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**SANGGUNIANG PANLUNGSOD
CITY OF BACOR, CAVITE**

COMPREHENSIVE LAND USE PLAN (2015-2024)
and the
COMPREHENSIVE DEVELOPMENT PLAN (2015-2020)
of the
CITY OF BACOR, CAVITE

Volume 1



Message

This ***Comprehensive Land Use Plan (2015-2024)*** and ***Comprehensive Development Plan (2015-2020)*** are products of the combined efforts of dedicated men and women animated by a single overriding goal: chart a more progressive future for the over 650,000 souls who have grown to consider the City of Bacoor their home.

By reading the said plans, you will get a clear idea of where our beloved city is headed, how we intend to get there, and what your role would be in that journey. Though comprised of three seemingly daunting volumes, I humbly assure you that this compiled work is one interesting read. As you leaf through its pages, you would realize that it is full not only of relevant facts and data but is also peppered with development principles that would guide future city administrators and elected officials on how to complete my administration's unfinished task of making our city truly world-class.

I sincerely hope that through this tome, you will be motivated into working for a better future for our city, that you will be inspired to be more involved in the affairs of government, and that you will take a more active role in charting our collective future. After all, this work was done chiefly for your benefit and for that of generations yet unborn.

At this juncture, I extend my warmest thanks to the members of the Sangguniang Panlungsod

headed by its indefatigable Presiding Officer, City Vice Mayor Catherine S. Evaristo, and to all the city employees who worked tirelessly to finish this monumental work. I, and the people of the City of Bacoor, shall be eternally grateful for this tangible proof of your untiring labor and selfless devotion to duty.

Mabuhay at pagpalain po tayong lahat ng Poong Maykapal!



HON. STRIKE B. REVILLA, PhD
Mayor (2007-2016)



Dahayag

Ginawa po ang **Comprehensive Land Use Plan** at **Comprehensive Development Plan** na ito sa loob ng mahabang panahon upang masiguro na magiging maunlad at maayos ang kinabukasan ng ating minamahal na Lungsod ng Bacoor.

Hinati po ang mga nabanggit na plano sa tatlong aklat upang mas madaling maunawaan ng sinumang mambabasa ang mga nilalaman nito. Sa *Volume 1* po matatagpuan ang kabuuan ng **Comprehensive Land Use Plan (CLUP)** ng ating lungsod para sa taong 2015 hanggang 2024, at kasama na rin ang **Comprehensive Development Plan (CDP)** para sa taong 2015 hanggang 2020. Sa *Volume 2* naman po makikita ang kabuuan ng Zoning Ordinance. Sa *Volume 3* naman po mababasa ang mga paliwanag kung paano nabalangkas ang **CLUP** at **CDP**, at mga sipi ng mga mapa at talaan na ginamit sa *Volume 1* at *Volume 2*.

Para po sa inyong kaalaman, ang nilalaman ng **CLUP** at **CDP** ang naging basehan ng **Zoning and Land Development Ordinance** na ipapasa ng Sangguniang Panlungsod sa lalong madaling panahon. Dahil po sa ang nabanggit na ordinansa ang magre-regulate sa kung paano po natin gagamitin ang yamang panglupa ng ating siyudad, mainam lamang po na ating pag-aralang mabuti ang nilalaman ng

mga nabanggit na aklat dahil ang mga ito po ay may direktang epekto sa kinabukasan nating lahat.

Habang binabasa niyo po ang mga pahina ng aklat na ito, sana po ay mabigyan po ninyo ng kahit kaunting pagkilala at pasasalamat ang lahat ng mga may kinalaman sa pagbalangkas ng **CLUP** at **CDP** na nabanggit. Utang po natin sa kanila ang maayos na kinabukasang naghihintay sa atin at sa ating mga anak na maninirahan sa ating mahal na Lungsod.

MARAMING SALAMAT PO!


HON. CATHERINE SARINO-EVARISTO
City Vice Mayor /Sangguniang Panlungsod
Presiding Officer



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FOREWORD

Bacoor reached another milestone in its history with its conversion into a component city of Cavite Province by virtue of the enactment of Republic Act 10160, the “Charter of the City of Bacoor”. The City Government of Bacoor (“City”) formulated this “Enhanced” Comprehensive Land Use Plan (“CLUP”), or simply the “Plan”, not only to update the Comprehensive Land Use Plan (“CLUP”) of 2000 but also to lay the foundation for a progressive and livable city for the next 10 years.

In March 2014, the Notice to Proceed was given to the Consultants to assist the Technical Working Group in preparing the CLUP and attendant Zoning Ordinance. The original engagement was to come up with the expanded Comprehensive Land and Water Use Plan based on the experience of Balanga City to apply its relevance in the coastal context of Bacoor. With the release in 2015 of the new Housing and Land Use Regulatory Board (HLURB), also known as “Enhanced” CLUP Guidebook 2013, this Plan retains the “CLUP” name and incorporated all of the relevant sections of the new guidelines. More importantly, the five books of the HLURB CLUP Guidebook 2013 were extensively reviewed to harmonize this CLUP with the new guidelines.

Hierarchy of Plans and the Planning Process

Republic Act No. 7160 (also known as the Local Government Code of 1991 or “LGC”), provides that local government units (LGUs) shall, in conformity with existing laws, continue to prepare their respective CLUP and zoning ordinances which shall be the primary and dominant bases for determining future use of land and other natural resources within their jurisdiction (Section 20c). Further, Section 106 of the LGC states that “each local government unit shall have a comprehensive multi-sectoral development plan to be initiated by its development council and approved by its *sanggunian*. For this purpose, the development council at the provincial, city, municipal, or barangay level, shall assist the corresponding *sanggunian* in setting the direction of economic and social development, and



coordinating development efforts within its territorial jurisdiction.” LGC Section 109 details this requirement to “formulate long-term, medium-term, and annual socio-economic development plans and policies.”

Section 39 of Republic Act No. 7279 (also known as the Urban Development and Housing Act or “UDHA”) reiterated this role of the LGUs to prepare CLUPs. The recent Department of Interior and Local Government (DILG) Memorandum Circular 2010-112 dated October 12, 2010 requires all LGUs to update their respective Comprehensive Land Use Plans and Comprehensive Development Plans.

Apart from statutory mandates, vertical linkages with other government plans were done in preparing this CLUP and CDP for the City of Bacoor. The National Framework for Physical Planning (NFPP) 2001-2030 is one of the said plans that were used as a guide to help planners and decision-makers at all levels to have a common agenda on the usual policies on protection, production, settlement and infrastructure. This CLUP follows the prescribed “four policy areas.”

The CALABARZON Regional Physical Framework Plan 2004-2030 identified the City of Bacoor as part of the “Northern Cavite Cluster” together with the Cities of Cavite, Dasmariñas, and Imus, and the Municipalities of Carmona, Kawit, Gen. Mariano Alvarez, and Noveleta. Dasmariñas City is identified as the economic activity center of this cluster. This “clustering” is reiterated in the CALABARZON Regional Development Plan (RDP) 2011-2016. The spatial strategy includes the provincial growth centers, corridors and wedges. For Cavite, Dasmariñas City has been identified as the provincial economic center due to its population. Bacoor City is a growth corridor given its urban status and the presence of major thoroughfares supporting the economic center. “Wedges” are typically the rural areas, or areas in between centers and corridors. This spatial strategy reflects the polycentric urbanization of CALABARZON. The overall vision of the RDP is for the region to be a “global business hub.”

At the provincial level, the Cavite Provincial Government has been diligent in releasing its annual Socio-Economic and Physical Profile (SEPP). The City of Bacoor has been dubbed in Cavite’s SEPP as part of the “industrial belt” together with the Cities of Dasmariñas and



Imus, which experience rapid population growth. Bacoor City has the second highest population in the entire Province of Cavite, pegged at 520,216 residents.

Furthermore, the pioneering Coastal Land and Sea Use of the Province of Bataan, as well as the Integrated Land and Water Use of the Municipality of Abucay (Bataan) and the Comprehensive Land and Water Use of the City of Balanga (Bataan) were reviewed in the preparation of this CLUP. The Province of Bataan received national and international support in preparing coastal and water resources protection and development, in light of the deterioration of Manila Bay. One of the chief lessons learned in the said review process is to include these coastal and water resources in the preparation of a truly comprehensive land use plan for the City of Bacoor.

Moreover, city officials requested to include in the review the Town of Cary Land Use Plan, North Carolina, United States as prepared in 1996 and amended in 2003. The positioning of opportunities and constraints, as well as the detailed Design Guidelines were carefully localized in the planning exercise.

For this round of planning for the City of Bacoor, the Honorable Mayor Strike B. Revilla, with the approval of the *Sangguniang Panlungsod*, appointed a team of consultants to assist the City Planning and Development Coordinator and Technical Working Group (TWG). The TWG started generating data and maps since 2012. During the planning exercise, stakeholder analysis, public awareness, data gathering and maps development, planning workshops, and public consultations were conducted.

Public awareness were undertaken to inform the stakeholders on the updating process of the CLUP. The planning workshops, which involved representatives of key stakeholders identified and analyzed the various values and issues at the barangays, and recommended possible strategies. Data collection and map developments were also undertaken. The City-wide consultation presented the draft CLUP. Comments were made during the consultation which led to the refinement of the CLUP. The final CLUP will be presented to, and shall be adopted by, the *Sangguniang Panlungsod*. Finally, the plan will be reviewed and approved by the *Sangguniang Panlalawigan*.



In addition to the 10-year Comprehensive Land Use Plan and draft Zoning Ordinance, the Comprehensive Development Plan is also presented in this Plan. This CDP shall cover the period from 2015 to 2020.

After months of meetings, consultations, inspections and public hearings, this CLUP is the product the Technical Working Group spearheaded by the CPDO and with the help of the City Disaster Risk Reduction Officer for the relevant maps, as well as the vision, mission, goals and inputs of the elected officials.

This Plan presents the identified Vision and Mission of the City of Bacoor. The Vision for Bacoor is: **Progressive and Livable City with Responsible Citizenry**. The Mission, which is mainly for the City Government, is: **To Provide Quality Service**.

The goals contained in this Plan are elaborated in Chapter 5, and are as follows:

1. Strong sense of community and responsibility, striving for higher quality of life;
2. Transportation efficiency by interconnecting barangays and providing multi-modal terminals and transportation system;
3. Residential housing focus to absorb the rapidly increasing population of the City;
4. Integrated environmental management to address flooding and solid waste concerns and preserve key land and water resources;
5. Key urban design guidelines to promote functional and aesthetic visual appearance, especially in landmark areas;
6. Economic development through sustainable and local-based business activities, highlighting the competitive advantages of the City.

To achieve these goals, detailed objectives are also offered in Chapter 5. More importantly, The Plan provides for flexibility in land uses. For example, while the proposed locations of some activity centers are indicated on the Land Use Plan Map, the Map does not specify the precise internal arrangement of the residential, commercial and institutional residential uses that make up a barangay activity cluster.



The City's aesthetic qualities are addressed with prescribed criteria for the various planning pieces, such as building designs, guidelines on connectivity, and guidelines on parking and terminals. Design criteria address such key issues as preservation and creation of larger open spaces and recreational facilities, prevention of strip shopping center development and development of integrated transportation networks for pedestrian, bicycle, bus and possibly light railway transit in the near future.

The Plan provides analyses of opportunities and constraints presented by the natural and built-up environments. These analyses include a consideration of such natural features as soils, slopes, water resources, and even climate. In addition, the impacts on the City's growth presented by the airports and burgeoning Metro Manila, the ongoing transportation system upgrades, and other aspects of the built-up environment are fully considered. An analysis of current and future land use supply and demand are included in the Plan in order to establish the assumptions upon which the Land and Water Use Plan is based.

More importantly, this CLUP contains the salient features of the draft Zoning Ordinance, which is the main implementation instrument of the Plan. This Plan also includes a Comprehensive Development Plan (CDP) for the next five years to present the mid-term sectoral plans of the City that are in line with the CLUP. Like the Zoning Ordinance when approved, the CDP is another tool in achieving the goals and objectives of this Plan.

Following the newly released HLURB CLUP Guidebook 2013, this Comprehensive Land Use Plan is presented in three-volume format. Volume 1 is the main CLUP where the summary of the City profile and assumptions, as well as the Comprehensive Land Use Plan and Comprehensive Development Plan are incorporated. Volume 2 presents the Zoning Ordinance as well as its assumptions. Volume 3 shows the detailed Sectoral Studies in coming up with the land demand analysis and projections, and ultimately the allocation of land and water resources.



TABLE OF CONTENTS

MESSAGES

FOREWORD

TABLE OF CONTENTS

GLOSSARY OF TERMS

1. PROFILE OF THE CITY OF BACOR	1
1.1. Brief History	1
1.2. Demographic Profile	2
1.3. Geographic Location and Jurisdictional Boundaries	3
2. PHYSICAL FEATURES AND ENVIRONMENTAL CONDITION	7
2.1. Geology	7
2.2. Topography	7
2.3. Sea Area	7
2.4. Soil	10
2.5. Climate	11
2.6. Geo-hazard Issues	11
2.7. Natural Resources and Biodiversity	18
2.7.1. Forest	18
2.7.2. Grass Lands	18
2.7.3. Ground Water	18
2.7.4. Watersheds	19
2.7.5. Rivers and Creeks	20
2.8. Agri-Fishery Lands	24
2.9. Solid Waste Management	24



3. EXISTING LAND USES, TRENDS AND INFRASTRUCTURES	25
3.1. Existing Land Uses	25
3.1.1. Residential Areas	27
3.1.2. Commercial Areas	31
3.1.3. Institutional Areas	33
3.1.4. Industrial Areas	33
3.1.5. Agro-Fishery Areas	37
3.1.6. Open Grassland	37
3.1.7. Cemeteries	37
3.1.8. Infrastructures	40
3.2. Urban Form	40
3.3. Environmentally-Constrained Areas	44
3.4. Historic Resources	44
4. SUMMARY OF SECTORAL ANALYSIS	46
4.1. Social Sector	46
4.1.1. Demography	46
4.1.2. Patterns of Settlement	47
4.1.3. Education	47
4.1.4. Health	48
4.1.5. Labor Force and Employment	48
4.1.6. Social Welfare Services	48
4.1.7. Protective Services	49
4.1.8. Sports and Recreation	50
4.2. Economic Sector	50
4.2.1. Agriculture and Fisheries	50
4.2.2. Industry	51
4.2.3. Commerce and Trade	52
4.2.4. Tourism	53
4.3. Environmental Issues	54
4.3.1. Solid Waste and Sanitation	54
4.3.2. Water Quality and Liquid Waste	55
4.3.3. Air Quality	57



4.4.	Infrastructure Sector	57
4.4.1.	Transportation	57
4.4.2.	Power	60
4.4.3.	Water	60
4.4.4.	Postal Service	60
4.4.5.	Telecommunication Services	61
4.5.	Institutional and Legal Framework	61
4.6.	Land Supply and Demand Analysis	62
4.6.1.	Residential Area Projections	64
4.6.2.	Commercial Area Projections	64
4.6.3.	Infrastructure/Utilities Projections	64
4.6.4.	Institutional Area Projections	64
4.6.5.	Parks/Recreational Area Projections	64
4.6.6.	Industrial Area Projections	65
4.6.7.	Agricultural Area Projections	65
4.6.8.	Grassland/Pasture Area Projections	65
4.6.9.	Cemetery Area Projections	65
4.6.10.	Municipal Waters	66
5.	VISION, GOALS AND OBJECTIVES	67
6.	PLAN FRAMEWORK AND LAND USE DEFINITIONS	70
6.1.	Integration of Land and Water Use	70
6.2.	Urban Structure	70
6.3.	Settlements Development	71
6.4.	Transportation Network	71
6.5.	Environmental Management	71
6.6.	Land Use Definitions	72
6.6.1.	Protection and Conservation Zone	72
6.6.2.	Production Zone	72
6.6.3.	Built-up Zone	73
6.6.4.	Tourism Zone	74
6.6.5.	Infrastructure and Utilities	74



7. DESIGN GUIDELINES	75
7.1. General Guidelines and Regulations	75
7.2. Building Designs and Aesthetics	76
7.3. Guidelines on Connectivity	78
7.4. Guidelines on Parking and Terminals	79
8. COMPREHENSIVE LAND USE PLAN	81
8.1. Key Features of the Comprehensive Land Use Map	82
8.2. Higher Density Developments	85
8.3. Coastal Development and Management Area	85
8.4. Urban Redevelopment and Heritage Preservation Area	85
8.5. New Urban and Commercial District	86
8.6. Urban Expansion Area	86
9. COMPREHENSIVE DEVELOPMENT PLAN	88
9.1. Social Sector	89
9.1.1. Housing	89
9.1.2. Health	89
9.1.3. Education	90
9.1.4. Social Services	90
9.1.5. Sports and Culture Development	91
9.1.6. Protective Services	91
9.2. Economic Sector	92
9.2.1. Agriculture and Fisheries	92
9.2.2. Industry	93
9.2.3. Commerce and Trade	93
9.2.4. Tourism	94
9.3. Environmental Sector	94
9.3.1. Solid Waste	94
9.3.2. Water Resources and Wastewater	95
9.3.3. Urban Forestry	96
9.3.4. Air Quality	96
9.4. Institutional Sector	96



9.4.1.	Local Finance	96
9.4.2.	Public Administration	97
9.5.	Physical / Infrastructure Sector	97
9.5.1.	Land Transportation	97
9.5.2.	Power	98
9.5.3.	Water	99
10. IMPLEMENTATION OF THE PLANS		100



LIST OF MAPS

	Title	Page
Map 1.	Legislative District Map of the Province of Cavite	4
Map 2.	Base Map of Bacoor City	6
Map 3.	Geological Map of Bacoor	8
Map 4.	Slope Map of Bacoor	9
Map 5.	Ground Shaking Hazard Map	12
Map 6.	Liquefaction Hazard Map	13
Map 7.	Storm Surge Hazard Map	14
Map 8.	Tsunami Hazard Map	15
Map 9.	Flood Hazard Map	16
Map 10.	Rain-Induced Landslide Hazard Map	17
Map 11.	Surface Water Map	21
Map 12.	Drainage Map	22
Map 13.	Infiltration Map	23
Map 14.	Existing Land Use Map of the City of Bacoor	26
Map 15.	Residential Areas in the City of Bacoor	28
Map 16.	Commercial Areas in the City of Bacoor	32
Map 17.	Social Sector Institutional Facilities in the City of Bacoor	34
Map 18.	Evacuation Centers in the City of Bacoor	35
Map 19.	Industrial Areas in the City of Bacoor	36
Map 20.	Agricultural Areas in the City of Bacoor	38
Map 21.	Open Grasslands in the City of Bacoor	39
Map 22.	Existing and Proposed Roads in the City of Bacoor	41
Map 23.	Communication Facilities in the City of Bacoor	42
Map 24.	Proposed Comprehensive Land Use Map	83
Map 25.	Key Features of Comprehensive Land Use Map	84



LIST OF FIGURES

	Title	Page
Figure 1.	Municipal Waters of Bacoor City	10
Figure 2.	Architect’s Perspective of the Bacoor Government Center	43

LIST OF TABLES

	Title	Page
Table 1.	Existing Land Uses in the City of Bacoor, Including Municipal Waters	25
Table 2.	Subdivisions in the City of Bacoor per Mother Barangay	29
Table 3.	Informal Settlers in Danger Areas per Barangay	30
Table 4.	Type of Toilet Facility	55
Table 5.	Projected Land Demand by 2024	63
Table 6.	Land Use Categories, Existing and Projected Requirements	81



GLOSSARY OF TERMS

Abattoir. A slaughterhouse approved and registered by the National Meat Inspection Service (NMIS) or by the city government in which food animals are slaughtered and dressed for human consumption.

Abutting. Having a common border with, or being separated from such common border by a Right-of-Way, Alley, or Easement.

Accessoria or Row House. One of a series of houses, often of similar or identical design, situated side by side and joined by common walls.

Accessory. Additional, something extra or complementary.

Accessory Use. The use or occupancy incidental to the principal use or occupancy of a building and located on the same lot where the principal use of the building is situated.

Access Drive. A public or private driveway providing vehicular access to and between parking areas for more than two (2) parking spaces within a Land Development or any driveway servicing two or more units of occupancy on a single lot.

Agricultural Zone. Areas intended for cultivation and pastoral activities e.g. farming, cultivation of crops, backyard goat/cattle raising, etc.

Agri-Fishery Land. Areas covering all ricelands, other productive agricultural lands, and water bodies or fishponds.

Alley, "Eskinita", or Callejon. A public space or thoroughfare used as a secondary means of access to an abutting property that is not accessible to four-wheeled motor vehicles.

Allowable Land Use. A land use activity that conforms with the permitted uses in a specific zone.

Apartel or "Apartelle". Any fully serviced apartment building with fully furnished individual rooms for dwelling being offered for short or long-term rent that does not have provisions for cooking.

Apartment. A self-contained housing unit that occupies a portion of a building, edifice, or complex intended and/or designed for lease as a dwelling for individuals or families for a fixed rent and period.

Aquaculture Zone. Land or water areas primarily devoted to the cultivation of fish, mussels, oysters, or other marine resources.

Arcade. A roofed or covered walkway.

Attic or Loft. A space found directly below the pitched roof of a house or other building used as a place of habitation, for business purposes or as a storage area.



Average Daily Traffic (ADT). Computed by the application of a day of the week by month factor to an average twenty-four (24) hour traffic count. Such information may be obtained from the Bacoar Traffic Management Department.

Applicant. A landowner or developer including his heirs, successors, assigns, or representatives, who filed an application for Development Permit, Building Permit, Fencing Permit, or Occupancy Permit.

Application for Development. All applications, whether preliminary or final, that is required to be filed prior to the start of construction or development – including but not limited to—an application for a Development Permit, Building Permit, Fencing Permit, or Occupancy Permit.

Bacoar Government Center. The area reserved for the seat of government of the City of Bacoar.

Banks. Financial institutions that keep, invest, and safeguard the funds of its clients and offers credit and other financial products to the public.

Bar, Pub, or Tavern. A retail business establishment where food and alcoholic beverages are sold usually served by hired waiters or hostesses occasionally dancing to music.

Barangay. The smallest administrative unit in the Philippines comprised of all the residents of a particular barrio or district for at least six months regardless of nationality.

Bayad Center. An establishment where payment for utilities consumed is received.

Bedspacer. A person renting a room or bed space in a boarding house.

Block. Combined area of one or more lots forming a street block bounded by two (2) or more streets.

Boarding House. A building with two or more rooms (or bed space) rented out as sleeping quarters to the public with a common living area, dining area, or toilets for a fixed rent or duration that may, or may not, be exclusively for males or females.

Board. The Housing and Land Use Regulatory Board (HLURB).

Boundary Line or Property Line. The imaginary or abstract line separating two districts or properties as defined by the technical bearings and distances contained in a Certificate of Title or by this Zoning Ordinance.

Buffer Area. Yards, parks, or open spaces intended to separate incompatible elements or uses to control pollution/nuisance and for identifying and defining development areas or zones where no permanent structures are allowed.

Building. Any enclosed or open structure other than a boundary wall or fence, occupying more than three (3) square feet of area and/or having a roof supported by columns, piers, or walls.



Building, Accessory. A detached, subordinate building the use of which is customarily incidental or subordinate to the principal building which is located on the same lot occupied by the principal building whether or not intended for habitation.

Building, Principal. A building enclosed within exterior walls or firewalls and is built, erected and framed of component parts. The principal building is also designed for housing, shelter, enclosure and support of individuals, animals or property of any kind, and is a main structure on a given lot.

Building Height Limitation (BHL). The maximum height allowed for buildings as specified in the conditions of this Zoning Ordinance.

Building Setback Line. A line within a lot designated on a plan as the minimum required distance between any structure and the adjacent street centerline, or right-of-way line as specified by the Zoning Ordinance.

Buildable Area. The remaining space in a lot with no improvements after deducting the minimum open spaces and areas within the lot not suitable for the construction of any building.

Built-up Area. A contiguous grouping of ten (10) or more buildings.

Business. Any venture or activity (excluding the practice of a profession) engaged into for profit.

Canteen. A small recreational facility where food and drinks are served for a fee that may be located within a building or institution whose customers may be the employees or visitors of such building or institution.

Capacity, Vehicle. The maximum number of vehicles that can be expected to pass over a given section of roadway or on a specific lane.

Car Barn. A place where jeepneys, taxicabs, or other public utility vehicles are parked and/or repaired usually owned or leased by the operator/s of such vehicles.

Carenderia, Carinderia, Eatery, or "Turo-Turo". A counter-type food establishment sometimes located along roadsides where customers choose from various cooked dishes on display. Such establishments may, or may not, have provisions for dining tables and chairs.

Car Wash. A business establishment covered by a roof primarily used for the cleaning, waxing, and detailing of motor vehicles for a fee.

Casino. A public room, building, hotel, or establishment for gambling or entertainment.

Cemetery or Graveyard. A spatially defined area exclusively devoted for the interment of human or animal remains underground or inside niches constructed above ground that is open to the public for free or for a fee.

Central Business District. The portion of the City with the highest land values or where the most intense business or commercial activities are conducted.



Certificate of Non-Conformance. A certificate issued to owners of all lands and improvements devoted to various uses existing prior to the approval of this Zoning Ordinance that do not conform to the zoning regulations pertaining to the site where the said land is located.

Cinerarium. A niche located within a columbarium that accommodates the urn containing the ashes of a cremated body.

Chapel. A place of worship or for various religious purposes that may, or may not, be located within a building or complex. It may also refer to a small secondary church in a parish.

Clinic. A place where patients are given medical, dental, or optical treatment with less than five (5) beds, bassinets, or treatment chairs.

Cockpit. An enclosed space where cockfighting is held.

Columbarium. A place devoted for the respectful storage of cinerary urns.

Climate Change. A change in climate that can be identified by changes in the mean and/or variability of its properties and that persists for an extended period typically decades or longer, whether due to natural variability or as a result of human activity.

Climate Change Adaptation. Innovations in land development, building design or construction, and in the management, design, or operation of open spaces intended to mitigate the effects of climate change such as increases in temperature, precipitation, wind velocity, or water levels.

Coastal Development Zone (CDZ). Areas located along the coast of the city intended for reclamation and development.

Commercial Zones. Areas within the city in which the primary land use are commercial activities, more particularly described as follows:

C-1 or Low Density Commercial/Mixed Use Zone is a portion of the commercial zone used primarily for mixed use and commercial developments on a local scale with a maximum floor area ratio of six (6).

C-2 or Medium Density Commercial/Mixed Use Zone is a portion of the commercial zone used primarily for medium density mixed use and commercial developments with a maximum floor area ratio of eight (8).

C-3 or High Density Commercial/Mixed Use Zone is a portion of the commercial zone used primarily for high density mixed use and commercial developments on a metropolitan scale of operation with a maximum floor area ratio of ten (10).

Common Open Space. Parcels of land or an area of water, or a combination of land or water, intended and designed for the use or enjoyment of the residents of a development project not including streets, off-street parking areas, and areas set aside for parking facilities.

Compatible Use. Land uses/activities capable of existing together harmoniously such as residential use, parks, and playgrounds.



Comprehensive Land Use Plan (CLUP). The document embodying specific land and water use plans and development proposals for guiding and regulating growth and/or development within the City of Bacoar. The main elements of the CLUP are the sectoral components; land and water use, socio-economic, infrastructures and utilities, environment, local administration and the capital investment program.

Community-Based Disaster Risk Reduction and Management (CBDRRM). A process of disaster risk reduction and management in which at risk communities are actively engaged in the identification, analysis, treatment, monitoring and evaluation of disaster risks in order to reduce their vulnerabilities and enhance their capacities, and where the people are at the heart of decision-making and implementation of disaster risk reduction and management activities.

Community Water Supply. A utility owned by a private corporation, partnership, single proprietorship, cooperative, association, local government unit, or any other juridical entity that supplies potable, domestic water for use by more than one (1) household, business, or institution.

Condominium. A form of ownership of real property which includes a multiple land development in which there is a system or separate ownership of individual residential or office units or occupancy and undivided interest of land and common spaces.

Condominium Building. A multi-level structure divided into separate individual residential or office units, the common areas of which such as lobbies and elevators are owned in common by all the occupants of the building.

Conflicting Uses. Land uses/activities with contrasting and incompatible characteristics located adjacent to each other such as residential units adjacent to industrial plants.

Conforming Use. A land activity/use that complies with the appropriate zone classification as provided under this Zoning Ordinance.

Convenience Store or "Sari-sari Store". A pedestrian oriented commercial establishment that sells various merchandise with limited stocks to nearby residents or passersby that may, or may not, be located within a residential zone and may, or may not, be situated within a residential building.

Crematorium or Crematory. A building or facility devoted to the incineration of human or animal remains and the placing thereof in urns. Such buildings or facilities may, or may not, contain a viewing room or chapel.

Detention Basin or Impounding Area. A reservoir that temporarily contains storm water runoff and releases it gradually into a watercourse or storm water facility.

Developer. Any natural or juridical person (such as a corporation, association, cooperative, partnership, or organization) that endeavors to develop a parcel of land by the construction or development thereon of a residential subdivision, a building, or an institution.

Development Permit. The license issued by the City of Bacoar to a developer allowing the latter to proceed with the proposed land development.



Diagnostic Center or Diagnostic Clinic. A place within a building where patients receive physical checkups and are subjected to laboratory examinations and procedure.

Dormitory. A building, divided into separate dwelling units, that provides board and lodging to the public for a fixed fee and duration with areas that can be used in common by the people staying in the said edifice such as toilets and living room.

Drainage Easement. The land required for installation of storm sewer or drainage facilities or required along a natural stream or watercourse for preserving the channel and providing for the flow of water therein, or to safeguard the public against flood damage.

Dripline. A line marking the outer edges of the branches of trees.

Drip Irrigation System. The immersion of drainage pipes on the subsurface of the soil on which plants are located and is intended to efficiently deliver water to the root system of the said plants while reducing water wastage.

Driveway. A privately owned lot providing vehicular access between a street, an access drive and a parking area for residential units of occupancy.

Driving Range. A place where golfers go to practice their swing or putting.

Dry Cleaner. A business establishment located within a building where clothes and other fabrics are cleaned with the use of solvents and other chemicals other than water.

Dumpsite. A lot or parcel of land where garbage, used vehicles, and other refuse are disposed by means of dumping, burying, or burning.

Duplex. An apartment building with two separate residential units with separate entrances divided in the middle by a common wall.

Easement. An open space imposed on any land use/activity along waterways, road-right-of-ways, cemeteries/memorial parks and utilities.

Ecological Tourism Area (ETA) or Ecotourism Area. Areas intended primarily for the development of low-intensity tourist facilities compatible with the natural setting and environment. All uses in the said ETA shall be in conformance with the principle that ecotourism is an environmentally sound tourism activity in a given ecosystem yielding socio-economic benefits and enhancing natural and cultural diversity conservation.

Effluent. Any wastewater that is partially or completely treated, or that is in its natural state, flowing out of a building or structure.

E-Games. A generic term for all games or other forms of entertainment played on a computer or a video console whether or not such gadgets are connected to the internet.

Elevation. The vertical alignment of a surface, as it exists or as it is made by cut and/or fill.



Environmentally Critical Areas (ECA) refer to areas that are environmentally sensitive and are listed in Presidential Proclamation No. 2146 dated 14 December 1981 that include flood plains, storm surge areas, steep slopes, and riparian areas.

Environmentally Critical Projects. Land development projects that have high potential for negative environmental impact and are listed in Presidential Proclamation No. 2146 dated 14 December 1981.

Exception. A scheme granting a property owner relief from certain provisions of the Zoning Ordinance where a specific use would result in a particular hardship to the owner as distinguished from a mere inconvenience or a desire to make money.

Factory. A facility where various products are manufactured by hand, or through the use of machines, or a combination of both.

Fast Food Centers or Fast Food Restaurants. Commercial establishments selling food and beverage products that are rapidly prepared within set cooking periods.

Fire Retardant Materials. Construction materials designed to slow down the spread of fire.

Firewall. Fireproof barrier used to prevent the spread of fire between or through buildings, structures, or electrical substation transformers.

Firing Range. An enclosed facility specially designed for firearms practice that may, or may not, be used for a fee.

Floodplain. The various barangays within the City of Baco that is inundated whenever inclement weather affects the city including the entirety of the following barangays: Alima, Aniban 1-5, Camposanto, Daang Bukid, Digman, Dulong Bayan, Habay 1-2, Kaingin, Mabolo 1-3, Maliksi 1-3, Niog 1-3, P.F. Espiritu 1-8, Real 1-2, Salinas 1-4, Sinaguelasan, Tabing Dagat, Talaba 1-7, and Zapote 1-5.

