Comprehensive Land Use Plan
2011-2020
City of Puerto Princesa
A MESSAGE FROM THE CITY MAYOR

This Comprehensive Land Use Plan (CLUP) is one of the mandated plans that the Local Government Code (RA 7160) has directed local governments to “continue to prepare and enact into a zoning ordinance” (Sec. 20, c). The present version succeeds the previous one which expired in 2010.

More than a mere revision of its predecessor, this successor CLUP is reflective of the changing socio-economic and geophysical environment of Puerto Princesa as well as addresses the challenges that such changes pose upon the future governance of the City. Two of the most important recent changes that have far-reaching implications are the conversion of Puerto Princesa into a highly-urbanized city (HUC) and the inclusion of the Underground River among the world’s New Seven Wonders of Nature.

As a new highly urbanized city, Puerto Princesa now enjoys political independence from the province of Palawan and greater autonomy in fiscal management. Another important implication of its HUC status is that all its component barangays will be considered urban. This changed status carries with it the daunting challenge of extending to all constituents of its vast territory the ease and convenience of urban living even to the most far-flung barangays.

This CLUP addresses this particular challenge by adopting a new spatial strategy that seeks to enable the rural barangays to catch up with the traditional urban area in terms of level of development. This is done by grouping contiguous barangays into clusters, each cluster with a designated center. The five cluster centers shall become the focus of more intensive policy interventions and investments to serve initially as the locus of decentralized services. Over time, these growth centers will radiate growth impulses to far-flung communities within their respective areas of influence thereby spreading the benefits of growth more or less evenly across the territory.

The shift of focus of policy intervention to the rural areas will not be pursued to the neglect of the urban area. Part of the new spatial strategy is the integration of the Old Poblacion and the northern growth area into a much expanded central business district (CBD). This will be done by developing a well-articulated land-sea-air transport network to afford residents and visitors alike wider range of choice of modes of mobility. Urban services and utilities will likewise be modernized to a standard of quality at par with cities of global importance.
Being the locale of one of the New Seven Wonders of Nature, Puerto Princesa is now an added blip on the radar screen of global tourism. The immediate effect of this is beginning to be seen in the daily hordes of visitors who want to experience the thrill of entering into one of nature’s most unusual geological treats. The challenge to the city’s governance is how to marshal the economic windfall that the growing number of visitors will bring in, on one hand, and how to manage the heavy footprint that tourists are bound to bear on our island’s fragile ecosystem, on the other.

To meet this challenge requires creative ways to manage the growing tourist traffic so as not to exceed the carrying capacity of the Underground River. This calls for the development of other tourist attractions and destinations which abound in many other parts of the city. This will not only afford visitors rich and varied experiences but will promote more equitable distribution of the gains from tourism and encourage wider participation in the community effort to achieve economic prosperity.

This successor CLUP further differs from its predecessor in terms of comprehensiveness of scope. In this new plan, we have placed under a unified regime of governance all existing ecosystems within the City’s territorial jurisdiction from the top of the mountain to the bottom of the ocean up to the limit of our municipal waters. This is known as the “total catchment” or “ridge-to-reef” approach. Accordingly, we have integrated the ECAN zoning and our traditional urban-focused zoning into a single policy instrument to be enforced by a single body, the Development Control and Environmental Protection Committee, in further assertion of our greater autonomy implied in our HUC status.

The process by which this CLUP – and other mandated plans – was formulated is something we can be proud of for at least two reasons. First, the undertaking was completely funded from our own budget without external aid, and second, our own people were involved in every step of the process. The only external assistance we concede is that for from a Manila-based consultant whom we invited to provide conceptual inputs, to facilitate workshops, and guide our sectoral and functional committees in every step of the process. Thus, we can truly say that this Plan is made for and by Puerto Princesans.

I therefore urge every city official, all residents and other stakeholders to rally behind the implementation of this Plan, keeping in mind our long-term vision to become and remain the model in sustainable development, and to proudly wear our brand: “a city in a forest”.

