable production techniques.		
	100 percent of the production areas have no access to irrigation facilities.	Loss of soil fertility	
	All farmers have access to financing.		
	The government offers extension programs but not alternative livelihood.		
	Risk level to flooding is low to moderate		
Cabul-an	The production area of Barangay Cabul-an has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	21.6 hectare/s or 7.2 percent of the total production area are exposed to flooding.		

Table 130: Natural Resource-Based Production Areas Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	98 percent of the production areas have no access to irrigation facilities.	Loss of soil fertility	
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to flooding is low to high		
Lemon	The production area of Barangay Lemon has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	245.9 hectare/s or 21.6 percent of the total production area are exposed to flooding.	Low adaptive capacity against the effects of flooding	
	65 percent of the farmers have no access to climate information.		
	10 percent of the farmers are not employing sustainable production techniques.	Loss of soil fertility	
	75.6 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers extension programs but not alternative livelihood.		
	Risk level to flooding is low to high		
Libertad	The production area of Barangay Libertad has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	
	22.2 hectare/s or 8.4 percent of the total production area are exposed to flooding.	Low adaptive capacity against the effects of flooding	
	55 percent of the farmers have no access to climate information.		
	20 percent of the farmers are not employing sustainable production techniques.	Loss of soil fertility	
	77.8 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to flooding is low to high		
Manloy	The production area of Barangay Manloy has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	102.3 hectare/s or 9.5 percent of the total production area are exposed to flooding.	Low adaptive capacity against the effects of flooding	
	60 percent of the farmers have no access to climate information.		
	25 percent of the farmers are not employing sustainable production techniques.	Loss of soil fertility	
	72.2 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		

Table 130: Natural Resource-Based Production Areas Decision Area Matrix to Flood Hazard – Capocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	Risk level to flooding is low to high		
Pob. Zone 2	The production area of Barangay Pob. Zone 2 has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	88.9 hectare/s or 7.9 percent of the total production area are exposed to flooding.		
	60 percent of the farmers have no access to climate information.	Low adaptive capacity against the effects of flooding	
	0 percent of the farmers are not employing sustainable production techniques.		
	11.8 percent of the production areas have no access to irrigation facilities.	Loss of soil fertility	
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to flooding is low to high		
Potot	The production area of Barangay Potot has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	40.3 hectare/s or 8.9 percent of the total production area are exposed to flooding.		
	65 percent of the farmers have no access to climate information.	Low adaptive capacity against the effects of flooding	
	13.4 percent of the farmers are not employing sustainable production techniques.		
	98.8 percent of the production areas have no access to irrigation facilities.	Loss of soil fertility	
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to flooding is low to high		
San Joaquin	The production area of Barangay San Joaquin has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	148.9 hectare/s or 11.6 percent of the total production area are exposed to flooding.		
	60 percent of the farmers have no access to climate information.	Low adaptive capacity against the effects of flooding	
	21.9 percent of the farmers are not employing sustainable production techniques.		
	76.1 percent of the production areas have no access to irrigation facilities.	Loss of soil fertility	
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to flooding is low to high		
Sto. Niño	The production area of Barangay Sto. Niño has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.

Table 130: Natural Resource-Based Production Areas Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	55 percent of the farmers have no access to climate information.	Low adaptive capacity against the effects of flooding	
	13 percent of the farmers are not employing sustainable production techniques.		
	100 percent of the production areas have no access to irrigation facilities.	Loss of soil fertility	
	All farmers have access to financing.		
	The government offers alternative livelihood but not extension programs.		
	Risk level to flooding is low to high		
Visares	The production area of Barangay Visares has Moderate vulnerability to flooding.	Could cause severe damage to crops resulting to low productivity.	Plant flood resistance varieties.
	107.6 hectare/s or 11.4 percent of the total production area are exposed to flooding.	Low adaptive capacity against the effects of flooding	
	65 percent of the farmers have no access to climate information.		
	14.8 percent of the farmers are not employing sustainable production techniques.	Loss of soil fertility	
	86.4 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to flooding is low to high		

Table 131: Urban Use Decision Area Matrix to Flood Hazard – Capooacan, Leyte

Barangay	Land Use	Technical Findings	Implication/s	Policy Intervention/s
		There are existing government regulations in the area related to DRR and CCA.		
		The Commercial area of Barangay Cabul-an has no risk to flooding.		
Gayad	parks & recreation	<i>No structures are classified as dilapidated or condemned</i>		
		<i>All structures are not employing hazard mitigation design standards.</i>	<i>May not withstand the damages inflicted by the hazard</i>	
		<i>There are no available alternative sites in case of disasters.</i>		
		<i>There are existing government regulations in the area related to DRR and CCA.</i>		
Culasian	Cemetery	The Cemetery area of Barangay Culasian has Low vulnerability to flooding.		
		Approximately 0 hectares of the Cemetery area or 0 percent is/are exposed to flooding.		
		No structures are classified as dilapidated or condemned.		
		All structures are not employing hazard mitigation design standards.	May not withstand the damages inflicted by the hazard	
		There are no available alternative sites in case of disasters.		
		There are existing government regulations in the area related to DRR and CCA.		
		The Cemetery area of Barangay Culasian has no risk to flooding.		
Guinadiongan	parks & recreation	<i>No structures are classified as dilapidated or condemned</i>		
		<i>All structures are not employing hazard mitigation design standards.</i>	<i>May not withstand the damages inflicted by the hazard</i>	
		<i>There are no available alternative sites in case of disasters</i>		
		<i>There are existing government regulations in the area related to DRR and CCA.</i>		
Lemon	Commercial	The Commercial area of Barangay Lemon has Moderate vulnerability to flooding.		Awareness campaign.
		Approximately 0.38 hectares of the Commercial area or 40.05 percent is/are exposed to flooding.		
		No structures are classified as dilapidated or condemned.		
		All structures are not employing hazard mitigation design standards.	May not withstand the damages inflicted by the hazard	
		There are no available alternative sites in case of disasters.		
		There are existing government regulations in the area related to DRR and CCA.		

Table 131: Urban Use Decision Area Matrix to Flood Hazard – Capoocan, Leyte

Barangay	Land Use	Technical Findings	Implication/s	Policy Intervention/s
Poblacion Zone I	Commercial	The Commercial area of Barangay Poblacion Zone I has Moderate vulnerability to flooding.		Awareness campaign.
		Approximately 0.23 hectares of the Commercial area or 86.27 percent is/are exposed to flooding.		
		No structures are classified as dilapidated or condemned.		
		All structures are not employing hazard mitigation design standards.	May not withstand the damages inflicted by the hazard	
		There are no available alternative sites in case of disasters.		
		There are existing government regulations in the area related to DRR and CCA.		
		Risk level to flooding is low to moderate		
Poblacion Zone II	Commercial	The Commercial area of Barangay Poblacion Zone II has Moderate vulnerability to flooding.		Awareness campaign.
		Approximately 0.41 hectares of the Commercial area or 59.49 percent is/are exposed to flooding.		
		No structures are classified as dilapidated or condemned.		
		All structures are not employing hazard mitigation design standards.	May not withstand the damages inflicted by the hazard	
		There are no available alternative sites in case of disasters.		
		There are existing government regulations in the area related to DRR and CCA.		
		Risk level to flooding is low to moderate		
Poblacion Zone II	Cemetery	The Cemetery area of Barangay Poblacion Zone II has Low vulnerability to flooding.		
		Approximately 0 hectares of the Cemetery area or 0 percent is/are exposed to flooding.		
		Approximately 20 percent of the structures are classified as dilapidated or condemned.	May not withstand the damages inflicted by the hazard	
		All structures are not employing hazard mitigation design standards.		
		There are no available alternative sites in case of disasters.		
		There are existing government regulations in the area related to DRR and CCA.		
		The Cemetery area of Barangay Poblacion Zone II has no risk to flooding.		
Potot	parks & recreation	No structures are classified as dilapidated or condemned		
		All structures are not employing hazard mitigation design standards.	May not withstand the damages inflicted by the hazard	