Floor Area Ratio (FAR). The ratio between the gross floor area of a building and the area of the lot on which it stands, determined by dividing the gross floor area of the building and the area of the lot. The gross floor area of any building should not exceed the prescribed floor area ratio multiplied by the lot area.

Floor Elevation. The elevation of the lowest level of a particular building including the basement.

Food Court. A specific portion or section inside a shopping mall where various fast food restaurants conduct business.

Food Stalls. Counter-type food establishments with no dine-in services.

Funeral Parlor. A business establishment offering funeral services to the public for a fee with or without embalming facilities.

Frontage. Portion of the property that abuts and is measured along the street right-of way line.



Future Access Strip. A right-of-way reserved for the future improvement of a street.

Garage, Commercial. A place where motor vehicles are parked, maintained, or stored for a fee when not in use that offers services not provided by gas stations or motor vehicle repair shops.

Gas Station. A commercial establishment located along roads and other thoroughfares with facilities primarily designed for the sale of various types of motor fuels to provide propulsion to motor vehicles. Such facilities may also be secondarily designed to provide other motor vehicle maintenance and repair services, sell food, beverages, and other products to consumers, and provide rest room facilities to the public.

Geometric Center. The centroid of a structure's elevation projected to a line defining the natural gradient.

Grease Trap. A contraption designed to collect used oil or grease in restaurants or motor vehicle repair shops.

Green Building. An integrated, whole-building approach to the planning, design, construction, operation, and maintenance of buildings and their surrounding landscape that help initiate the environmental, economic, and social impacts of such structures.

Greenbelt Development Zone (GDZ). Area to be developed as the site for a planned residential/industrial community that would incorporate environment friendly technologies and strategies that would reduce or eradicate urban blight.

Green Trails. Areas located parallel to main thoroughfares devoted for use as jogging/bike trails with a minimum width of eight (8) feet (or 2.4 meters) to be measured from the face of a guardrail, curb, or other barrier with a cross slope of 2% going towards one direction and not crowning on the middle of the trail. The green trail/s shall in no instance be located on an existing road or highway. The green trail/s shall also include an elevated trail to be constructed on top of a highway or road to ensure trail continuity and the safety of bikers, joggers, and motorists alike.

Grocery Store. A commercial establishment that sells dry, wet, or frozen food items and other household items to the public.

Gross Floor Area (GFA) refers to the total floor space within the perimeter of the permanent external building walls, occupied by office areas; residential areas; corridors; lobbies; mezzanines; vertical penetrations such stairs, fire escapes, elevator shafts, flues, pipe shafts, and the like and their enclosing walls; rest rooms or toilets; storage rooms and closets; covered balconies and terraces; and interior walls and columns and other interior features. **Provided that,** the said term shall not include (a) covered areas used for parking and driveways, including vertical penetrations in parking floors where no residential or office units are located and (b) uncovered areas for cooling towers, overhead water tanks, roof decks, laundry areas and cages, wading or swimming pools, whirlpools or Jacuzzis, gardens, courts, or plazas.

Heliport. An area used or intended to be used for the landing and takeoff of helicopters including any related facilities or appurtenances.



High Density Housing Area (HDHA) shall principally be for socialized housing purposes for the underprivileged and homeless as defined under RA 7279.

Historic Feature. Any district, site, building, or object that meets one or more of the following criteria: (a) is listed or may be determined to be eligible to be listed as a historic site by the National Historical Commission, (b) determined by a qualified historic preservation professional to be historically or architecturally significant.

Horticultural Nursery or Plant Nursery. A large tract of public land used for the cultivation and raising of local or foreign decorative or exotic specimens of plants, trees, and shrubs for sale to the public or for planting in public places such as roadsides and parks.

Hospital. An institution primarily used for the diagnosis, care, and treatment of patients with injuries, illnesses, diseases, conditions, or deformities.

Hotel or Inn. A building where transient guests stay for a limited duration and pay for lodging, meals, and other services.

Homeowner. The proprietor of a place of dwelling.

Hydrant, Fire. A device located along streets designed to enhance the delivery of water during fire incidents.

Impervious Surface. Type of surface that does not permit the penetration of water. Such a surface shall be considered as outside of the building envelope and is not included in the PLO and FAR computations.

Impounding Area. A parcel of land enclosed within walls that may or may not be covered by a roof used to temporarily store and safeguard motor vehicles confiscated by the city government for various violations of local ordinances or national laws or for evidentiary purposes related to a judicial or quasi-judicial proceeding.

Improvement. All physical changes to the land not limited to the construction of buildings or structures but also the construction of roads, driveways, streets, alleys, walkways, green trails, drainage lines and all additions to the natural state of a parcel of land including the planting of trees or other types of vegetation.

Industrial Zone. Division of an area primarily for non-pollutive, non-hazardous manufacturing or production activities. Complementary use such as workers' housing and neighborhood commercial activities are allowed.

Institutional Zone. Division of an area primarily for education, religious, government, public, medical and other public services.

Junk. Any garbage, trash, refuse or waste material whether biodegradable or non-biodegradable.

Junkshop. A business establishment used for the sale and storage of junk.

Junkyard. An area where junk is stored.



KTV or Videoke Bar. A bar, pub, or nightclub where customers are allowed to sing accompanied by a videoke or karaoke machine.

Land Use. The various reasons for which a piece of land is developed.

Land Use Map or Zoning Map. Duly authenticated map delineating the different zones or areas into which the City is divided, attached hereto as **Exhibit 1**.

Laundromat/Laundry Shop. A business establishment where clothes are washed for a fee.

Living or Residential Unit. A room or house or portion of a building used as a dwelling containing various living amenities.

Liquefaction. A phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or rapid loading.

Loading and Unloading Zones. Designated areas along streets and other thoroughfares where vehicles stop for the loading or unloading of passengers and goods.

Locational Clearance. A clearance issued for a project that is allowed under the provisions of this Zoning Ordinance as well as other standards, rules and regulations on land use.

Lot. A parcel of land where a principal building and its accessories including the required open spaces are located.

Lot Area Per Family. Lot devoted for use of one family.

Lot Depth. Average horizontal distance between the front and rear of a lot.

Lot, Inside. A lot fronting a street or alley with the remaining sides bounded by lot lines.

Lot Lines. Demarcation lines between public and/or private real properties.

Lotto Outlet. A business establishment where people place lottery bets.

Lumberyard. A place where wood or lumber are cut or sawed.

Malls or Shopping Malls. Large, enclosed structures containing several commercial and business establishments selling various products and services and the paid use of recreational facilities to the public.

Mangrove Protection Zone. The area located in the City's municipal waters specifically designated for the planting and cultivation of mangroves.

Mausoleum. A sepulchral chapel where tombs are found, usually maintained by a family or clan, located within a cemetery or memorial park.

Medical or Diagnostic Laboratory. A place exclusively devoted to the conduct of medical examinations or tests sans treatment of patients.



Mezzanine or Loft. A partial intermediate floor or storey located within a house or building with an area not more than half of the room where it is constructed.

Mitigating Device. Means to grant relief in complying with certain provision of this Zoning Ordinance.

Money Exchange Shop. A business establishment where foreign currencies are exchanged to peso or vice versa.

Money Lending Establishments. Commercial establishments that lend money to qualified borrowers under specific terms and conditions.

Mortuary. A place where cadavers are kept or embalmed before burial or viewing.

Motel or "Motor Hotel". A hotel for motorists usually located along roadsides that may, or may not, have separate garages for each individual room.

Municipal Fishing. According to the Fisheries Code of the Philippines (RA 8550), it refers to fishing within municipal waters using fishing vessels of three gross tons less, or fishing not requiring the use of fishing vessels regulated by the municipality/city government.

Municipal Fishing Zone. Area located within the City's municipal waters specifically reserved for fishing activities by the general public.

Municipal Waters. According to the Fisheries Code of the Philippines, it 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 inlands and fifteen (15) kilometers from such coastline. Where two (2) municipalities are so situated on opposite shores that there is less than thirty (30) kilometers of marine waters between them, the third line shall be equally distant from opposite shore of the respective municipalities. (Note: municipality can be taken as "city" as defined in the Fisheries Code of the Philippines.)

Night Club. An enclosed business establishment that opens only at night until the wee hours of the morning that serves food and alcoholic beverages, equipped with a dance floor and a sound system, and where live shows and dance performances are done by hired men or women.

Non-Conforming Use. Existing non-conforming uses/establishments in an area allowed to operate despite the non-conformity to the provisions of this Zoning Ordinance subject to the conditions stipulated herein.

Nursing or Convalescence Home. A place where sick or elderly people are given board, lodging, and medical care for a fee.

Occupancy. The purpose for which a building is used or intended to be used.



Office. A portion of a building where the management of a business or commercial enterprise is conducted.

Office Building. A building designed, used or intended to be used as the location of various offices that may, or may not be, affiliated with the same juridical entity.

Off-Street Parking. The stopping of any vehicle regardless of duration on a place that is not on a road or street.

Open Shed. Roofed structure sans sidewalls used for the storage or safeguarding of goods, materials, or equipment.

Open Space. An unoccupied portion of a lot that is open to the sky where no structure has been constructed.

Parking Building. A structure consisting of several levels used for the temporary parking of motor vehicles for a fee.

Park. An area designed and used for recreation and/or as a means of maintaining the ecological balance of a community.

Parking Lot. An off-street site used for the parking of motor vehicles for free or for a fee for the benefit of customers/clients or of the general public.

Pawnshop. A commercial establishment that gives credit to its customers with interest and uses jewelry or other valuable personal items as collateral.

Pension House. A family-owned or privately owned boarding house providing board and lodging for a fee consisting of two (2) or more living units equipped with basic living amenities that caters to the needs of tourists and staffed by untrained domestic helpers.

Penthouse. A structure occupying less than half of the floor area of the flat roof surface of a building or a living unit located on the topmost floor or flat roof surface of a building.

Pervious or Porous Materials. Any material that would allow water to pass through at a rate at least equal to the pervious ground cover (i.e., porous pavement, stone parking areas, and preformed or prefabricated blocks) which would permit water to penetrate.

Physical Fitness Gym. A building or room designed and used for physical wellness activities. It can be used either by paying customers or by non-paying employees of a public or private juridical entity.

Porte Cochere or "Drive Through". A passageway through a building or hidden behind a screened wall where motor vehicles pass towards an inner courtyard or to a street.

Principal Use. The dominant purpose of a particular land development.

Planned Unit Development. Land development projects that allow planned mixed land uses designed to improve the environment.



Plat. A map drawn to scale, showing the divisions to a piece of land.

Protection and Conservation Zone. An area intended primarily for protecting and conserving significantly important areas or sites such as natural resources and habitats and cultural or historical sites.

Purified Water Refilling Station. A business establishment within a building that sells purified or distilled bottled water to the public.

Redevelopment or Renewal Program. The planned clearing or improvement of certain areas intended to improve the appearance or functionality thereof.

Residential Zones. Areas the use of which is predominated as dwelling places with sleeping quarters and other ancillary facilities intended to enhance the comfort of its inhabitants that are further classified as follows:

R-1or Low Density Residential Zone. A portion of the residential zone used principally for single detached dwellings with customary ancillary uses, and compatible accessory uses on a neighborhood scale with a maximum building height of ten (10) meters.

R-2 or Medium Density Residential Zone. A portion of the residential zone used primarily for medium-density housing, with support commercial, service, and institutional uses on a neighborhood or barangay scale with a maximum building height of fourteen (14) meters.

R-3 or High Density Residential Zone. A portion of the residential zone used primarily for high-density/high-rise dwellings and limited service support activities with a maximum Floor Area Ratio of six (6).

Resort. A business establishment with a pleasant environment and ambiance that offers food, accommodations, and recreational activities and facilities to the public for a fee.

Restaurant. A commercial establishment that sells food and beverages to the general public equipped with tables, chairs, and other amenities.

Rezoning. The process of introducing amendments to or a change in the texts and maps of the Zoning Ordinance. It also includes amendment or change in view or reclassification pursuant to Section 20 of RA 7160.

Roof Deck. The flat portion of the roof of a building used as place for the drying of clothes or as an additional living or recreation area.

Sauna, Massage Parlors, or Wellness Centers. Enclosed business establishment where trained masseuse gives customers massage services or dermatological services.

Setback. Easement measured from the property line as mandated by the National Building Code.



Sewage Treatment Plant (STP). Facility intended for the removal of contaminants from wastewater and household sewage involving the use of physical, chemical, and biological processes to remove physical, chemical, and biological contaminants.

Showroom. An area used for the display of goods, products or merchandise.

Slum or Blighted Area. A place characterized by unsanitary and crowded living conditions, deteriorating real estate values, rising criminality, economic deprivation, and poor land development.

Small-scale Home Industry or Cottage Industry. Economic activities necessitating minimal capitalization conducted within houses located in a certain neighborhood involving the manufacture of various goods or products by hand.

Socialized Housing. Housing programs and projects undertaken by the government or by the private sector for the benefit of the underprivileged and the homeless as mandated under RA 7279 and other laws.

Socialized Housing Zone (SHZ). Area to be used principally for socialized housing projects and programs for the underprivileged and homeless as defined in RA 7279 (the Urban and Development Housing Act).

Special Use Permit. Utilization of a parcel of land in a manner not inherently permitted under pertinent zoning regulations a particular area or zone subject to the review by the Zoning Officer.

Stable. An enclosure intended to serve as shelter for horses.

Storage Room/House. A room or building, or an accessory structure detached from a building, primarily used for the storage of goods, materials, or other items related to a business enterprise.

Street. A public thoroughfare such as a road or alley affording access to an abutting property.

Supermarket. A large, commercial, self-service establishment where food and non-food items on display is sold to the public.

Supper Club or Dance Club. An establishment that serves food and drinks accompanied by music provided by its management where customers can dance together with partners that they brought with them. Though no hostesses are allowed in such establishments, patrons can obtain dance lessons from paid dance instructors.

Talipapa, Flea Market, or Satellite Market. Wet and dry markets requiring minimal capital to construct or maintain that are located on government land or on privately owned land where vendors or hawkers sell various food items to the public.

Tenement Housing. Medium rise buildings constructed using government funds for the benefit of the homeless and underprivileged.



Townhouses. Independent living units constructed on separate lots adjoined by commonly owned walls on two sides known as “party walls”.

Traffic. Pedestrians and/or motor vehicles on streets, roads and other thoroughfares whether public or private.

Traffic Plan. A plan devised by land developers that predicts traffic flow in and around land development projects.

Transport Terminals. Facilities used as temporary parking for various types of motor vehicles and as a loading and unloading area of passengers and goods.

Utility Zone. Areas within the city devoted for the construction of utility facilities such as transport terminals, power plants, telecommunications towers, and the like.

Variance. A specific locational clearance which grants a property owner relief from certain provisions of the Zoning Ordinance where, because of the particular, physical surrounding, 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.

Warehouse. Building intended for storage and/or depository of those in business of performing warehouse services for others, for profit.

Watershed. An area drained by a common body of water.

Wet and Dry Market. Semi-enclosed establishments where various wet and dry food and consumer items are sold.

Zone. An area within the city for specific land or water use as defined by man-made or natural boundaries.

Zone Boundaries. The extents of a particular zone or district defined by streets, easements, structures, and other topographical features.

Zoning Administrator/Zoning Officer. The Head of the Zoning and Land Development Department of the City.

Zoning Map. A duly authenticated map delineating the City into various zones.

Zoning Ordinance. A local legal enactment which embodies regulations affecting delineated land uses which seeks to implement the local physical plan.



1. PROFILE OF THE CITY OF BACOR

1.1. Brief History

The City of Bacoor was once merged with the bustling town of Palanag now known as Parañaque. Bacoor was established on 28 September 1671 and was officially separated to become a town that wedge the bigger neighboring towns of Parañaque, Cavite el Viejo (now Kawit), and Silang.

The name Bacoor may have been derived from the Tagalog word “bakod”, which means fence, and is suggestive of its role as the gateway to Parañaque. Others believe that Bacoor was named after a local bamboo variety known as “bakoor” that grew profusely from Sitio Zapote to Sitio Talaba.

Many events in Philippine history happened in Bacoor. The town became the site of Emilio Aguinaldo's first defeat against Spanish forces in September 2, 1896 during the Philippine Revolution. Fortunately, Spanish General Ernesto de Aguirre rested his troops for one day in Bacoor Plaza while awaiting reinforcements from Manila allowing Aguinaldo to prepare the defense of Imus that night which led to victory for the Philippine revolutionary forces at the Battle of Imus.

Two fierce battles took place Zapote Bridge in Bacoor. The first Battle of Zapote Bridge took place on February 17, 1897 when the Filipino Revolutionary Army held back the advance of the Spanish invaders. It was in this battle that General Edilberto Evangelista, a European-educated Filipino engineer, fought and heroically died from an enemy sniper while repulsing the advance of Spanish forces. The second Battle of Zapote Bridge happened during the height of the Filipino-American War in 1899.

In honor of the victory of the Magdalo government against the Spaniards, Bacoor was given the revolutionary name “Gargano” by the *katipuneros* as a way of erasing the country's colonial past. At that time, Gil Ignacio was the Katipunan Leader in Bacoor. Fierce battles



ensued, and on March 26, one day after the fall of the Magdalo capital of Imus, Bacoor was recaptured by the Spaniards during a counter-offensive launched by Spanish General Jose Achambre.

The town is also noted in history as the first capital of the revolutionary government under General Aguinaldo. On July 4, 1898, General Aguinaldo relocated his headquarters from Maximo Innocencio's Mansion in today's Cavite City to the home of Juan Cuenca and Candida Chavez in Bacoor situated along a national road eponymously named after Gen. Edilberto Evangelista. This move was a result of Aguinaldo's suspicion of imminent colonialization of the country by the Americans after the latter refused to recognize Philippine Independence already proclaimed on June 12, 1898 in Kawit, Cavite. Bacoor remained as the capital of the nascent revolutionary government until 9 September 1898.

The historic town of Bacoor was converted into a city through the signing by President Benigno Simeon Aquino of Republic Act 10160 (also known as the "Charter of the City of Bacoor") on 25 July 2011. On 23 June 2012, the said law was overwhelmingly ratified by 36,226 of the town's 40,080 registered voters. Bacoor's conversion into a component city of Cavite Province bodes well for its sustained development. The City Government of Bacoor wasted no time in upgrading its institutional capabilities to respond to the city's rapidly increasing population. The relocation of the city's government center from the historic town plaza in Barangay Tabing Dagat to the newly constructed Bacoor Government Center along the newly constructed Bacoor Boulevard in Barangay Bayanan would decongest the "Old Bacoor" which is prone to flooding and traffic congestion and spur new development in the southern portion of the young City.

1.2. Demographic Profile

Based on the 2010 National Statistics Office (NSO) Census, the population of Bacoor City in 2010 was 520,216 with an average annual growth rate of 5.46% when compared to the 2000 Census. Using this growth rate, it is estimated that the City has a population of 678,613 in 2015. It is projected that the City shall have a population of 1,094,996 and shall have a total number of 229,485 households by 2024. The detailed annual projections for the City of Bacoor are in Volume 3 – Sectoral Studies of this work.



As of the 2010 Census, the total number of households in Bacoor grew to 109,025 from 64,067 in 2000. Barangay Molino III had the largest number of households (10,996), followed by Molino IV (7,573), and San Nicolas III (5,773). The average household size is 4.77, which increased from 4.35 in the 2000 Census.

The population density of the City of Bacoor based on the 2010 Census is 99 persons per hectare, or 9,900 per square kilometer based on the land area of 5,240 hectares or 52.4 square kilometers as declared in the Cavite Socio-Economic and Physical Profile 2012. The national average population density is 297 persons per square kilometer, and the population density of Metro Manila is 17,674 persons per square kilometer. Bacoor's projected population density is 15,200 persons per sq.km by 2018, and 20,900 persons per sq.km by 2024.

In terms of "age dependency", a total of 193,585 or 63.3% of the total population is the potential labor force (persons aged 15-65) in Bacoor, which is slightly lower than the national average of 64.3%. The children and youth sectors account for 39.7% or 121,243 of the population, while the elderly (persons aged 65 years old and over) accounts for 1.63% of the population or 4,987 people. Bacoor's total dependency ratio is 58%. This means that 58 persons are dependent for every 100 workers in the City's labor force (54 children and four elders per 100 workers).

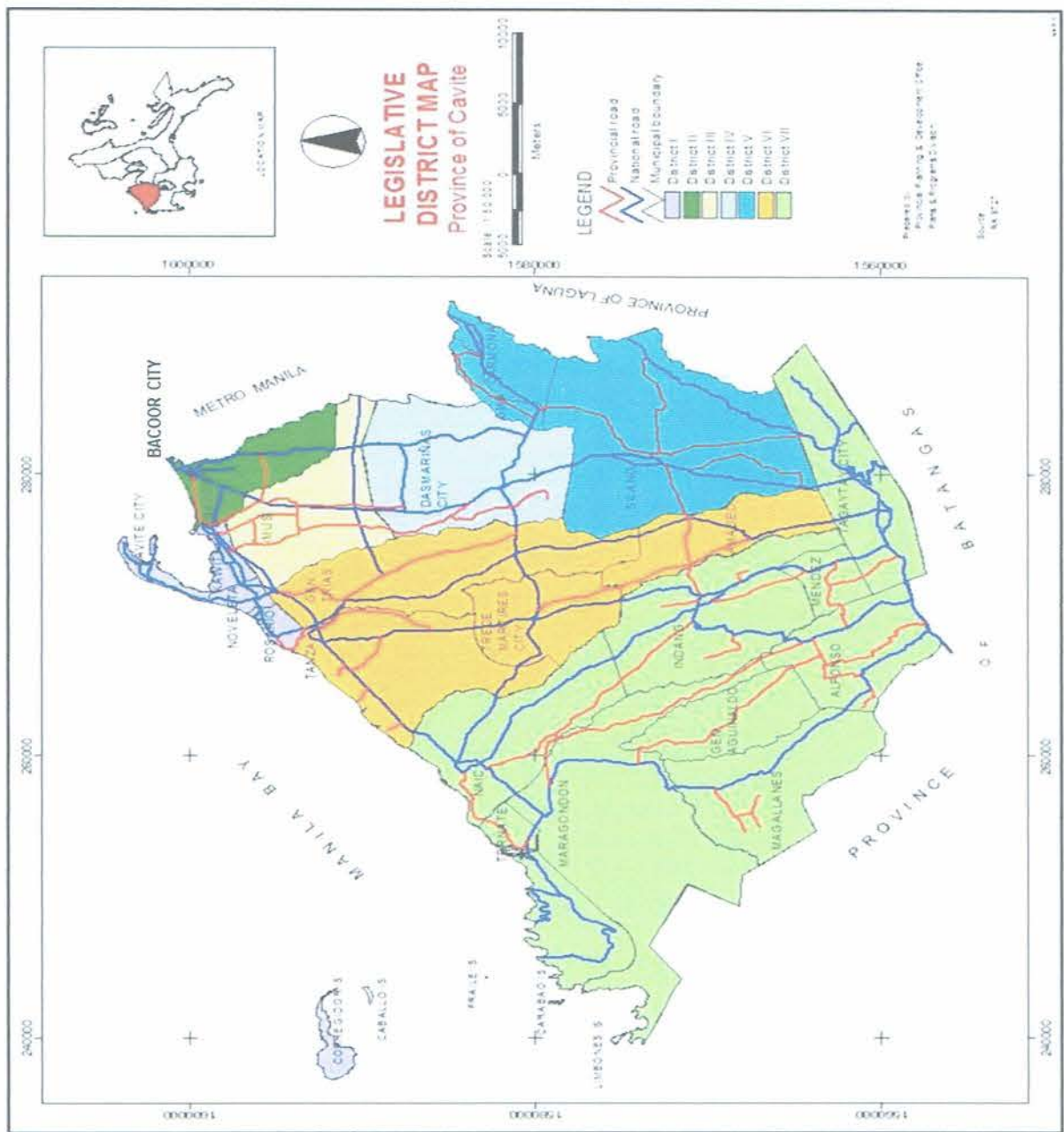
1.3. Geographic Location and Jurisdictional Boundaries

Historical and legal evidence show that the land area of Bacoor City is bounded by the Imus and Zapote Rivers and that the City has a total area of 52.4 square kilometers or 5,240 hectares, which is also declared in the Cavite Socio-Economic and Physical Profile 2012.

Bacoor is bounded on the north by Bacoor Bay, on the east by the Cities of Las Piñas and Muntinlupa, on the south by Dasmariñas City, on the west-to-southwest by Imus City, and on the northwest by Kawit (Map 1). The Poblacion is located on the northern part of the city along Bacoor Bay with an absolute coordinate of 14°27'35.5"North-120°56'26.1"East (based on Wikimapia Satellite Map).



Map 1. Legislative District Map of the Province of Cavite



Source: Cavite Socio-Economic and Physical Profile 2012



Bacoor's northern section is a coast fronting Manila Bay/Bacoor Bay and separated by the Zapote River and the Imus River on its eastern and western boundaries respectively. These rivers traditionally provide salt water for Bacoor's salt farms that doubled as fishponds during the rainy season.

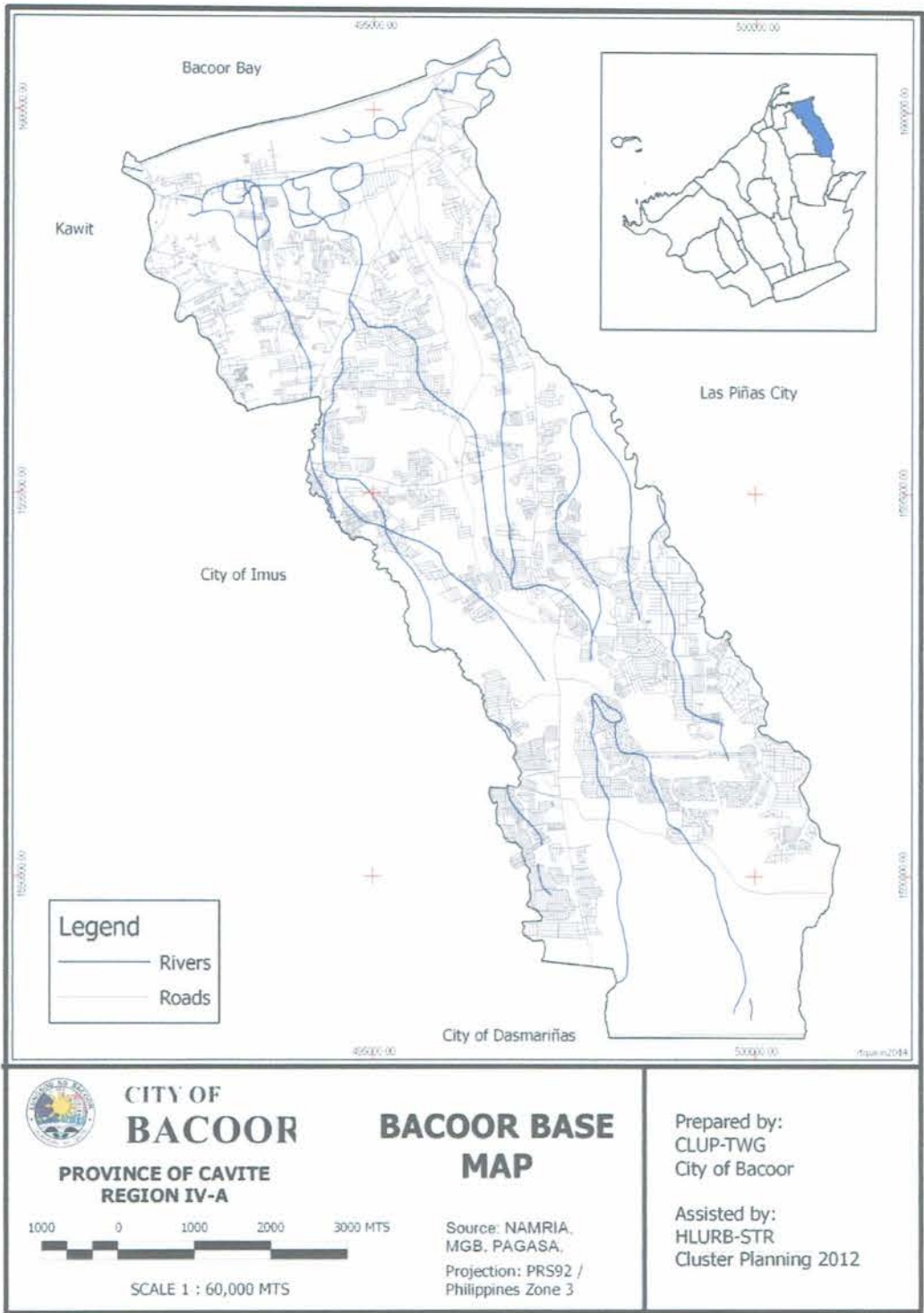
More importantly, the planning area covers the entire jurisdictional boundaries of the City of Bacoor, as well as the land and water resources of all of its 73 barangays.

The City of Bacoor is a first class city located at the north-easternmost corner of the Province of Cavite, and is directly adjacent to Metro Manila. It is approximately 17.5 kilometers southwest from Manila (from kilometer zero), and about 27 kilometers northeast from Trece Martires City, the de facto capital of Cavite. The City of Bacoor is the lone LGU within the 2nd legislative district of the Province of Cavite.

Bacoor's proximity to the metropolis has its advantages and disadvantages. In this CLUP, the advantages of getting a fair market share from Metro Manila among others are envisioned to be captured in the Plan, while proactively addressing the disadvantages such as traffic congestion and housing sprawl. Please refer to Map 2, Bacoor City Base Map, to visualize extensive road and river networks.



Map 2. Base Map of Bacoor City



Source: Comprehensive Land Use Plan –Technical Working Group (CLUP-TWG)

2. PHYSICAL FEATURES AND ENVIRONMENTAL CONDITION

This Chapter includes the following: (1) Geology; (2) Topography; (3) Sea Area; (4) Soil; (5) Climate; (6) Geo-hazard Issues; (7) Natural Resources and Biodiversity; (8); Agri-fishery Lands; and (9) Solid Waste Management.

2.1. Geology

Based on the geological map of Bacoor City (Map 3), the rock formations found beneath the city primarily consist of Alluvium (Quaternary Alluvium) and Guadalupe Formation (Diliman/Teal Tuff). Alluvium consists of unconsolidated deposits of silt, sand and gravel. It includes extension alluvial and river deposits, details, deltas, swamps, estuarine and talus deposits. It exist along valleys coastal plains. Diliman (Taal) Tuff, the upper member of the Guadalupe Formation of stratified rocks is thin to medium – bedded, fine grained vitric and welded volcanic breccias with subordinate amount of tuffaceous, fine to medium – grained sandstone.