EDWARD S. HAGEDORN
City Mayor
# TABLE OF CONTENTS

**COMPREHENSIVE LAND USE PLAN (CLUP) ii**
**A MESSAGE FROM THE CITY MAYOR iii**
**SANGGUNIANG PANLUNGSOD RESOLUTION iv**
**TABLE OF CONTENTS v**
**LIST OF FIGURES vi**
**LIST OF TABLES vii**
**LIST OF ACRONYMS viii**

### Chapter 1  GENERAL INTRODUCTION
1.1. Background and Rationale 1
1.2. Approach and Methodology 1-3
1.3. Barangay Clustering 4-5
1.4. Organization of this Volume 5-8

### Chapter 2  THE CITY’S VISION AND THE NATIONAL GOALS OF PHYSICAL PLANNING
2.1. Introduction 9
2.2. National Physical Planning Goals 9-10
2.3. Relating the City’s Vision to the National Goals 10-30

### Chapter 3  PHYSICAL DEVELOPMENT CHALLENGES
3.1. Introduction 31
3.2. Geophysical and Natural Resources Endowments 31-37
3.3. The Pattern of Land Use Change 37-43
3.4. Challenges of Services Backlogs and Urban-Rural Disparities 43-70

### Chapter 4  THE SPATIAL STRATEGY
4.1. Introduction 71
4.2. The spatial strategy in the Predecessor CLUP 71-72
4.3. Critique of the Existing Spatial Strategy 72-73
4.4. Modifications on the Current Spatial Strategy 73-81

### Chapter 5  THE REVISED COMPREHENSIVE LAND USE PLAN: AREA PROFILES AND ANALYSES
5.1. Introduction 82
5.2. Geographical Areas for Policy Formulation and Implementation 83-124

### Chapter 6  COMPREHENSIVE LAND USE PLAN: POLICY INTERVENTION AND MEASURES
6.1. Introduction 125
6.2. The Land Use Categories 125-127
6.3. Policy Intervention Measures by Area Clusters 127-173
CHAPTER 7 IMPLEMENTING THE REVISED COMPREHENSIVE LAND USE PLAN

<table>
<thead>
<tr>
<th>Section</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1. Introduction</td>
<td>174</td>
</tr>
<tr>
<td>7.2. Revision of the Zoning Ordinance</td>
<td>174-182</td>
</tr>
<tr>
<td>7.3. Other Needed Regulatory Measures</td>
<td>182-183</td>
</tr>
<tr>
<td>7.4. Detailed Master Planning</td>
<td>183-197</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure 1.1  Simplified CLUP - CDP Process
Figure 1.2  Urban Area Barangay Clusters
Figure 1.3  Rural Area Barangay Clusters
Figure 3.1  Land Classification Map
Figure 3.2  Slope Map
Figure 3.3  Urban Land Use Map
Figure 3.4  Location of Formal and Informal Settlements, Urban Area, Puerto Princesa City
Figure 3.5  Overall Settlement Pattern, Puerto Princesa City
Figure 3.6  Existing Land Use, Puerto Princesa City
Figure 3.7  Existing Road Network, Puerto Princesa City
Figure 3.8  Urban Area Road Network
Figure 3.9  Road Network, Poblacion
Figure 3.10  Heavy Traffic Roads
Figure 3.11  Water District Production Facilities
Figure 3.12  Domestic Water Supplies, Rural Areas
Figure 3.13  Power Supply, PPC
Figure 3.14  Health Facilities
Figure 3.15  Satellite Clinics
Figure 3.16  Public Schools by District, Puerto Princesa City
Figure 3.17  Public Recreation Facilities
Figure 3.18  Open Space
Figure 3.19  Freedom Parks
Figure 3.20  Location of Police Facilities
Figure 3.21  Location of Fire-Fighting Facilities
Figure 3.22  Location of Cell Sites and Radio Repeater Stations
Figure 3.23  Existing Drainage and Sewerage Collection Network
Figure 3.24  Sanitary Landfill
Figure 3.25  Existing Cemeteries
Figure 4.1  New Alternative Spatial Strategies
Figure 4.2  Proposed Alternative to the National Highway
Figure 4.3  Proposed Boat and Fish Landing
Figure 4.4  Rural Service Centers
Figure 4.5  Proposed New Bridges
Figure 5.1  The New Central Business District
Figure 5.2  The New CBD PERIPHERY
Figure 5.3  Southwestern Cluster
Figure 5.4 Southeastern Cluster
Figure 5.5 Central Cluster
Figure 5.6 Northwestern Cluster
Figure 5.7 Northeastern Cluster
Figure 5.8 RSC Barangay Napsan
Figure 5.9 RSC Barangay Mangingisda
Figure 5.10 RSC Barangay Bacungan
Figure 5.11 RSC Barangay Cabayugan
Figure 5.12 RSC Barangay San Rafael
Figure 5.13 Langogan Satellite Service Center
Figure 5.14 Kamuning Satellite Service Center
Figure 6.1 Proposed Dedicated Bike Lanes in the CBD
Figure 6.2 Indicative Locations of Proposed CBD Projects
Figure 6.3 Proposed Boating Circuits around Puerto Princesa Bay
Figure 6.4 Indicative Locations of Proposed Non-CBD Projects
Figure 6.5 Proposed Site of RSC Napsan
Figure 6.6 Proposed Site of RSC Mangingisda
Figure 6.7 Proposed Site of RSC Bacungan
Figure 6.8 Proposed Site of RSC Cabayugan
Figure 6.9 Proposed Site of RSC San Rafael
Figure 7.1 Tourism Circuits Puerto Princesa City
Figure 7.2 Proposed Administrative Structures for Governance of Clusters
LIST OF TABLES