Table 131: Urban Use Decision Area Matrix to Flood Hazard – Capoocon, Leyte

Barangay	Land Use	Technical Findings	Implication/s	Policy Intervention/s
		<i>There are no available alternative sites in case of disasters.</i>		
		<i>There are existing government regulations in the area related to DRR and CCA.</i>		

Table 132: Critical Point Facilities Decision Area Matrix to Flood Hazard – Capoocon

Barangay	Technical Findings	Implication/s	Policy Intervention/s
Poblacion Zone 1	Critical point facilities of Bgy Pob. Zone 1 have moderate vulnerability to flooding.	Critical point facilities of barangays prone to flood hazard could not be used	Rehabilitation of existing flood control
	Roughly 2 hectare/s or 46.5 % of the total institutional areas exposed to flooding.	as evacuation center. Its services could also be disrupted during flooding.	facilities. Install warning signage.
	Approximately 12.5 percent of the structures are in poor condition.	Could not withstand damages inflicted by the hazard.	
	None of the structures are employing hazard mitigation design standards.		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are available alternative structures in case of disasters.		
	Risk level to flooding is low		
Poblacion Zone 2	Critical point facilities of Bgy. Pob. Zone 2 have moderate vulnerability to flooding.	Critical point facilities of barangays prone to flood hazard could not be used	Rehabilitation of existing flood control
	Roughly 5.2 hectares or 22 % of total institutional areas exposed to flooding.	as evacuation center. Its services could also be disrupted during flooding	facilities. Install warning signage.
	None of structures are in poor condition.		
	None of the structures are not employing hazard mitigation design standards.		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are available alternative structures in case of disasters.		
	Risk level to flooding is low to moderate		
<i>Balucanad</i>	<i>None of the structures are in poor condition</i>		

Table 132: Critical Point Facilities Decision Area Matrix to Flood Hazard – Capoocan

Barangay	Technical Findings	Implication/s	Policy Intervention/s
Culasian	Critical point facilities of Bgy. Culasian have Moderate vulnerability to flooding.	Critical point facilities of barangays prone to flood hazard could not be used as evacuation center. Its services could also be disrupted during flooding.	Rehabilitation of existing flood control facilities. Install warning signage.
	Roughly 0.2 hectare/s or 47.3 % of total institutional areas exposed to flooding.		
	None of the structures are in poor condition.		
	None of the structures are not employing hazard mitigation design standards.		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are no available alternative structures in case of disasters.		
	Risk level to flooding is low to moderate		
Gayad	Critical point facilities of Barangay Gayad have low vulnerability to flooding.		
	No parts or 0 percent of total institutional areas exposed to flooding.		
	None of the structures are in poor condition.		
	None of the structures are not employing hazard mitigation design standards		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are no available alternative structures in case of disasters.		
	Critical point facilities of Barangay Gayad have no risk to flooding.		
Guinadiongan	Critical point facilities of Guinadiongan have Moderate vulnerability to flooding.	Critical point facilities of barangays prone to flood hazard could not be used as evacuation center. Its services could also be disrupted during flooding.	Rehabilitation of existing flood control facilities. Install warning signage.
	Roughly 0.2 hectare/s or 91 percent of the total institutional areas exposed to flooding.		
	None of the structures are in poor condition.		
	None of the structures are not employing hazard mitigation design standards.		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are no available alternative structures in case of disasters.		
	Risk level to flooding is low to moderate		
Lemon	Critical point facilities of Barangay Lemon have Moderate vulnerability to flooding	Critical point facilities of barangays prone to flood hazard could not be used as evacuation center. Its services could also be disrupted during flooding events Could not withstand damages inflicted by the hazard.	Rehabilitation of existing flood control facilities. Install warning signage.
	Roughly 0.4 hectare/s or 44.9 % of total institutional areas exposed to flooding.		
	Approximately 25 percent of the structures are in poor condition.		
	None of the structures are not employing hazard mitigation design standards.		

Table 132: Critical Point Facilities Decision Area Matrix to Flood Hazard – Capooacan

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	There are available alternative sites in case of disasters.		
	There are no available alternative structures in case of disasters		
	Risk level to flooding is low		
Potot	Critical point facilities of Barangay Potot have Moderate vulnerability to flooding.	Critical point facilities of barangays prone to flood hazard could not be used as evacuation center. Its services could also be disrupted during flooding events	Rehabilitation of existing flood control facilities. Install warning signage.
	Roughly 0.1 hectare/s or 100 % of total institutional areas exposed to flooding.		
	None of the structures are in poor condition.		
	None of the structures are not employing hazard mitigation design standards		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are no available alternative structures in case of disasters.		
	Risk level to flooding is moderate		
San Joaquin	Critical point facilities of Bgy San Joaquin have Moderate vulnerability to flooding.	Critical point facilities of barangays prone to flood hazard could not be used as evacuation center. Its services could also be disrupted during flooding events	Rehabilitation of existing flood control facilities. Install warning signage.
	Roughly 0.8 hectare/s or 87.9 % of total institutional areas exposed to flooding.		
	None of the structures are in poor condition		
	None of the structures are not employing hazard mitigation design standards.		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are no available alternative structures in case of disasters		
	Risk level to flooding is low to high		
Sto. Niño	Critical point facilities of Bgy. Sto. Niño have Moderate vulnerability to flooding.	Critical point facilities of barangays prone to flood hazard could not be used as evacuation center. Its services could also be disrupted during flooding events	Rehabilitation of existing flood control facilities. Install warning signage
	Roughly 0.1 hectare/s or 23 % of the total institutional areas exposed to flooding		
	None of the structures are in poor condition.		
	None of the structures are not employing hazard mitigation design standards.		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are no available alternative structures in case of disasters.		
	Risk level to flooding is low to moderate		
Talairan	Critical point facilities of Bgy. Talairan have moderate vulnerability to flooding.	Critical point facilities of barangays prone to flood hazard could not be used	Rehabilitation of existing flood control

Table 132: Critical Point Facilities Decision Area Matrix to Flood Hazard – Capoocan

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are no available alternative structures in case of disasters.		
	Critical point facilities of Barangay Visares have no risk to flooding.		