2.2. Topography

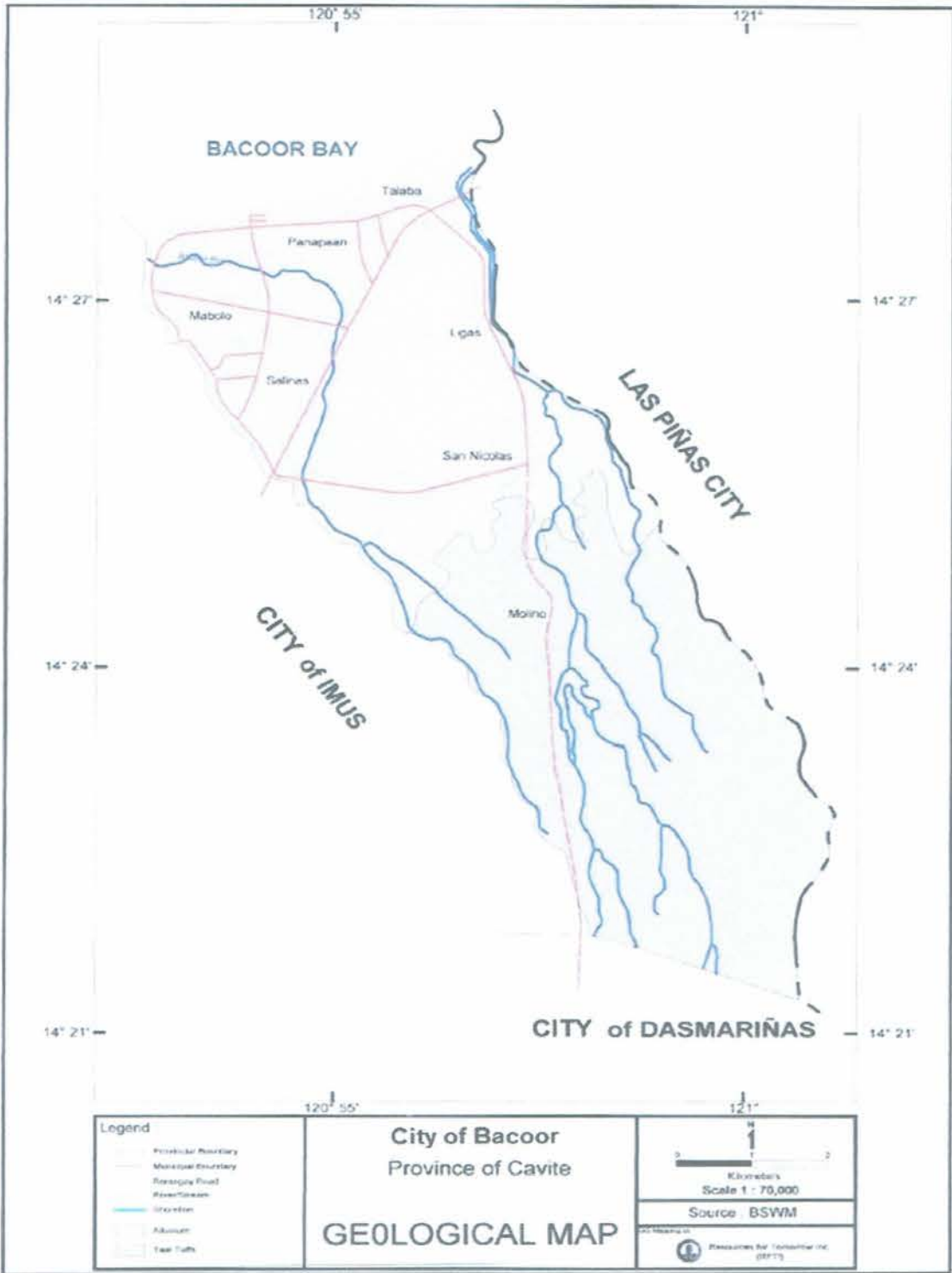
The topography of Bacoor City is generally flat with a slightly-sloping terrain towards its southern portion. A slope grade of zero to three percent (0-3%) covers more than half of the land area of Bacoor while the rest has a slope of three to eight percent (Map 4). There is no “ridge” within the jurisdiction of the City since the higher grounds of Cavite can be found in the Municipality of Amadeo and the City of Tagaytay as stated in the above-cited Provincial Profile. At any rate, the “Ridge to Reef” (“R2R”) Framework is used as elaborated below.

2.3. Sea Area

The “sea area” or “municipal waters” of the City of Bacoor covers a total area of 957.25 hectares and a total shoreline of 5.8 kilometers. This is a substantial area that should be included in the comprehensive planning of the entire City of Bacoor, which is a main component of the “R2R” Framework. Figure 1 shows the shape of Bacoor City’s municipal waters based on the boundaries agreed upon by Bacoor City, Las Piñas City, Cavite City, Imus City and Municipality of Kawit.

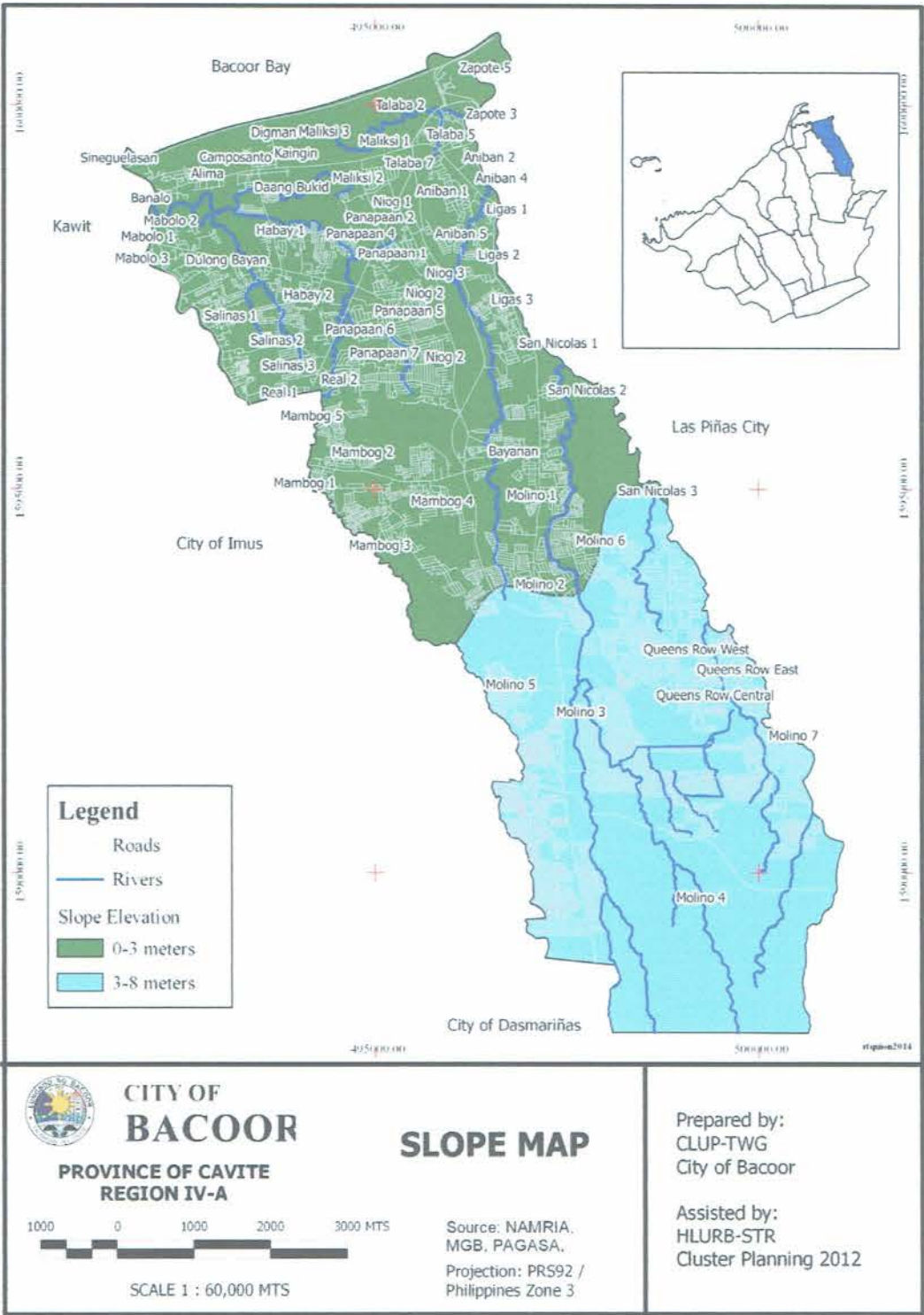


Map 3. Geological Map of Bacoor



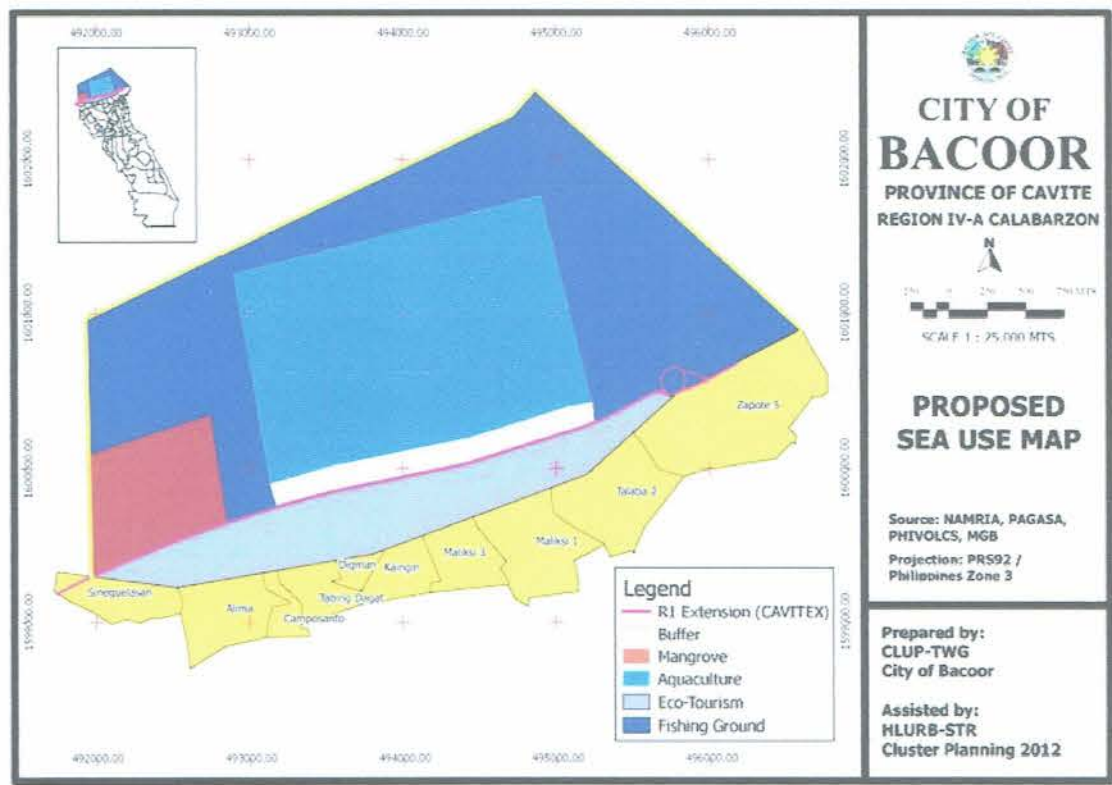
Source: CLUP-TWG citing Bureau of Soil and Water Management

Map 4. Slope Map of Bacoor



Source: CLUP-TWG

Figure 1. Municipal Waters of Bacoor City



Source: CLUP-TWG based on the City Agriculture Office aerial photo

2.4. Soil

Various soil types are found in the City of Bacoor and these are Hydrosol, Guadalupe Clay, Guadalupe Clay Adobe, Guadalupe Silt Loam, Obando Sand, and Carmona Clay Loam. According to the Bureau of Soils and Water Management (BSWM), the soil types found in Bacoor differ from one another only in texture of the surface soil. Native to Bacoor is the popular Cavite Hydrosol and Obando Sand, which consist of submerged swamp soils that are easily convertible into fishpond and salt beds. The rest are good types suitable for rice production.

The type of soil in Bacoor that is best suited for building multi-level, high-rise structures is the Guadalupe Clay Adobe. Structures built on these soils may reach up to five storeys and higher provided that these soils are the predominant layer. Other soil types in Bacoor suitable for multi-level structures are the Obando Sand and the Carmona Clay Loam.

2.5. Climate

Similar to the majority of localities in the northwestern portion of the Philippines, Bacoor City has two pronounced seasons: dry from January to May and wet for the rest of the year according to Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAG-ASA). The yearly average total rainfall is measured at 1,683.8 millimeters. August is the month with the most rainfall averaging 460.5mm while the driest month is February with an average rainfall of 2.1mm. The average total number of rainy days in a year is 107 days.

Bacoor's average annual temperature is 27.7°C according to the data gathered by the CLUP Technical Working Group (TWG). The warmest month is April with monthly average temperatures of 34.4°C. Inversely, the coldest month is December with monthly average temperature of 23.6°C. Due to the effects of climate change, however, PAG-ASA have reported in its official website that "during the last 60 years, maximum and minimum temperatures are seen to have increased by 0.36 °C and 1.0 °C, respectively" over the entire country.

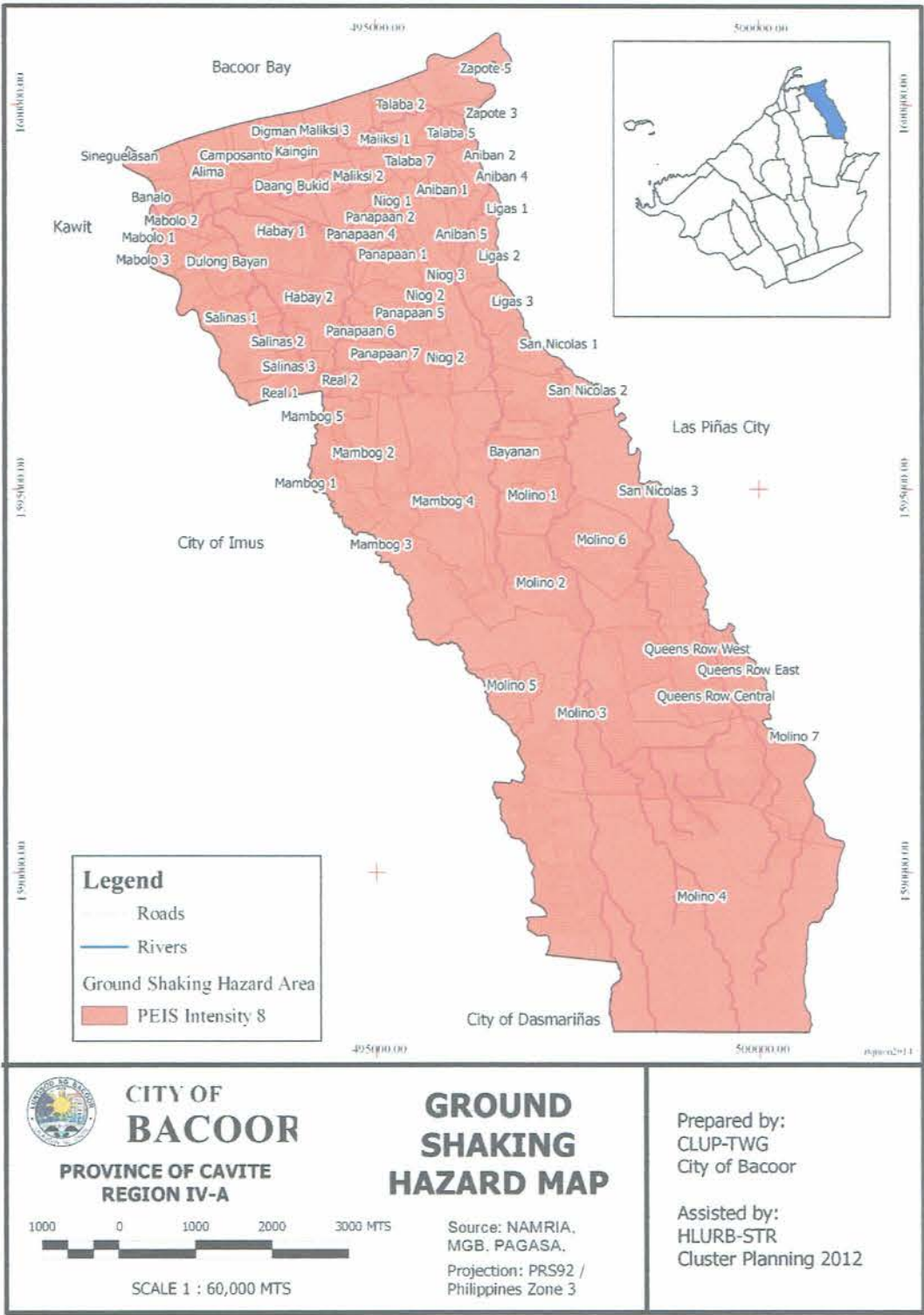
2.6. Geo-hazard Issues

The City of Bacoor is not traversed by the Marikina Fault Line. The aerial distance estimates by the Philippine Institute of Volcanology and Seismology (PHIVOLCS), however, show that the city is about six (6) kilometers from the fault system and any movement of a magnitude-7 earthquake at a depth of 10 kilometers would generate up to PHIVOLCS Earthquake Intensity Scale (PEIS) intensity 8 ground shaking in the locality (Maps 5).

Apart from ground shaking hazards, the following maps show the various geo-hazards like liquefaction hazard, storm surge (based on one-meter simulation), tsunami (based on four-meter simulation), flood hazard, and rain-induced landslide (Maps 6 to 10). All of these geo-hazard simulations were considered in the preparation of this CLUP, the attendant Zoning Ordinance, and even a city-level Design Guidelines.

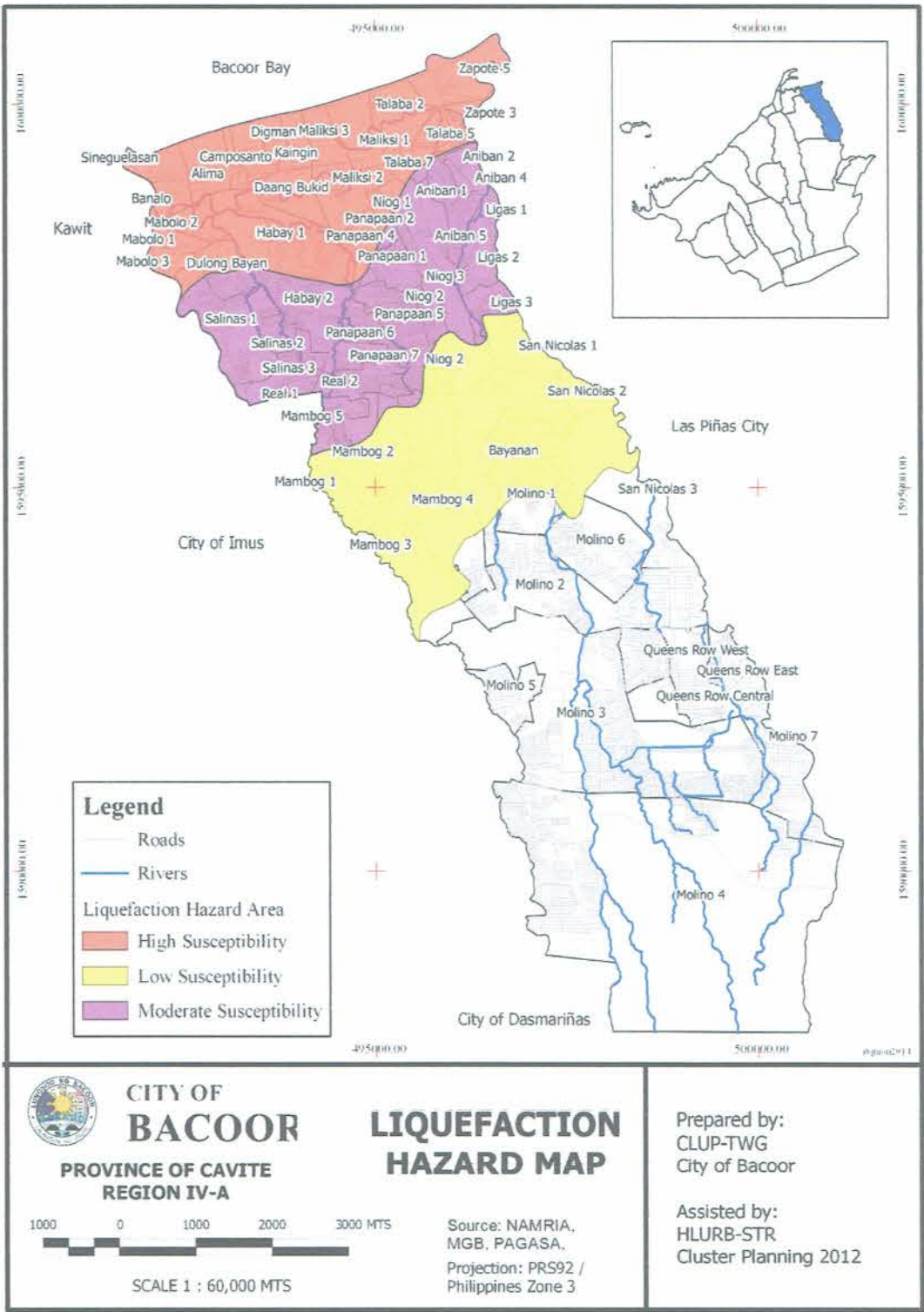


Map 5. Ground Shaking Hazard Map



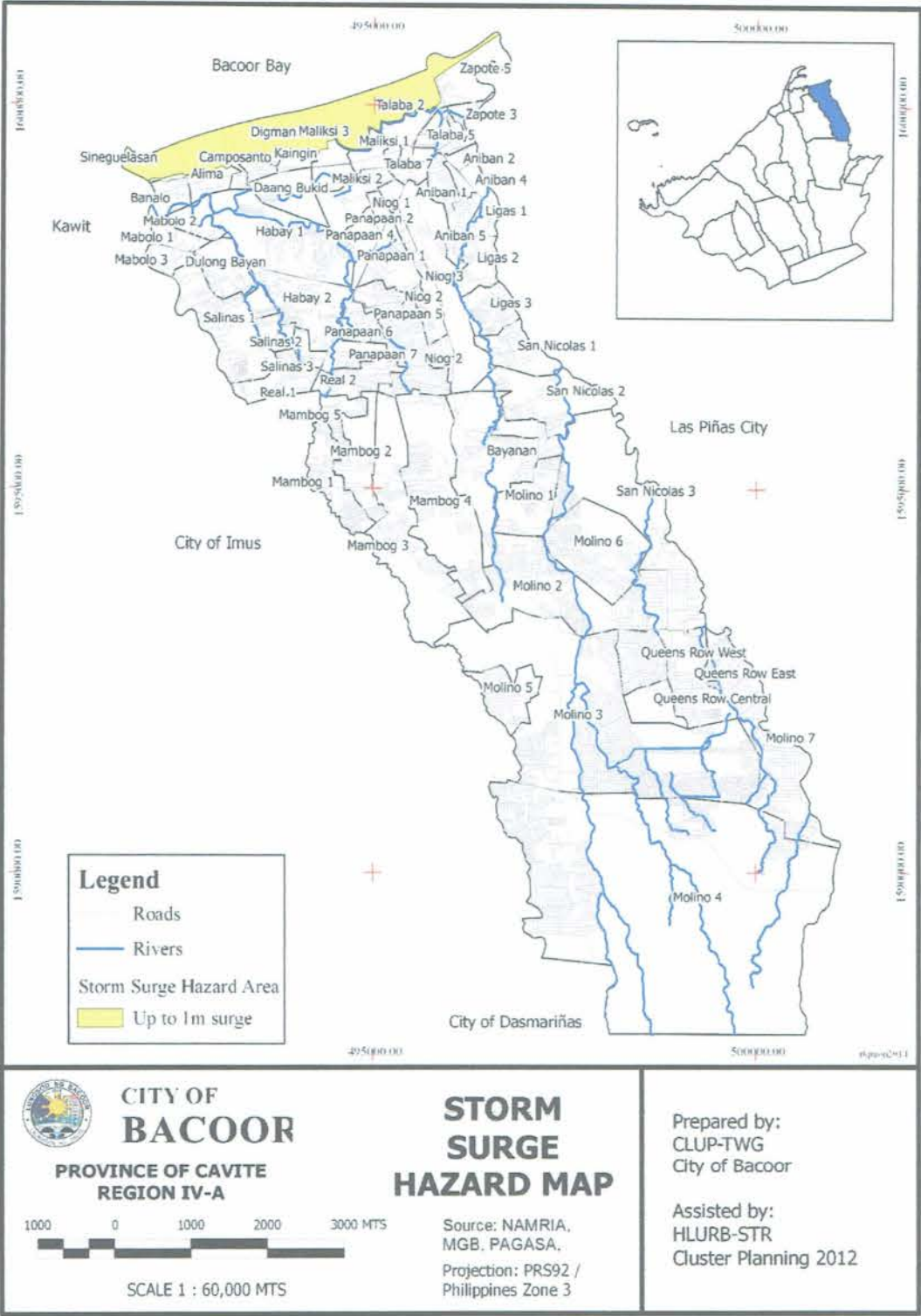
Source: CLUP-TWG

Map 6. Liquefaction Hazard Map



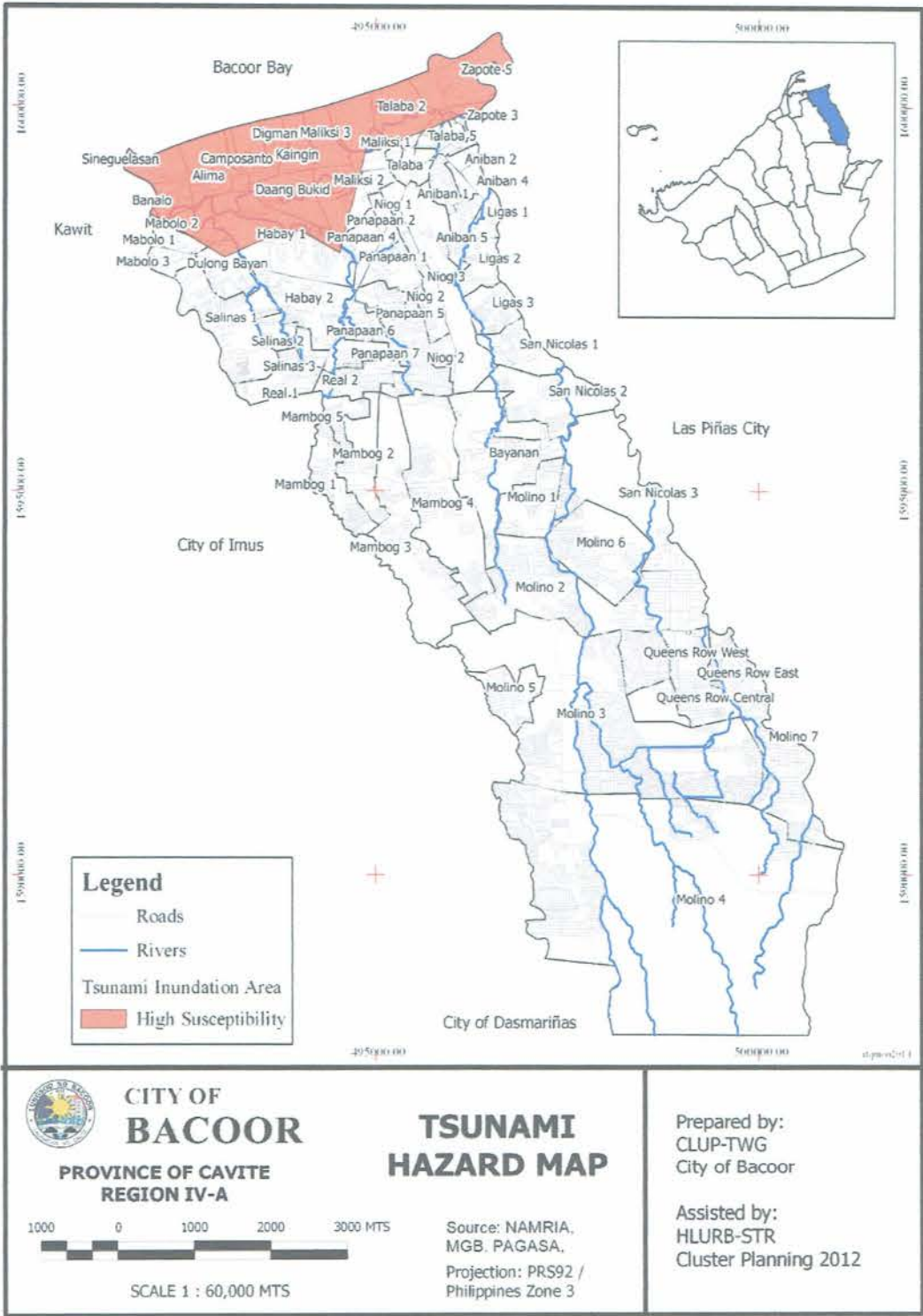
Source: CLUP-TWG

Map 7. Storm Surge Hazard Map



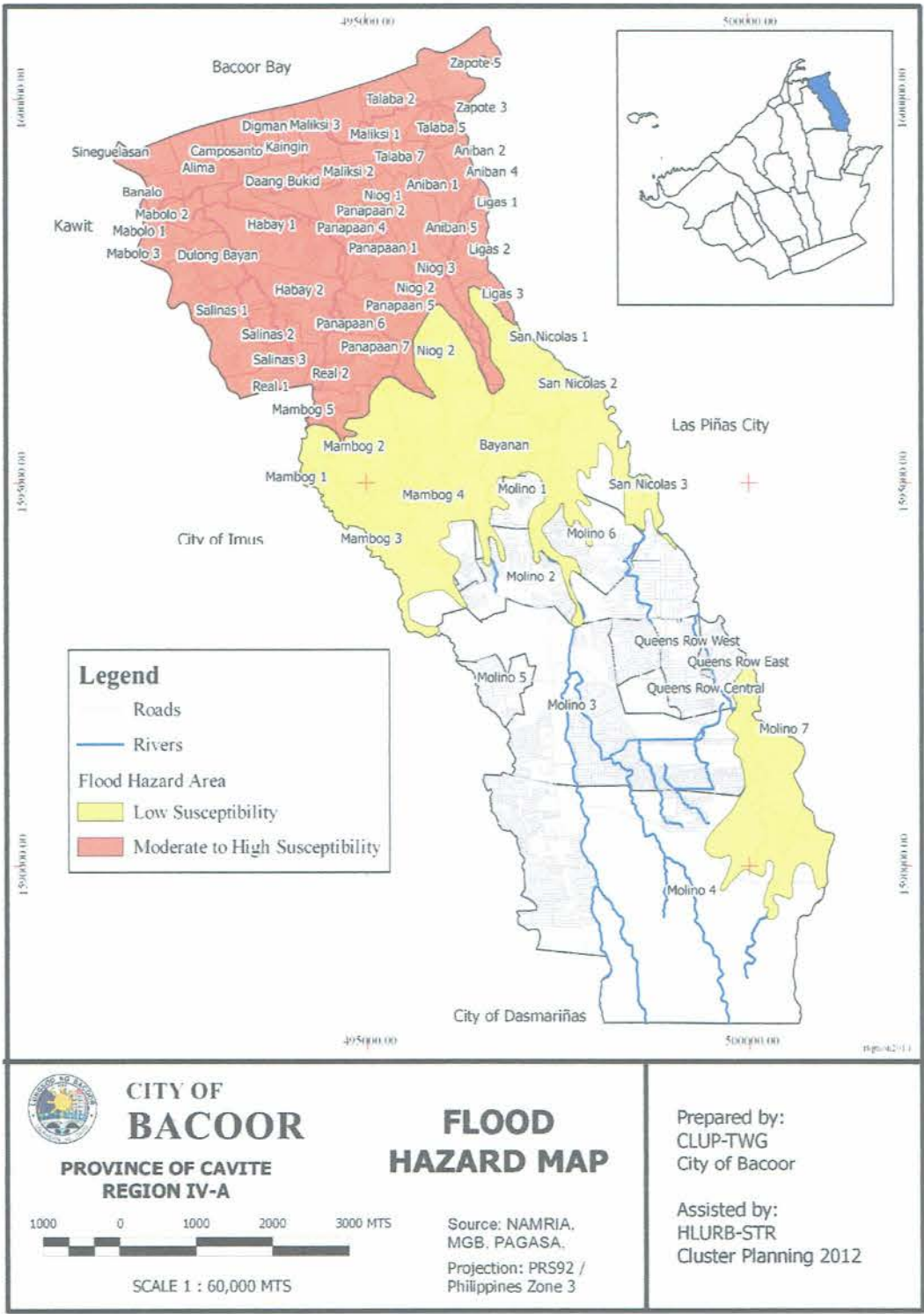
Source: CLUP-TWG

Map 8. Tsunami Hazard Map



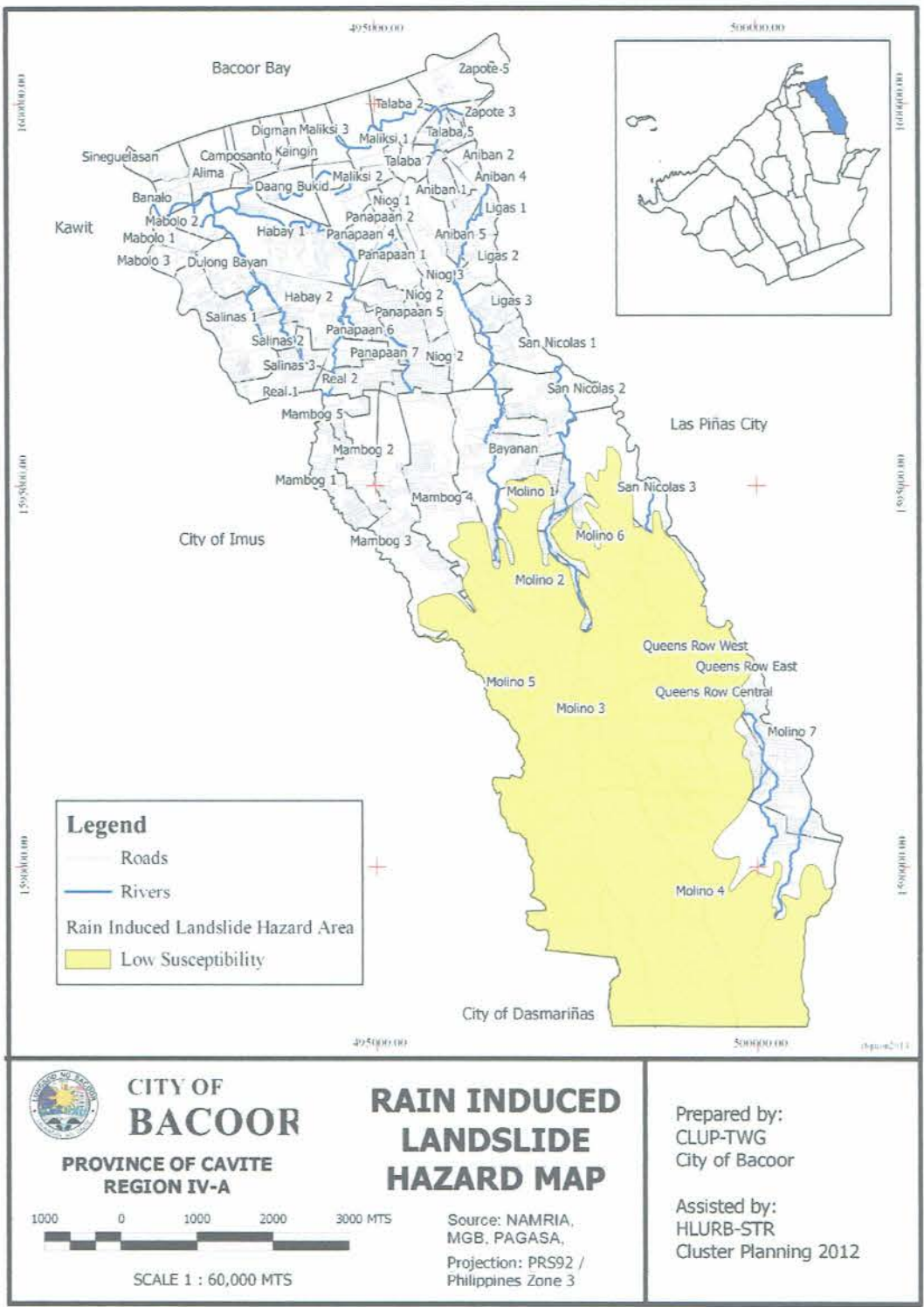
Source: CLUP-TWG

Map 9. Flood Hazard Map



Source: CLUP-TWG

Map 10. Rain-Induced Landslide Hazard Map



Source: CLUP-TWG

2.7. Natural Resources and Biodiversity

2.7.1. Forest

Bacoor being a coastal town with flat terrain founded in the 17th century has no more forest lands. Nonetheless, the city government passed an ordinance instructing developers to plant 100 trees per hectare to promote ecological balance. "Urban forestry" is envisioned to take root in the City especially along newly-constructed roads where there is enough space to plant trees. The easements of the rivers are also eyed for tree planting. It is envisioned that the promotion of urban forestry may improve the biodiversity of flora and fauna similar to the Las Piñas-Parañaque Critical Habitat. Likewise, the implementation of this Plan should include a more detailed study of biodiversity in the City.

