



**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 3

SECTORAL STUDIES



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)



Pabagay

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 niyo ng kahit kaunting pagkilala at pasasalamat ang lahat ng mga may kinalaman sa pagbalangkas ng *CLUP* at *CDP* nanabanggit. Utang po natin sa kanila ang maayos na kinabukas ang 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



Acknowledgments

This seminal work was made possible by the combined efforts of the following:

Hon. Strike B. Revilla (City Mayor, 2007-2016)

Hon. Lani Mercado-Revilla (Representative, 2nd Dist. of Cavite)

Hon. Catherine S. Evaristo (City Vice Mayor, 2013-2016)

Mrs. Rosette M. Fernando (former Bacoor, Cavite Vice Mayor, 2007-2013)

The members of the Sangguniang Bayan and of the Sangguniang Panlungsod (2010-2013, 2013-2016)

Atty. Khalid A. Atega Jr. (SP Secretary)

Engr. Jesus Francisco (City Planning and Development Officer)

Mr. Richard Quion (City Disaster Risk Reduction and Management Officer)

The employees of the City Planning and Development Office, of the Office of the Sangguniang Panlungsod and of the Office of the City Vice Mayor

Mr. Jose Romark Salas

Mrs. Mary Ann Medina-Cue



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, Dasmarinas, and Imus, and the Municipalities of Carmona, Kawit, Gen. Mariano Alvarez, and Noveleta. Dasmarinas 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, Dasmarinas 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 Dasmarinas and



Itus, 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: **Business-friendly, environment-protective and disaster-resilient city sustained by God-centered and responsible citizenry.** In addition, the City has a two-pronged Mission: (1) To institute good governance reforms that will promote trade and investment in the city; and (2) To harness modern technology harmonious to sound environment and accountable citizenry.

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.



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Annex 1. Projected Population Per Barangay Based on 2010 Census

Annex 2. Projected Number of Households Per Barangay Based on 2010 Census



SECTORAL AND SPECIAL AREA STUDIES

This Volume 3 of the Comprehensive Land Use Plan or "CLUP" for 2015-2024 elaborates on the Sectoral and Special Area Studies. Land supply is generally considered finite and limited, and comprehensive analysis of the demand for land is important in the preparation of the Plan. As discussed in the previous two Volumes of the CLUP, Bacoor City has "municipal waters" estimated to almost 1,000 hectares. This may present some opportunities in addressing the future needs of the City. Volume 1 presents the CLUP, including the Comprehensive Development Plan for 2015-2020, as well as a city-wide Design Guidelines. Volume 2 offers the Zoning Ordinance and its bases for preparation.

At any rate, the most important consideration in the allocation of land is based on the demand of the various sectors. In the Philippines, sectoral analysis is part and parcel of the planning process. This chapter 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.

1. SOCIAL SECTOR

Based on the review of pertinent data, the social sector is the biggest driver of demand for land. This is especially true with the rapid population growth of Bacoor City. This section shall focus on demography and other population indicators, then, various social infrastructure and services shall be discussed. Citation on the absence of ancestral land/domain claims is also noted.

1.1. Demography

Demography is concerned with the collection and analysis of data relating to population indicators and interpretation of these data against social, biological, economic, political, geographical, ecological, and historical background. It is imperative that both population processes and population outcomes be taken into considerations to provide a comprehensive profile of the planning area.



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 226,485.

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.

1.2. Patterns of Settlement

The physical impact of the growing population would translate to more housing requirements. As discussed in the previous chapter, the 468 subdivisions cover a land area of almost 2,536 hectares. The total residential areas occupy 4,511 hectares of land, which means 1,975 hectares of settlements are outside the gated and/or new subdivision developments.

Another major consideration in the settlements pattern is the presence of 7,463 informal settler families. 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. This number would continue to grow unless the city embarks on an effective resettlement housing program.

Based on the projected number of households explained above (Annex 2), 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 is needed 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.

1.3. Ancestral Land/Domain Claims

The newly released HLURB CLUP Guidebook requires local government units to declare if there are claims of ancestral lands or ancestral domains by certain indigenous people or indigenous cultural communities. City officials confirmed that there are no such claims in the City of Bacoor, considering the city has been founded and populated by lowlanders for more than 300 years.

1.4. Education

Within 10 years, the projected demand for classrooms is 850 additional rooms for the elementary level while 482 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” use of urban lands. It is common that urban barangays would want their own barangay elementary and high school buildings. The city government of Bacoor should encourage multi-storey school buildings instead of investing in acquiring new lands, and building in existing school sites.