Table 133. Lifeline Utilities Decision Area Matrix to Flood Hazard – Capooan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	There are no infrastructure related investments from the local government unit.		
	Risk level to flooding is low to high		
Guinadiongan	The lifeline utilities of Barangay Guinadiongan have Moderate vulnerability to flooding.	Disruption of services could occur during events of flooding to places prone to flood hazard.	1. Information dissemination on water borne diseases. 2. Conduct immediate clearing operation.
	Roughly 0.17 hectare/s or 5.6 percent of the total area are exposed to flooding.		3. Provision of handheld radios % standby generator.
	Approximately 75 % of the lifeline utilities are in poor condition.	Major disruption of services	
	There are no infrastructure related investments from the local government unit.		
	Risk level to flooding is low to high		
Lemon	Lifeline utilities of Lemon have moderate vulnerability to flooding.	Disruption of services could occur during events of flooding to places prone to flood hazard.	1. Information dissemination on water borne diseases.
	Roughly 0.98 hectare/s or 19.2 of total area are exposed to flooding.		2. Conduct immediate clearing operation
	Approximately 33.3 % of lifeline utilities are in poor condition.	Major disruption of services	3. Provision of handheld radios & standby generator.
	There are no infrastructure related investments from the local government unit.		
	Risk level to flooding is low to high		
Libertad	Lifeline utilities of Bgy. Libertad have High vulnerability to flooding.	Disruption of services could occur during events of flooding to places prone to flood hazard.	1. Information dissemination on water borne diseases.
	Roughly 0.19 hectare/s or 10.7 percent of the total area are exposed to flooding.		2. Conduct immediate clearing operation.
	Approximately 66.7 percent of the lifeline utilities in poor condition.	Major disruption of services	3. Provision of handheld. radios and standby generator
	There are no infrastructure related investments from the local government unit.		
	Risk level to flooding is low to high		
Manloy	<i>Approximately 50 % of the lifeline utilities are in poor condition.</i>	<i>Major disruption of services</i>	
	<i>There are no infrastructure related investments from the local government unit.</i>		
Nauguisan	<i>Approximately 50 percent of the lifeline utilities are in poor condition</i>	<i>Major disruption of services</i>	
	<i>There are no infrastructure related investments from the local government unit.</i>		
Pinamopoan	Lifeline utilities of Barangay Pinamopoan have High vulnerability to flooding.	Disruption of services could occur during events of flooding to places prone to flood hazard.	1. Information dissemination on water borne diseases.
	Roughly 1.14 hectare/s or 32.3 percent of the total area are exposed to flooding.		2. Conduct immediate clearing operation
	Approximately 25 % of the lifeline utilities are in poor condition.	Major disruption of services	3. Provision of handheld radios & standby generator

**Table 134. Population Decision Area Matrix to Storm Surge Hazard –
Capoocan, Leyte**

Barangay	Technical Findings	Implication/s	Policy Intervention/s
Balucanad	The population of Barangay Balucanad has Low vulnerability to storm surge.		No policy intervention needed.
	Low proportion of the population specifically 0 percent of residential area is exposed to storm surge.		
	61.7 percent of households are with walls made from light or salvageable materials.		
	A high proportion of the population specifically 13.4 % is children, moderate proportion or 6.8% is senior citizens.		
	Low proportion of households or 2.3 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 54.9 percent are below the poverty threshold.		Resettlement/provision of housing units to informal settlers.
	The households have no capacity to relocate or retrofit.		Conduct of capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	The population of Bgy Balucanad has no risk of storm surge.		
Balud	The population of Barangay Balud has Moderate vulnerability to storm surge.	Households exposed to storm surge hazard need immediate assistance	Information dissemination and flood drill.
	Very High proportion of the population specifically 98.6 percent of residential area is exposed to storm surge.		Information dissemination and flood drill.
	57.9 percent of households that are living with walls made from light or salvageable materials.		
	High proportion of the population specifically 14.3 percent is children, moderate proportion or 7 percent senior citizens.		
	Low proportion of households or 4.5 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 43.4 percent are living below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Conduct of capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to storm surge is low to moderate		
Balugo	The population of Bgy Balugo has no vulnerability to storm surge.		No policy intervention needed.
	Low proportion of the population, specifically 0 percent of residential area is exposed to storm surge.		
	82.7 % of households are with walls made from light or salvageable materials.		
	High proportion of the population specifically 17.1 percent is children, low proportion or 4.3 percent senior citizens.		
	Low proportion of households or 1.9 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 82.7 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.

Table 134. Population Decision Area Matrix to Storm Surge Hazard – Capooacan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	0 percent of total households considered informal settlers, while 51.9 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to storm surge low to moderate		
Guinadiongan	The population of Barangay Guinadiongan has moderate vulnerability to storm surge.	Households exposed to storm surge hazard need immediate assistance	Information dissemination and flood drill.
	Very High proportion of the population specifically 39.5 percent of residential area is exposed to storm surge.		Information dissemination and flood drill.
	70 percent of households are with walls made from light or salvageable materials.		
	Moderate proportion of the population specifically 10% is children, moderate proportion or 8.3 percent senior citizens.		
	Low proportion of households or 3.3 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 60 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to storm surge low to moderate		
Lemon	The population of Barangay Lemon has Low vulnerability to storm surge.		No policy intervention needed.
	Low proportion of the population specifically 0 percent of residential area is exposed to storm surge.		
	48.8 percent of households are with walls made from light or salvageable materials.		
	High proportion of the population specifically 12.9 % is children, moderate proportion or 5.2 percent senior citizens.		
	Low proportion of households or 4.1 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 51.2 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	The population of Bgy. Lemon has no risk of storm surge.		
Libertad	The population of Barangay Libertad has Moderate vulnerability to storm surge.	Households exposed to storm surge hazard need immediate assistance	Information dissemination and flood drill.
	Very High proportion of the population specifically 70.1 percent of residential area is exposed to storm surge.		Information dissemination and flood drill.
	61.9 percent of households are with walls made from light or salvageable materials.		
	High proportion of the population specifically 12.6% is children, moderate proportion or 7.4 percent senior citizens.		

Table 134. Population Decision Area Matrix to Storm Surge Hazard – Capooacan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	A high proportion of the population specifically 11.7% is children, while a moderate proportion or 8.5 percent is senior citizens.		
	Low proportion of households or 4.4 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 46.6 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to storm surge low to moderate		
Poblacion Zone I	The population of Bgy. Poblacion Zone I has low vulnerability to storm surge.		No policy intervention needed.
	Very High proportion of the population specifically 90.6 percent of residential area is exposed to storm surge.		Information dissemination and flood drill.
	47.4 percent of households are with walls made from light or salvageable materials.		
	A moderate proportion of the population specifically 8.2 is percent children, a high proportion or 10.6 percent senior citizens.		
	Moderate proportion of households or 6.1% with PWDs.		
	0 percent of total households considered informal settlers, while 36.8 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Conduct of capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to storm surge low to moderate		
Poblacion Zone II	The population of Bgy. Poblacion Zone II has Low vulnerability to storm surge.		No policy intervention needed.
	Very High proportion of the population specifically 56.6 percent of residential area is exposed to storm surge.		Information dissemination and flood drill.
	57.6 percent of households are with walls made from light or salvageable materials.		
	A moderate proportion of the population specifically 7.9 percent is children, a low proportion or 3.8 percent senior citizens.		
	Low proportion of households or 4.1 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 47.6 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to storm surge low to moderate		
Potot	The population of Barangay Potot has Moderate vulnerability to storm surge.	Households exposed to storm surge hazard need	Information dissemination and flood drill.