2.7.2. Grass Lands

Grass lands are mainly in the southern portion of Bacoor City (Molino Barangays, especially Molino IV) and are the City's remaining reserve for urban expansion. Grass lands in the northern barangays such as Siniguelasan, Daang Bukid, Camposanto and Habay I are usually adjacent to fishponds.

2.7.3. Ground Water

Artesian wells and deepwells provide water supply for both domestic and irrigation purposes in Bacoor City and the Province of Cavite in general. The over extraction of water due to the increasing population and water demand has caused salt water intrusion in the aquifers particularly in areas facing the Manila Bay such as the City of Bacoor as evidenced by the decreasing piezometric levels in the said areas. Bacoor (together with Imus, Kawit, Noveleta and Rosario) forms part of the Manila Bay Alluvium aquifer system, one of the four major aquifer systems bordering Manila Bay.

Infiltrated rainfall is another groundwater source. It serves as the direct source of most near surface aquifers. Inflow from surface water reservoirs and irrigation water also contributes to the ground water. This is exemplified by the Molino Dam (located at Brgy. Molino IV), which was primarily built by the National Irrigation Administration to address Bacoor's irrigation requirements in the past.



2.7.4. Watersheds

The watersheds that feed the Imus, Bacoor, and Zapote Rivers are referred to as Imus River Watershed, Bacoor River Watershed and the Zapote River Watershed. The Molino Dam plays a big role in protecting and enhancing the use of watersheds. The continued assessment of these watersheds is integral to the “Ridge to Reef” Framework.

The Imus Watershed covers areas at the mouth of the Imus River, which is its discharge point in Bacoor Bay, and originates in the south in the foothills of the elevated areas of Tagaytay City. It drains portions of Imus, Bacoor, Dasmaríñas, Silang, Amadeo and Tagaytay totaling an area of approximately 60.84 square kilometers.

The Bacoor River Watershed, located in the central portion of Bacoor, has an approximately coverage area of 26.63 sq.km. reaching lower elevation areas of the coastal and northern barangays. Some of Bacoor River’s tributaries cross the city boundary with Dasmaríñas. However, its extent narrows as some of the water drains into other adjacent watersheds.

The Zapote River watershed consists of areas drained by the Zapote River (approximately 22.52 sq.km.) and the Molino Dam River Systems (approximately 15.01 sq.km.), which when combined have a total land area of 37.53 sq.km. The Zapote River drains the areas of Bacoor, Las Piñas, Muntinlupa and the northern portions of Gen. Mariano Alvarez. The watershed of the Molino Dam River System drains the combined southern portions of Bacoor and the central portions of Dasmaríñas.

The Molino Dam is fed by two river systems, namely the Don Cella River which drains the eastern portion of the southern watershed, and the Molino River which drains the western portion of the southern watershed. Spills from the Molino Dam’s major spillway flow through the numerous creek systems and join the Zapote River in San Nicolas. Several gates of the Molino Dam discharge waters to other creeks within Bacoor previously intended for agriculture.

The watershed area has a total of approximately 125 square kilometers when all watershed areas feeding the surface waters flowing into Bacoor City are combined.



2.7.5. Rivers and Creeks

The City of Bacoor has many rivers, creeks, and other tributaries (Map 11). The Zapote River passes through Barangays Zapote, Aniban, Ligas, San Nicolas, and Molino on the eastern boundary of Bacoor. One tributary to the Zapote River runs across the Zapote River and the Talaba area while another tributary of the same river goes out directly to Bacoor Bay by traversing Barangays Zapote, Talaba, and Maliksi. The Molino River which comes all the way from the Dasmariñas area (meeting with the Don Cella River at the Molino Dam), spills into the Zapote River in the area of Barangay San Nicolas. Ilat Creek is another tributary to the Zapote River which also comes all the way from the Dasmariñas area. The Zapote River serves as the boundary between Las Piñas and Bacoor and consequently, between Metro Manila and Cavite.

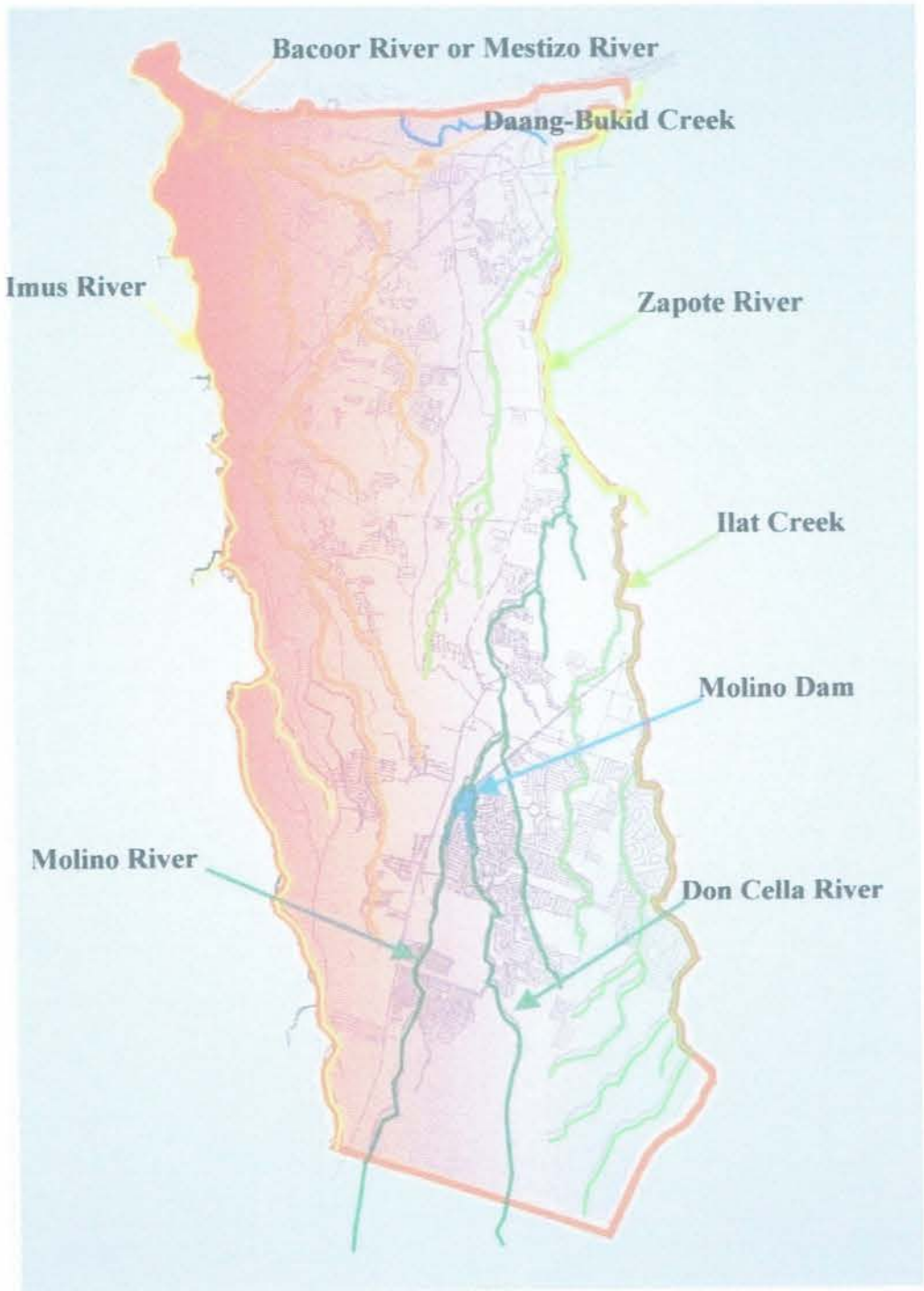
On the other hand, the Imus River traverses Barangays Sineguelasan, Banalo, Mabolo, Salinas, Real and parts of Molino on the western boundary. It serves as the boundary of Kawit, Imus and Bacoor on the western side. Imus River runs all the way from the foothills of Tagaytay City, crossing portions of Silang, Dasmariñas, Imus and Bacoor until it discharges finally to Bacoor Bay. In terms of R2R Framework, this long river requires coordination with the localities that it traverses. It is important to note that Maynilad Water Services, Inc. (Maynilad) is constructing major infrastructure projects in some of these localities.

Within Bacoor, its major tributary is the Bacoor River (also known as Mestizo River), which drains areas of Barangays Alima, Banalo, Mabolo, Daang Bukid, Habay and other parts of Panapaan. The Daang Bukid Creek, which is a tributary of Bacoor River, traverses many coastal barangays such as Barangays Alima, Campo Santo, Daang Bukid, Dulong Bayan, Kaingin and Maliksi. The Imus River, on the other hand, also has many other tributaries throughout the town.

The existing drainage along major roads generally follows these bodies of water as shown in Map 12. Infiltration of water is shown in Map 13. Future drainage projects should continue to consider these bodies of water as well as the infiltration of water.



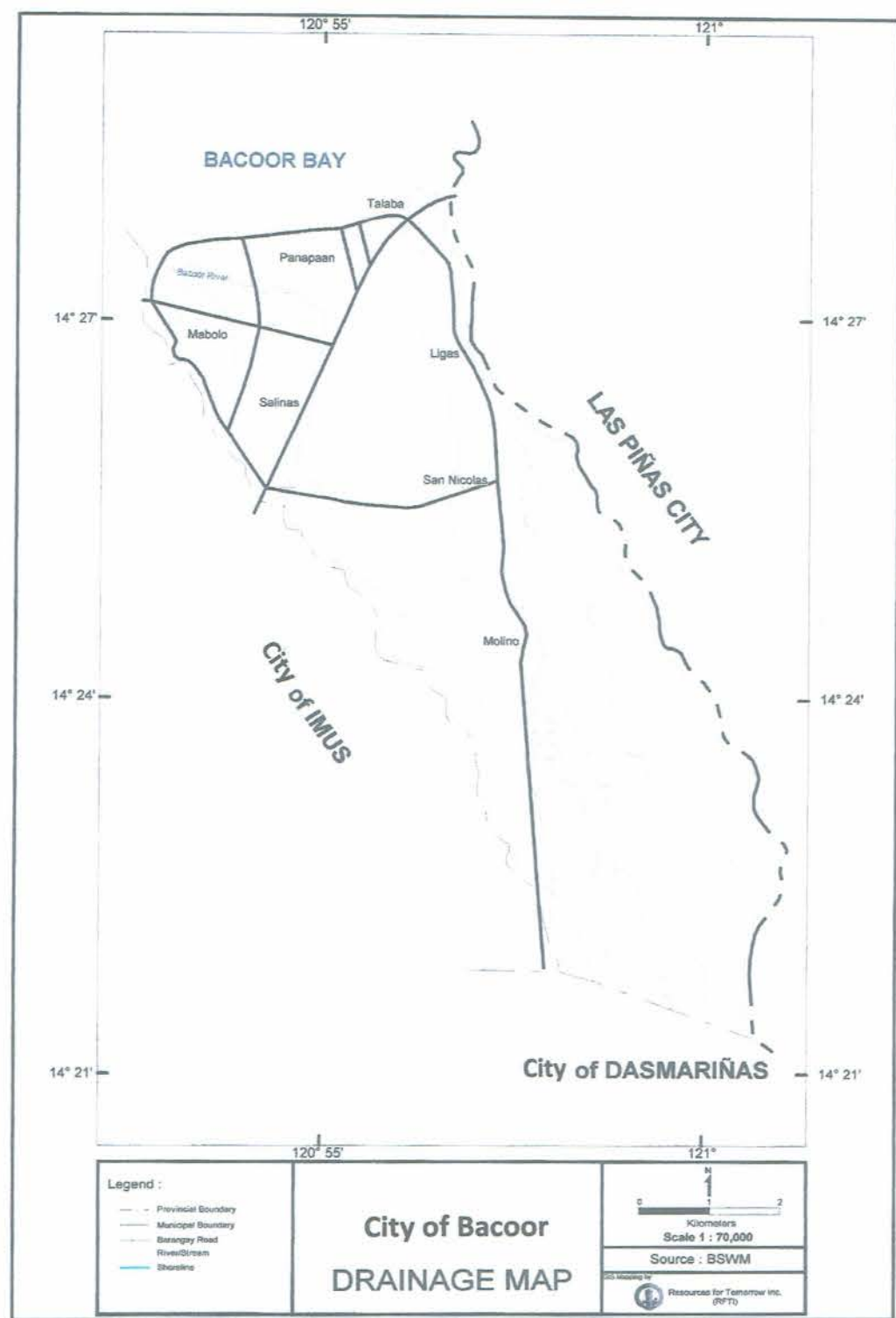
Map 11. Surface Water Map



Source: CLUP-TWG

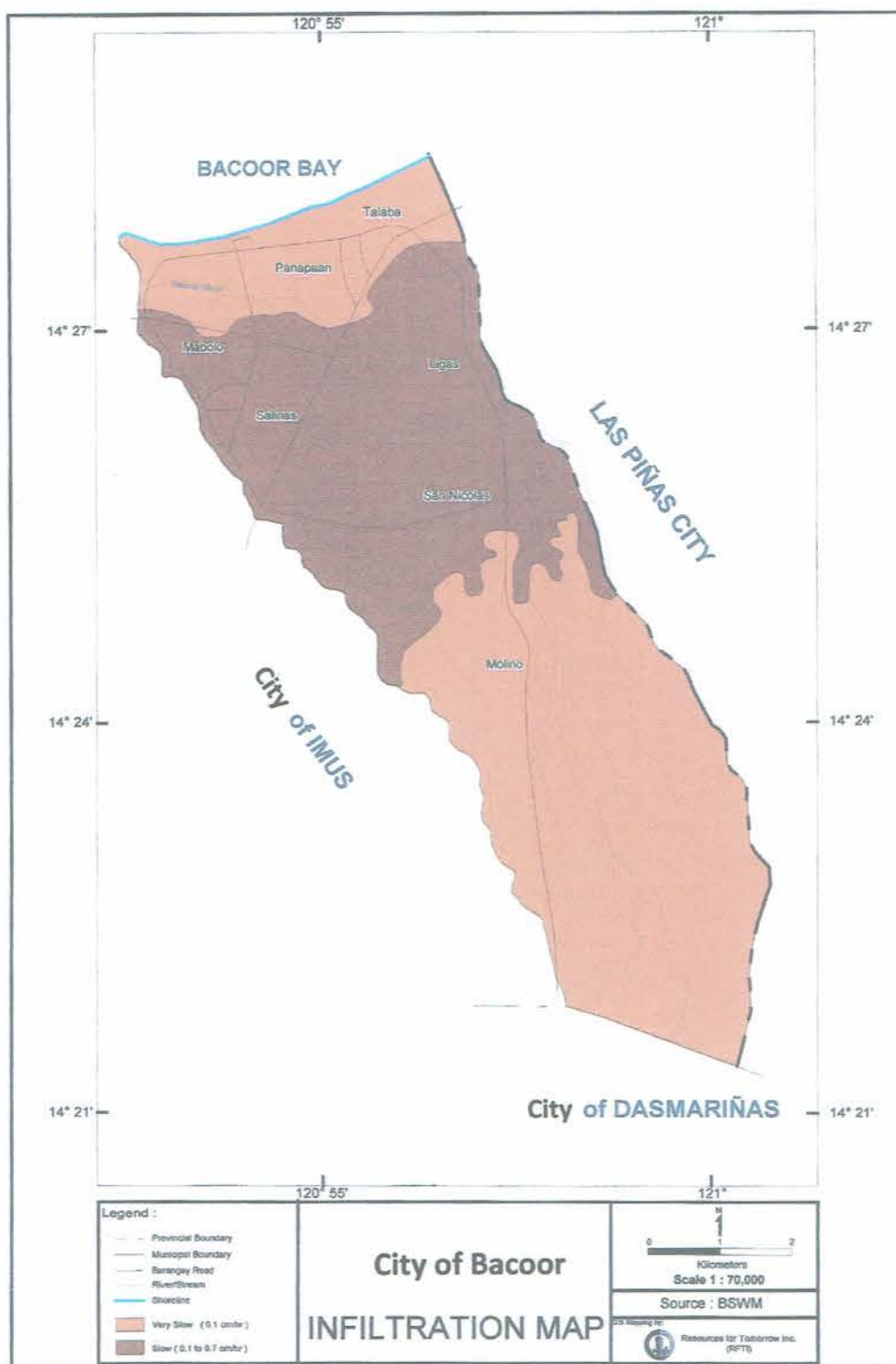


Map 12. Drainage Map



Source: CLUP-TWG

Map 13. Infiltration Map



Source: CLUP-TWG

2.8. Agri-Fishery Lands

The area covering all ricelands, other productive agricultural lands, and water bodies or fishponds comprise the “agri-fishery” areas. Agri-fishery lands in Bacoor cover a total area of 410 hectares based on the 2011 GIS maps of the CPDO (shown in the next chapter). Agricultural land uses are located in Barangays Maliksi I, II, III; Panapaan III; Talaba I and II; Mabolo II; Dulong Bayan; Habay I; Alima, and San Nicolas I and II. A detailed discussion on agricultural uses and other land uses is found in the next chapter.

Aquaculture and fishery are important in the local economy as well as in the sustainable development of Bacoor City. In succeeding sections, it will be shown that ecotourism is a major economic driver that is included in the Plan. Seafood and culinary activities are identified as integral to the growth of tourism, anchored on the historical heritage of the City, as well as the development of new tourist attractions.

It is likewise important that a systematic study of the species of fishes and other water-based flora and fauna should be integrated in the implementation of this CLUP. This will ensure that balanced ecology and biodiversity are intertwined with the growth of the City.

2.9. Solid Waste Management

The abandoned old dump site in “Green Valley” in Barangay Molino IV was closed due to its potential hazardous impact to the environment and to the community. This is primarily due to its character of being an open dump site with minimal sanitary features and no lining to prevent leachate from permeating the soil. It is paramount to evaluate the condition of this hastily closed dump site. More importantly, it is a potential site for a waste-to-energy project with the prescribed sanitary and environmental safeguards in place. This former open dump site may be used not only for ecologically sound solid waste management, but also for social infrastructure such as integrated housing and livelihood projects integral to the solid waste and environmental management.



3. EXISTING LAND USES, TRENDS AND INFRASTRUCTURES

The built-up or urban use area of any locality is typically composed of the mix of residential, commercial, industrial, and institutional uses (HLURB CLUP Guide Book 2006 Vol. 1 p44). The new HLURB Guidebook 2013 Vol. 2 clearly defines built-up area as “an area with contiguous grouping of ten or more structures on it.” Using this definition, Bacoor’s built-up area forms a total urban area of approximately 4,165.03 hectares. In order to appreciate the built-up environment, it is instructive to evaluate the existing land uses, the urban form, and the environmentally constrained areas of Bacoor City.

3.1. Existing Land Uses

Bacoor has experienced major shifts in its physical landscape and land uses since its last CLUP was approved in 2001. Within a span of over a decade, the city has largely lost its agri-fishery base to make way for urban uses. The inventory of existing land uses of the City of Bacoor is divided into six major land use categories (Map 14). To be truly “comprehensive” in scope, the municipal waters and the sub-categories of infrastructure, parks, and cemeteries are also included in this work. Table 1 presents the shares of the various land uses plus the municipal waters of 957.25 hectares.

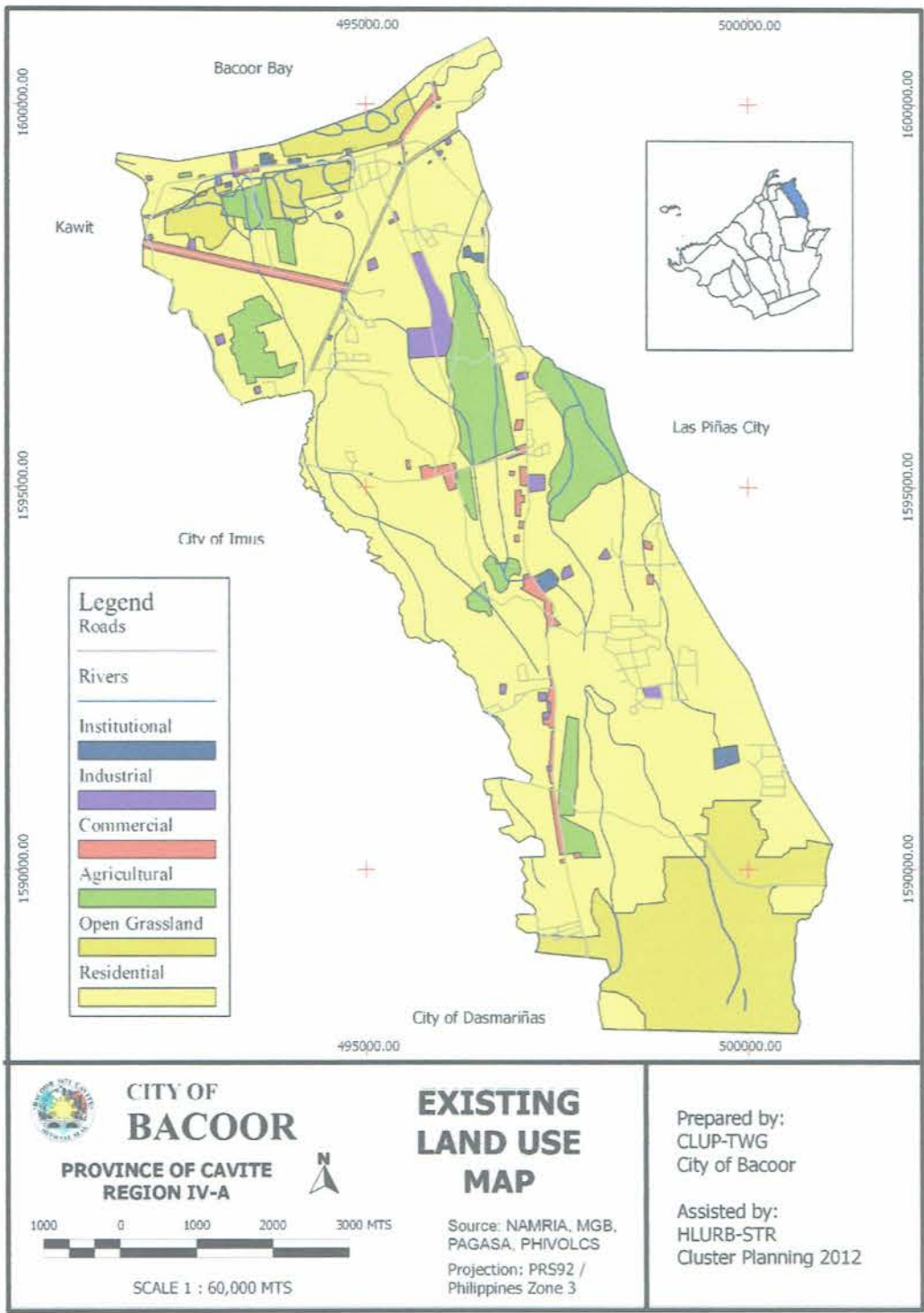
Table 1. Existing Land Uses in the City of Bacoor, Including Municipal Waters

Land Use Categories	Existing Area (Hectares)	Percentage to Total (%)
Residential	4,511.00	72.67%
Commercial	123.29	1.99%
Infrastructure / Utilities	18	0.29%
Institutional	33.3	0.54%
Parks / Recreational Areas	2	0.03%
Industrial	42.88	0.69%
Agriculture	410	6.61%
Grassland / Pasture	87.61	1.41%
Cemeteries	21.92	0.35%
Municipal Waters	957.25	15.42%
TOTAL	6,207.25	100.00%

Source: CLUP- Technical Working Group



Map 14. Existing Land Use Map of the City of Bacoor



Source: CLUP- TWG

3.1.1. Residential Area

Residential use comprises the large majority of Bacoor's existing land use, estimated at 4,522 hectares or almost 73% of the city's total area. Residential settlements/subdivisions are found in all of the 73 barangays. More importantly, the analysis of subdivision development would glean the pattern of settlement in the City.

Most subdivisions located on the northern portion of Bacoor were originally developed for high and medium-cost housing, while subdivisions located on the southern portion were mostly for medium – and low-cost housing. In recent years, however, there are numerous high-end property and subdivision development projects occurring in the southern section of the City. A few examples of these numerous subdivisions include Camella Homes, Ayala Southvale Village, and Verdana Homes.

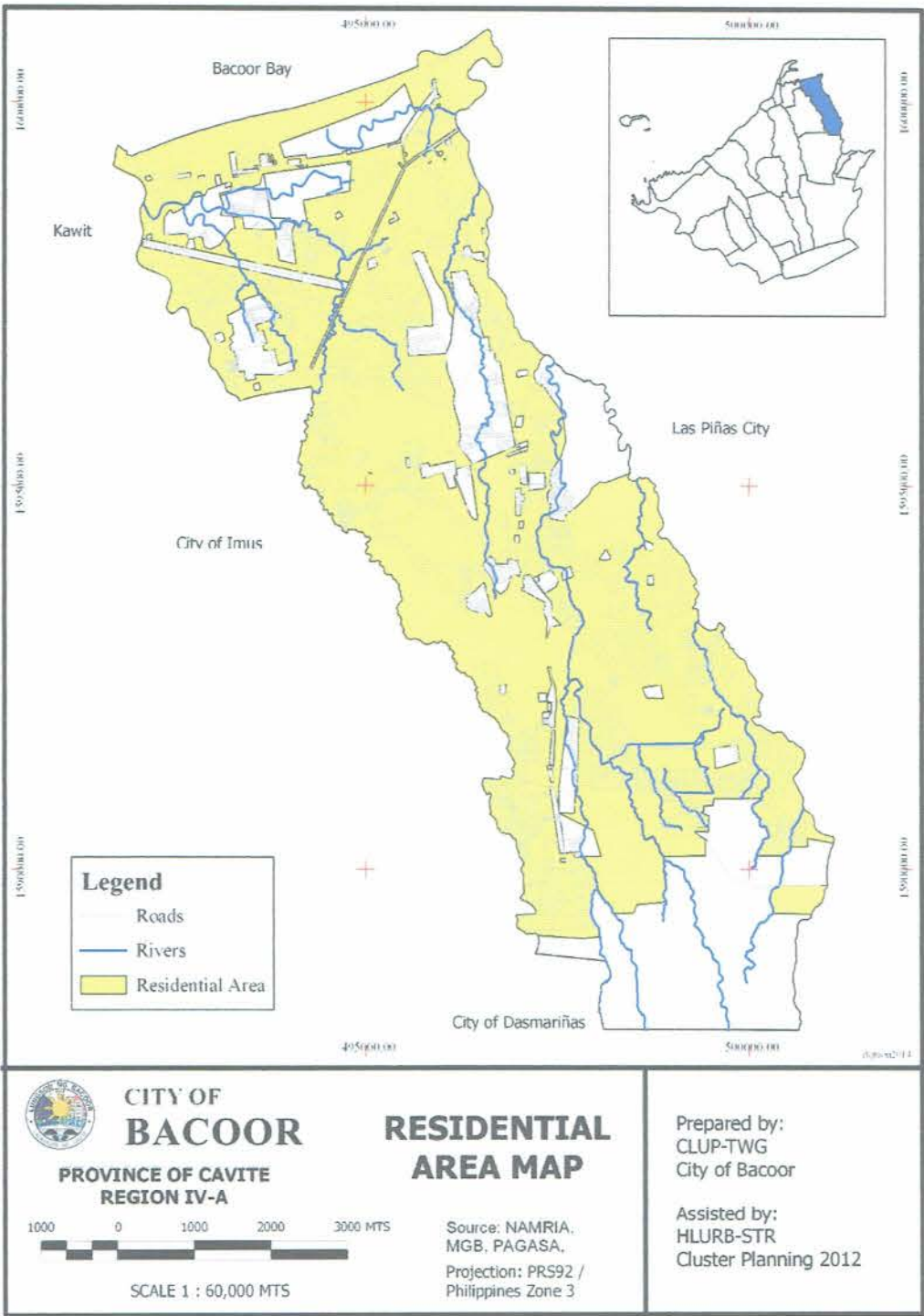
The identified 469 residential subdivisions in the City cover a land area of almost 2,536 hectares. Since the total residential area in Bacoor City is approximately 4,511 hectares, the remaining residential areas are not in subdivisions. Map 15 presents all the residential areas in the entire City. Table 2 shows the total number of these subdivisions based on the "mother barangays" where they are located and the total area covered by each of them. Since the clustering of the subdivision was done based on their "Mother Barangays" instead of individual barangays, presumably some of the subdivisions cut across a number of barangays.

The Molino Barangays cover a total 1,040.7382 hectares of residential subdivisions, followed by the Mambog Barangays with a total area of 642.1028 hectares, and Panapaan Barangays with a total area of 285.9708 hectares. The least occupied with subdivisions are Barangays Banalo with a total subdivision area of 0.3625 hectares; Dulong Bayan with a total subdivision area of 0.3970 hectares, and Mabolo with a total subdivision area of 0.4017 hectares.

Apart from the traditional residential settlements, it is equally important to analyze the existence of informal settlers. The next section presents a detailed discussion on this.