For the private schools the city government should also encourage denser 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.



1.5. 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; and perhaps incentivized.

1.6. 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%.

1.7. 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.



1.3. Protective Services

The Bacoor Police Force received the Best Police Station Award for PRO CALABARZON in 2011. The collective effort of the men and women of the Bacoor Police Force earned for itself the respect of its constituency, and has greatly enhanced the image of the Bacoor Police as the people's servant and protector. Mobilizing the cooperation and support of the community and the city, the police force has been embarking on its crime prevention program. Not resting on the laurels of its past achievements, the present leadership continues to institute changes, not only in the physical appearance of its offices, but emphasizes enhancement of the attitude and skills development of its members.

To this end, a number of programs has been undertaken to enhance the capability of the Police Force in its unrelenting war against crime. Among the programs are the following: intensification of a beat patrol system, effective monitoring and intelligence gathering efforts of the established Barangay Intelligence Networks (BINs), which is a citizen police concept, the enhancement of the Women's Desk by recommending female police investigators for appropriate training courses and seminars on the proper investigation of RA 7610 and RA 9262 matters and intensified campaign against loose firearms, illegal drugs and illegal gambling.

To cultivate and foster the continuing support and cooperation of the populace, "Ugnayan" and dialogues are regularly conducted to afford a venue for the community leaders to air their views towards the maintenance of peace and order in their respective constituencies.

Intensified police visibility efforts focusing on vital economics and populous areas where ceaseless economic activities transpire and movements of the people have remarkably reduced the incidence of crimes to a manageable level. These efforts have also contributed to establish a closer link among community leaders, officials, families and other progressive associations in the barangay level that eventually address and prevent crimes at lowest institutional level as possible.

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 Headquarters.

At present, the 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, there are 17 fire fighters in city with seven fire trucks at present. This is well below the 300 firemen 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 a team of 18-personnel dedicated for disaster preparedness and risk reduction. Information dissemination and community empowerment have been the twin strategy in achieving a high level of preparedness and reduce level of risks for the City of Bacoor.

1.9. 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 has a Sports Development Office envisioned to develop and implement sports development program 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 one gymnasium. Meanwhile, there are also other facilities such as parks, while six playgrounds are found in the municipality. Basketball courts are perhaps the most popular among these facilities, evident with every barangay having 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 the "big-spender" Metro Manila residents.

2. ECONOMIC SECTOR

2.1. - Agriculture and Fisheries

The City of Bacoor, being a lowland area, rice and vegetables are the main crops in the area. 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 according to the CLUP-TWG. The city government has been distributing cavans of certified and good seeds. The city has established the Farm Demo on Vegetable and distributed seeds of leafy vegetables and fruit vegetables. In addition, farmers have been regularly supported, technical and financial wise.

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.

2.2. Industry

The City of Bacoor has 50 registered industrial establishments where 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 in 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 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 salaba 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.

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 Nlog III.

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 Archanghel* 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 Sinaguelasan 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 Fiesta.

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.



Bacoor's Role in Cavite Tourism

The City of Bacoor, being the primary gateway of the province of Cavite to Metro Manila, looms of potential in attracting visitors from the country's capital region. With urban agglomeration continuously moving southward of the metropolis, more and more people get to discover Bacoor, and it is only imperative that Bacoor focus on developing its primary tourism supply elements to meet the imminent rise in tourism demand.

Bacoor's existing tourist attractions are all either historical or religious in nature, and it can be noted that these attractions are situated in the northern parts of the city, which can be considered as Bacoor's old town or heritage district. The city's potential tourist attractions, meanwhile, are all recreational in nature and can be found in the southern parts of the city, with the exception of one along the northeastern coastline. As the conversion of lands into commercial and residential use continues southward Bacoor, these potential attractions might face a future threat.

The Bacoor Heritage District

Since most historical and religious attractions are clustered together in the northern part of the city, the area can be developed into the Bacoor Heritage District. It shall help preserve Bacoor's local tradition and historical identity amid the continued modern changes taking place southwards, which leaves the northern barangays at risk of urban decay.

Given Bacoor's rich and colorful past, as well as significant role it has played during the Philippine Revolution, it is more than necessary to assert the importance of preserving and promoting its heritage – something that not all municipalities/cities in the country have.