Table 134. Population Decision Area Matrix to Storm Surge Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	The population of Bgy Santo Niño has no risk to storm surge.		
Talairan	The population of Barangay Talairan has Moderate vulnerability to storm surge.	Households exposed to storm surge hazard need immediate assistance	Information dissemination and flood drill.
	A very High proportion of the population specifically 38.1 percent of residential area is exposed to storm surge.		Information dissemination and flood drill.
	49.4 percent of households are with walls made from light or salvageable materials.		
	A high proportion of the population specifically 12.4 % is children, a moderate proportion or 5.1 percent senior citizens.		
	Low proportion of households or 2.4 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 56 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to storm surge low to moderate		
Talisay	The population of Barangay Talisay has Moderate vulnerability to storm surge.	Households exposed to storm surge hazard need immediate assistance	Information dissemination and flood drill.
	A Very High proportion of the population specifically 32.6 percent of residential area is exposed to storm surge.		Information dissemination and flood drill.
	62.3 percent of households with walls made from light or salvageable materials.		
	A high proportion of the population specifically 13.7% is children, a Moderate proportion or 9.2 percent senior citizens.		
	Low proportion of households or 2.3 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 53.8 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Capability building (Carpentry).
	There are existing government resources to help the population adapt to disasters.		Provision of financial and technical assistance.
	Risk level to storm surge low to moderate		
Tolibao	The population of Barangay Tolibao has Moderate vulnerability to storm surge.	Households exposed to storm surge hazard need immediate assistance	Information dissemination and flood drill.
	Very High proportion of the population specifically 25.5 percent of residential area is exposed to storm surge.		Information dissemination and flood drill.
	71.9 percent of households with walls made from light or salvageable materials.		
	High proportion of the population specifically 13.7 % children, Moderate proportion or 7.3 percent senior citizens.		
	Low proportion of households or 1.7 percent are with PWDs.		
	0 percent of total households considered informal settlers, while 69.4 percent are below the poverty threshold.		Resettlement and provision of housing unit to informal settlers.
	The households have no capacity to relocate or retrofit.		Capability building (Carpentry).

Table 135. Natural Resource-Based Production Areas Decision Area Matrix to Storm Surge Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
Balucanad	The production area of Bgy. Balucanad has Moderate vulnerability to storm surge.	Damage to crops and could cause low productivity.	Plant saline resistant varieties.
	0 hectare/s or 0 percent of the total production area is exposed to storm surge.		
	60 percent of the farmers have no access to climate information.		
	73.6 percent of the farmers not employing sustainable production techniques.		
	15.7 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to storm surge is low		
Balud	The production area of Barangay Balud has Moderate vulnerability to storm surge.	Damage to crops and could cause low productivity.	Plant saline resistant varieties.
	67.8 hectares or 90.3 % of total production area are exposed to storm surge.		
	50 percent of the farmers have no access to climate information.		
	0 percent of the farmers are not employing sustainable production techniques.		
	0 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers extension programs but not alternative livelihood.		
	Risk level to storm surge low to moderate		
Balugo	The production area of Barangay Balugo has Low vulnerability to storm surge.		Plant saline resistant varieties.
	0 hectare/s or 0 percent of the total production area is exposed to storm surge.		
	70 percent of the farmers have no access to climate information.		
	0 percent of the farmers are not employing sustainable production techniques.		
	100 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers extension programs but not alternative livelihood.		
	The production area of Barangay Balugo has no risk to storm surge.		
Cabul-an	The production area of Barangay Cabul-an has Moderate vulnerability to storm surge.	Damage to crops and could cause low productivity.	Plant saline resistant varieties.
	1.4 hectare/s or 0.5 percent of the total production area exposed to storm surge.		
	60 percent of the farmers have no access to climate information.		
	23.3 percent of the farmers not employing sustainable production techniques.		
	72.2 percent of the production areas have no access to irrigation facilities.		

Table 135. Natural Resource-Based Production Areas Decision Area Matrix to Storm Surge Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	0 hectare/s or 0 percent of the total production area exposed to storm surge.		
	65 percent of the farmers have no access to climate information.		
	10 percent of the farmers not employing sustainable production techniques.		
	75.6 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers extension programs but not alternative livelihood.		
	The production area of Barangay Lemon has no risk to storm surge.		
Libertad	The production area of Barangay Libertad has Moderate vulnerability to storm surge.	Damage to crops and could cause low productivity.	Plant saline resistant varieties.
	1.7 hectare/s or 0.7 percent of the total production area exposed to storm surge.		
	55 percent of the farmers have no access to climate information.		
	20 percent of the farmers not employing sustainable production techniques.		
	77.8 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to storm surge low to moderate		
Manloy	The production area of Barangay Manloy has Low vulnerability to storm surge.		Plant saline resistant varieties.
	0 hectare/s or 0 percent of total production area exposed to storm surge.		
	60 percent of the farmers have no access to climate information.		
	25 percent of the farmers not employing sustainable production techniques.		
	72.2 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers extension programs but not alternative livelihood.		
	The production area of Barangay Manloy has no risk to storm surge.		
Nauguisan	The production area of Bgy. Nauguisan has Moderate vulnerability to storm surge.	Damage to crops and could cause low productivity.	Plant saline resistance varieties.
	18.6 hectare/s or 26.3 percent of the total production area exposed to storm surge.		
	70 percent of the farmers have no access to climate information.		
	20.6 percent of the farmers not employing sustainable production techniques.		

Table 135. Natural Resource-Based Production Areas Decision Area Matrix to Storm Surge Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	5.5 hectare/s or 1.2 percent of the total production area exposed to storm surge.		
	65 percent of the farmers have no access to climate information.		
	13.4 percent of the farmers not employing sustainable production techniques.		
	98.8 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	Risk level to storm surge low to moderate		
San Joaquin	The production area of Bgy. San Joaquin has Low vulnerability to storm surge.		Plant saline resistant varieties.
	0 hectare/s or 0 percent of the total production area exposed to storm surge.		
	60 percent of the farmers have no access to climate information.		
	21.9 percent of the farmers not employing sustainable production techniques.		
	76.1 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers alternative livelihood and extension programs.		
	The production area of Barangay San Joaquin has no risk to storm surge.		
Sto. Niño	The production area of Barangay Sto. Niño has Low vulnerability to storm surge.		Plant saline resistant varieties.
	0 hectare/s or 0 percent of the total production area exposed to storm surge.		
	65 percent of the farmers have no access to climate information.		
	19.8 percent of the farmers not employing sustainable production techniques.		
	62.3 percent of the production areas have no access to irrigation facilities.		
	All farmers have access to financing.		
	The government offers extension programs but not alternative livelihood.		
	The production area of Barangay Sto. Niño has no risk to storm surge.		
Talisay	The production area of Barangay Talisay has Moderate vulnerability to storm surge.	Damage to crops and could cause low productivity.	Plant saline resistant varieties.
	2.6 hectares or 0.5 percent of the total production area exposed to storm surge.		
	55 percent of the farmers have no access to climate information.		
	6.7 percent of the farmers not employing sustainable production techniques.		