Map 15. Residential Areas in the City of Bacoor



Source: CLUP- TWG

Table 2. Subdivisions in the City of Bacoor per Mother Barangay

MOTHER BARANGAY	Area (Hectares)	Number of Subdivisions
Alima	0.9894	1
Aniban	24.7471	11
Bacoor - Imus	10.4955	1
Bacoor	12.0736	1
Banalo	0.3625	2
Bayanan	46.7687	10
Daan Bukid	3.8517	1
Dulong Bayan	0.3970	1
Habay	168.1685	48
Ligas	37.0702	22
Longos	5.1471	1
Mabolo	0.4017	1
Maliksi	1.4072	2
Malipay	4.7446	1
Mambog	642.1028	104
Molino	1,040.7382	140
Niog	20.2731	11
Panapaan	285.9708	50
Queens Row East	2.0248	1
Real	1.6657	1
Salinas	56.8576	31
San Nicolas	161.4158	22
Sineguelasan	3.8412	4
Talaba	4.4502	2
TOTAL	2,535.9650	469

Source: CLUP-TWG

Inventory of Households and Housing Units Living in Danger Areas

Pursuant to RA 7279 and the new HLURB CLUP Guidebook, the city conducted a survey on informal settlement families residing on land owned by the Philippine National Railways (PNR), along riversides and the Bacoor Bay. The survey was conducted in 17 locations and Table 3 (in the next page) shows the summary. The area with the most concentrated informal settlement families was found in the areas of Longos, with 2,249 families or 30.13% of the total number of informal settlement families.



Table 3. Informal Settlers in Danger Areas per Barangay

BARANGAY	NUMBER OF FAMILIES			TOTAL
	Along PNR	Along the River	Coastal Areas	
Alima	173		266	439
Camposanto	87			87
Daang-bukid	139			139
Digman		45		45
Kaingen	272			272
Longos		560	1,689	2,249
Maliksi 1	200			200
Maliksi 2	268			268
Maliksi 3		257	1,249	1,506
Molino 3		60		60
San Nicolas 2		45		45
San Nicolas 3		70		70
Sineguelasan			1,124	1,124
Tabing Dagat		221	236	457
Talaba 6		125		125
Zapote 1		157		157
Zapote 3		220		220
TOTAL	1,139	1,760	4,564	7,463

Source: CLUP-TWG

These numbers possibly grow every year and present the great need to limit and control the settlements on supposedly public spaces. An effective resettlement housing program is essential to prevent casualties in these high-risk areas in the event of calamities. The city government should consider a comprehensive approach in dealing with informal settlers in order to end the vicious cycle of poverty confronting this economically-challenged sector.

Based on the projected number of households shown above, the City would have 108,579 more households by 2024. Adding the informal settler families to the total number households and assuming a net usable area of 50 square meters on the average per family, the additional demand for residential area would be 800 hectares by 2024. In order to support the increase in residential areas, the City will need an additional of 40 hectares of commercial areas by 2024.



Considering the foregoing, there is really a need for the local government to identify land area for housing to be able to accommodate its growing population. It is also imperative to establish an effective shelter plan and institutionalize a housing division or department to ensure that the City has an entity focused on addressing the housing requirements of the locality.

Based on the CLUP-TWG's assessment, there are four potential areas for socialized housing with a total land area of 4.6535 hectares, which can accommodate a total of 1,078 housing units, effectively providing 43 sqm-lot area per unit. However, considering the immense number of housing units needed and the very limited land resource, the City should consider constructing medium-rise residential buildings to accommodate a greater number of its constituents and thereby maximize land use.

The City of Bacoor is practically a catchment area of Metro Manila. Medium-rise buildings (MRBs), such as four-storey and even five-storey walk-up buildings, have been constructed around Metro Manila since the 1980's. Cities in Metro Manila typically have a choice of relocating their homeless constituents outside of their boundaries, or building MRBs within the city.

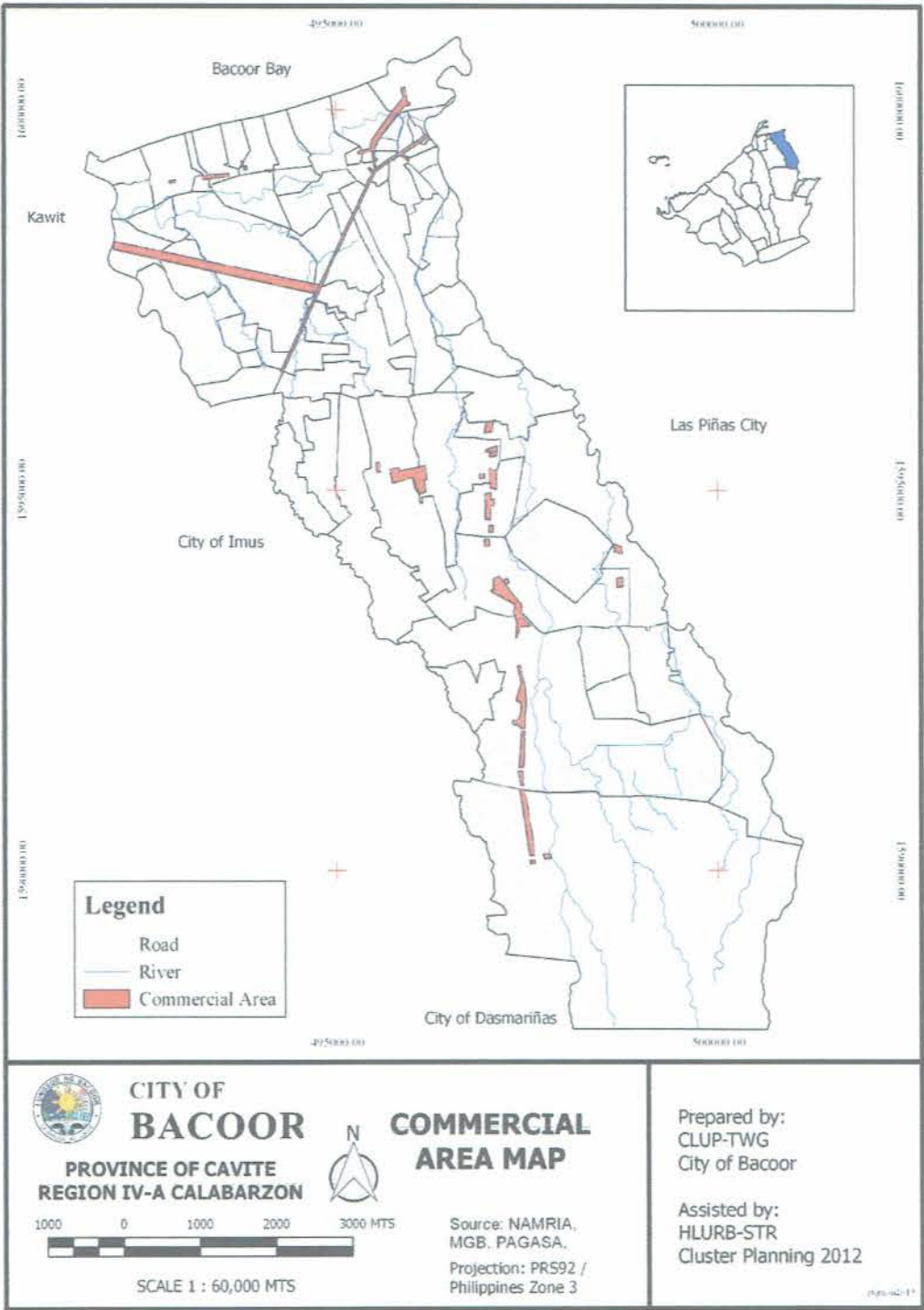
More importantly, as a settlement policy, the City Government should encourage vertical developments within the City. Specifically, residential zoning should include "R-2" for medium density residential and "R-3" for high-density residential. Likewise, selected areas should be earmarked for medium and high density commercial to effectively harmonize sprouting businesses all over the City.

3.1.2. Commercial Area

Areas devoted to commercial activities cover 123.29 hectares or 1.99% of the city's total area. Commercial establishments intersperse with residential areas scattered in different barangays of the city (Map 16). These lands devoted for commercial uses are found in Mabolo I; Dulong Bayan; Habay I, II; Salinas IV; Real I; Panapaan I, II, III, IV, V, VI, VII, VIII; Niog I, II, III; Talaba II, III, V, VI, VII; Zapote I, III, IV, V; Aniban I, IV; Kaingin; Digman; Tabing Dagat; Alima; Mambog IV; San Nicolas III; Bayanan and Molino I, II, III, V.



Map 16. Commercial Areas in the City of Bacoor



Source: CLUP- TWG

Major commercial activities are observed along Gen. Emilio Aguinaldo Highway and the Highway of Tirona, Evangelista, Molino and Talaba- Zapote. The main commercial centers can be found in the intersections of the Tirona and Aguinaldo Highways and in the Aguinaldo Highway Extension leading to Zapote, Las Piñas City.

3.1.3. Institutional Area

Under the new HLURB CLUP Guidebook Vol.3 (p12), a general institutional zone is an area intended mainly for government offices, hospitals/clinics, academic/research and conventions centers. In the case of the City of Bacoor, institutional areas cover 33.3 hectares or 0.54% of its total land area.

Institutional facilities are found in all of the barangays, with some concentration in the following barangays: Molino I, II, IV, V, VII; Queens Row Central; Mambog III; Bayanan; San Nicolas II; Real I; Ligas II; Panapaan I, II, III, V, VII; Dulong Bayan; Salinas I; Mabolo I; Sinaguelasan: Banalo; Alima; Camposanto; Tabing Dagat; Maliksi I, II, III; Niog II; Aniban I, II; Talaba VI; and Zapote III, IV. The various social sector institutional facilities are presented in Maps 17 and 18, including the evacuation centers.

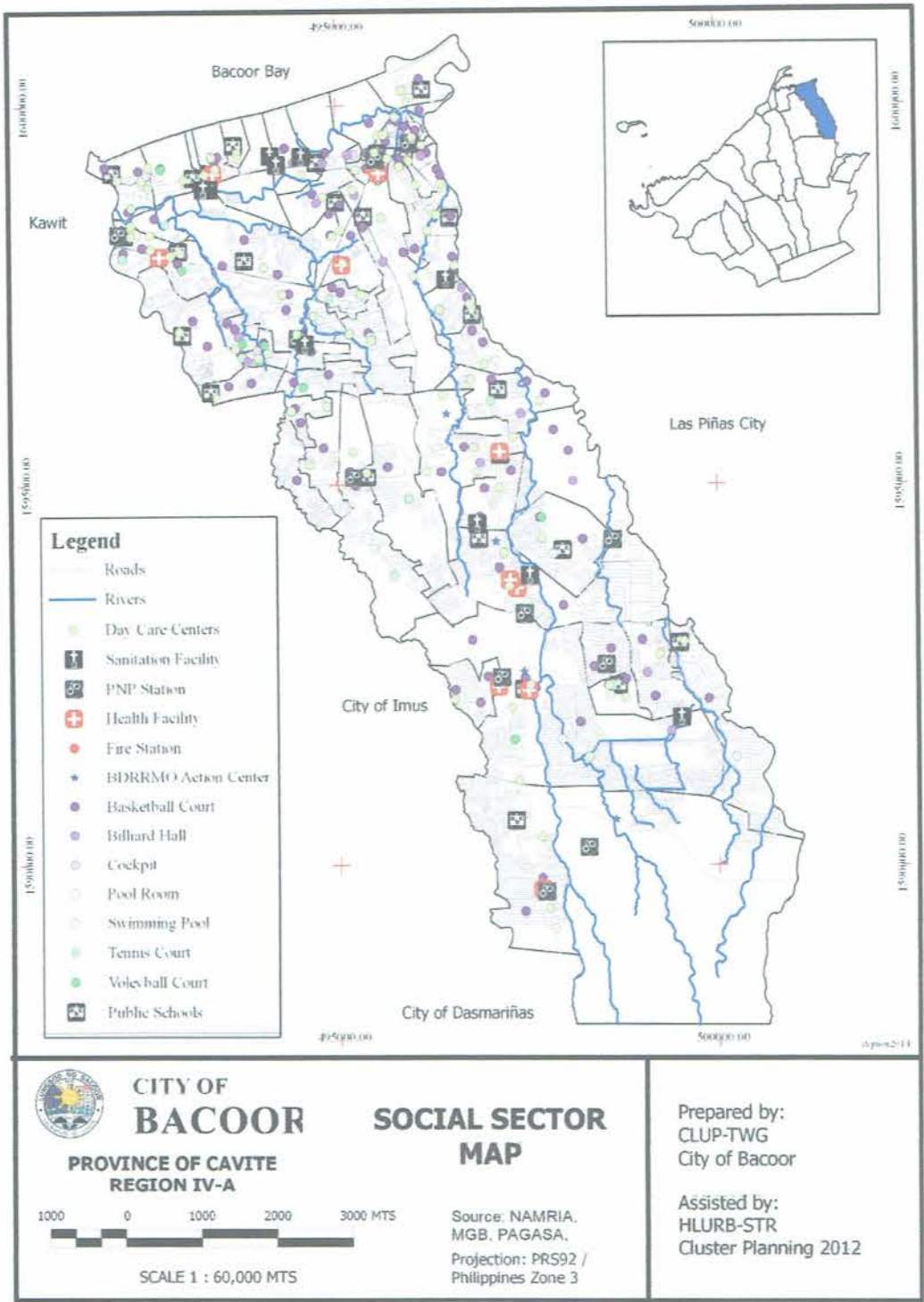
In addition, the construction of the “Bacoor Government Center” or “BGC” is now completed. This would effectively transfer city hall to Barangay Bayanan. This move would spell new development in this vastly open area.

3.1.4. Industrial Area

Areas devoted to industrial activities cover 42.88 hectares or 0.69% of the city’s total land area. Bacoor has existing industrial warehouses scattered in different areas such as along Tirona Highway and Aguinaldo Highway. The town’s industrial activities are concentrated in Barangay Niog III, where a number of manufacturing plants are located (Map 19).

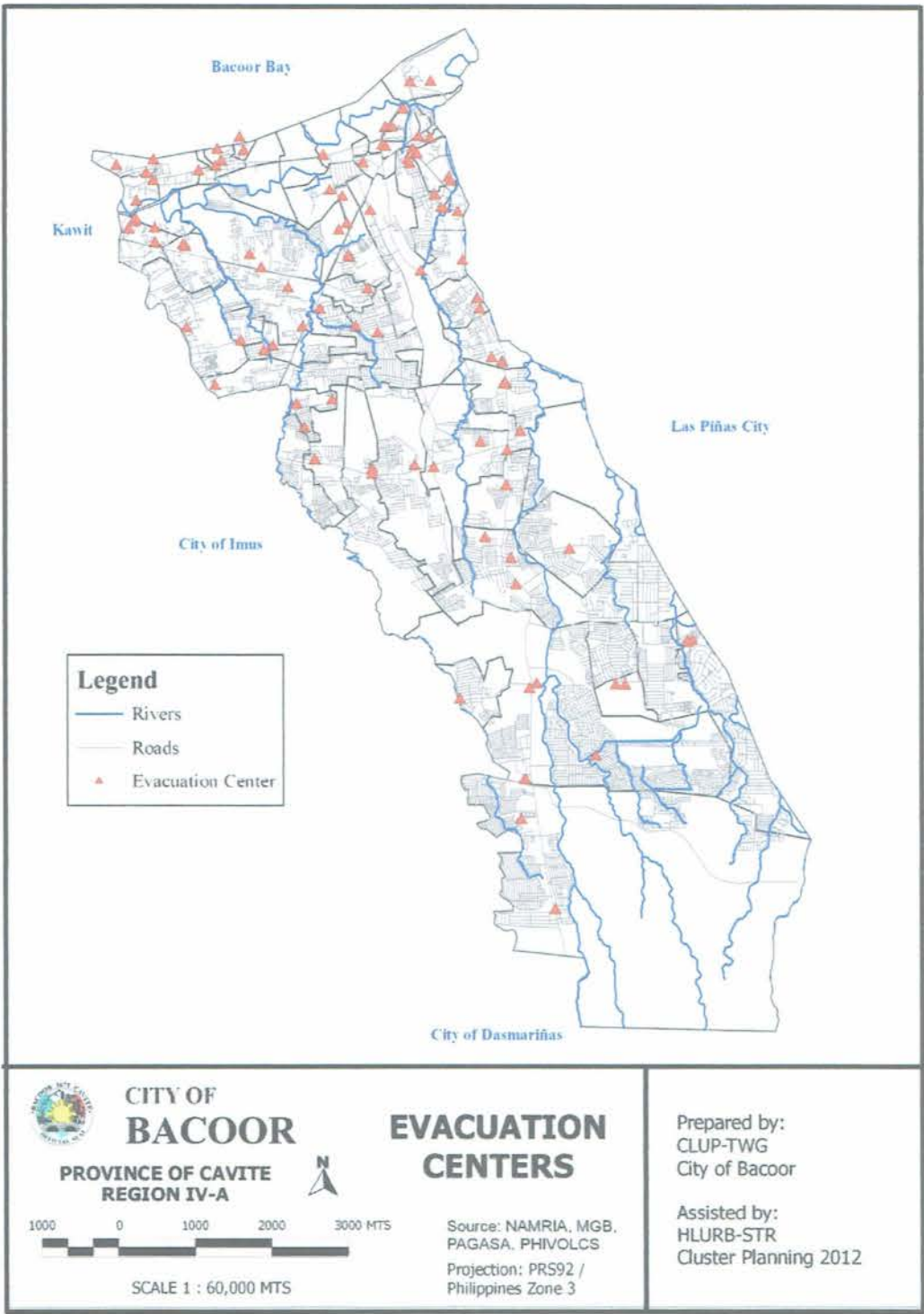


Map 17. Social Sector Institutional Facilities in the City of Bacoor



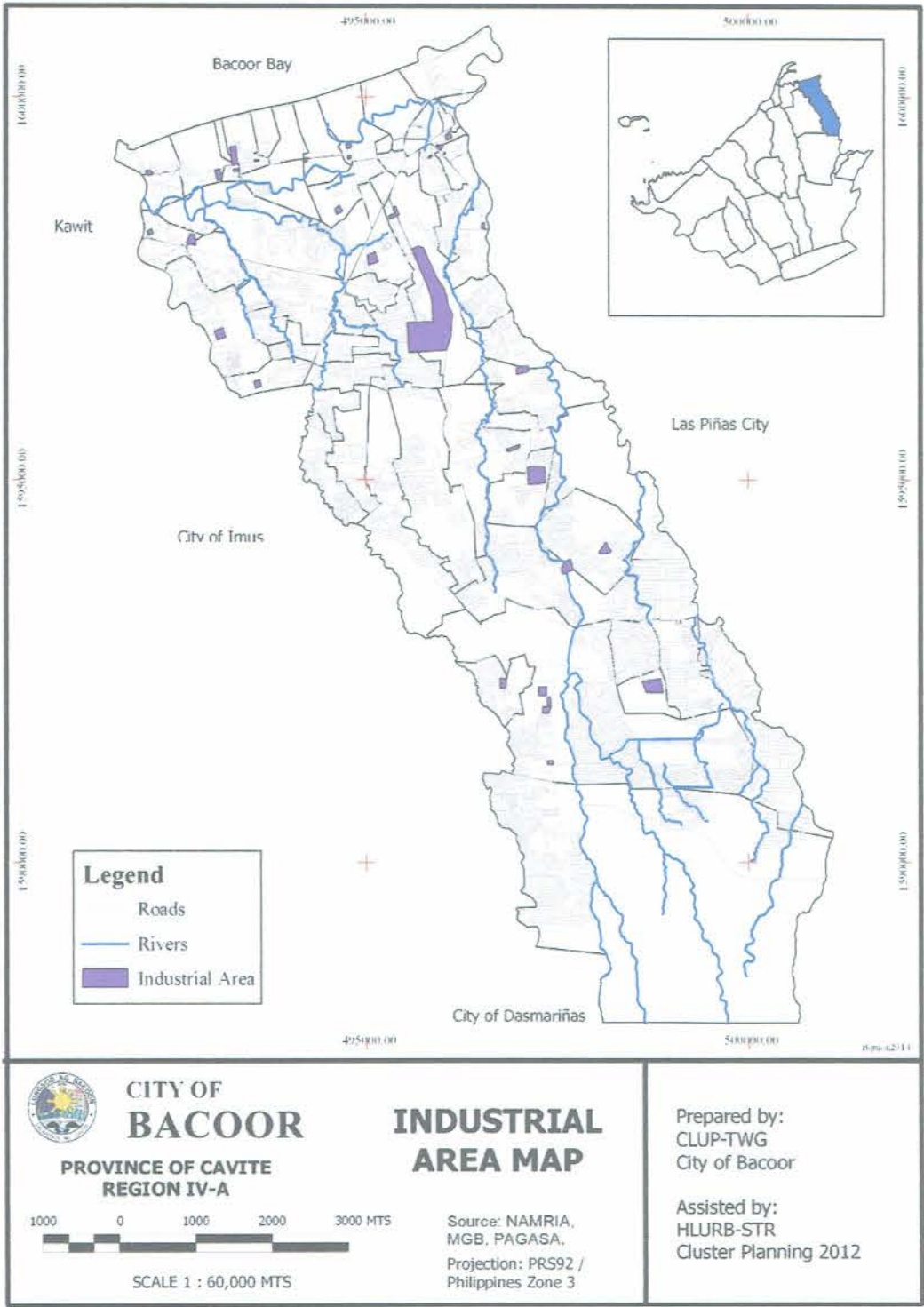
Source: CLUP- TWG

Map 18. Evacuation Centers in the City of Bacoor



Source: CLUP- TWG

Map 19. Industrial Areas in the City of Bacoor



Source: CLUP- TWG

3.1.5. Agri-Fishery Area

The agri-fishery area is composed of all ricelands, other productive agricultural lands, and water bodies or fishponds in Bacoor City, which covers an area of 410 hectares or 6.61% of total area. Agricultural land uses are located in Barangays Maliksi I, II, III; Panapaan III; Talaba I and II; Mabolo II; Dulong Bayan; Habay I; Alima, and San Nicolas I and II (Map 20).

3.1.6. Open Grassland

Despite the rapid urbanization in the city, vast grasslands can still be found in the southern part of the city in the Molino Barangays, mainly Molino IV. The open grassland area comprises 87.61 hectares, covering approximately 1.41% of Bacoor's total land area. Some sporadic "grasslands" are found in Barangays Siniguelasan, Daang Bukid, Camposanto, Habay I, Salinas I, Ligas III, Niog III, San Nicolas I and II, Bayanan, and Mambog IV, which are mainly agricultural or aquaculture areas left idle (Map 21).

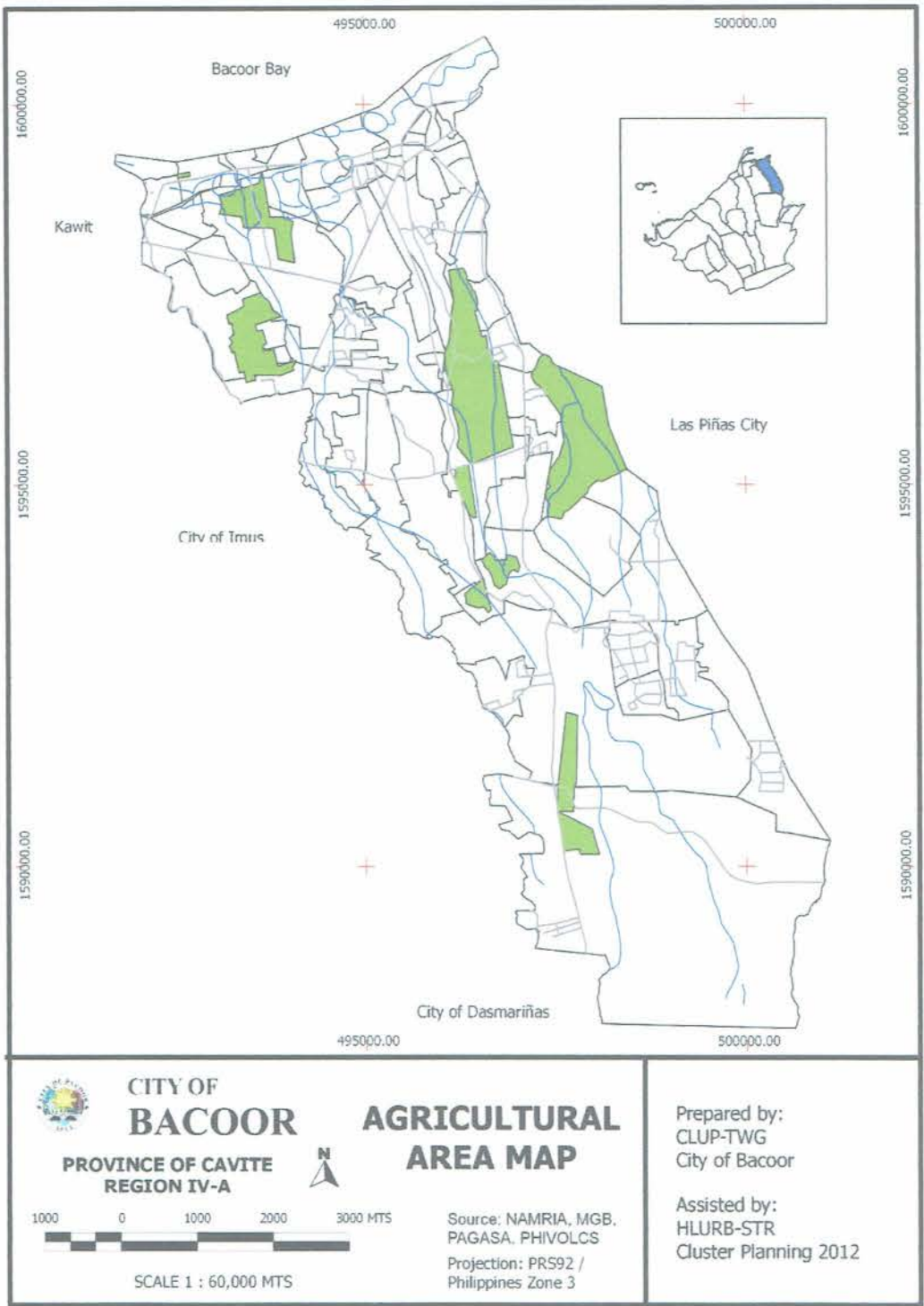
3.1.7. Cemeteries

There are 10 cemeteries in Bacoor, which cover an area of 21.92 hectares or 0.35% of the total land area of Bacoor. Cemeteries are found in Molino II; Ligas II; Camposanto; Kaingin; and Panapaan VII. Cemeteries should correspond with the Land Use Plan and Zoning Ordinance of the locality having jurisdiction over the project site, pertinent provisions of the Sanitation Code, Water Code, and National Building Code of the Philippines and its referral codes, like the Accessibility Law, Plumbing Code and Electrical Code. Some of the cemeteries in Bacoor should be situated on the periphery of areas sparsely inhabited so as to avoid hazardous consequence to human life or health. In terms of accessibility, the site must follow the minimum width or right-of-way of not less than eight meters.

The new trend that is favorable to Bacoor's goal of vertical development is the proposed columbarium with crematorium project along Daang Hari. In addition, generous memorial park and open spaces is integrated to the entire project.

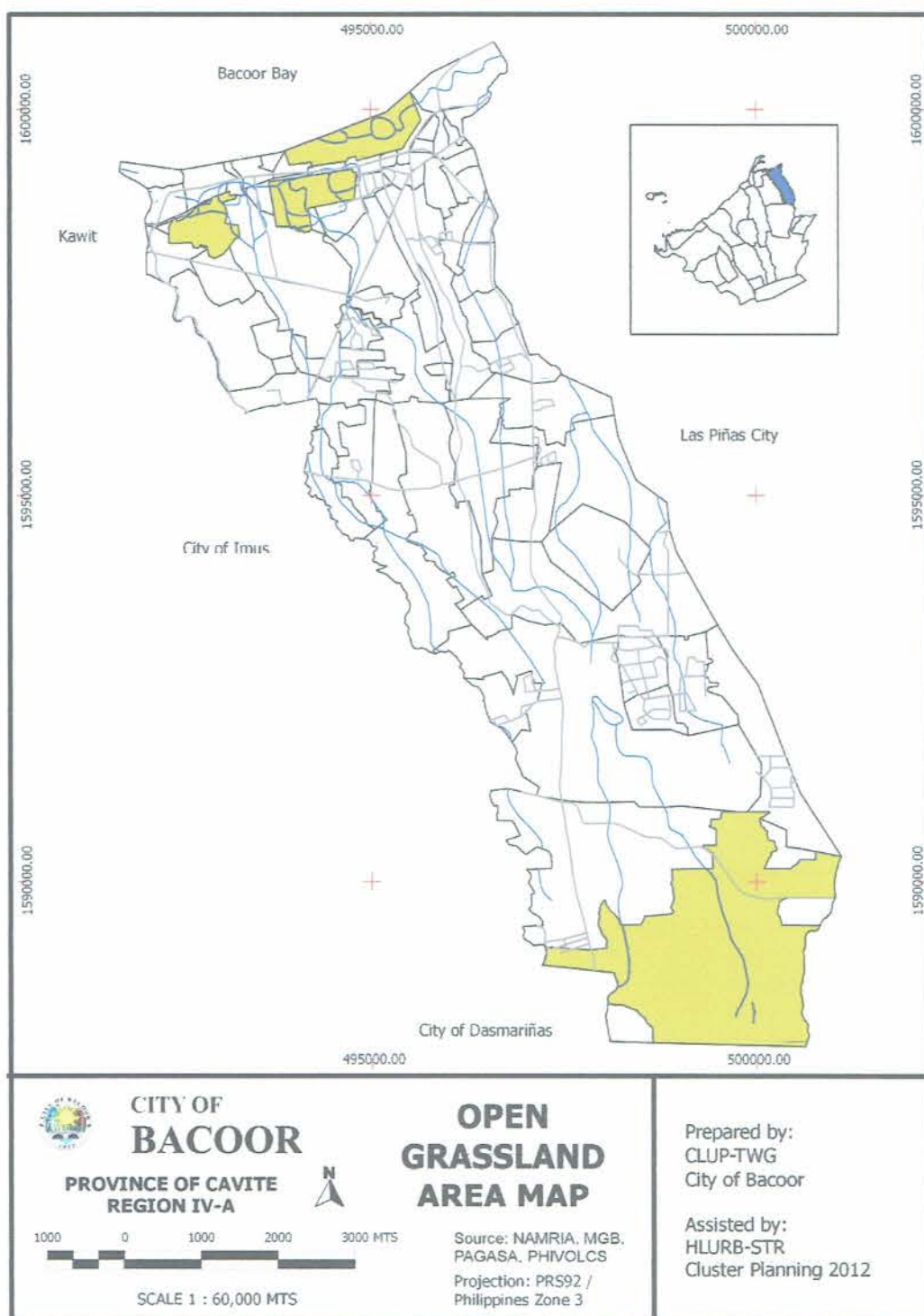


Map 20. Agricultural Areas in the City of Bacoor



Source: CLUP- TWG

Map 21. Open Grasslands in the City of Bacoor



Source: CLUP- TWG

3.1.8. Infrastructure

The major infrastructure considered in this planning cycle is the road network. Transportation system plays a vital role for economic development. National and provincials roads are mostly paved with concrete or asphalt and are moderately good in condition although there are still portions that need rehabilitation. Noticeably, some roads do not contribute to the overall accessibility of Bacoor because of their location within gated subdivisions. Aside from limiting utility of the road network, disconnected roads discourage public transport as a mode of transport. Map 22 shows the proposed roads that need to be constructed in the next few years. These roads would promote interconnectivity and should be at pace with the increasing population of the city.

The planned Light Railway Transit extension would greatly impact on the pedestrian traffic of the city. Integrated terminals of various transportation modes should be implemented to take advantage of the opportunities of the LRT, instead of potentially suffering from traffic congestion if not properly managed.

On a separate note, communication infrastructures have been scanned as well. While these are mainly privately-owned, it is noteworthy that the City of Bacoor is endowed with digital connectivity. Map 23 presents these vital infrastructures.