Popular examples of well-preserved districts in the country can be found in Intramuros (Manila) and Vigan (Ilocos Sur). Similar examples can also be found in Taal (Batangas) and Sariaya (Quezon).



The following barangays can be incorporated into the Bacoor Heritage District:

- Zapote 1-4
- Talaba 1-7
- Maliksi 1-3
- Kaingin
- Digman
- Tabing Dagat
- Camposanto
- Alima

The process of converting the aforementioned areas into a heritage district can start off by identifying potential additional heritage attractions, examples of which are:

- Churches
- Museums
- Ancestral houses
- Monuments and landmarks
- Plazas, parks and other open spaces
- Local restaurants and shops
- Other sites and structures of historical, religious and cultural value

Preservation efforts through consultation with concerned stakeholders can then take place. Once the proposal becomes positively received by all parties, a feasibility study and eventually a full-scale tourism master plan can be conceptualized and implemented in partnership with other government agencies such as the National Historical Commission of the Philippines (NHCP) and Tourism Infrastructure and Enterprise Zone Authority (TIEZA).

The Molino Dam and Molino Eco Park

The Molino Dam can be developed into a recreational destination by providing facilities for water activities such as boating and fishing to visitors. It can be noted that the area is currently a popular fishing ground, and this potential has to be tapped.



Examples of dams and reservoirs which have become popular recreational attractions includes La Mesa Eco Park (Quezon City) and the Caliraya Resort Club (Laguna), both of which position themselves as destinations providing holistic activities to visitors.

However, the high density of residents surrounding the immediate reservoir area poses a major threat to any form of future tourism development. The quality of the water in the reservoir has to be improved as well as to make it more visitor-friendly since it is its main resource in the first place.

The Molino Eco Park, on the other hand, has to undergo regular maintenance to make sure that the quality of the recreational facilities that it offers does not decline. More aggressive promotional efforts have to be undertaken as well to encourage non-residents to also visit the area.

These two sites must maintain their current use and have their existing facilities upgraded to maximize their tourism potential, notwithstanding the ongoing southward commercial and residential development in the city.

The Bacoor Bayfront

The Sinaguelasan Seafood Terminal can be developed into a recreational destination similar to the former Baywalk (Manila) and the Fisherman's Wharf (San Francisco, USA), by providing facilities for dining and waste activities such as boating and fishing.

Since talaba and tahong are its primary products, restaurants and food establishments should have fresh seafood in its main menu, similar to popular dampa establishments found in Metro Manila. The strip of establishments have to be restricted to the area around the lagoon (the part of the bay closed off by the Cavite) only, so as not to disrupt the fishing activities of the locals.

Boating and fishing activities can be conducted inside the lagoon, while a boardwalk along the Cavite can also be constructed for leisurely activities such as walking and jogging.



Similar to the Molino Dam, however, the high density of informal settlers surrounding the immediate lagoon area poses a major threat to any form of future tourism development. The quality of water in the lagoon is an even bigger problem, and it has to be cleaned up so as not to turn potential investors and visitors away.

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 linked 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 things up.

3. ENVIRONMENTAL ISSUES

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 to 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.

3.2. Water Quality and Wastewater

A total of 87,811 households or 95% of all households have sanitary toilet facilities according to the CLUP-TWG. Table 1 shows the breakdown.

Table 1. Type of Toilet Facility

Type of Toilet Facility	No. of Household
Water sealed flush to sewerage system/septic tank - own use	79,804
Water sealed flush to sewerage system/septic tank - shared with other household	7,815
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 management of 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 park 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 Paranaque 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 in-migration, 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 Diaz, St. Ezequiel. 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, where only three people of those who died did not receive the last rite. St. Ezequiel 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 honorable 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 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.

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.

3.4. Projected Impacts of Climate Change

Being a coastal locality, the City of Bacoor factored in the rising water level in the preparation of this Comprehensive Land Use Plan. Considering, too, the extensive river and creek system of the city, the mandatory three-meter easement on riverbanks, at least, and the promotion of urban forestry are two strategies in adapting to the impacts of climate change, and in promoting carbon sink.

Clearing the coastal and river areas as well as resettling the informal settlers who may be living in these areas is another way of reducing the impact of rising water level and stronger typhoons. The promotion of green buildings and designs, coupled with fiscal and administrative incentives, is also a deliberate preparation to the impacts of climate change.