Table 136. Urban Use Areas Decision Area Matrix to Storm Surge Hazard – Capoocan, Leyte

Barangay	Land Use	Technical Findings	Implication/s	Policy Intervention/s
Balucanad	Commercial	The Commercial area of Barangay Balucanad has Low vulnerability to storm surge.		
		Approximately 0 hectares of the Commercial area or 0 percent is exposed to storm surge.		
		No structures are classified as dilapidated or condemned.		
		All structures not employing hazard mitigation design standards.		
		There are no available alternative sites in case of disasters.		
		There are existing government regulations in the area related to DRR and CCA.		
		The Commercial area of Barangay Balucanad has no risk to storm surge.		
Balud	Commercial	The Commercial area of Barangay Balud has Moderate vulnerability to storm surge.	Could not withstand the damages inflicted by the hazard	Awareness campaign.
		Approximately 0.12 hectares of the Commercial area or 100 percent exposed to storm surge.		
		No structures are classified as dilapidated or condemned.		
		All structures not employing hazard mitigation design standards.		
		There are no available alternative sites in case of disasters.		
		There are existing government regulations in the area related to DRR and CCA.		
		Risk level to storm surge is moderate		
Balugo	Parks & Recreation	<i>No structures are classified as dilapidated or condemned</i>	<i>Could not withstand the damages inflicted by the hazard</i>	
		<i>All structures are not employing hazard mitigation design standards</i>		
		<i>There are no available alternative sites in case of disasters.</i>		
		<i>There are existing government regulations in the area related to DRR and CCA.</i>		
Cabul-an	Commercial	The Commercial area of Barangay Cabul-an has Low vulnerability to storm surge.		
		Approximately 0 hectares of the Commercial area or 0 percent is/are exposed to storm surge.		
		No structures are classified as dilapidated or condemned.		
		All structures are not employing hazard mitigation design standards.		
		There are no available alternative sites in case of disasters.		

Table 136. Urban Use Areas Decision Area Matrix to Storm Surge Hazard – Capoocan, Leyte

Barangay	Land Use	Technical Findings	Implication/s	Policy Intervention/s
		There are existing government regulations in the area related to DRR and CCA.		
		The Commercial area of Barangay Lemon has no risk to storm surge.		
<i>Libertad</i>	<i>parks & recreation</i>	<i>No structures are classified as dilapidated or condemned</i>		
		<i>All structures are not employing hazard mitigation design standards</i>	<i>Could not withstand the damages inflicted by the hazard</i>	
		<i>There are no available alternative sites in case of disasters</i>		
		<i>There are existing government regulations in the area related to DRR and CCA..</i>		
Manloy	Commercial	The Commercial area of Barangay Manloy has Low vulnerability to storm surge.		
		Approximately 0 hectares of the Commercial area or 0 percent is/are exposed to storm surge.		
		No structures are classified as dilapidated or condemned.		
		All structures not employing hazard mitigation design standards.		
		There are no available alternative sites in case of disasters.		
		There are existing government regulations in the area related to DRR and CCA.		
		The Commercial area of Barangay Manloy has no risk to storm surge.		
<i>Nauguisan</i>	<i>parks & recreation</i>	<i>No structures are classified as dilapidated or condemned</i>		
		<i>All structures not employing hazard mitigation design standards.</i>	<i>Could not withstand the damages inflicted by the hazard</i>	
		<i>There are no available alternative sites in case of disasters.</i>		
		<i>There are existing government regulations in the area related to DRR and CCA</i>		
Pinamopoan	Commercial	The Commercial area of Barangay Pinamopoan has Moderate vulnerability to storm surge.		Awareness campaign.
		Approximately 0.4 hectares of the Commercial area or 77.05 percent is/are exposed to storm surge.		
		No structures are classified as dilapidated or condemned.		
		All structures not employing hazard mitigation design standards.	<i>Could not withstand the damages inflicted by the hazard</i>	
		There are no available alternative sites in case of disasters.		
		There are existing government regulations in the area related to DRR and CCA.		

**Table 136. Urban Use Areas Decision Area Matrix to Storm Surge Hazard –
Capoocan, Leyte**

Barangay	Land Use	Technical Findings	Implication/s	Policy Intervention/s
		<i>There are existing government regulations in the area related to DRR and CCA..</i>		
<i>San Joaquin</i>	<i>parks & recreation</i>	<i>No structures are classified as dilapidated or condemned</i>	<i>Could not withstand the damages inflicted by the hazard</i>	
		<i>All structures are not employing hazard mitigation design standards</i>		
		<i>There are no available alternative sites in case of disasters</i>		
		<i>There are existing government regulations in the area related to DRR and CCA.</i>		
<i>Santo Niño</i>	<i>Parks & Recreation</i>	<i>No structures are classified as dilapidated or condemned</i>	<i>Could not withstand the damages inflicted by the hazard</i>	
		<i>All structures are not employing hazard mitigation design standards.</i>		
		<i>There are no available alternative sites in case of disasters</i>		
		<i>There are existing government regulations in the area related to DRR and CCA.</i>		
<i>Talairan</i>	<i>Parks & Recreation</i>	<i>No structures are classified as dilapidated or condemned</i>	<i>Could not withstand the damages inflicted by the hazard</i>	
		<i>All structures are not employing hazard mitigation design standards.</i>		
		<i>There are no available alternative sites in case of disasters</i>		
		<i>There are existing government regulations in the area related to DRR and CCA</i>		
<i>Talisay</i>	<i>Parks & Recreation</i>	<i>No structures are classified as dilapidated or condemned</i>	<i>Could not withstand the damages inflicted by the hazard</i>	
		<i>All structures are not employing hazard mitigation design standards</i>		
		<i>There are no available alternative sites in case of disasters.</i>		
		<i>There are existing government regulations in the area related to DRR and CCA</i>		
<i>Tolibao</i>	<i>Parks & Recreation</i>	<i>No structures are classified as dilapidated or condemned</i>	<i>Could not withstand the damages inflicted by the hazard</i>	
		<i>All structures are not employing hazard mitigation design standards</i>		
		<i>There are no available alternative sites in case of disasters</i>		
		<i>There are existing government regulations in the area related to DRR and CCA.</i>		
<i>Visares</i>	<i>Parks & Recreation</i>	<i>No structures are classified as dilapidated or condemned</i>		

Table 137. Critical Point Facilities Decision Area Matrix to Storm Surge Hazard – Capooacan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
Poblacion Zone 1	The critical point facilities of Bgy. Pob. Zone 1 have Moderate vulnerability to storm surge.	Critical point facilities of barangays exposed to storm surge hazard could not be used as evacuation center. Its services could also be disrupted.	Install warning signage.
	Roughly 4.3 hectares or 100% of total institutional areas are exposed to storm surge.		
	Approximately 12.5 percent of the structures are in poor condition.		
	None of structures is not employing hazard mitigation design standards.		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are available alternative structures in case of disasters.		
	The risk level to storm surge is low to moderate		
Poblacion Zone 2	The critical point facilities of Barangay Pob. Zone 2 have Low vulnerability to storm surge.		No policy intervention needed.
	No parts or 0% of total institutional areas are exposed to storm surge.		
	None of the structures are in poor condition.		
	None of the structures are not employing hazard mitigation design standards.		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		
	There are available alternative structures in case of disasters.		
	Risk level to storm surge is low		
<i>Balucanad</i>	<i>None of the structures are in poor condition</i>		
	<i>None of the structures are employing hazard mitigation design standards.</i>		
	<i>There are capacity and willingness to retrofit or relocate.</i>		
	<i>There are available alternative sites in case of disasters.</i>		
	<i>There are available alternative structures in case of disasters.</i>		
Balud	The critical point facilities of Barangay Balud have Moderate vulnerability to storm surge.	Critical point facilities of barangays exposed to storm surge hazard could not be used as evacuation center. Its services could also be disrupted.	Install warning signage.
	Roughly 0 hectare or 100 percent of the total institutional areas are exposed to storm surge.		
	Approximately 16.7 percent of the structures are in poor condition.		
	None of structures is not employing hazard mitigation design standards.		
	There are capacity and willingness to retrofit or relocate.		
	There are available alternative sites in case of disasters.		