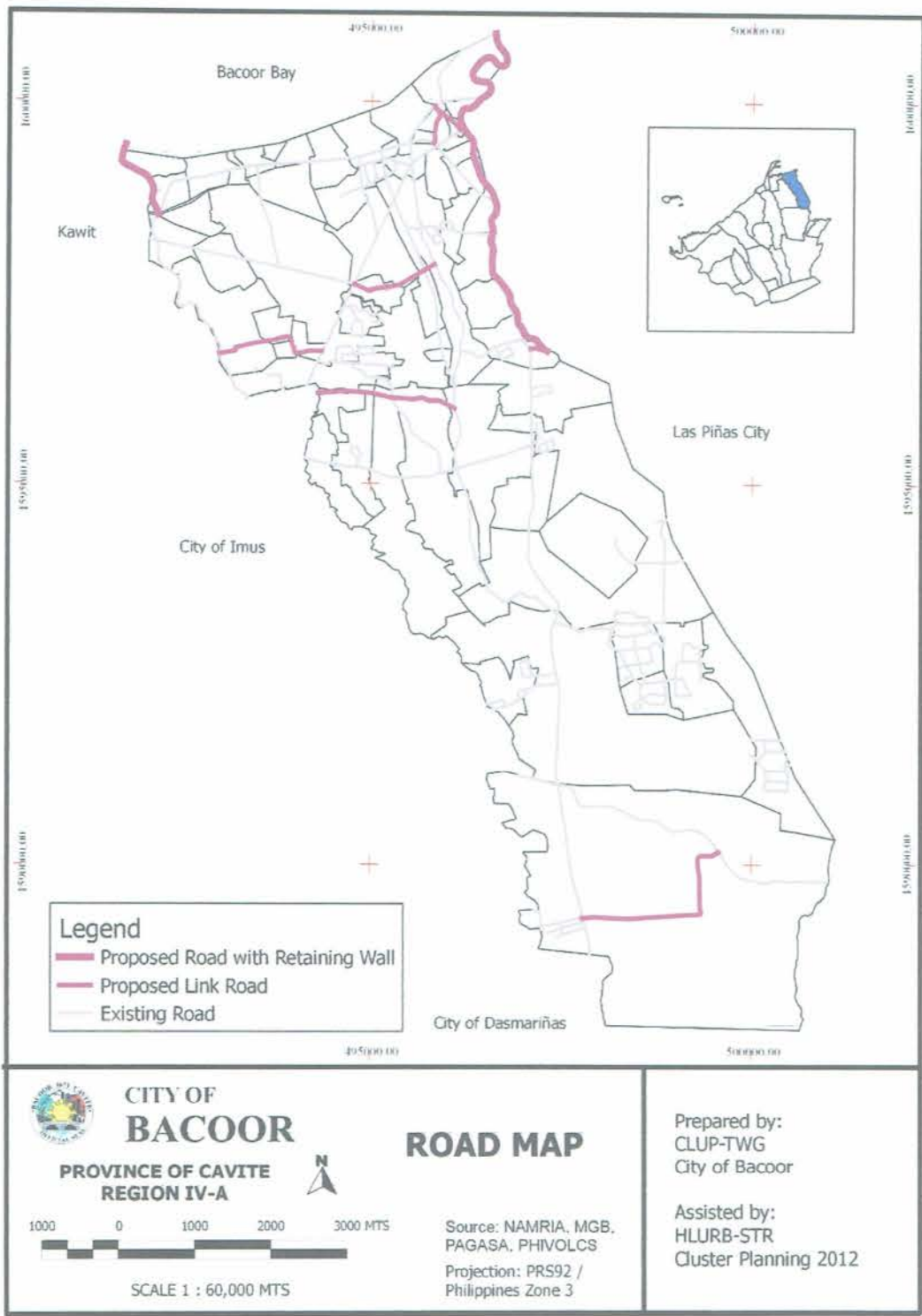
3.2. Urban Form

Bacoor's urban form, or the general design of streets, buildings, and other built structures to create a form and theme of the urban landscape, follows the typical Spanish plaza-complex where government and religious structures are adjacent to one another as evident in the Poblacion.

Moreover, Bacoor has an urban area characterized by a relatively high concentration of population. There are five barangays within the Poblacion area, which includes the Barangays of Alima, Camposanto, Digman, Daangbukid and Tabing Dagat. The Poblacion is also the most densely populated area in the city, where buildings occupy almost every available space.

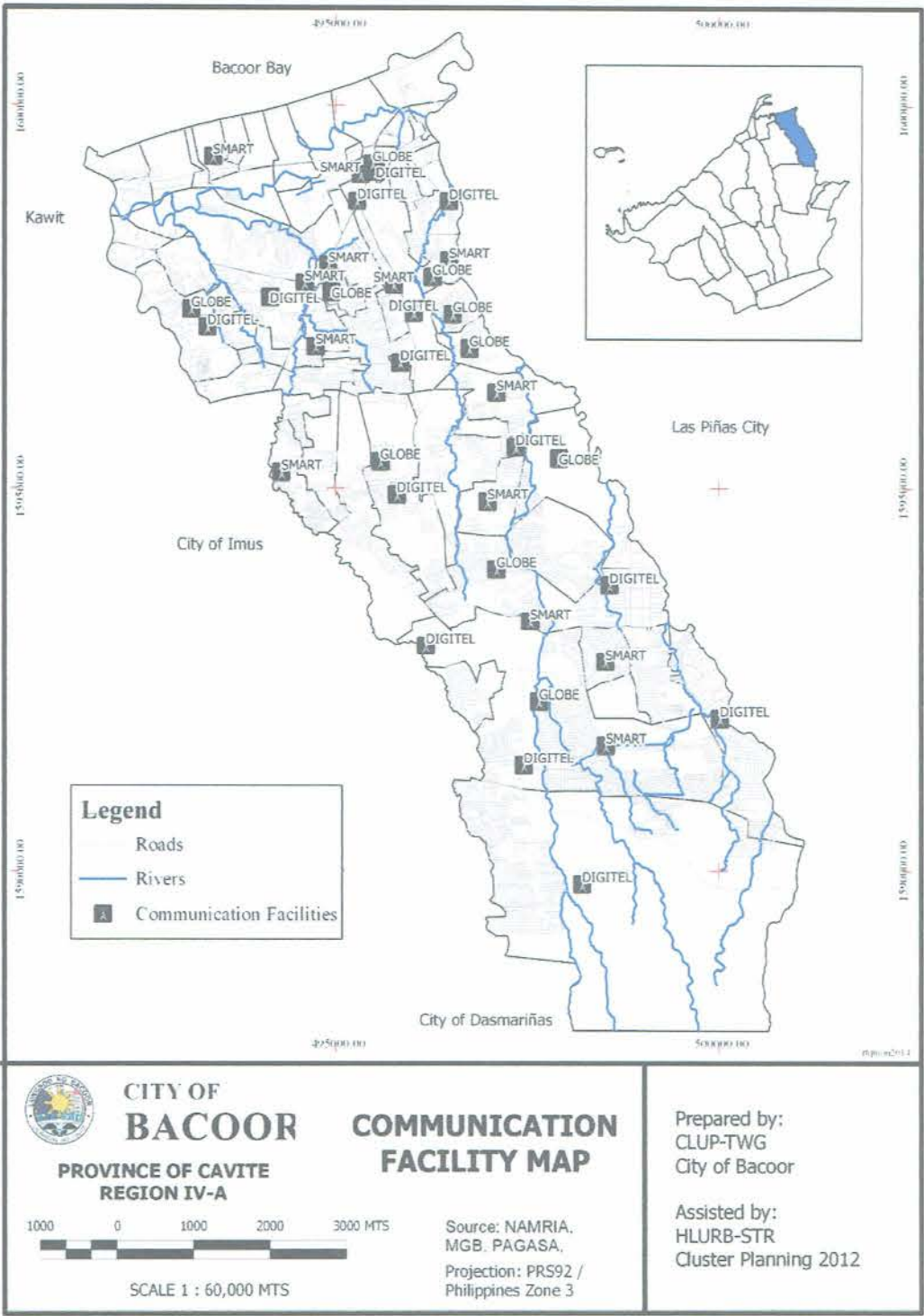


Map 22. Existing and Proposed Roads in the City of Bacoor



Source: CLUP- TWG

Map 23. Communication Facilities in the City of Bacoor



Source: CLUP- TWG

Although there is a Poblacion area, the commercial districts are actually in the malls and their surrounding areas like RFC Shopping Mall, SM Bacoor and SM Molino. These commercial-civic centers typically lack open spaces, parks and green areas.

General Evangelista Street, which is the main coastal highway, is very narrow; intersected by narrower streets with no side-walks for pedestrians. Parking spaces are also lacking on both sides of the streets as commercial-retail areas have sprouted over the decades.

The Bacoor Government Center follows the new center model, whereby it would spur development in its surroundings. This would alleviate congestion, as well as mitigate vulnerability in coastal Poblacion area. Figure 2 highlights the design of the new city hall.

Figure 2. Architect's Perspective of the Bacoor Government Center



Source: CLUP- TWG

3.3. Environmentally-Constrained Areas

According to the new HLURB Guidebook Vol.3 (p9), environmentally-constrained areas refer to areas prone to natural hazards, such as related to weather, hydrologic, and geologic disturbances. These hazards cover those that are weather and water-related, earthquake-induced, volcanic and erosion-related. It may also be construed to control developments such as proclaimed catchments and areas declared as Network of Protected Agricultural Areas of Development (NPAAD) and Strategic Agricultural and Fishery Development Zone (SAFDZ) that are protected by regulations, management plans, or covenants on land use. These areas can be used but must not be subjected to damaging or degrading impacts. In Bacoor, portions of San Nicolas I and II have been declared as SAFDZ. Seasonal crops such as corn, vegetables, and palay are planted in this area.

Fault lines are examples of environmentally-constrained areas. Bacoor is luckily far from these fault lines. Typhoons occasionally visit the province in a seasonal distribution. Coastal areas are also within hazard areas of tsunamis. All barangays in Bacoor are actually flood-prone except Barangays in the higher elevated areas of Queens Row and Molino. Barangays Banalo, Siniguelasan, Alima, Maliksi I and II, Tabing Dagat, Talaba I and II, and Zapote V are prone to moderate seasonal flooding during high tides when the clogged rivers and their tributaries could not handle the swelling waters.

3.4. Historic Resources

Bacoor City is endowed with historic resources that generally present opportunities. One the prominent heritage site is the house cum headquarters of the Philippine Revolutionary Government in 1898 or *Bahay na Tisa* in Barangay Digman. Another important historic site is the Zapote Bridge, which was the battle site against the Spanish and Americans in 1897 and 1899. A monument was built on the foot of the bridge to pay homage to the historic event in this area. In some alleys in Barangay Alima, adobe walls was built during Spanish times and remnants of a former hospital during World War II can still be found.



The *Parokya ni San Miguel Archangel* is another historic and religious site. Father Mariano Gomez served the church for almost 40 years, before his martyrdom with father Jose Burgos and father Jacinto Zamora of the now famous “GOMBURZA” priests.



4. SUMMARY OF SECTORAL ANALYSIS

This Section is a summary of Volume 3 of this Comprehensive Land Use Plan (2014-2024). The ultimate consideration in the allocation of land is based on the demand of the various sectors. Based on the new HLURB Guidelines 2014, sectoral analysis is part and parcel of the planning process. This Section shall consider the following sectors in the demand analysis: (1) Social Sector; (2) Economic Sector; (3) Environmental Issues; (4) Infrastructure Sector; and (5) Institutional and Legal Framework.

4.1. Social Sector

Upon reviewing the various sectors, the city's rapid population growth is the biggest driver of demand for land. This section shall focus on population and other demographic indicators. Various social infrastructure and services are also discussed.

4.1.1. Demography

Based on the 2010 National Statistics Office (NSO) Census, the population of the Bacoor City is 520,216 with an average annual growth rate of 5.46% when compared to the 2000 Census. Using this growth rate, the doubling year is in 2024 when the projected population will be 1,094,996 and projected total household of 229,485.

In the same census, the total number of household in Bacoor grew to 109,025 from 64,067 in 2000. Barangay Molino III had the largest number of households (10,996), followed by Molino IV (7,573), and San Nicolas III (5,773). The average household size is 4.77, which increased from 4.35 in the 2000 Census.

Population projections are basic requirements in planning a locality. These projections are primarily used as basis for estimating future needs for basic services (e.g. housing, education and health services), determining the level of demand for facilities and utilities, economic-related needs and corresponding spatial requirements, among others.



4.1.2. Patterns of Settlement

Based on the projected number of households shown in Volume 3, there would be an additional of 108,579 households by Year 2024, and factoring in the informal settlers, the additional demand for residential area is 800 hectares, assuming a net usable area of 50 square meters per family. Assuming a support commercial area of 5% of residential area, an additional of 40 hectare-commercial area will be needed by city residents by 2024.

Considering the foregoing, there is really a need for the local government to identify land area for housing to be able to accommodate its growing population. It is also imperative to establish an effective shelter plan and institutionalize a housing division or department to ensure that the city has an entity focused on addressing the housing requirements of the City.

4.1.3. Education

Within 10 years, the projected demand for classrooms is 850 additional rooms for the elementary level while 462 rooms for high school. Like in the residential and commercial areas, the government should set an example by erecting multi-floor school buildings to intensify urban land use. It is conceivable that individual barangays would want their own barangay elementary and high school buildings. The city government of Bacoor should encourage multi-storey school buildings on existing school sites instead of investing in acquiring new lands.

The city government should also encourage private schools to maximise use of institutional lands. To promote tertiary education, the city government should actively encourage mid-rise buildings; perhaps even consider giving tax and administrative incentives. Being a city with deep history and heritage, cultural and educational thrusts should be aggressively pursued.



4.1.4. Health

The Department of Health is prescribing a ratio of 1,000 hospital beds per 1,000 people. By 2024, Bacoor City should be able to provide 1,095 hospital beds from secondary and tertiary hospital facilities. Promoting hospitals, medical education, and medical tourism can also become a thrust to increase the number of health workers in Bacoor. Again, multi-storey hospital facilities should be encouraged or perhaps even incentivized.

4.1.5. Labor Force and Employment

Based on the 2010 Census, the City of Bacoor has a total workforce of 312,130 and a total labor force of 208,086. The same Census shows that 60.40% are employed, which is slightly lower than the provincial average of 61.08%. The unemployment rate of Bacoor is 9.40%.

4.1.6. Social Welfare Services

The City of Bacoor utilizes the Department of Social Welfare and Development's (DSWD's) Clientele system. The DSWD clientele are categorized as follows:

- 1) Family and Community
- 2) Child and Youth
- 3) Women
- 4) Disabled/Elderly
- 5) Emergency Assistance

More importantly, social welfare and development programs typically cover the management of day care centers as well as evacuation centers. Physically, public school buildings are usually converted into evacuation sites in time of calamities. While this is an accepted norm, it is imperative to designate alternative evacuation sites and even allot a big open space that can accommodate major evacuation, given the vulnerability of the city to a number of natural hazards.



4.1.7. Protective Services

At present, the Bacoor Police Force has a total of 140 uniformed personnel. Since Bacoor has been transitioning from municipality to a full-fledged city, the strategic question is if the police force pursues “mobility” based on mobile patrol units or pursues “coverage” by setting up sub-stations or precincts. These concepts are not mutually exclusive and the police force can always strike a good balance. This is especially true given that the city presently requires 610 uniformed police as prescribed by DILG and HLURB. By 2024, the City of Bacoor shall require 1,095 uniformed personnel.

In terms of fire protection services, the city has 17 fire fighters and seven fire trucks at present. This is well below the 300 firemen needed by a city with a population such as Bacoor as prescribed by HLURB. This can be augmented by volunteer fire brigades. By 2024, the city shall require 548 fire fighters.

Disaster preparedness and risk reduction has been earmarked to be harmonized in the comprehensive plans of local government units, as mandated by the enactment of Republic Act No. 10121. In this vein, the City of Bacoor has been proactive in achieving community-level preparedness. The city government has an 18-man team dedicated for disaster preparedness and risk reduction. Information dissemination and community empowerment are the twin strategies presently employed in achieving a high level of preparedness and reduce level of risks for the City of Bacoor.

The improvement of the police operation dynamics and swift reactions capabilities is among the measures and innovations instituted in achieving the success of the overall work plan. The development of more police officers under the police visibility scheme composed of the integrated patrol system, wherein patrol components coming from, one (1) Police Sub-Station, six (6) Police Community Precincts, all with Mobile Patrol Unit to augment the three (3) Mobile Patrol Units stationed at the City Police Headquarters.



4.1.8. Sports and Recreation

Sports activities are promoted by the city government of Bacoor in order to encourage healthier lifestyles among its residents, especially the youth. The City has a Sports Development Office envisioned to develop and implement sports development programs that will encourage and support sports competitions among students, employees and local citizens. It was created for the following objectives:

1. To achieve the spirit of unity, commitment and service through excellence in sports;
2. To enhance the physical, moral, intellectual and social wellbeing of every Bacooreño;
3. To extend help to every Barangay for their sports activities.

Bacoor has numerous existing sports facilities. There are 122 basketball courts, 15 swimming pools, eight tennis courts, and two public gymnasiums. Meanwhile, there are also other facilities such as parks, while six public playgrounds are found in the city. Basketball court is the most popular since every barangay has at least one court.

Another potential the city may pursue is water sports. The swimming pools in the city are privately owned, which are usually for leisure. Swimming, dragon boat rowing, diving and other water sports may be encouraged to promote the image of Bacoor as sports-minded and “healthy” city. More importantly, water sports are viewed as expensive in Metro Manila. Bacoor City can steadily get a market share of diving and swimming lessons, and even promote rowing and jet-skiing among affluent Metro Manila residents.

4.2. Economic Sector

4.2.1. Agriculture and Fisheries

Being in the lowlands of Cavite, rice and vegetables are the main crops of the city. Irrigated lands, covering an area of 246.5 hectares, can achieve two cropping season for rice. Rain-fed rice farming is observed in 20.5 hectares of the city. The city government has been distributing cavans of certified rice seeds. The city has established the Farm Demo on Vegetable and distributed seeds of leafy vegetables and fruit vegetables. In addition, farmers regularly receive technical and financial aid from the city government.



For many years, Bacoor has been renowned for its mussel production. Due to rapid urbanization and numerous environmental catastrophes such as the pollution of rivers, bayside areas, and red tide occurrences over the years, the economic contribution of the fishing industry to Bacoor's economy has declined. In contrast, trade and service oriented activities have increased in the city.

Because of the flourishing economy, numerous agricultural lots as well as fishponds have been converted into residential subdivisions. Offshore and coastal fishing were also affected by the construction of the Manila-Cavite Coastal Road and Reclamation Project. Despite the project, Bacoor Bay can still be used in mussel production although there is the constant threat of red tide.

According to the Bacoor City Agriculture Office, the city has 17 hectares of active fishing grounds fronting coastal barangays that are devoted to the production of mussels, cocked shells, bangus, sugpo, and tilapia.

Overall, Bacoor registered deficits in the production of all food items including rice, vegetables, and fruits, pork, beef, poultry, and fish. This means the city is not able to produce enough and therefore imports food items from other localities to cope with the demand of local consumption. This situation may be mainly attributed to the widespread conversion of agricultural lands into residential subdivisions, rapid population growth, and lack of capital to expand and improve current agri-fishery areas.

4.2.2. Industry

The City of Bacoor has 50 registered industrial establishments with 38 classified as non-pollutive and 12 as pollutive. There are no highly pollutive industries in Bacoor. Most of the non-pollutive industrial establishments are furniture, food and clothing manufacturers.

Most of the industrial establishments in Bacoor can be found in the central and southern parts of the city, particularly in the Barangays of Niog (14: 8 non-pollutive and 6 pollutive); Molino (13: 11 non-pollutive and 2 pollutive); and Panapaan (8: 6 non-pollutive and 2 pollutive).



Given Bacoor's continuously increasing population brought about by rising commercial and residential development in the city, these industrial centers must be properly managed and self-contained so as to avoid conflicting land uses that may cause environment degradation or health concerns to the growing public. This is especially true for the Niog Barangays, where the density of industrial establishments, both non-pollutive and pollutive, is relatively high.

Future industrial development in the city may focus on non-pollutive industries and preferably within the existing industrial centers identified above. Bacoor's current niche as a furniture and food manufacturing location should be optimized, both labor-intensive (beneficial to the local community) and non-pollutive (ideal for a local government unit with high population density such as Bacoor).

The City of Bacoor also has to focus on developing its cottage industries even further, with small and medium enterprises (SMEs) concentrating on its seafood industry, particularly the processing of talaba and tahong food products. This is in line with the Department of Trade and Industry's (DTI) One Town, One Product (OTOP) program, which shall be beneficial especially for its ten (10) coastal barangays. Sewing is another niche that may be promoted in the city, being an industry promoted in the past.

4.2.3. Commerce and Trade

Bacoor's primary income earners comprise of the trade, commerce, and service sectors. Commercial and some industrial activities are mostly concentrated in areas along the General Aguinaldo and Tirona Highways. These activities range from wholesale and retail establishments, restaurants and eateries, hardware and construction supplies, and other service-related industries. Another important commercial center in the city is the Bacoor Public Market located in the entrance of Coastal Road and Aguinaldo Highway in Barangay Talaba. In addition, a large industrial area is located in Barangay Niog III.



4.2.4. Tourism

Tourism attractions in Bacoor comprise mainly of seafood restaurants specializing in the local fare and a few heritage sites in select areas of the city. As mentioned in the previous chapter on historic resources, the main heritage interest areas are the *Bahay na Tisa*, *Parokya ni San Miguel Archangel* and Zapote Bridge.

Seafood restaurants are commonly found along the Gen. Aguinaldo and Tirona Highways that feature crabs, mussels, and fish caught in Bacoor Bay. With Bacoor's proximity to Metro Manila, these restaurants may be promoted as tourist destinations. The Sineguelasan Fish Port particularly has good potentials for development as a seafood market with floating restaurants, a fisherman's wharf, and seafood stalls. There is also potential for the Molino Dam and the Prinza along the Zapote River to be developed into a waterside tourist attraction upon development.

There are no public parks and green spaces in the northern and central sections of Bacoor that are large enough to be developed or can be considered as leisure destination areas and as attractions for visitors. However, tourism circuits that connect key areas and destinations along the Bacoor Bay and major corridors can be developed. South of Bacoor in Barangay Molino IV is an area currently zoned as an eco-development area that may also potentially be developed into an ecotourism destination.

The City of Bacoor has five (5) identified supplementary tourist attractions that primarily revolve around religious and historical festivals, namely: (1) Feast of Sto. Nino; (2) Battle of Zapote Bridge; (3) Senakulo; (4) Feast of Saint Michael; and (5) Bakood Festival. In 2017, the city shall host the World Marching Show Bands Competition. If properly handled, the said event may attract many foreign tourists to visit the city and solidify its claim as the "Marching Band Capital of the Philippines".

In addition, the city has 17 tourism support facilities which provide recreation, primarily swimming activities. These establishments are located in 14 barangays.



Bacoor City has three (3) potential tourist attractions, all recreational in nature, namely: (1) Molino Dam; (2) Molino Eco Park; and (3) Sinaguelasan Seafood Terminal.

Tourism related recreational facilities in Bacoor are all accessible by land, located by an average of 2.6 kilometers away from the nearest national highway. They are all connected to the national highway primarily by cement-paved roads, accessible all-year round by ordinary vehicles and are generally in good condition.

Overall, the tourism attractions have the highest potentials in getting dividends for the City of Bacoor. To further enhance the development of the city, the primary sectors, agriculture and fishery, should be vertically linked and integrated with tourism. For the farmers, they may be encouraged to pursue high value organic crops, and link them to gourmet cooking and restaurants which are in turn connected to the commercial and tourism developments. For the fisherfolks, fishermen wharves with seafood processing and also gourmet cooking may be encouraged, like the “clam chowder” restaurants in San Francisco Bay Area. Adding local flavor and package it as “Lutong Bacoor” or even invoke the Spanish “paella” given the long history of the city is another way to spice up the local economy.

4.3. Environmental Issues

4.3.1. Solid Waste and Sanitation

The City of Bacoor generates solid waste for collection at an average of 283.76 tons daily as of August 2013, as reported by the Cavite Socio Economic and Physical Profile 2012. These wastes are collected and disposed by a private contractor outside the city. With the rapid population growth, the city should actively explore waste management schemes, such as the waste to energy program.

The absence of a centralized Material Recovery Facility (MRF) has been compensated with the establishment of barangay based MRFs. House to house collection frequency varies across the 73 barangays. Stakeholders have indicated that garbage collection and disposal has been substantially improved but garbage dumped into waterways is one of the remaining concerns, and may cause flooding particularly along the Zapote and Imus Rivers during the rainy season.



According the provincial office of DENR, there is only one approved waste to energy program in San Pedro, Laguna but the proponent did not push through with the implementation of the project. In the City of Bacoor, the city government should welcome such program to manage its solid waste, and perhaps generate income from other cities and municipalities with a viable waste-to-energy facility.

It is also essential to promote composting of organic solid wastes at the barangay and community level. It goes without saying that waste segregation is a vital component of an effective solid waste management.

4.3.2. Water Quality and Liquid Waste

A total of 87,811 households or 95% of all households have sanitary toilet facilities according to the CLUP-TWG. Table 4 shows the breakdown.

Table 4. Type of Toilet Facility

Type of Toilet Facility	No. of Household
Water sealed flush to sewerage system/septic tank - own use	79,604
Water sealed flush to sewerage system/septic tank - shared with other household	7,615
Closed pit	532
Open pit	60
No toilet	3,888
Others	621
Total number of households	92,320

Source: CLUP-TWG



The major environmental issue as identified by key stakeholders is the perennial flooding. The good thing about the City of Bacoor is that it is not suffering from subsidence, yet, just like coastal areas north of Manila, chiefly, Navotas City but also include three cities namely: Caloocan, Malabon and Valenzuela or the "CAMANAVA" area.

It is paramount that a Buffer Zone of three-meter easement on both sides of all rivers and creeks within the City is implemented. Likewise, dredging of the river system coupled with proactive solid waste management to mitigate the clogging of the same. More importantly, the development of the river banks or riversides into income earning ecological theme parks together with relocation of informal settlers would mitigate the perennial flooding.

Even without the planned reclamation of the coastal area, there is a need to protect the sea wall. Sooner or later, the reclamation, whether through the Provincial Government, Philippine Reclamation Authority or the City, would happen especially with the massive investments and developments in Pasay and Parañaque Cities. Thus, the City needs to prepare for the relocation of the informal settlers, implement "interim uses" such as theme water sports facilities to prevent the informal settlers from coming back, and eventually draw up long-term development plan for the implementation of the reclamation.

It should be noted that the relocation of the informal settlers should be in-city and in step with the overall settlements policy of the CLUP. Population growth, especially through immigration, would continue to exert pressure on land for settlements within Bacoor City.

The Molino Dam is another integral part of the environmental concern. A theme eco-park is envisioned for Molino Dam, especially with its historical significance of being administered by St. Ezequiel Moreno y Díaz. During his service in Bacoor and Imus, more than 3,000 died of cholera, where he worked hard in helping the Catholic flock and even tirelessly giving the last rites. Only three of those who died did not receive the last rite from St. Ezequiel who is now being invoked as the Patron Saint of Cancer Patients.

Furthermore, small water impounding systems should be studied to mitigate flooding apart from Molino Dam. This was communicated by some key informants that water impounding system and drainage system are possible solution to the flooding problem. The City



Mayor hit the mark with the declaration that the planned reclamation of the coastal area should be intertwined with the rehabilitation of the river system and other flood-mitigating measures.

While Maynilad Water Services, Inc. is busy laying pipes to eventually cover the entire City, sources of quality water is a question of sustainability. One way of ensuring continuous supply of quality water is to diversify sources. The technical consulting services would include identification of possible sites for desalination plant that may be developed by the private sector.

4.3.3. Air Quality

Air quality is not consciously monitored, probably due to its perceived acceptable level. Rapid population growth and urbanization typically compromises air quality. Measures are needed to seriously monitor air quality and mitigate potential polluters such as smoke belching old vehicles and pollutive industries.

4.4. Infrastructure Sector

4.4.1. Transportation

Bacoor's highly urbanized areas have been traffic hotspots and are expected to worsen if left unchecked. A number of choke points caused by major infrastructure projects beset the traffic system in various locations in the city during peak hours every day except Sunday. Bacoor's traffic problem is similar to the traffic scenario in neighboring Metro Manila. Various factors are attributed to the slow pace of traffic during peak hours.

Bacoor experiences traffic congestion during the morning peak hours of 7:00 to 10:00 am, afternoon peak 4:00 to 7:00 pm, and at noontime. Studies and analyses point that the Aguinaldo Highway, Tirona Highway, Molino Road, and Gen. Evangelista St., are absorbing traffic volume more than their carrying capacity.

Traffic capacity depends on the following factors:

- number of lanes



- carriageway or lane width
- shoulder width
- gradients and their lengths
- truck and bus percentage of total traffic
- lateral obstructions on both or one side of the roadway, and
- roadside friction.

According to the CLUP-TWG assessments, all the major roads in Bacoor accommodate traffic volume far beyond their capacity. Commuters and drivers will naturally experience more delay in future travels. This will definitely create a detrimental impact on the efficiency of delivery of goods and services to and from the city.

Both major and minor roads in the city are nearing or have exceeded the design volume capacity. There is an imbalance between traffic demand and supply. The existing road capacities in some location such as Aguinaldo Highway, Tirona Avenue within and near the rotunda, Gen. Evangelista St., Bayanan, and Bahayang Pag-asa in Molino Road are less than what the current volume of traffic requires. Traffic volume during morning, noontime, and afternoon peak hours suggest that road augmentation such as widening and provision of alternate routes will have to be considered.

Proper traffic management should include carefully planned rerouting and installation of traffic control systems such as stoplights and signages. Non-motorized modes such as walking and cycling should be enhanced and promoted. Public transport such as trains and water transport would be welcome development in city to decongest traffic.

Traffic speeds are slowest in the northward direction during the day and southward during the evening. Generally, traffic speeds are slower upon entering Metro Manila. Very slow speeds occur along Zapote Road and Tirona highway. In these areas, vehicles move much slower than the design speed of the road.

The inadequacy of the road capacity is further aggravated by the lack of discipline among drivers manifested by observed numerous traffic violations and lack of consideration when driving, parking, or waiting for passengers. Examples of driver carelessness include habitual intersection blocking to pick up and wait for passengers, incorrect counter-flow



driving, sudden forcible lane change (usually shifting from the outer lane where vehicles are lined up to wait for passengers, to the inner lane when the driver decides to get out of the line), and swerving. These long time practices of drivers aggravate traffic congestion.

Pedestrian safety has been given little focus regarding the current transport infrastructure system. Examples include limited pedestrian crossing and sidewalks in major thoroughfares in the city; pedestrian lanes not properly painted; and the dangerous right-of-way sharing of pedestrians and vehicles are common sights not only in the city roads but in national highways as well. There should also be the prioritization and enhancement of pedestrian areas rights-of-way in highly dense areas, market places, and transport terminals.

An observed problem in the City Bacoor is the encroachment of various structures into the road-right-of-way. Sidewalks are commonly encroached by informal stalls, vendors, and driveway and gate extensions. These encroaching structures are illegal obstructions since they are positioned either on the road shoulder or the carriageway. Several concrete waiting sheds, concrete aggregates, electric posts and pylons, and even barangay facilities also decrease road capacity.

Market places are commonly congested and busy areas, to which problems such as encroachment of road-rights-of-way are commonly observed. Similarly, such are noticed in the Bacoor Public Market. Ambulant vendors constantly occupy road shoulders and sometimes even the carriageway. Thus there becomes a need for stricter enforcement for these illegal practices and to decrease traffic in these identified choke points.

Many residential and commercial buildings and other structures, with the exception of larger and more prominent establishments are constructed very close to the sidewalks, thus creating difficulty to implement road widening and construction of pedestrian walkways.

Due to the lack of terminal facilities allocated for public utility vehicles ("PUVs"), street parking is also common for PUVS. Except for the terminal in SM Bacoor, there are no other appropriate terminals in Bacoor currently utilized for PUVs. Along the thoroughfares of the Aguinaldo Highway, Molino Road, Gen. Evangelista St., and Tirona Highway, PUVs



line up to wait for passengers either on the road shoulders or carriageways. This obstruction further decreases the traffic capacity of the roads.

Traffic management is also a key aspect in decongesting roads. Many intersections are still controlled by traffic enforcers. The common fault in this method is the imbalanced allotment of go-signal. Other essential parts to consider in traffic management are parking and terminal facilities. In Bacoor, on-street parking on both sides of the road is very common, especially along secondary streets. Thus, there is a need to prohibit on-street parking in major traffic corridors, especially during peak hours. Provisions for appropriate parking lots and amenities are equally essential. Regarding enforcement, there is also a need to strengthen the policy on towing illegally-parked vehicles.