It is instructive to continue to monitor and study the impact of climate change not only at the city level, but also at the barangay and community level, as well as at the various sectoral levels.

3.5. Disaster Risk Reduction Management

As mandate by the newly released HLURB CLUP Guidebook 2013, the preparation of CLUP included the analysis of various potential disasters in the City of Bacoor. In terms of the "Big One", or the projected earthquake with a magnitude higher than 7, 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) 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, which can also lead to liquefaction.

Based on the Maps 5 to 10 of Volume 1, various geo-hazards like ground shaking, liquefaction hazards, storm surge (based on one-meter simulation), tsunami (based on four-meter simulation), flood hazard, and rain-induced landslide were factored in the preparation of this CLUP, CPD, the attendant Zoning Ordinance, and even a city-level Design Guidelines.

4. INFRASTRUCTURE SECTOR

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 municipality; 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.

4.2. 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 municipality. The Camona and Dasmarinas power grids supply power to the different barangays of Bacoor.

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. Postal Service

The city has one main postal office located in the city hall, 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.

4.5. 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.

Infrastructure developments should embody the aspirations of the CLUP. The draft CLUP extensively discussed the priority developments, namely:

1. Redevelopment of the Government Center
2. The New Municipal Hall and Civic Center
3. Proposed Bayfront Reclamation Development
4. Imus and Zapote Rivers
5. Molino Dam
6. Prinza
7. Entry Markers

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.

5. INSTITUTIONAL AND LEGAL FRAMEWORK

The City Government should prepare the organizational and technical capacity of its staff 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 national government and private sector. Approaches for resource mobilization should be undertaken to attract private sector investment in the City.

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%. Annex 1 presents the detailed population growth per barangay. 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 2. 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

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.

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.



6.3. Infrastructures/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.

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.

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.

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.



6.7. Agricultural Area Projections

Population growth and urbanization pressure would undoubtedly result to decrease in agricultural 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.

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.

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 21.62 hectares, the additional demand by 2024 is 10 hectares for the same rate scenarios, and 15 hectares for the aggressive scenario.

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 is used in Book 1 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.

*** END ***



ANNEXES

Annex 1. Projected Population Per Barangay Based on 2010 Census

Barangay	2010 Census	2011	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Barang Total	520,216	643,453	678,014	715,066	754,741	792,560	829,430	866,241	903,975	964,548	1,028,304	1,094,996
1 Almu	6,163	7,623	8,040	8,478	8,941	9,430	9,944	10,487	11,060	11,664	12,301	12,972
2 Arban I	3,283	4,051	4,283	4,516	4,763	5,023	5,297	5,587	5,882	6,213	6,563	6,940
3 Arban II	2,674	3,306	3,488	3,679	3,880	4,091	4,316	4,559	4,799	5,061	5,337	5,628
4 Arban III	859	1,063	1,121	1,182	1,245	1,314	1,386	1,463	1,542	1,625	1,714	1,808
5 Arban IV	2,031	2,512	2,649	2,794	2,947	3,108	3,277	3,456	3,645	3,944	4,064	4,275
6 Arban V	2,615	3,236	3,411	3,597	3,794	4,001	4,220	4,450	4,693	4,949	5,219	5,504
7 Barabo	2,737	3,386	3,570	3,765	3,971	4,189	4,416	4,657	4,912	5,180	5,463	5,761
8 Bayanan	9,080	11,231	11,845	12,481	13,173	13,933	14,651	15,451	16,295	17,185	18,123	19,112
9 Campo Santo	1,262	1,561	1,646	1,736	1,831	1,931	2,036	2,148	2,265	2,388	2,519	2,656
10 Dang Baid	2,963	3,666	3,866	4,076	4,290	4,508	4,781	5,042	5,317	5,608	5,914	6,237
11 Dapnan	1,897	2,346	2,475	2,610	2,752	2,902	3,061	3,228	3,404	3,590	3,786	3,993
12 Dulong Bayan	7,084	8,763	9,241	9,746	10,278	10,839	11,431	12,056	12,713	13,407	14,139	14,911
13 Huby I	15,113	18,694	19,715	20,791	21,926	23,123	24,386	25,717	27,122	28,602	30,164	31,811
14 Huby II	9,428	11,682	12,280	12,970	13,676	14,405	15,213	16,040	16,919	17,840	18,817	19,845
15 Kungin	3,464	4,272	4,506	4,752	5,011	5,285	5,573	5,878	6,198	6,537	6,894	7,270
16 Lupa I	4,330	5,356	5,648	5,957	6,282	6,625	6,987	7,368	7,771	8,195	8,642	9,114
17 Lupa II	3,800	4,738	4,996	5,269	5,557	5,860	6,180	6,517	6,873	7,249	7,644	8,062
18 Lupa III	7,050	8,730	9,167	9,636	10,228	10,787	11,376	11,997	12,650	13,340	14,071	14,839
19 Mado I	1,193	1,476	1,556	1,641	1,731	1,825	1,925	2,030	2,141	2,259	2,381	2,511
20 Mado II	1,415	1,750	1,846	1,947	2,053	2,165	2,283	2,408	2,539	2,676	2,824	2,978