Table 137. Critical Point Facilities Decision Area Matrix to Storm Surge Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	<p>No parts or 0% of total institutional areas are exposed to storm surge.</p> <p>None of the structures are in poor condition.</p> <p>None of structures is not employing hazard mitigation design standards.</p> <p>There are capacity and willingness to retrofit or relocate.</p> <p>There are available alternative sites in case of disasters.</p> <p>There are no available alternative structures in case of disasters.</p> <p>Critical point facilities of Gayad have no risk to storm surge.</p>		
Guinadiongan	<p>The critical point facilities of Barangay Guinadiongan have Low vulnerability to storm surge.</p>		No policy intervention needed.
	<p>Roughly 0 hectare or 1.4 percent of the total institutional areas are exposed to storm surge.</p> <p>None of the structures are in poor condition.</p> <p>None of the structures is not employing hazard mitigation design standards.</p> <p>There are capacity and willingness to retrofit or relocate.</p> <p>There are available alternative sites in case of disasters.</p> <p>There are no available alternative structures in case of disasters.</p> <p>Risk level to storm surge is low</p>		
Lemon	<p>The critical point facilities of Barangay Lemon have Moderate vulnerability to storm surge.</p>	Critical point facilities of barangays exposed to storm surge hazard could not be used as evacuation center. Its services could also be disrupted.	Install warning signage.
	<p>No parts or 0% of total institutional areas are exposed to storm surge.</p> <p>Approximately 25 percent of the structures are in poor condition.</p> <p>None of structures is not employing hazard mitigation design standards.</p> <p>There are capacity and willingness to retrofit or relocate.</p> <p>There are available alternative sites in case of disasters.</p> <p>There are no available alternative structures in case of disasters.</p> <p>Critical point facilities of. Lemon have no risk to storm surge.</p>		
Libertad	<p>The critical point facilities of Barangay Libertad have Moderate vulnerability to storm surge.</p>	Critical point facilities of barangays exposed to storm surge hazard could not be used as evacuation center. Its services could also be disrupted.	Install warning signage.
	<p>Roughly 0.1 hectare or 92.9 % of the total institutional areas are exposed to storm surge.</p> <p>None of the structures are in poor condition.</p>		

Table 137. Critical Point Facilities Decision Area Matrix to Storm Surge Hazard – Capoocan, Leyte

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	There are capacity and willingness to retrofit or relocate. There are available alternative sites in case of disasters. There are no available alternative structures in case of disasters. The risk level to storm surge is moderate		
San Joaquin	The critical point facilities of Barangay San Joaquin have Low vulnerability to storm surge.		No policy intervention needed.
	No parts or 0% of total institutional areas are exposed to storm surge. None of the structures are in poor condition. None of the structures is not employing hazard mitigation design standards. There are capacity and willingness to retrofit or relocate. There are available alternative sites in case of disasters. There are no available alternative structures in case of disasters. Risk level to storm surge is low		
Sto. Niño	The critical point facilities of Sto. Niño have Low vulnerability to storm surge.		No policy intervention needed.
	No parts or 0% of total institutional areas are exposed to storm surge. None of the structures are in poor condition. None of structures is not employing hazard mitigation design standards. There are capacity and willingness to retrofit or relocate. There are available alternative sites in case of disasters. There are no available alternative structures in case of disasters. Risk level to storm surge is low		
Talairan	The critical point facilities of Barangay Talairan have Moderate vulnerability to storm surge.	Critical point facilities of barangays exposed to storm surge hazard could not be used as evacuation center. Its services could also be disrupted.	Install warning signage.
	No parts or 0% of total institutional areas are exposed to storm surge. Approximately 50 percent of the structures are in poor condition. None of structures is not employing hazard mitigation design standards. There are capacity and willingness to retrofit or relocate.		
	There are no available alternative sites in case of disasters. There are no available alternative structures in case of disasters. Risk level to storm surge is low		

**Table 138. Lifeline Utilities Decision Area Matrix to Storm Surge Hazard
- Capoocan, Leyte**

Barangay	Technical Findings	Implication/s	Policy Intervention/s
Balucanad	Lifeline utilities of Barangay Balucanad have Low vulnerability to storm surge.		No policy Intervention needed.
	No parts or 0 percent of the total area are exposed to storm surge.		
	Approximately 33.3 percent of the lifeline utilities are in poor condition.		
	There are no infra-related investments from the local government unit.		
	Lifeline utilities of Barangay Balucanad have no risk to storm surge.		
Balud	The lifeline utilities of Barangay Balud have High vulnerability to storm surge.	Disruption of services could occur during events of storm surge to places prone to storm surge hazard.	Seawall/Breakwater. Information dissemination of storm surge hazard
	Roughly 1.42 hectare/s or 95.3% of the total area are exposed to storm surge.		
	Approximately 40 percent of the lifeline utilities are in poor condition.		
	There are no infra-related investments from the local government unit.		
	Risk level to storm surge is low to moderate		
<i>Balugo</i>	<i>Approximately 66.7 percent of the lifeline utilities are in poor condition.</i>		
	<i>There are no infra-related investments from the local government unit.</i>		
Cabul-an	The lifeline utilities of Cabul-an have Moderate vulnerability to storm surge.	Disruption of services could occur during events of storm surge to places prone to storm surge hazard.	Information dissemination of storm surge hazard.
	Roughly 0.24 hectare/s or 8.1% of total area are exposed to storm surge.		
	Approximately 33.3 percent of the lifeline utilities are in poor condition.		
	There are no infra-related investments from the local government unit.		
	The risk level to storm surge is low to moderate		
<i>Gayad</i>	<i>Approximately 66.7 percent of the lifeline utilities are in poor condition.</i>		
	<i>There are no infra-related investments from the local government unit.</i>		
Culasian	Lifeline utilities of Bgy. Culasian have Moderate vulnerability to storm surge.	Disruption of services could occur during events of storm surge to places prone to storm surge hazard.	Information dissemination of storm surge hazard.
	Roughly 0.31 hectare/s or 13.8% of the total area are exposed to storm surge.		
	Approximately 25 percent of the lifeline utilities are in poor condition.		
	There are no infra-related investments from the local government unit.		
	Risk level to storm surge is low to moderate		
Guinadiongan	The lifeline utilities of Barangay Guinadiongan have Moderate vulnerability to storm surge.	Disruption of services could occur during events of storm surge to places prone to storm surge hazard.	Information dissemination of storm surge hazard.
	No parts or 0 percent of the total area are exposed to storm surge.		
	Approximately 75 percent of the lifeline utilities are in poor condition.		