4.4.2. Power

MERALCO is the main power supply providing electricity for the entire City of Bacoor. In 1997, MERALCO has energized all (100%) barangays in the city. The Carmona and Dasmariñas power grids supply power to the different barangays of Bacoor.

4.4.3. Water

The Maynilad Water Services, Inc. (MWSI) supplies potable water in Bacoor as it is already within the Western Concession Area. However, many barangays still obtain water from private deep wells. Geographically, coastal areas have access the MWSI water while further inland use private deep wells. Water from deep wells is not guaranteed to be safe and be used as drinking water.

4.4.4. Postal Service: Postal Service Personnel and Equipment

The city has one main postal office located near the old Hall of Justice which is managed by Philippine Postal Corporation (PhilPost). The post office's location makes it more accessible to different coastal barangays. There are also authorized postal services in many areas around Bacoor. Bacoor's postal code is 4102.



4.4.5. Telecommunication Services

The telecommunications office in Bacoor is responsible for transmitting, receiving, and providing radio and telegraph service to the public. The office is located near the town hall. The services of telecommunications companies such as RCIP, JRS, and PT&T are also available in Bacoor. Three telephone services are available in Bacoor. Philippine Long distance Telecommunications Company (PLDT) serves most of the households, about 55% of total households. Globe Telecom, Smart, and Digitel, also provide mobile and landline service in the area. Globe and Digitel provide telephone services to 30% and 15% of total households, respectively.

As mentioned above, infrastructure projects especially social infrastructure should be in-step with the projected growth of the city. With the planned socialized housing and resettlement of informal settlers, the support facilities should be in place to ensure the delivery of social services. In addition, subdivision developments would require their own social infrastructure as well, whether developed through private or public funds. Typically, appropriate zoning of settlements, linked by efficient transportation network, and proper integration with the economic and business sectors would provide sustainable urban growth, as compared to urban sprawl without the proper planning and zoning. Ultimately, these infrastructure projects should be included in the priority investments of the City.

4.5. Institutional and Legal Framework

The City Government should prepare the organizational and technical capacity of its personnel in the various concerned departments to properly implement the CLUP. Financial capacity and monitoring are also essential requirements of the implementing institutions to ensure sustained implementation.

The City Planning and Development Office is typically the lead department in the implementation of the Plan, and it ensures that all developments and activities are in accordance with the CLUP. The CPDO processes locational/zoning clearances, development permits, and evaluation reclassification report based on the approved CLUP.



Other expertise may include traffic demand management, river system dredging and flood control, air and water quality monitoring, disaster risk reduction, solid waste management and ecotourism management.

Investments for major projects such as environmental facilities, relocation of informal settlers, new commercial and promotion districts, and support facilities for the various sectors are needed, not only from the budget of the City Government but also from the national government and the private sector. Approaches for resource mobilization should be undertaken to attract private sector investment in the City.

4.6. Land Supply and Demand Analysis

This section examines the supply of available land in the City of Bacoor based on the existing patterns of land consumption, and the anticipated future demand for land. The ultimate driver of future demand is population, which is expected to double by 2024 based on the 2010 Census. Coincidentally, 2024 is also the tail-end of the 10-year CLUP.

As stated in Page 1 of Chapter 3, the CLUP-TWG identified nine land use categories and included municipal waters to get a total area of 6,207.25 hectares for the City of Bacoor. Majority of this, 4,511 hectares, or 72.67% of the total area is devoted to residential areas, while the next biggest chunk is the municipal waters at 15.42% or 957.25 hectares. The remaining 11.91% of the total area is divided among the other eight land use categories.

The first section of this chapter is devoted to the Social Sector. The doubling population by 2024, based on the growth rate between the 2000 and 2010 Censuses, is the most compelling driver of land demand. It means there would be an additional of approximately 500,000 new residents in Bacoor City or 100,000 new household.

Based on these projections, the city should at least plan based on additional 100,000 housing units. Factoring the informal settler families (ISFs), there would be an additional 15,000 socialized housing units, following an arithmetic progression from the estimated 7,500 ISFs at present. These estimates could easily be understated if the proliferation of informal settlements is left unchecked.



The growth rate between the Censal Years 2000 and 2010 is 5.46%. It should be noted that the annual growth rate between the Censal Years has been compiled by the CLUP-TWG. In 1903 to 1918, the population of Bacoor grew at an average annual growth rate of 0.10%. Subsequent censal years showed accelerating annual growth rates: 1.8% from 1918 to 1939; 2.67% from 1939 to 1948; 2.43% from 1948 to 1960; 5.91% from 1960 to 1970; 5.14% from 1970 to 1975; 7.75% from 1975 to 1980; and 5.86% from 1980 to 1990. From 1990 to 1995, the city's population grew at a blistering pace of 9.46% annual growth. From 1995 to 2000, there was a slower pace of an annual growth rate of 4.04%.

At present, the average annual growth rate has returned to the 5%-level. "Same Rate" scenario shall use this average annual growth rate. In the public consultation conducted on May 15, 2014, the "Same Rate" scenario assumed at annual growth rate of 5.46%. The "Aggressive Scenario" was also introduced to remind the stakeholders of the historical population growth of Bacoor, reaching 7.7% in 1980 and even 9.46% in 1995. The table below present some estimates on land requirements based on population growth.

Table 5. Projected Land Demand by 2024

Land Use Categories	Existing Area (Hectares)	Projected Needs by 2024: Same rate	Total Area by 2024: Same Rate	Projected Needs by 2024: Aggressive	Total Area by 2024: Aggressive
Residential	4,511.00	500.00	5,311.00	800.00	5,311.00
Commercial	123.29	50.00	173.29	80.00	203.29
Infrastructure/Utilities	18.00	24.00	42.00	30.00	48.00
Institutional	33.30	50.00	83.30	80.00	113.30
Parks/Recreational Areas	2.00	42.00	44.00	50.00	52.00
Industrial	42.88	40.00	82.88	64.00	106.88
Agriculture	410.00	(41.00)	369.00	(41.00)	369.00
Grassland/Pasture	87.61	(17.00)	70.61	(17.00)	70.61
Cemeteries	21.92	10.00	31.92	15.00	36.92
Municipal Waters	957.25		957.25		957.25
TOTAL	6,207.25	658.00	6,865.25	1,061.00	7,268.25

Source: CLUP-TWG



4.6.1. Residential Area Projections

By 2024, the additional 100,000 households would need 500 hectares of residential based on an average requirement of 50 square meters of land based on the “same rate” and conservative land area scenario. Assuming a more aggressive growth and land requirement, the residential area requirement could reach 800 hectares.

4.6.2. Commercial Area Projections

The commercial area demand is pegged at 10% of residential requirement. By 2024, the estimate for new commercial area is 50 hectares based on the “same rate” and scenario, while a high of 80 hectares for the aggressive scenario.

4.6.3. Infrastructure/Utilities Projections

This section is primarily concerned with roads, since most of the other major utilities such as power, water and telecommunications are privately-owned. The other major infrastructure is the solid waste management program, specifically, a waste-to-energy project estimated to occupy an area of 10 hectares, including related services. The estimated infrastructure requirement by 2024 is 24 hectares for the same rate scenario, and 30 hectares for the aggressive scenario.

4.6.4. Institutional Area Projections

For the projections of institutional area requirements, the additional classrooms and hospital rooms are the biggest drivers, given the doubling population. The estimated infrastructure requirement by 2024 is 50 hectares for the same rate scenario, and 80 hectares for the aggressive scenario.

4.6.5. Parks/Recreational Area Projections

For the projections of parks/recreational area requirements, the current base area of two (2) hectares seems on the low estimate. At any rate, with the planned implementation of ecology parks as well as easements of rivers and creeks, the estimated parks/recreation area by 2024 is 42 hectares for the same rate scenario, and 50 hectares for the aggressive scenario.



4.6.6. Industrial Area Projections

The industrial area demand is pegged at 8% of residential requirement to spur job creation, especially with the barangay clusters. By 2024, the estimate for new industrial area is 40 hectares based on the “same rate” and scenario, while a high of 64 hectares for the aggressive scenario.

4.6.7. Agricultural Area Projections

Population growth and urbanization pressure would undoubtedly result to decrease in agri-fishery lands. Based on the Local Government Code Section 20, first class component city may only convert up to 10% of their agricultural lands. Since the baseline is 410 hectares of agricultural lands, this CLUP assumes that 41 hectares shall be converted to other uses, for both the same rate and aggressive scenarios.

4.6.8. Grassland/Pasture Area Projections

Like the agricultural lands, population growth and urbanization would lead to diminishing grasslands. Since there is no limitation on the conversion of grasslands, this CLUP assumes a conversion of 20% of the grasslands to other urban uses, or approximately, 17 hectares, for both the same rate and aggressive scenarios.

4.6.9. Cemetery Area Projections

Cemeteries are typically included in the institutional land use. This CLUP designates a separate land use category, due to the doubling population, as well as to account for the trend of vertical development in burial practices, or columbarium. Thus, while the baseline area of cemeteries is 21.92 hectares, the additional demand by 2024 is 10 hectares for the same rate scenarios, and 15 hectares for the aggressive scenario.

4.6.10. Municipal Waters

One of the unique features of this CLUP is the inclusion of the municipal waters and other water resources such as the rivers and creeks in the planning area. The baseline area of the municipal waters totals to 957.25 hectares. This will not change either for the same rate scenario or aggressive scenario.



The “interior” municipal waters, that is, the municipal waters from the Manila-Cavite Expressway towards the shore, may be considered for reclamation. This municipal water is estimated to occupy an area of 90 hectares, and there is a provisional approval to reclaim this. Reclaiming this 90-hectare interior municipal water is well below the hundreds of hectares reclaimed by Parañaque and Pasay Cities.

Opening up this area can help a lot in housing the additional 100,000 households in the next 10 years, and providing crucial social infrastructure. In addition, private sector driven commercial areas may also spur additional investments and jobs in the coastal areas.

Both the “Same Rate” and “Aggressive” Scenarios show that the doubling of population by 2024 cannot be accommodated, if the City would continue to develop on a horizontal fashion. Land demand dictates that the City has to guide the constituents and private developers to start building vertically.

In the succeeding chapters, these two scenarios shall serve as reminders on how rapid the City of Bacoor is growing. While this is a good thing, managing the growth is imperative to mitigate the bad things, such as urban sprawl, traffic congestion, and improper waste disposal. Increasing land prices may also further marginalized the informal settlers.

The “Same Rate” Scenario shall be used in Chapter 8 when describing the Comprehensive Land Use Plan. This is the most logical assumption since it is based on the most recent *Census of Population and Housing (2010)*, and the past decades show that the annual average population growth of Bacoor has been at the 5%-level.



5. VISION, GOALS AND OBJECTIVES

The previous chapters presented the challenges and constraints facing Bacoor City in the next 10 years, as well as its tremendous historic, natural and economic resources. The continuing Vision for the City is: **Progressive and Livable City with Responsible Citizenry**. The elected officials and validated by a number of public consultations and key informant interviews, this Comprehensive Land Use Plan has six (6) goals to achieve this Vision. This chapter discusses each goal by presenting more detailed objectives.

5.1. Goal: Strong sense of community and responsibility, striving for higher quality of life.

To achieve this goal, here are the detailed objectives:

1. Maintain Bacoor's unique character by blending the "old" and "new" Bacoor;
2. Revitalize the Old Bacoor by preserving the heritage sites and complementing them with community-based economic activities.
3. Preserve the rich historical heritage and traditions of Bacoor
4. Promote Bacoor's positive image as a desirable community in which to live and play;
5. Encourage a strong physical sense of both neighborhood and community, especially in addressing the identified vulnerabilities to natural disasters;
6. Protect open spaces and convert easements of rivers and creeks to parks;
7. Provide for mixed-use development with a variety of housing types, densities, non-residential uses, open spaces, and recreational amenities.
8. Plan for high-quality, well-maintained, neighborhood-oriented schools, particularly with regard to the impact of development upon the school system;
9. Provide public libraries to adequately serve Bacoor's growing population;
10. Develop recreational, sports, and cultural facilities to provide and sustain an adequate level of service;
11. Maintain and improve the current high level of public safety and emergency services.



5.2. Transportation efficiency by interconnecting barangays and providing multi-modal terminals and transportation system.

To achieve this goal, here are the detailed objectives:

1. Design a transportation system that comprehensively incorporates a variety of transportation modes for adequate access, flow, connectivity, safety, and mobility;
2. Improve the easements and sidewalks of thoroughfares to keep pace with new growth and development;
3. Proactively plan with the different transportation and public works agencies to improve the “through” traffic as well as the internal traffic of Bacoor.
4. Emphasize pedestrian-oriented development to achieve a comprehensive system of bicycle lanes, greenways, and sidewalks that connect to neighborhoods, parks, schools, offices, commercial areas, and other public spaces.

5.3. Residential housing focus to absorb the rapidly increasing population of the City.

1. Encourage the availability of housing for a wide range of income groups, especially the middle income and socialized housing;
2. Promote higher residential densities in appropriate locations, especially the areas close to mass transportation;
3. Enforce minimum height along coastal barangays to address the flooding concern and mitigate risk to natural disasters.

5.4. Integrated environmental management to address flooding and solid waste concerns and preserve key land and water resources.

To achieve this goal, here are the detailed objectives:

1. Manage the increasing solid waste of Bacoor through waste-to-energy program and other indigenous and innovative methods;
2. Preserve and maintain Bacoor's water quality and resources by protecting the rivers, streams, creeks and watersheds;



3. Monitor and mitigate the adverse impact of noise and air pollution brought about by rapid population growth and urbanization.

5.5. Key urban design guidelines to promote functional and aesthetic visual appearance, especially in landmark areas.

To achieve this goal, here are the detailed objectives:

1. Encourage and maintain landscaping of public spaces such as major thoroughfares, landmarks, gateways, or entry ways into the City of Bacoar;
2. Provide appropriate buffers as transitions between land uses;
3. Promote strong architectural, appearance, and landscaping standards for development;
4. Enforce and maintain sign controls.

5.6. Economic development through sustainable and local-based business activities, highlighting the competitive advantages of the City.

To achieve this goal, here are the detailed objectives:

1. Maintain a reasonable tax rate that attracts business and is attractive to the existing business and residential community;
2. Promote the balanced growth of residential/non-residential land uses with respect to the economic vitality of the community and contribution to the tax base;
3. Support businesses that utilizes the historical heritage and community-based job creation;
4. Encourage high quality, "clean and "green" businesses and industries to locate or expand in Bacoar;

These goals are the guiding principles in coming up with recommended policies, design concepts, and criteria for future growth. The succeeding chapters present the growth model for Bacoar, the Comprehensive Land Use Map, and recommendations for implementing the Plan.



6. PLAN FRAMEWORK AND LAND USE DEFINITIONS

The physical framework of this Comprehensive Land Use Plan embraces “comprehensive” since it combines not only the total land area with the river systems, but also the municipal waters that was multilaterally identified with adjacent LGUs. This is enshrined in the “Ridge to Reef” (R2R) Framework of the newly released HLURB CLUP Guidebook 2013. It identifies the probable urban structure during the planning horizon. Further, it shall proceed with the four policy areas of settlements, production, protection and infrastructure. This chapter shall likewise discuss the definitions of the different land use categories that shall be used in the “enhanced” comprehensive land use plan and map.

6.1. Integration of Land and Water Use

The components of integrated land and water use are as follows:

- Rivers and creeks: enforce easement of 3 meters on both banks;
- Coastal resources enhancement and management;
- Priority reclamation of the approximately 90 hectares that was provisionally approved, to open up spaces for both public and commercial uses;
- Possible reclamation for urban expansion, at the scale of Parañaque and Pasay Cities in the future;
- Zoning to accommodate higher density developments.

6.2. Urban Structure

The proposed urban structure is basically the “new growth corridor” surrounding the Baco Government Center (BGC), dictated by the newly competed city hall. The urban structure is envisioned to have these key elements:

- New city government center, new growth corridor (BGC) along Molino Boulevard;
- Poblacion: conservation of historical sites, redevelopment to address geo-hazards and density challenges; enforcement of minimum height limit;



- Coastal area: coastal management and development; ecotourism. Pursue the approved approximately 90-hectare reclamation plan to open up lands for public and private uses.
- Southern portion: urban expansion and socio-civic infrastructures.

6.3. Settlements Development

To effectively house the doubling of population, here are some policies:

- Medium density socialized housing program;
- Promote private development with necessary social infrastructures;
- Penalize idle lands for medium and high density zones.

6.4. Transportation Network

Circulation and mobility is paramount in providing quality service and improving the quality of life. These are the main policy frameworks in transportation:

- Hierarchy of roads where national/provincial and main city roads shall have open easements, and are prioritized in improving the level of service;
- Internal circulation should be achieved through Solidarity Routes and incremental road alignment and construction to interconnect the various barangays and subdivisions;
- Clearing of easement and sidewalks should be enforced;
- Introduce bike lanes wherever applicable, especially on easement of rivers;
- Integrated bus and jeepney terminals, especially when the LRT1 Extension is finalized;
- Flyovers and traffic light signalizations in strategic intersections;
- Improved traffic management capability.

6.5. Environmental Management

Properly managing the environment is key in promoting ecological balance especially with the rapid rate of population growth and urbanization. Here are some policies:

- Protect and manage coastal resources;
- Enforce easement on river banks, watershed and urban forestry;



- Solid waste management, evaluate waste to energy schemes
- Composting of organic and biodegradable wastes, link with organic farming
- Enhance fishery production and link with ecotourism;
- Coordinate with Maynilad on sewerage system;
- Monitor air quality.

6.6. Land Use Definitions

Based on the recommendations of the DILG and HLURB, this CLUP shall start with the definition of protection, production, settlements, and infrastructure zones. Tourism and built up zones are added in the definition. Seven land uses are defined under the “built-up zone,” which is defined as contiguous grouping of ten or more buildings. For purposes of clarity, all land use/zone definitions cover only land and water resources within the City of Bacoor.

6.6.1. Protection and Conservation Zone

This zone aims to protect the natural and historical assets of the City. The natural assets provide life support system to the economic and social activities. By protecting the natural assets, the sustainability of the economic and social activities is ensured. The zone includes the coastal area, river systems, and historical sites. The Poblacion shall be designated as Redevelopment and Heritage Preservation Zone as well. Parks and recreational areas shall be included in protection zones.

6.6.2. Production Zone

This zone identifies the areas where production can be undertaken such as agricultural and fishery production, as well as industrial areas. Agricultural production includes crop production, livestock, aquaculture and fishing. Grasslands and pasture lands are included in the production zone. Industrial areas include the existing site in Niog Barangays. More importantly, this CLUP promotes “barangay activity clusters” to encourage focused business activities anchored on historical or natural resources. This is basically “levelling up” the experience of Digman and Sinaguelasan, as well as the barangays endowed with heritage sites.



6.6.3. Built-up Zone

This includes residential, commercial and institutional areas. Under the residential area are subdivisions, traditional residential areas where substantial old residences are located, resettlement of the informal settlers and perhaps government housing, and sports complex. Commercial areas are those that are existing, reclassified and the areas along major national, provincial and city roads. While the new Baco Government Center will have restricted density use, future developments along Molino Boulevard shall be medium to high density commercial establishments. The institutional areas include the schools, government offices and service areas, health establishments, churches and religious sites, and sports facilities.

Agricultural and pasture uses are typically not included in the "built-up" zone. For ease of definition and comparison, they are included in this section in defining the different land uses.

6.6.3.1. Residential Uses

The various residential land uses comprise the "settlement zone". Residential zones are dwellings or shelters for living quarters of residents. Residential zones are sub-divided into low-density residential or "R-1", medium-density residential or "R-2", and high-density residential or "R-3".

6.6.3.2. Commercial Uses

Commercial land uses or commercial zones are lands primarily for business, trading or services. Commercial zones are likewise sub-divided into low-density commercial or "C-1", medium-density commercial or "C-2", and high-density commercial or "C-3".

6.6.3.3. Institutional Uses

Lands used principally for general types of institutions such as government offices, schools, church, hospital/clinics, academic/research, sports facilities and convention centers. Cemeteries and memorial parks as special institutional uses, and shall be treated as a separate land use category, as well as land use zone in the land use map.



6.6.3.4. Parks and Recreational Uses

Lands used principally for outdoor activities typically open spaces with lush greens and trees, as compared to recreational activities in commercial malls.

6.6.3.5. Industrial Uses

Lands used principally for processing or manufacturing of raw produce/materials to finished products, such as light, medium or heavy industries, including small-scale and cottage industries.

6.6.3.6. Agricultural Uses

Areas intended for crop cultivation, livestock farming, fishing and related activities.

6.6.3.7. Grassland/Pasture Uses

In Baco

6.6.4. Tourism Zone

The tourism zones in the City of Baco

6.6.5. Infrastructure and Utilities

This zone includes mainly the road network. Navigational lane and berthing area for boats and fish landing ports are the water transportation facilities. Other infrastructure/utility zones may include waste-to-energy facility and other waste management sites.



7. DESIGN GUIDELINES

This chapter provides design guidelines to describe the design vision for the future built-up form of the City of Baco. The main purpose is on defining the general design, appearance, and layout of sites, buildings, neighborhoods, landscape elements, streets, and sidewalks and paths.

These guidelines generally apply to all types of development, that is, to all of the land use categories used in this Plan, as given listed in Chapter 6. If a particular design element is applicable to only a certain land use category, it is so stated. The design guidelines given in this chapter may be further refined and clarified with Development Design Guidelines Manual for the City of Baco Cary, to be written after adoption of this Comprehensive Land Use Plan.

This chapter will form the basis for the design guidelines manual, and in the interim suggests design alternatives. It should be noted that some of the guidelines given in this chapter may not be applicable or practicable in all cases. The city government encourages creative development and refinement to further improve this guideline.

7.1. General Guidelines and Regulations

Area regulation in all zones shall conform to the minimum requirements of the following statutes and regulations:

1. Presidential Decree 1096: National Building Code and its Implementing Rules and Regulations;
2. Presidential Decree 957: The "Subdivision and Condominium Buyers' Protective Decree" and its revised implementing rules and regulations;
3. 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;



4. Fire Code; Sanitation Code; Plumbing Code; Structural Code;
5. River/Stream and Utility Easement Regulations. Easement regulations of the National Building Code and other applicable laws, rules and regulations shall be applied in all zones. The following provisions shall also be applied: The banks of rivers and streams, pursuant to the provisions of the Water Code, throughout their entire length and within a zone of three (3) meters along their margins, are subject to easement 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 any other structure of any kind.
6. All buildings and structures shall be subject to a permanent easement in favor of duly authorized public utility or service entities, their successors and assigns, for the installation of electric poles and metal alley arms and all the accessories and appurtenances connected therewith for the exclusive purpose of carrying utility lines (electric, telephone, etc.) including free access for repairs, inspections, and all other acts necessary to public safety and preservation of the utility lines; and
7. No building, structure, or land shall hereafter be occupied or used and no building or structure or part thereof shall be constructed or structurally altered except in conformity with the provisions of the proposed Zoning Ordinance and the Design Guidelines.

7.2. Building Designs and Aesthetics

This design guide does not seek to create a set of rigid standards. Instead, the guidelines provide flexible alternative to build a more attractive city environment with a community-spirit; residential and commercial developments that gives greater consideration to pedestrian access, non-motorized transportation and promotion of aesthetics simultaneous with the rapid population growth of the city.

1. The design of individual buildings is just as important as the whole cluster of buildings, streets, public spaces, pedestrian ways, and landscaping taken together, in the context of the surrounding area;
2. Within a subdivision or community, building heights should be more or less the same, and there should be a transition of building heights, where the center or main road will have the highest buildings, and the heights gradually decreases with distance from the center or main road;



3. The city is encouraging vertical development, but buildings should respect the limits and regulations of each subdivisions;
4. Buildings should be arranged in a manner that creates a sense of enclosure and defined space. Buildings in a surrounding area should be arranged so that they help to frame and define the fronting streets, as well as the internal streets, giving deliberate form to streets and sidewalk areas;
5. As far as practicable, buildings should not be separated from fronting streets by large parking lots. At a minimum, placement of outparcel buildings between a large parking lot and the street can be used to help define the streetscape, and lessen the visual impact of the parking lot from the street.
6. Adjacent buildings should be in close physical proximity (to the extent allowed by site topography and respecting the required easements), well-connected by pedestrian sidewalks, walkways, arcades, or colonnades, and not separated from one another by large parking areas.
7. Building design and landscaping in neighborhoods should be compatible and harmonious;
8. Pedestrian-oriented public outdoor spaces should be incorporated as design elements into activity centers and office/industrial park focus areas. These public spaces may include a park or plaza, which can serve as focal points for community interaction;
9. Existing vegetation and large specimen trees should be preserved and incorporated into site design when possible, in order to create a natural appearance and the impression of a mature landscape, subject to the following principles: (1) The trees and vegetation to be preserved should be a long-term asset to the site or the community. Tree and vegetation preservation should be evaluated by comparing the overall quality and appearance of the site if it were to have replanted areas versus if it were to have preserved areas -- 5 to 10 years after construction; and (2) The preservation of vegetation should also be weighed against the amount, type, and quality of replantings that could be achieved for the same cost, with a view to the long-term appearance of the site. For the same cost, it may be possible to replant a site so that its long-term appearance will be far lusher than could be achieved by preserving the existing vegetation.
10. A sufficient number of trees, of appropriate type, should be preserved or provided on residential subdivisions and lots to provide adequate dwelling shade at maturity;
11. Significant landscaped and/or natural streetscapes along roadways are encouraged;



12. Street trees are desired along all major roads, and whenever buildings are oriented in close relation to the street. Residential streets should also be lined with street trees, providing a generous street canopy at maturity;
13. Parking aisles should be separated from one another by planted medians with shade trees;
14. Development should generally conform to the natural terrain to the extent practical, but not at the expense of compromising the other criteria in this Plan, or at the expense of precluding innovative design that would be an asset to the community, in accord with the general spirit and intent of this Plan;
15. Adequate buffers should be provided to mitigate incompatible transitions between higher-density uses and lower-density uses, and between residential and non-residential uses;
16. Vegetated buffers and other screening should be used to buffer incompatible land uses if architectural and design transitions are unfeasible or inadequate;
17. Adverse visual (view) impacts from one development onto another should be avoided or mitigated. Adverse visual impacts from nonresidential sites onto nearby residential areas, or from high-density residential sites onto nearby low-density residential areas, should be avoided through the use of visual buffers and/or the use of neighborhood-compatible architecture and building mass and siting; and
18. Adverse noise and lighting impacts from one site onto adjacent or nearby sites should be avoided, minimized, or mitigated.

7.3. Guidelines on Connectivity

1. Development in Baco



planted center medians to enhance the overall appearance of Baco, raising property values and improving the city's overall economic attractiveness; planted medians can have a psychological effect on drivers that may result in less speeding; provide practical relief to pedestrians and bicyclists crossing the roadway by providing a mid-point crossing island at crosswalks; and improve traffic safety by creating a barrier to head-on collisions;

2. Access to and from a development or site should not create undue traffic flow problems on adjacent roadways; for high-density land uses, there should be a dedicated ingress/egress to avoid traffic queueing.

7.4. Guidelines on Parking and Terminals

1. For any sites or developments that include significant amounts of parking, site design should avoid a "sea of parking" impression from the fronting streets (i.e., where vast amounts of surface parking dominate the view(s) from the fronting street(s) to the site's primary buildings). This is usually a problem only for large non-residential and multifamily sites, especially shopping centers;
2. Rather than having a single, very large contiguous parking area between the fronting street and the buildings, the parking should be broken up into smaller lots, with generous amounts of parking directed to the rear and sides of the buildings or site. Single, very large parking lots should be avoided. This section does not mean that there can be no parking areas between the fronting street(s) and the principal buildings in shopping centers or other large nonresidential or multifamily developments. The intent is to significantly reduce the amount of large surface parking between the fronting street(s) and the principal buildings, allowing the buildings to be brought somewhat closer to the fronting street(s), in support of a more attractive, upscale, and pedestrian- and transit-friendly environment;
3. For multi-family residential development, streetscapes along the fronting streets should not be dominated by large parking areas or garages; parking should be directed into interior spaces on the site, away from the fronting streets. For example, parking could be directed to the sides and/or rear of the units, courtyards, or garages located in, under, to the side, or behind the units. Single, large parking lots for multi-family dwellings should generally be avoided;



4. Streetscapes in small-lot single-family detached subdivisions should not be dominated by garages, but rather by homes or small gardens. Thus, rear-yard garages are encouraged whenever possible;
5. Parking lots that face a street should be partially screened from the street by a low fence, wall, hedge, or topographic or vegetated buffer;
6. Access to developments should serve the needs of the pedestrian and bicyclist as well as the motorist. Site designs should balance the needs of both the automobile and the pedestrian, and of both automotive and pedestrian/bicycle traffic;
7. Bacoor should promote highly connected pedestrian and bicycle pathway networks around the city. Pedestrian pathways include sidewalks, greenways, shared bicycle/pedestrian paths and sidewalks, and local two-lane residential streets. A “walkable” and “bikeable” city encourages healthy lifestyle, cleaner air, and decongests vehicular traffic;
8. For streets that have buildings or development on both sides of the street, sidewalks should be provided on both sides; for streets that have buildings or development on only one side of the street, a sidewalk is needed on that side only;
9. Pedestrian and bicycle crossings (which may be shared bicycle & pedestrian crossings) should be provided throughout the city as necessary for the safety, convenience, and feasibility of pedestrian travel between the city’s residential, shopping, employment, recreation, and institutional sites;
10. Bicycle paths should be designed to minimize automobile-bicycle travel conflict, keeping bicyclists of all ages safely out of the automobile stream;
11. Bicycles racks should be encouraged major activity centers;
12. Public transportation terminals should be identified and provided in key points around the city;
13. Whenever applicable, public terminals should be intermodal to accommodate various transportation modes, including from bicycle and foot traffic.



8. COMPREHENSIVE LAND USE PLAN

One of the end goals of the Comprehensive Land Use Plan is presenting the various policies, projections and priorities in a map, also known as— the Comprehensive Land Use Map. This chapter describes the key features of the CLUP as well as the Comprehensive Land Use Map, or simply, “land use map.”

There are nine major land use categories or “zones” of the CLUP based on the traditional “land use” framework. To make the Plan comprehensive, the municipal waters were included. The table below lists down these uses, together with the projected requirement based on population growth and development projections with the “Same Rate” Scenario as elaborated in Chapter 4.

Table 6. Land Use Categories, Existing and Projected Requirement

Land Use Categories	Existing Area (Hectares)	Projected Requirement by 2024	Total Area Needed by 2024: Same Rate	Average Floor Area Ratio	Potential Land Usage
Residential	4,511.00	500.00	5,011.00	2	2,505.50
Commercial	123.29	50.00	173.29	2	86.65
Infrastructure/Utilities	18.00	24.00	42.00	1	42.00
Institutional	33.30	50.00	83.30	1.5	55.53
Parks/Recreational Areas	2.00	42.00	44.00	1	44.00
Industrial	42.88	40.00	82.88	1	82.88
Agriculture	410.00	(41.00)	369.00	1	369.00
Grassland/Pasture	87.61	(17.00)	70.61	1	70.61
Cemeteries	21.92	10.00	31.92	1	31.92
Municipal Waters	957.25	90	90		90
TOTAL	6,207.25	658.00	6,865.25		3,378.09

Source: CLUP-TWG Projections

Clearly, with the slight increase in floor area ratio or density, the land requirement is well within the existing land and water resources of Bacoor. It is expected that existing residential and commercial spaces will not simply “increase” the number of floors of their present buildings. The denser land use category shall be applied to new developments. For purposes of clarity, residential and commercial zones are recommended for multi-



density uses, namely: low, medium and high densities. Institutional zones are likewise encouraged to build higher density developments.