COMPREHENSIVE LAND USE PLAN (2015-2034)
and the COMPREHENSIVE DEVELOPMENT PLAN (2015-2034)

21	Machob II	1,703	2,107	2,222	2,343	2,471	2,606	2,748	2,898	3,056	3,223	3,399	3,585
22	Machob I	6,678	7,026	7,408	7,813	8,239	8,689	9,164	9,664	10,191	10,748	11,335	11,954
23	Machob II	2,630	2,911	2,948	2,793	2,945	3,106	3,276	3,454	3,643	3,842	4,052	4,273
24	Machob III	4,913	6,077	6,409	6,759	7,128	7,517	7,926	8,360	8,817	9,296	9,806	10,341
25	Machob I	9,868	12,204	12,873	13,575	14,317	15,099	15,923	16,792	17,709	18,676	19,695	20,771
26	Machob II	4,775	5,906	6,229	6,599	6,998	7,306	7,706	8,128	8,569	9,037	9,530	10,051
27	Machob II	13,082	16,182	17,066	17,997	18,960	20,016	21,109	22,261	23,477	24,759	26,110	27,536
28	Machob IV	10,146	12,660	13,236	13,858	14,720	15,524	16,371	17,266	18,208	19,202	20,261	21,386
29	Machob V	3,461	4,281	4,515	4,761	5,021	5,295	5,585	5,890	6,211	6,550	6,908	7,285
30	Machob I	8,138	10,091	10,642	11,223	11,836	12,482	13,164	13,882	14,640	15,440	16,283	17,172
31	Machob II	26,819	31,937	33,690	35,519	37,439	39,504	41,661	43,926	46,305	48,864	51,532	54,346
32	Machob II	52,470	64,903	68,440	72,183	76,126	80,281	84,664	89,287	94,152	99,303	104,725	110,443
33	Machob IV	36,136	44,698	47,139	49,713	52,427	55,289	58,308	61,492	64,949	68,590	72,424	76,062
34	Machob V	4,197	5,162	5,423	5,719	6,031	6,360	6,706	7,074	7,460	7,867	8,297	8,750
35	Machob VI	16,241	20,089	21,186	22,343	23,563	24,849	26,206	27,637	29,146	30,737	32,416	34,186
36	Machob VII	10,627	13,146	13,663	14,350	15,118	15,960	16,880	17,887	18,984	19,071	20,112	21,211
37	Machob I	4,649	5,761	6,065	6,396	6,746	7,113	7,502	7,911	8,343	8,799	9,279	9,786
38	Machob II	6,024	7,451	7,858	8,297	8,740	9,217	9,720	10,261	10,811	11,401	12,023	12,680
39	Machob II	5,136	6,262	6,669	7,064	7,460	7,867	8,286	8,728	9,215	9,718	10,249	10,809
40	Parapuan I	4,238	5,243	5,530	5,832	6,140	6,466	6,810	7,213	7,607	8,020	8,461	8,920
41	Parapuan I	2,452	3,033	3,199	3,373	3,557	3,752	3,956	4,173	4,400	4,641	4,894	5,161
42	Parapuan II	3,694	4,617	5,000	5,357	5,680	5,988	6,283	6,606	6,968	7,370	7,772	8,195
43	Parapuan IV	10,638	13,159	13,877	14,636	15,434	16,277	17,166	18,102	19,091	20,133	21,232	22,392
44	Parapuan V	5,111	6,262	6,667	7,031	7,415	7,820	8,247	8,697	9,172	9,673	10,201	10,756
45	Parapuan VI	3,206	3,958	4,174	4,402	4,643	4,896	5,163	5,445	5,743	6,066	6,397	6,736
46	Parapuan VI	3,915	4,843	5,107	5,386	5,680	5,990	6,317	6,662	7,026	7,409	7,814	8,241
47	Parapuan VII	5,639	7,263	7,617	8,033	8,471	8,934	9,422	9,936	10,479	11,051	11,654	12,290
48	Quemba Row Central	5,396	6,637	7,000	7,382	7,786	8,210	8,658	9,131	9,630	10,156	10,710	11,295