**Table 138. Lifeline Utilities Decision Area Matrix to Storm Surge Hazard
- Capoocan, Leyte**

Barangay	Technical Findings	Implication/s	Policy Intervention/s
	Roughly 0.31 hectare or 28.8% of the total area are exposed to storm surge.	surge to places prone to storm surge hazard.	of storm surge hazard.
	Approximately 25 percent of the lifeline utilities are in poor condition.		
	There are no infra-related investments from the local government unit.		
	Risk level to storm surge is low to moderate		
Potot	Lifeline utilities of Barangay Potot have Moderate vulnerability to storm surge.	Disruption of services could occur during events of storm surge to places prone to storm surge hazard.	Information dissemination of storm surge hazard.
	No parts or 0 percent of the total area are exposed to storm surge.		
	Approximately 50 percent of the lifeline utilities are in poor condition.		
	There are no infra-related investments from the local government unit.		
	Lifeline utilities of Barangay Potot have no risk to storm surge.		
San Joaquin	Lifeline utilities of Bgy. San Joaquin have Low vulnerability to storm surge.		No policy Intervention needed.
	No parts or 0 percent of the total area are exposed to storm surge.		
	Approximately 25 percent of the lifeline utilities are in poor condition.		
	There are no infra-related investments from the local government unit.		
	Lifeline utilities of Barangay San Joaquin have no risk to storm surge.		
Santo Niño	Lifeline utilities of Barangay Santo Niño have Low vulnerability to storm surge.		No policy Intervention needed.
	No parts or 0 percent of the total area are exposed to storm surge.		
	Approximately 25 percent of the lifeline utilities are in poor condition.		
	There are no infra-related investments from the local government unit.		
	Lifeline utilities of Barangay Santo Niño have no risk to storm surge.		
Talairan	<i>Approximately 75 percent of the lifeline utilities are in poor condition.</i>		
	<i>There are no infra-related investments from the local government unit.</i>		
Talisay	Lifeline utilities of Bgy. Talisay have Moderate vulnerability to storm surge.	Disruption of services could occur during events of storm surge to places prone to storm surge hazard.	Information dissemination of storm surge hazard.
	Roughly 0.41 hectare or 9% of the total area are exposed to storm surge.		
	Approximately 50 percent of the lifeline utilities are in poor condition.		
	There are no infra-related investments from the local government unit.		
	Risk level to storm surge is low to moderate		

**Table 139: Urban Use Areas Decision Area Matrix to Landslide Hazard
- Capooacan, Leyte**

Barangay	Land Use Category	Technical Findings	Implications	Policy Intervention
Balucanad	Commercial	The Commercial area in Balucanad is not at risk to Rain-Induced Landslide Hazard.		
Balud	Commercial	The Commercial area in Balud is not at risk to Rain-Induced Landslide Hazard.		
Balugo	Parks and Recreation	The Parks and Recreation area in Balugo is not at risk to Rain-Induced Landslide Hazard.		
Cabul-an	Commercial	The Commercial area in Cabul-an is not at risk to Rain-Induced Landslide Hazard.		
Gayad	Parks and Recreation	The Parks and Recreation area in Gayad is not at risk to Rain-Induced Landslide Hazard.		
Culasian	Cemetery	The Cemetery area in Culasian is not at risk to Rain-Induced Landslide Hazard.		
Guinadiongan	Parks and Recreation	The Parks and Recreation area in Guinadiongan is not at risk to Rain-Induced Landslide Hazard.		
Lemon	Commercial	The Commercial area in Lemon is not at risk to Rain-Induced Landslide Hazard.		
Libertad	Parks and Recreation	The Parks and Recreation area in Libertad is not at risk to Rain-Induced Landslide Hazard.		
Manloy	Commercial	The Commercial area in Maloy is not at risk to Rain-Induced Landslide Hazard.		
Nauguisan	Parks and Recreation	The Parks and Recreation area in Nauguisan not at risk to Rain-Induced Landslide Hazard.		
Pinamopooan	Commercial	The Commercial area in Pinamopooan not at risk to Rain-Induced Landslide Hazard.		
Pob. Zone I	Commercial	Commercial area in Poblacion Zone I not at risk to Rain-Induced Landslide Hazard.		
Pob. Zone II	Cemetery			
	Commercial	The Commercial area in Poblacion Zone II is not at risk to Rain-Induced Landslide Hazard.		
Potot	Parks and Recreation	The Parks and Recreation area in Potot is not at risk to Rain-Induced Landslide Hazard		
San Joaquin	Parks and Recreation	The Parks and Recreation area in San Joaquin is not at risk to Rain-Induced Landslide Hazard		
Santo Niño	Parks and Recreation	The Parks and Recreation area in Santo Niño not at risk to Rain-Induced Landslide Hazard		
Talairan	Parks and Recreation	The Parks and Recreation area in Talairan is not at risk to Rain-Induced Landslide Hazard.		
Talisay	Parks and Recreation	The Parks and Recreation area in Talisay is not at risk to Rain-Induced Landslide Hazard		
Tolibao	Parks and Recreation	The Parks and Recreation area in Tolibao is not at risk to Rain-Induced Landslide Hazard.		
Visares	Parks and Recreation	The Parks and Recreation area in Visares is not at risk to Rain-Induced Landslide Hazard		

**Table 141: Lifeline Utilities Decision Area Matrix to Landslide Hazard
- Capoocan, Leyte**

Barangay	Technical Findings	Implications	Policy Interventions
Balucanad	The lifeline utilities in Balucanad are not at risk to Rain-Induced Landslide Hazard		
Balud	The lifeline utilities in Balud are not at risk to Rain-Induced Landslide Hazard		
Balugo	The lifeline utilities in Balugo are not at risk to Rain-Induced Landslide Hazard		
Cabul-an			
Culasian	The lifeline utilities in Culasian are not at risk to Rain-Induced Landslide Hazard		
Gayad	The lifeline utilities in Gayad are not at risk to Rain-Induced Landslide Hazard		
Guinadiong			
Lemon			
Libertad			
Manloy	The lifeline utilities in Manloy are not at risk to Rain-Induced Landslide Hazard		
Nauguisan	The lifeline utilities in Nauguisan are not at risk to Rain-Induced Landslide Hazard		
Pinamopoan			
Poblacion Zone I	The lifeline utilities in Pob. Zone I are not at risk to Rain-Induced Landslide Hazard		
Poblacion Zone II	The lifeline utilities in Pob. Zone II not at risk to Rain-Induced Landslide Hazard		
Potot			
San Joaquin			
Santo Niño			
Talairan	The lifeline utilities in Talairan are not at risk to Rain-Induced Landslide Hazard		
Talisay			
Tolibao			
Visares			

not only write off any further utilization of the area's resources for food and livelihood, but extinguish hope for self-reliant economic growth and development.

Six decades ago, there was yet nothing to worry about the municipality's environment. But in the first decade of the new millennium, there was already everything to worry about it. The area's forests have dwindled to less than 20 percent of the old growth cover. But the cutting of trees proceeds. Once bio-diverse, portions of its uplands have now thinned to brush and cogon growths. Soil has massively eroded, turned to rusty color, or bared the rocks underneath. Croplands are also losing valuable agro-ecosystems and on the way to desertification if not repaired. Mangroves and aquatic life along shorelines have dissipated. Corals in some parts have bleached, and the sea no longer yields the volume of catch they did before.

Capoocan faces a catastrophe of unimaginable proportion if the damage is not undone and the course of deterioration of the environment is not reversed. It will be a community that is less and less capable of supplying water to communities, irrigating farmlands, balancing atmosphere, preventing killer floods and landslides, growing crops, and feeding the population – in brief, sustaining human life.

4) *Increasing Risk of Intense Disasters due to Climate Change.* Majority of the barangays in the locality is vulnerable to disasters from geologic and meteorological calamities aggravated by climate change. The shadow of disaster limits the options of promising areas to allot land for agricultural, commercial, industrial and residential use. It also poses a strategic threat to full scale development.