8.1. Key Features of the Comprehensive Land Use Map

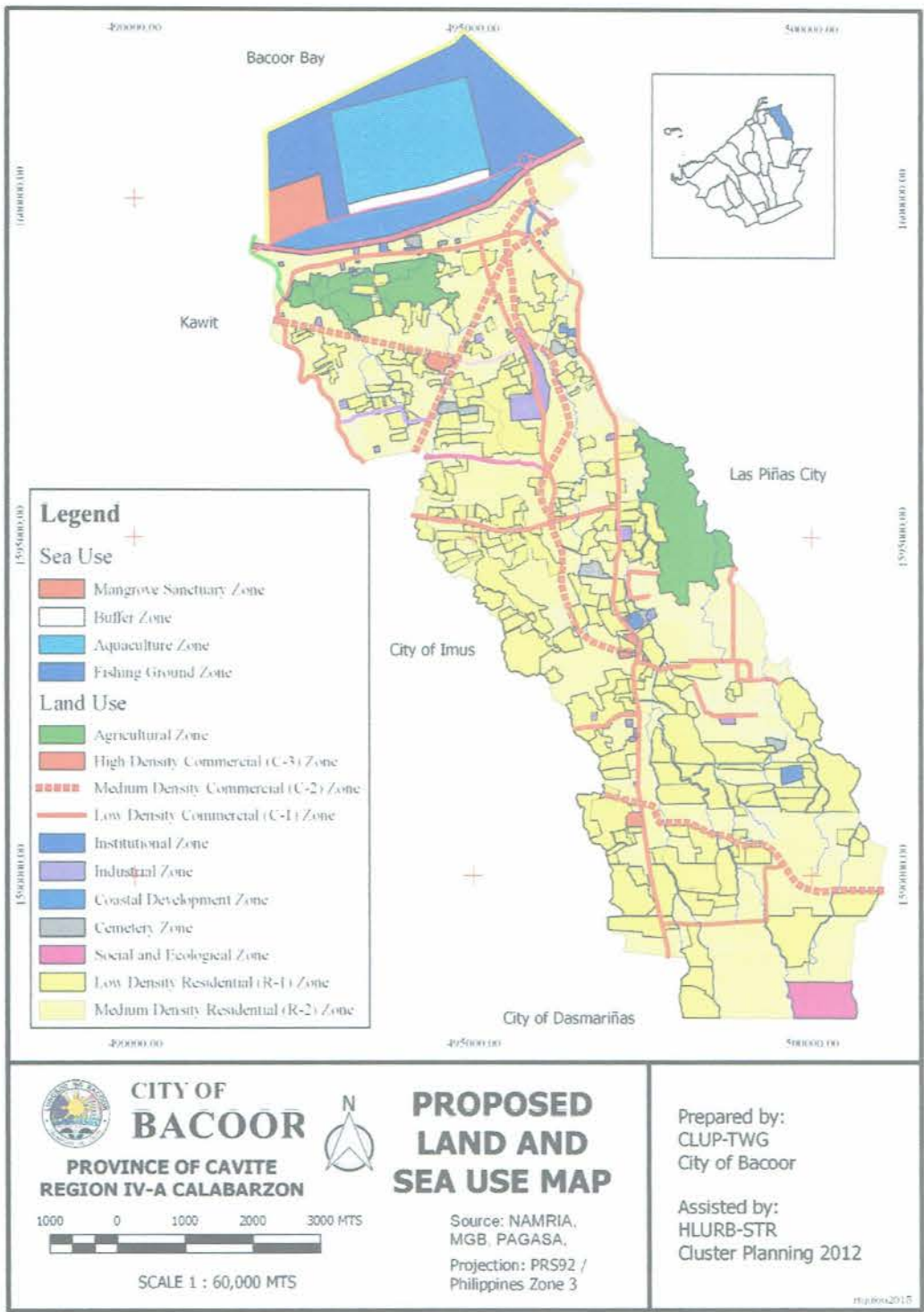
The Comprehensive Land Use Plan Map ("Land Use Map") is prepared using the different land use categories that were defined in Chapter 6. Design guidelines in Chapter 7 prescribe detailed criteria for the desired form, function, appearance, design, and layout of these land use elements. Although the Map may show sharply delineation between boundaries of different land uses, these boundaries are envisioned to be gradual in transition with sufficient buffer.

This Land Use Map has five key features that distinguish it from past Plans. First, the intensification of use or promoting "vertical development" is the most concrete difference. Second, the municipal water is deliberately included in the map to embrace "comprehensiveness" of the Plan, and as part of the R2R Framework of planning. This is also to consider reclaiming the "interior" municipal waters, that is, the municipal water bounded by the Manila Cavite Expressway towards the shore. This is the anchor of the "Coastal Development and Management Area". Third, the Poblacion Area or "Old Bacoor" is designated as the "Urban Redevelopment and Heritage Preservation Area". This area shall be the anchor of barangay activity clusters, whereby the government would promote focused business activities utilizing the historical and ecological resources of the area. Fourth, the new Bacoor Government Center is the anchor of the "New Urban and Commercial District" to spur development in this sparsely populated area, and depressurize development in the Poblacion Area. Lastly, the southern portion is designated as the "Urban Expansion Area" with a special ecological development zone for the proposed waste-to-energy project, as well as the columbarium with crematorium project that highlights "vertical development" with scenic memorial park; integrated with these is medium rise buildings for housing.

Map 24 presents the Comprehensive Land Use Map. The schematic descriptions of the five features are shown in Map 25.

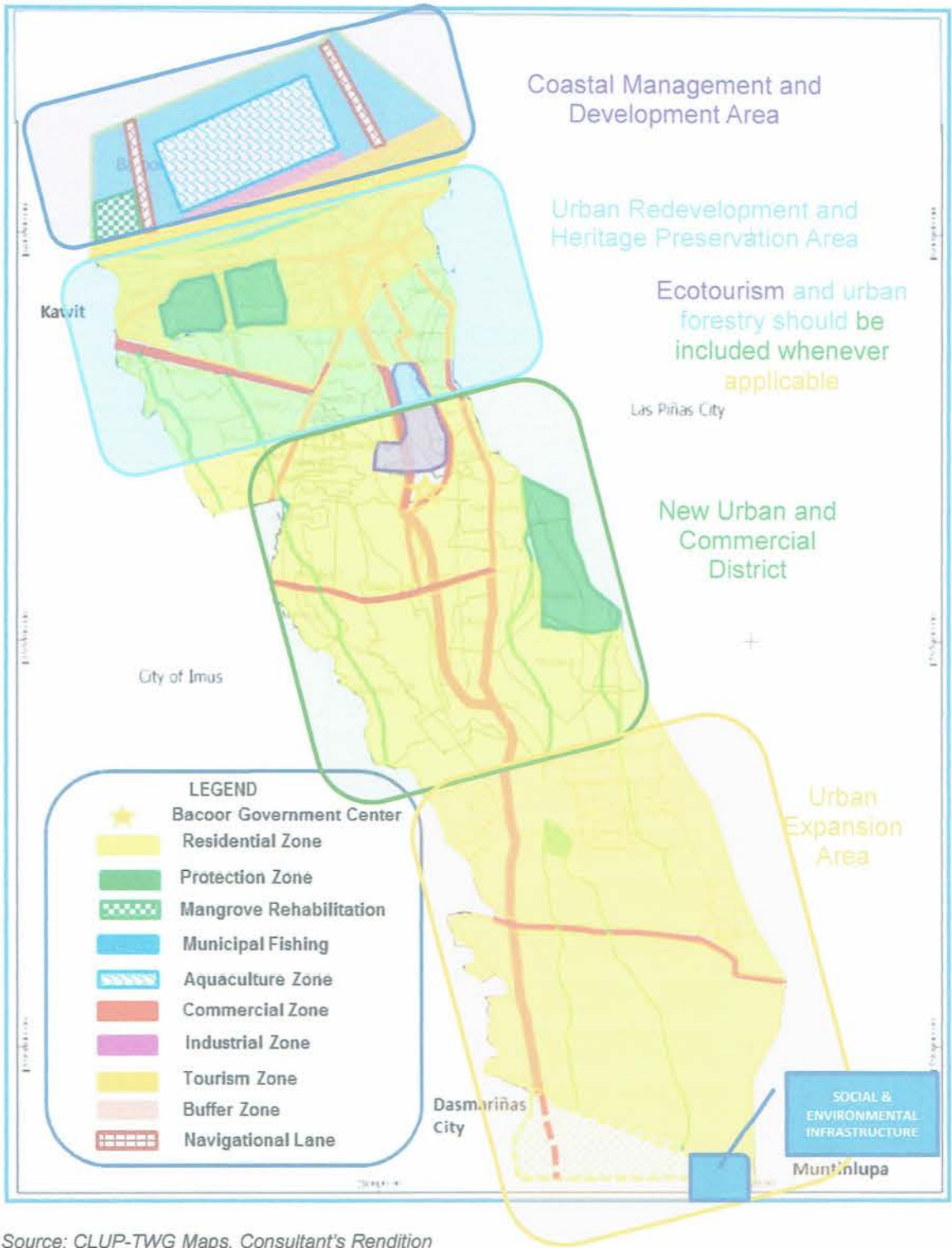


Map 24. Proposed Comprehensive Land Use Map



Source: CLUP-TWG

Map 25. Key Features of Comprehensive Land Use Map



Source: CLUP-TWG Maps, Consultant's Rendition

8.2. Higher Density Developments

By the tail-end of this Plan in 2024, the population of and households in Bacoor City has doubled the 2010 Census figures. It is imperative to build vertically to accommodate the growing population. For this Plan and Land Use Map, the residential and commercial zones are sub-divided into low-density, medium-density, and high-density zones. The detailed allowable uses are described in the next chapter. Even institutional facilities such as public schools, buildings and hospitals, the city government should embark on building vertically.

8.3. Coastal Development and Management Area

This CLUP is pioneering in Cavite Province due to its integration of the water resources in the planning area. More importantly, the 957-hectare sea area of Bacoor City needs to be zoned and managed more adequately to mitigate conflicting uses, address the informal settler concerns, and map out for a better coastal development for the city. This CLUP recommends the reclamation of the 90-hectare “interior municipal waters” since this is already physically bounded by the Manila Cavite Expressway, and has been provisionally approved by the Department of Environment and Natural Resources.

In most cases, it is the private sector that finances reclamation projects, even with the medium-scale area of the interior municipal waters when compared to the hundreds of hectares reclaimed in Parañaque and Pasay Cities. It is recommended that a public bidding may be conducted to pursue this reclamation project. More importantly, while the public sector will embark on the project, the city government should designate social infrastructures in the reclaimed area for the public.

8.4. Urban Redevelopment and Heritage Preservation Area

The Poblacion Area typifies the “Old Bacoor” and is densely populated. Since Bacoor is more than 300 years old, some areas around the Poblacion require redevelopment and enforcement of easements. On the other hand, the positive aspect of being “old” is the presence of heritage sites and economic activities such as the Digman Halo-halo and



Sineguelasan Seafood Terminal that may be utilized to “level up” the offering of Bacoor experience. Coupled with the preservation of historical sites, barangays in the Poblacion area may maximize tourism development. Tourism plan is also instructive to achieve this.

8.5. New Urban and Commercial District

The relocation of the city hall to Barangay Bayanan dictates the preferred urban model of developing a new central node. The Bacoor Government Center would undoubtedly spur development along Molino Boulevard and the sparsely populated surrounding the site. Thus, guiding the development in this new center may mitigate planning lapses such as ingress-and-egress, road easements, parking facilities, and compatibility of institutional-commercial and residential uses with sufficient buffer zones.

While the city government would want to limit the height limit of buildings immediately surrounding the government buildings, commercial developments and vertical building projects may be encouraged to establish the new commercial district.

8.6. Urban Expansion Area

The southern portion of Bacoor City is the less populated area and covers the most area of idle grasslands. While there are a number of high-end subdivision developments, the city government needs to act decisively in acquiring lands for public use. In the next 10 years, and with the development of the new commercial district surrounding the BGC, land prices in this urban expansion area would increase.

For this reason, the city government should prioritize acquiring the surroundings of the former dumpsite in Green Valley, primarily to ensure that the abandoned dumpsite is properly controlled, and to convert it into a waste-to-energy project site. In addition, ancillary and support facilities may be integrated, such as socialized housing, social infrastructures and even public cemetery.

Private sector development such as the proposed columbarium with crematorium should also be encouraged. This is a positive blending of “vertical development” of the columbarium, surrounded by landscaped memorial park.



Overall, the key element promoted by this Plan and Map is the introduction of buffer zones highlighted by trees and greens. As highlighted in the Land Use Map, urban forestry should be encouraged whenever applicable. This will ensure that the nine land use category plus the municipal waters would have harmonious transition that would minimize conflict.



9. COMPREHENSIVE DEVELOPMENT PLAN

The Local Government Code (Section 20) mandates LGUs to prepare a comprehensive land use plan (CLUP) that would lead to a zoning ordinance, while Sections 106 and 109 of the same Code mandate the LGUs to prepare comprehensive multi-sectoral development plans or comprehensive development plan (CDP) and public investment programs. Thus, the Code requires LGUs to prepare two plans: the CLUP and the CDP.

For local plans to be truly comprehensive, the CLUP covers the entire LGU territorial jurisdiction, both land and water; and the CDP embraces all development sectors and sub-sectors, including the concerns of each, area, sectoral or thematic and systems plans. In this Plan, the CLUP is "enhanced" to integrate the water and sea use plan to fully cover the entire territorial jurisdiction.

The "comprehensive" in this CDP shall cover all the major sectors. These are: (1) Social Sector; (2) Economic Sector; (3) Environmental Sector; (4) Institutional Sector; and (5) Physical / Infrastructure Sector. While the CLUP is more "physical or spatial" in nature, the CDP is more sectoral in approach. In addition, the CLUP needs to be reviewed by the Provincial Land Use Committee (PLUC) as stated in the Local Government Code [Sec. 468 (a) (2) (vii)], but the Comprehensive Development Plan does not require provincial review and approval.

At the city level, the Executive and Legislative Agenda (ELA) is a planning document mutually developed by both the executive and legislative departments, usually covering a 3-year period corresponding to the term of the elected officials. The ELA is not meant to replace or duplicate existing planning systems in LGUs. The ELA is an implementing tool of both CLUP and CDP. It is ideal that the ELA reflects the priorities of the CLUP and CDP, especially for the "hard or infrastructure projects."

For this Plan, the CLUP covers a 10-year period and the CDP covers a five-year period. Subsequent ELA and Priority Investment Plans are envisioned to reflect the policy recommendations of the CLUP and CDP.



9.1. Social Sector

9.1.1. Housing

Objectives

- 1) To improve the quality of housing in the city in the face of climate change and to provide socialized housing to the underprivileged;
- 2) To eliminate households with no toilets/septic tanks;
- 3) To provide amenities to the increasing households.

Policies and Strategy

- 1) Comprehensive housing package should be made available to residents with substandard housing so that they can modify their houses;
- 2) Improvement of existing blighted areas whenever possible;
- 3) Suitable land and water policy is needed to control indiscriminate housing in areas that are costly to the city in general;
- 4) Strict implementation of housing standards.

Programs and Projects

- 1) Low-cost and socialized housing projects for the underprivileged families;
- 2) Toilet campaign to have each house in the city be equipped with sanitary toilets; advocacy groups and the private sector may be mobilized to assist in this campaign;
- 3) Financing packages for existing families through PAG-IBIG to improve the conditions of their houses, whenever applicable, the city government may embark on Community Mortgage Programs;
- 4) Creation of more recreational facilities such as parks and playgrounds; the easements on river banks may be used for these purposes.

9.1.2. Health

Objectives

- 1) To improve morbidity rate of the population;
- 2) To improve mortality rate of the population;
- 3) To improve nutritional status of the population.

Policies and Strategy

- 1) Improve provision and utilization of accessible, appropriate, and adequate basic health, nutrition, and Family Planning services, especially to the poor, unserved, underserved, and high risk groups.
- 2) Encourage local medicinal resources and technology;
- 3) Vigorous implementation of preventive and promotive health and nutrition measures;
- 4) Improve regulation of environmental sanitation and occupational safety.
- 5) Strengthen and intensify manpower development of health workers and volunteers.



Programs and Projects

- 1) Additional barangay health stations to expand primary health care;
- 2) More medical personnel especially nurses, doctors and dentists;
- 3) Control of communicable diseases;
- 4) Food assistance program for children of poverty-stricken families;
- 5) Health information campaign.

9.1.3. Education

Objectives

- 1) To increase educational performance;
- 2) To increase access of disadvantaged groups in all educational areas;
- 3) To develop a core of manpower that are skilled in creating viable opportunities inside and outside of the city;
- 4) To raise the level of awareness of students in the historical and cultural heritage of the city and its various development challenges and opportunities.

Policies and Strategy

- 1) Improvement of the quality and relevance of education training in the schools, especially the public school system;
- 2) Equitable access to education training and opportunities;
- 3) Intensify of values education, especially in protecting the natural and historical assets of the city;
- 4) Promotion of entrepreneurial education and training;
- 5) Increase emphasis on science and environment education given the cities coastal and water resources.
- 6) Functional linkages and collaboration between formal and non-formal education and training institutions.

Programs and Projects

- 1) Curriculum development project.
- 2) Additional classrooms and teachers in elementary and high school levels;
- 3) Technical/vocational education project;
- 4) School nutrition program;
- 5) Build new school buildings and repair the old ones, whenever applicable, encourage three or four storey buildings;
- 6) Training for advanced and appropriate technology, and strive to link with the economic strategies of the city.

9.1.4. Social Services

Objectives

- 1) To uplift the living conditions of disadvantaged and underprivileged communities;
- 2) To steadily increase the quality of life of the residents.



Policies and Strategy

- 1) Development and utilization of indigenous resources;
- 2) Greater participation of the private sector;
- 3) Promotion of community-based livelihood, coastal and river system management;
- 4) Provide essential services to poor and underprivileged families;
- 5) Strengthen community structures for crime-prevention;
- 6) Upgrade and expansion of day care centers;
- 7) Protect and uphold women's rights.

Programs and Projects

- 1) Community welfare program services.
- 2) Outreach and consultation with the poor and underprivileged families;
- 3) Community-based livelihood programs.

9.1.5. Sports and Culture Development

Objectives

- 1) To uplift quality of life and health of residents by promoting sports and cultural activities;
- 2) Diversify sports and culture exposure apart from the traditional basketball and school-based events.

Policies and Strategy

- 1) Intensify sports and culture integration in the schools;
- 2) Encourage non-school based sports and culture activities;
- 3) Link sports and culture events with eco-tourism.

Programs and Projects

- 1) Regular sports and culture events;
- 2) Build sports and cultural complex;
- 3) Integrate sports and cultural events with historical tour packages.

9.1.6. Protective Services

Objectives

- 1) To keep the protective services abreast with the population growth and urbanization;
- 2) To steadily increase the quantity and quality of the protective forces to reflect the DILG standards;
- 3) To sustain the disaster risk reduction capability of the City;
- 4) To encourage force multipliers through the barangays, communities and private volunteers.



Policies and Strategy

- 1) Proactive capability development of the protective forces;
- 2) Close coordination with the national and provincial agencies involved in protective services;
- 3) Engage the barangays, communities and private volunteers to reinforce the different protective forces;
- 4) Focus on prevention and preparedness.

Programs and Projects

- 1) Sustain police mobility and visibility;
- 2) Encourage the Barangay Intelligence Network;
- 3) Conduct community-based preparedness programs to build on the "Ugnayan" with the barangays.

9.2. Economic Sector

9.2.1. Agriculture and Fisheries

Objectives

- 1) To increase productivity of existing agricultural and fisheries production;
- 2) To enhance the income of residents undertaking agriculture and fisheries;
- 3) To create/increase agri-based/fishery-based employment opportunities among the population, especially the underprivileged;
- 4) To improve delivery system for agricultural/aquaculture inputs and services;
- 5) To encourage the establishment of cooperatives among the farmers and fisherfolks.

Policies and Strategy

- 1) Encouraging the efficient use of land by releasing marginal agricultural land for urban development while maintaining those land that are productive;
- 2) Promoting crop rotation and crop diversification, especially organic and high value crops;
- 3) Improving farm technology and lowering the costs of inputs;
- 4) Protecting the long-term sustainability of agriculture;
- 5) Enhance the productivity of the aquaculture;
- 6) Ensuring credit accessibility to the farming and fishery sectors;
- 7) Strengthening farmers' and fisherfolks organizations, whenever applicable, promote the creation of cooperatives.
- 8) Improve the tenancy system for existing farmlands;
- 9) Link the agriculture and aquaculture produce to the other sectors of the economy, especially tourism;
- 10) Improve the public market as a viable source of food and entrepreneurial activities for the residents of Bacoor.



Programs and Projects

- 1) Technical assistance to farmers and fisherfolks;
- 2) Entrepreneurial and managerial assistance to farmers and fisherfolks;
- 3) Credit assistance to farmers and fisherfolks.

9.2.2. Industry

Objectives

- 1) Improving linkages of industry with the agricultural, fishery, trade, commerce and tourism sectors of the city;
- 2) Promoting labor-intensive micro, cottage, small, and medium enterprises, such as embroidery in the one-town-one-product program;
- 3) Developing and promoting world-competitive products;
- 4) Encouraging outside investors to invest in the city;
- 5) Incentivizing local entrepreneurs to invest in the city.

Policies and Strategy

- 1) To increase the number of manufacturing firms in the area that will employ the residents of Bacoar through fiscal incentives, especially for the non-pollutive manufacturing;
- 2) To encourage large manufacturing/storage companies to locate in the Niog industrial area where firms are already present;
- 3) To encourage the development of export-oriented firms in products such as garments, food processing, and others where there are firms already operating in the city;
- 4) To strengthen the local chamber of commerce and industry and institutional support to industry.

Programs and Projects

- 1) Product development seminars;
- 2) Fast processing of business permits;
- 3) Trade fairs and exhibits;
- 4) Credit financing for micro, cottage and small entrepreneurs;
- 5) Export information and product assistance program;
- 6) Encourage local malls to promote local products.

9.2.3. Commerce and Trade

Objectives

- 1) To make available additional areas for commercial expansion;
- 2) To promote in each barangay different types of commercial establishments appropriate to the demographics;
- 3) To encourage more service-oriented firms to locate in the area

Policies and Strategy

- 1) Enlarge areas for commercial activities in view of the growing population of the city through zoning and better infrastructures;
- 2) Encourage outside investors to invest in city's commercial sector.



Programs and Projects

- 1) Fiscal Incentives to new investors in commerce and trade;
- 2) Zoning to prevent the indiscriminate proliferation of commercial establishments.

9.2.4. Tourism

Objectives

- 1) Enhance the tourism potentials of the city's historical and cultural assets;
- 2) To enlarge the number of tourist-oriented establishments, especially those relating to culture and sports;
- 3) Vertically integrate agriculture, fishery, trade and industry with tourism.

Policies and Strategy

- 1) Prepare and promote the tourism development plan;
- 2) Technical (and if possible financial) assistance from the Department of Tourism and National Historical Commission of the Philippines;
- 3) Target of both domestic and foreign tourists; special emphasis on attracting Metro Manilans on regular basis.

Programs and Projects

- 1) Link existing historical/tourism sites with existing lodging/restaurant facilities;
- 2) Information campaign through brochures and linkage with tourism agencies/organizations; if possible, create tour packages with Intramuros, Rizal Park, Kawit, Cavite City, Corregidor, and other national historical sites.

9.3. Environmental Sector

9.3.1. Solid Waste

Objectives

- a) To reduce the generation of waste at the source;
- b) To increase the efficiency of the city's garbage collection system, at the community, barangay, and city levels;
- c) To look for an alternative controlled dump within the city, and integrate composting and waste-to-energy facility;
- d) To curb the undesirable practice of dumping waste into the rivers, waterways and Manila Bay.

Policies and Strategy

- a) Monitor the efficiency of garbage collection, and increase the number of trucks whenever necessary.
- b) Conduct technical/feasibility studies for the construction of controlled dumpsite and waste-to-energy facility.



- c) Conduct periodic information, education, communication and motivation campaigns on the proper disposal of solid and liquid wastes as well as on other ecologically sound means of dealing with waste.
- d) Penalize littering and indiscriminate dumping of waste in public places, canals, waterways, rivers, and Manila Bay.

Programs and Projects

- a) Feasibility study on the construction of controlled dumpsite and/or waste to energy facility within the city;
- b) Based on the feasibility of the controlled dumpsite, after its life cycle, the site may be converted into a golf driving range or a small golf course;
- c) Increase the capability at the barangay level to do composting, material recovery, and collecting of residual solid wastes.

9.3.2. Water Resources and Wastewater

Objectives

- 1) To protect and enhance the city's rich water resources;
- 2) To minimize pollution in water channels and in agricultural areas that can contaminate water-bearing aquifers;
- 3) To coordinate with Maynilad to supply water for domestic and industrial and commercial uses, and to provide of sewer lines and sewerage treatment plant;
- 4) To reduce reliance on ground water and protect the aquifers;
- 5) To upgrade the septic tanks at the household level in compliance with the Supreme Court Mandamus;
- 6) To clearly designate and protect the water areas for fishery.

Policies and Strategy

- 1) Conduct periodic information, education, communication and motivation campaigns to minimize waste dumping into water bodies as well as the use of a geochemicals and fertilizers in farming;
- 2) Coordinate with Maynilad on the ground water protection and provision of clean water to the entire city;
- 3) In coordination with Maynilad, construction of sewer lines along major thorough-fares in order to catch waste discharge from septic tanks of residential, industrial and commercial areas;
- 4) Provide technical and financial support for the upgrading of septic tanks at the household level.

Programs and Projects

- 1) Monitor, coordinate and follow-up of water and sewer projects with Maynilad;
- 2) Regular information, education, communication and motivation campaigns;
- 3) Conduct technical and financial support for the upgrading of septic tanks at the household level;
- 4) Massive tree planting along the banks of the rivers and creeks.



9.3.3. Urban Forestry

Objectives

- 1) To promote a green and livable city;
- 2) To encourage at the barangay, community and household level on the benefits of trees in the face of rapid population growth;
- 3) To protect the remaining open spaces, and judicious allocation for urban uses.

Policies and Strategy

- 1) Enforce and monitor the city ordinance on tree planting;
- 2) Extend the responsibility of planting trees from the developers/homeowners to the households;
- 3) Incentivize households with many trees.

Programs and Projects

- 1) Regular monitoring of the city ordinance;
- 2) Evaluate giving tax incentives to households with many trees.

9.3.4. Air Quality

Objectives

- 1) To promote the awareness of protecting air quality;
- 2) To enforce anti-smoke belching;

Policies and Strategy

- 1) Conduct periodic information, education, communication and motivation campaigns to improve air quality and discourage use of air pollutants;
- 2) Conduct regular anti-smoke belching campaigns.

Programs and Projects

- 1) Joint efforts with DOTC on anti-smoke belching campaigns;
- 2) Joint efforts with DENR on air quality monitoring.

9.4. Institutional Sector

9.4.1. Local Finance

Objectives

- 1) To generate more income for the city;
- 2) To put more portion of the revenues in capital outlay;
- 3) To promote efficient and effective spending.



Policies and Strategy

- 1) Install tax-mapping to accelerate collection in real property taxes;
- 2) Modernize the collection system;
- 3) Encourage more businesses and investors in the area to generate more income.

Programs and Projects

- 1) Computerization of collection system, interfaced with geographical information system;
- 2) Explore ways where the city can borrow money/sell bonds for investments in public works and infrastructures;
- 3) Explore the benefits of the new tax code.

9.4.2. Public Administration

Objectives

- 1) Improve the efficiency and quality of service of local officials and civil servants;
- 2) To sustain responsiveness and pro-activeness of local officials;
- 3) Fill up the requisite positions in the city government.

Policies and Strategy

- 1) Continuous training of local officials and staff in planning, programming, budgeting, managing, monitoring, and evaluating of projects;
- 2) Continuous dialog with the constituents at various levels and promote multi-sectoral interactions.

Programs and Projects

- 1) Promotion computer usage and training of personnel;
- 2) Scholarship to advance institutions of key officials;
- 3) Incentive program for outstanding performance.

9.5. Physical / Infrastructure Sector

9.5.1. Land Transportation

Objectives

- 1) To improve the city's internal circulation system;
- 2) To collaborate with the national and provincial agencies to facilitate the "through traffic" thereby reducing congestion within the city and the passers-by.
- 3) To effect a balanced spatial development and integration of all sections of the city;
- 4) To regulate the entry of public vehicles into the city's transportation system;



- 5) To extend the road network into the city's expansion area in the southern portion;
- 6) To widen new roads and, on a long-term basis, to widen also existing narrow roads;
- 7) To integrate road, drainage and sewerage development;
- 8) To strictly enforce road easements and sidewalks.

Policies and Strategy

- 1) Improvement of the city's internal circulation system through interconnected road network that will encourage commerce and trade between barangays;
- 2) Facilitate the flow of through traffic.
- 3) Rationalization of the number and kind of vehicle participating in the city's public transportation system;
- 4) Development of the city's southern portion through the construction of penetration roads and integrate these roads with socio-civic infrastructures;
- 5) Improvement of existing roads in terms of street widening, paving and concreting as well as laying of drainage and sewerage pipes in coordination with Maynilad.

Programs and Projects

- 1) Separation of traffic in major roads in order to help ease congestion by allowing through traffic for motorists having no transaction in the city;
- 2) Widening of main roads such as Molino Road;
- 3) Provide easements for the construction of pedestrian lanes and the laying of drainage pipes;
- 4) Solidarity route;
- 5) Concreting or asphalt paving of existing gravel roads that will ease the flow of city traffic.

9.5.2. Power

Objectives

- 1) To steadily upgrade the existing power network to keep abreast with growing population and commerce;
- 2) To maintain close coordination with MERALCO;
- 3) To conduct regular information, education, and communication campaign in saving electricity.

Policies and Strategy

- 1) Rehabilitation of existing electrical distribution lines and posts that will minimize danger to houses and pedestrians.
- 2) Encourage augmentation of power supply from private sector to accommodate growing demand for power from industries, households and commercial establishments. As a way of attracting investors in the area, the identified industrial and commercial areas should be provided not only with a 220-volt line but also a 440-volt one.
- 3) Incentivize the waste-to-energy facility.



Programs and Projects

- 1) Regular coordination with MERALCO;
- 2) Feasibility study of the waste-to-energy facility;
- 3) Include conserving electricity in regular information, education, and communication campaigns.

9.5.3. Water

Objectives

- 1) To steadily upgrade the existing water and sewerage network to keep abreast with growing population and commerce;
- 2) To maintain close coordination with MAYNILAD;
- 3) To conduct regular information, education, and communication campaign in saving clean water and proper disposal of wastewater;
- 4) To fully comply with the Supreme Court mandamus on Manila Bay.

Policies and Strategy

- 1) Rehabilitate and expand the existing water distribution lines to fully cover the entire City, especially with the growing population and commerce;
- 2) Expand the existing sewerage facilities of the City;
- 3) Encourage water harvesting facilities.

Programs and Projects

- 1) Regular coordination with MAYNILAD;
- 2) Include conserving clean water and proper disposal of wastewater in regular information, education, and communication campaigns



10. IMPLEMENTATION OF THE PLANS

The implementation of the Comprehensive Land Use Plan and Comprehensive Development Plan would eventually require adequate staff, both administrative and technical supports from the concerned departments of the City Government. The main implementing tool of the CLUP is a new Zoning Ordinance. Prior to implementation, the CLUP needs to be adopted by the City Council, reviewed by the Provincial Land Use Committee, and approved by the Sangguniang Panlalawigan.

The City Planning and Development Office is the lead department in implementing the CLUP with the guidance of the Sangguniang Panlungsod and City Development Council.

The implementation of the Comprehensive Development Plan can be reflected in Executive-Legislative Agenda and the annual priority investment programs with corresponding budgetary allotment.

Typically, the “hard” infrastructure projects require multiple-year budgetary allotment or perhaps even involvement of the private sector. Apart from the usual hard projects like roads, flyovers, and public buildings, special care is necessary in implementing the proposed 90-hectare reclamation intended for public and commercial uses in coastal area of the City, and the social and environmental infrastructure projects south of the City for the planned solid waste facility that would include controlled dumpsite, composting area, and waste-to-energy facility; public cemetery; and city jail. The implementation of these planned major projects may be facilitated with the help of the private sector. Thus, the internal revenues of the City may be devoted to other public infrastructures and services.

Ultimately, the city government led by the mayor, vice-mayor and city council, and with the collaboration of the honorable congresswoman, would have to take a hard look at the various programs and projects identified in the Comprehensive Development Plan. These programs and projects are numerous so the elected officials have to prioritize the immediate needs of the City's constituents.



In addition, the city government should invest in upgrading the skills of the personnel of the City Planning and Development Office as well as in geographic information system (GIS) software to implement, monitor and evaluate this Plan. A full-fledged Zoning Officer is necessary to fully appreciate and implement the new policies and guidelines in this Comprehensive Land Use Plan.

More importantly, monitoring review and evaluation system should be put in place. The detailed breakdown of goals in Chapter 5 is a good start in coming up with benchmark indicators. The City Government should create an Oversight Committee with a strong linkage with the relevant committee(s) in the Sanggunian Panlungsod.

Last but not the least, residents and various sectoral constituents should be mobilized and empowered to participate in the implementation, monitoring and evaluation of this Comprehensive Land Use Plan.

*** END ***