49	Queens Row East	13,518	16,721	17,634	18,587	19,612	20,683	21,812	23,003	24,259	25,584	26,981	28,454
50	Queens Row West	9,995	12,363	13,036	13,750	14,501	15,293	16,128	17,008	17,937	18,916	19,949	21,038
51	Row I	4,052	5,012	5,286	5,574	5,879	6,200	6,536	6,885	7,247	7,623	8,007	8,529
52	Row II	4,489	5,553	5,856	6,176	6,513	6,868	7,243	7,636	8,056	8,496	8,960	9,449
53	Subarea I	12,743	15,762	16,623	17,531	18,488	19,497	20,562	21,684	22,868	24,117	25,434	26,823
54	Subarea II	2,896	3,982	3,770	3,984	4,202	4,431	4,673	4,928	5,197	5,481	5,780	6,096
55	Subarea III	1,774	2,194	2,314	2,441	2,574	2,714	2,862	3,019	3,184	3,357	3,541	3,734
56	Subarea IV	1,646	2,006	2,147	2,284	2,386	2,508	2,636	2,769	2,907	3,054	3,205	3,465
57	San Nicolas I	7,119	8,806	9,287	9,794	10,328	10,892	11,487	12,114	12,776	13,473	14,209	14,985
58	San Nicolas II	9,510	11,763	12,406	13,083	13,797	14,551	15,345	16,183	17,067	17,998	18,981	20,017
59	San Nicolas III	27,546	34,073	36,933	37,895	39,964	42,146	44,448	46,874	49,434	52,132	54,979	57,981
60	Singaportuan	5,586	6,913	7,291	7,689	8,109	8,561	9,018	9,511	10,030	10,578	11,155	11,764
61	Taleng Deygal	3,625	4,484	4,728	4,987	5,259	5,545	5,843	6,159	6,505	6,881	7,285	7,630
62	Talaba I	2,720	3,364	3,548	3,742	3,946	4,162	4,389	4,629	4,881	5,146	5,429	5,725
63	Talaba II	9,294	11,406	12,124	12,786	13,484	14,220	14,997	15,815	16,679	17,580	18,520	19,503
64	Talaba III	1,544	1,910	2,014	2,124	2,240	2,362	2,491	2,627	2,771	2,922	3,082	3,250
65	Talaba IV	3,371	4,170	4,387	4,608	4,841	5,088	5,339	5,596	5,859	6,130	6,380	6,728
66	Talaba V	1,709	2,114	2,228	2,351	2,479	2,615	2,758	2,908	3,067	3,234	3,411	3,597
67	Talaba VI	2,656	3,333	3,475	3,629	3,794	3,970	4,158	4,356	4,565	4,784	5,012	5,256
68	Talaba VII	3,223	3,997	4,234	4,434	4,638	4,831	5,035	5,231	5,435	5,638	5,833	6,094
69	Zapota I	5,457	6,750	7,110	7,507	7,917	8,349	8,805	9,286	9,793	10,329	10,892	11,486
70	Zapota II	3,870	4,797	5,029	5,326	5,626	5,933	6,257	6,596	6,950	7,330	7,740	8,183
71	Zapota III	2,752	3,424	3,590	3,786	3,983	4,211	4,441	4,683	4,938	5,208	5,493	5,793
72	Zapota IV	2,383	2,949	3,109	3,276	3,457	3,645	3,845	4,055	4,277	4,510	4,758	5,016
73	Zapota V	18,309	22,684	23,923	25,220	26,607	28,089	29,591	31,207	32,911	34,708	36,603	38,602