The experience of recent calamities has brought awareness to the new norm: much stronger winds, bigger amount of rainfall, higher floods and far worse devastation than ever before in extreme hazard events. Also, most recent occurrence of earthquakes and aftershocks has bared a tectonic fault line traversing the diagonal length of Leyte that threatens ground shaking anytime more frequently and at bigger magnitudes than ever before. Capoocan lies on its path.

The killer storm surge in the aftermath of Super typhoon Yolanda on November 8, 2013 taught the municipality that a similarly catastrophic event could hit it in the future. ST Yolanda was deemed the world's strongest typhoon on record. It whipped up a freak sea invasion inland that drowned around seven thousand folks. These realizations and the vulnerability of several areas of the locality to extreme calamities hound not only the vision of its future development, but most importantly the prospect of its survival.

5) *Infrastructure Shortage.* The development into growth nodes of areas within the municipality that could perform important economic roles and functions is being held by the difficulty of access to their location. Roads are needed to integrate them to the mainstream of commerce and other valuable economic linkages. Right now they are either non-existent or in an impassable condition for vehicular use. Road connections, bridges and other socio-economic support facilities are also needed to penetrate interiors and open them to built-up space development. Infrastructure which is now in great luck must be prepositioned to lay the groundwork for expanded residential, commercial, industrial and agro-industrial estates to be future zones of economic progress.

6) *Low Income.* At both the household and community level, the municipality suffers from the inadequacy of earnings. Most families perennially chafe in the inability to meet even the minimum requirements of food and other necessities to live. The condition is matched by a local economy that remains viable largely through infusion of external financial resources. The Local Government Unit for instance merely relies on Internal Revenue Allotment and aid from the national government to fund projects/initiatives for socio-economic development and improved basic social services. Much of the income that the populace also generates comes from salaries and honoraria of government personnel also paid by a slice of the national budget for local autonomy.

4) *Undiversified production systems.* Land is a principal means of production in the area. Unfortunately, it is being used mostly for plantation agriculture devoted to the cultivation of single cash crop, like sugar and coconut. This is a facet of the feudal past where control and management of the forces of production are monopolized to concentrate wealth in a few big landowners, breeding exploitative and predatory economic relationships. The system has hindered the diversification of production for natural self-sufficiency particularly in food. It also blocked more and better options at cash income generation derived from varying produce. The prevailing monopoly production system in the municipality curtails productivity and by and large socio-economic development.

5) *Limited economic activity.* The condition may be summed up as the perennial inability to go beyond agriculture, start up industrial enterprises and enlarge services to foster bigger outputs and income. Some of these, to cite a few, may be construction, small- to medium-scale manufacturing of consumer goods combined, metal fabrication leading to the assembly of farm equipment, big trade and tourism.

As of now, the municipality continues to languish in low-productivity agriculture, fishery, and micro-services, with limited options at employment, income generation and capital formation. The introduction of industrial enterprises into the local economy is crucial in transitioning to unprecedented growth and development. For a long time already, the current economy could not even invigorate commerce. There was once a joke about the town competing with other places as to which had the cleanest market in the province. This was meant as the one emptiest of commodities.

6) *Obstructive conflict situations.* This must be taken into account, because of its tendency to hinder strong cohesive action. Socio-political divides have continually bedevilled consensus building and organizational growth to empower the community in confronting the indomitable challenges of development. This has perpetuated poverty and blocked opportunities for economic advancement. It has also barred access to resources and the enjoyment of basic social services. The festering social conflicts are worsened by gender inequality where women have to bear having fewer opportunities for economic advancement and multiple burdens of non-earning productive labor, child care, housekeeping and community work. These contradictions have awaited resolution for a long time through social reforms. In the meantime, they persistently weaken the community and keep it from attaining progress.

7) *Lack of comprehensive socio-economic development strategy.* Over the years, the municipality has missed charting a roadmap of holistic development adopting the integrated multi-sectoral socio-economic approach. The failure denied it of compass and direction and sense of what to undertake for the next three or ten years. It is a well-known and highly appreciated lesson that any course of change cannot be set in motion and resources managed in line with it if needed policy and action tool, like the comprehensive development plan, is not first enunciated.

3. Comparative Advantages

The municipality may actually have a better bat at progress than other localities due to its incomparably greater potentials. It has the combination of a land not only big in size but abounding in natural wealth, and a bay that teems with marine riches. The following are its notable advantages side-by-side with others, and competitive edge:

1) *Fine geographic location.* Capoocan nestles on a strategic midpoint of a busy economic corridor of the province connecting its two most flourishing growth hubs – Ormoc and Tacloban. It also enjoys access to the open sea, but is protected by the loop of land forming its portion of the Carigara Bay. The location easily connects the place to vital economic linkages through land and sea even as it makes the area very much accessible to other areas in the Eastern Visayas Region for the performance of economic roles and functions.

2) **Agricultural and Fishery Trading Center.** This makes the municipality a nucleus of linkages for farming and fishing through a designated marketing zone that offers agricultural and fishery produce at gate prices, as well as inputs, tools and equipment for production. On fishery, the market immediately connects to a fish wharf, handling services outfit, and storage facilities.

3) **Field Learning Laboratory and Model.** This makes Capoocan a showcase and bastion of diversified and integrated agricultural production, multi-storey agroforestry, and coastal resource management systems, offering high productivity and economic gains.

4) **Agro-Industrial Complex.** This makes Capoocan a major player in agro-industrial production and development in the province offering a complex of infrastructure and facilities that bases agricultural products processing, administrative and technical support services to agriculture, and rural microfinance.

5) **Tourism Hub.** This makes Capoocan at the very least a regional tourism capital offering country adventure and scenic nature watching, edifying agro-ecosystems, a marine ecology theme park along a fish sanctuary, and visits to historical sites.

6) **Low and Medium-Density Residential Haven.** This makes the place a coveted destination for settling down to residence in uncongested community with quiet ecological surroundings at the bosom of nature.

I. POSTSCRIPT

Looking forward, what will Capoocan be, way into the future, 10 to 20 years from now? There are two scenarios. One is of projections based on what it is now. The population will grow steadily at its current annual growth rate or may even decline due to migration. The local economy will merely sustain the way it is performing, slightly expand or even constrict. Issues will fester or worsen, like poverty, inadequate income, high unemployment/underemployment, and deficient social services.

The second is of unprecedented change beyond the pale of any conceivable projection out of the present conditions and situations of the municipality's existence. This is a change that may only be contemplated by comprehensive planning. Area development may have reached its optimum phase setting and revving up engines of local economic growth for the first time in the municipality's 100 years of existence. The radical departure from the past can spur off progress by leaps and bounds. In step with this, as one factor for the new reality, the population may triple its current total.

The sea change is not only possible but imperative. Capoocan has to leave behind the century of underperformance and sluggish progress and take the highroad of rapid modernization and economic competitiveness. It has no other way to keep being viable under the weight of future pressures and problems than to take off on an accelerated phase of high-level development.

One of the most important tasks that this report helps fulfill in driving forward the dynamics above is the crystallization of the major areas of concern to prioritize and focus towards enunciating an optimal strategy. What felt needs, for example, should be addressed first and second? What goals and objectives should be treated ahead of the others? Answers will start to set everything in motion.

In charting the course of development, certain types of information and findings are needed to determine the main drive of action, benchmarks to achieve, milestones, and sequence. The compilation of this study has taken these matters into consideration. With it, the municipality is ready to plan.