Annex 2. Projected Number of Households Per Barangay Based on 2010 Census

	2010 Census	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Barangay Total	109,025	124,858	142,221	160,987	158,176	166,812	175,920	185,526	195,655	206,328	217,604	229,485
1 Almas	1,292	1,508	1,685	1,777	1,874	1,977	2,085	2,199	2,319	2,445	2,579	2,720
2 Anuban I	688	851	897	946	998	1,053	1,110	1,171	1,235	1,302	1,373	1,448
3 Anuban II	540	693	731	770	812	857	904	953	1,005	1,060	1,118	1,179
4 Anuban III	180	223	235	248	261	275	290	306	323	341	359	379
5 Anuban IV	426	527	556	586	618	652	687	725	764	806	850	897
6 Anuban V	548	678	715	754	795	838	884	933	983	1,037	1,094	1,153
7 Banako	574	710	749	790	833	878	925	977	1,030	1,086	1,146	1,208
8 Bayanan	1,903	2,354	2,482	2,618	2,761	2,912	3,071	3,238	3,415	3,602	3,798	4,006
9 Campo Santo	264	327	344	363	383	404	426	449	474	500	527	556
10 Dangang Buhid	621	768	810	854	901	950	1,002	1,057	1,114	1,175	1,239	1,307
11 Digmaan	398	492	519	548	577	609	642	677	714	753	794	838
12 Dulong Bayan	1,485	1,837	1,937	2,043	2,154	2,272	2,396	2,527	2,665	2,810	2,964	3,126
13 Habay I	3,167	3,917	4,131	4,357	4,595	4,846	5,110	5,389	5,683	5,994	6,321	6,666
14 Habay II	1,976	2,444	2,578	2,718	2,867	3,023	3,188	3,363	3,546	3,740	3,944	4,159
15 Kahaon	724	896	944	996	1,050	1,108	1,168	1,232	1,299	1,370	1,445	1,524
16 Ligos I	907	1,122	1,183	1,248	1,316	1,388	1,464	1,543	1,628	1,717	1,810	1,909
17 Ligos II	803	993	1,048	1,105	1,165	1,229	1,296	1,366	1,441	1,520	1,603	1,690
18 Ligos III	1,478	1,828	1,928	2,033	2,144	2,261	2,385	2,515	2,652	2,797	2,950	3,111
19 Mabolo I	250	309	326	344	363	383	403	425	449	473	499	526
20 Mabolo II	297	367	387	409	431	454	479	505	533	562	593	625
21 Mabolo III	357	442	466	491	518	546	576	607	641	676	713	751
22 Malibari	1,190	1,472	1,552	1,637	1,726	1,821	1,920	2,025	2,136	2,252	2,375	2,505



23	Mariball II	425	526	554	585	617	650	686	723	763	804	848	895
24	Medical III	1,030	1,274	1,344	1,417	1,494	1,576	1,662	1,753	1,848	1,949	2,056	2,168
25	Manbog I	2,068	2,558	2,698	2,845	3,000	3,164	3,337	3,519	3,711	3,914	4,128	4,353
26	Manbog II	1,031	1,238	1,306	1,377	1,452	1,532	1,615	1,701	1,796	1,894	1,998	2,107
27	Manbog III	2,742	3,392	3,577	3,772	3,978	4,196	4,424	4,666	4,921	5,189	5,473	5,772
28	Manbog IV	2,126	2,630	2,773	2,925	3,084	3,253	3,430	3,618	3,815	4,024	4,243	4,475
29	Manbog V	725	897	946	997	1,052	1,109	1,170	1,234	1,301	1,372	1,447	1,526
30	Medino I	1,710	2,115	2,231	2,352	2,481	2,616	2,759	2,910	3,069	3,236	3,413	3,599
31	Medino II	5,411	6,693	7,059	7,444	7,850	8,279	8,731	9,208	9,711	10,241	10,800	11,390
32	Medino III	10,996	13,601	14,344	15,127	15,953	16,824	17,743	18,712	19,733	20,811	21,947	23,145
33	Medino IV	7,573	9,367	9,879	10,418	10,987	11,587	12,220	12,887	13,590	14,332	15,115	15,940
34	Medino V	871	1,077	1,136	1,198	1,264	1,333	1,405	1,482	1,563	1,648	1,738	1,833
35	Medino VI	3,404	4,211	4,440	4,683	4,939	5,208	5,491	5,793	6,109	6,442	6,794	7,165
36	Medino VII	2,227	2,755	2,905	3,064	3,231	3,407	3,593	3,790	3,997	4,215	4,445	4,688
37	Medino I	974	1,205	1,271	1,340	1,413	1,490	1,572	1,657	1,748	1,843	1,944	2,050
38	Medino II	1,262	1,561	1,646	1,736	1,831	1,931	2,036	2,148	2,265	2,388	2,519	2,656
39	Medino III	1,076	1,331	1,404	1,480	1,561	1,646	1,736	1,831	1,931	2,036	2,148	2,265
40	Panapaan I	888	1,098	1,158	1,222	1,288	1,359	1,433	1,511	1,594	1,681	1,772	1,869
41	Panapaan II	514	636	671	707	746	786	829	875	922	973	1,026	1,082
42	Panapaan III	816	1,009	1,064	1,123	1,184	1,249	1,317	1,389	1,464	1,544	1,629	1,718
43	Panapaan IV	2,229	2,757	2,908	3,066	3,234	3,410	3,597	3,793	4,000	4,219	4,449	4,692
44	Panapaan V	1,071	1,325	1,397	1,473	1,554	1,639	1,728	1,822	1,922	2,027	2,138	2,254
45	Panapaan VI	671	830	875	923	974	1,027	1,083	1,142	1,204	1,270	1,339	1,412
46	Panapaan VII	820	1,014	1,070	1,128	1,190	1,255	1,323	1,395	1,472	1,552	1,637	1,726
47	Panapaan VIII	1,224	1,514	1,597	1,684	1,776	1,873	1,975	2,083	2,197	2,317	2,443	2,576
48	Queens Row Central	1,125	1,392	1,468	1,548	1,632	1,721	1,815	1,914	2,019	2,129	2,245	2,368
49	Queens Row East	2,833	3,504	3,696	3,897	4,110	4,335	4,571	4,821	5,084	5,362	5,654	5,963



50	Queens Row West	2,095	2,591	2,733	2,882	3,039	3,205	3,380	3,565	3,760	3,965	4,181	4,410
51	Real I	849	1,050	1,108	1,168	1,232	1,299	1,370	1,445	1,524	1,607	1,695	1,787
52	Real II	941	1,164	1,228	1,295	1,365	1,440	1,518	1,601	1,689	1,781	1,878	1,981
53	Salmos I	2,671	3,304	3,484	3,675	3,875	4,087	4,310	4,545	4,793	5,055	5,331	5,622
54	Salmos II	607	751	792	835	881	929	979	1,033	1,089	1,149	1,212	1,278
55	Salmos III	372	460	485	512	540	569	600	633	668	704	742	783
56	Salmos IV	345	427	450	475	501	528	557	587	619	653	689	726
57	San Nicolas I	1,492	1,846	1,946	2,053	2,165	2,283	2,407	2,539	2,678	2,824	2,978	3,140
58	San Nicolas II	1,993	2,465	2,600	2,742	2,891	3,049	3,216	3,391	3,577	3,772	3,978	4,195
59	San Nicolas III	5,773	7,141	7,531	7,942	8,376	8,833	9,315	9,824	10,360	10,926	11,522	12,152
60	Sheguelasan	1,171	1,448	1,528	1,611	1,699	1,792	1,889	1,993	2,101	2,216	2,337	2,465
61	Talabog Dagat	760	940	991	1,046	1,103	1,163	1,226	1,293	1,364	1,438	1,517	1,600
62	Talaba I	570	705	744	784	827	872	920	970	1,023	1,079	1,138	1,200
63	Talaba II	1,948	2,410	2,541	2,680	2,826	2,981	3,143	3,315	3,496	3,687	3,888	4,100
64	Talaba III	324	401	423	446	470	496	523	551	581	613	647	682
65	Talaba IV	706	873	921	971	1,024	1,080	1,139	1,201	1,267	1,336	1,409	1,486
66	Talaba V	358	443	467	493	519	548	578	609	642	678	715	754
67	Talaba VI	599	741	781	824	869	916	967	1,019	1,075	1,134	1,196	1,261
68	Talaba VII	675	835	881	929	979	1,033	1,089	1,149	1,211	1,277	1,347	1,421
69	Zapote I	1,144	1,415	1,492	1,574	1,660	1,750	1,846	1,947	2,053	2,165	2,283	2,408
70	Zapote II	813	1,006	1,061	1,118	1,180	1,244	1,312	1,383	1,459	1,539	1,623	1,711
71	Zapote III	577	714	753	794	837	883	931	982	1,035	1,092	1,152	1,215
72	Zapote IV	499	617	651	686	724	763	805	849	896	944	996	1,050
73	Zapote V	3,843	4,754	5,013	5,287	5,576	5,880	6,201	6,540	6,897	7,273	7,670	8,089

*** END ***