Table 3.1. Land Use Change in the Urban Area, Puerto Princesa City, 1998-2009
Table 7.1. General Land Use Policies and ECAN Zone Regulations
Table 7.2. Spatial Framework for ECAN Zoning
Table 7.3. Cluster Tourism Products
Table 7.4. Tourism Circuits
Table 7.5. First Stage Delineation of Public Forest, AD/AL Delineation
Table 7.6. Forest Land Use Zoning
# LIST OF ACRONYMS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A &amp; D</td>
<td>Alienable and Disposable Land</td>
</tr>
<tr>
<td>ARC</td>
<td>Agrarian Reform Communities</td>
</tr>
<tr>
<td>CBD</td>
<td>Central Business District</td>
</tr>
<tr>
<td>CBST</td>
<td>Community Based Sustainable Tourism</td>
</tr>
<tr>
<td>CCTV</td>
<td>Closed Circuit Television Cameras</td>
</tr>
<tr>
<td>CDP</td>
<td>Comprehensive Development Plan</td>
</tr>
<tr>
<td>CHB</td>
<td>Concrete Hollow Blocks</td>
</tr>
<tr>
<td>CBFM</td>
<td>Community Based Forest Management</td>
</tr>
<tr>
<td>CICL</td>
<td>Children in Conflict with the Law</td>
</tr>
<tr>
<td>DA-PAES</td>
<td>Department of Agriculture – Provincial Agricultural Experimentation Station</td>
</tr>
<tr>
<td>ECA</td>
<td>Environmentally Critical Areas</td>
</tr>
<tr>
<td>ECAN</td>
<td>Environmentally Critical Area Network</td>
</tr>
<tr>
<td>ECC</td>
<td>Environmental Compliance Certificate</td>
</tr>
<tr>
<td>ECCD</td>
<td>Early Childhood Care and Development</td>
</tr>
<tr>
<td>EIA</td>
<td>Environmental Impact Assessment</td>
</tr>
<tr>
<td>DCC</td>
<td>Development Control Committee</td>
</tr>
<tr>
<td>DCEPC</td>
<td>Development Control and Environmental Protection Committee</td>
</tr>
<tr>
<td>DENR</td>
<td>Department of Environment &amp; Natural Resources</td>
</tr>
<tr>
<td>FMR</td>
<td>Farm to Market Road</td>
</tr>
<tr>
<td>GAP</td>
<td>Good Agricultural Practices</td>
</tr>
<tr>
<td>Acronym</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>HOA</td>
<td>Homeowners Association</td>
</tr>
<tr>
<td>HUC</td>
<td>Highly Urbanized City</td>
</tr>
<tr>
<td>IFE</td>
<td>Infant Feeding Emergency</td>
</tr>
<tr>
<td>IPRA</td>
<td>Indigenous People’s Right Act</td>
</tr>
<tr>
<td>IP</td>
<td>Indigenous People</td>
</tr>
<tr>
<td>ITP</td>
<td>Industrial Tree Plantation</td>
</tr>
<tr>
<td>LDC</td>
<td>Local Development Council</td>
</tr>
<tr>
<td>LGC</td>
<td>Local Government Code</td>
</tr>
<tr>
<td>LGU</td>
<td>Local Government Unit</td>
</tr>
<tr>
<td>MPC</td>
<td>Multi-Purpose Cooperative</td>
</tr>
<tr>
<td>MRF</td>
<td>Material Recovery Facility</td>
</tr>
<tr>
<td>NAMRIA</td>
<td>National Mapping and Resource Information Authority</td>
</tr>
<tr>
<td>NAPOCOR</td>
<td>National Power Corporation</td>
</tr>
<tr>
<td>NCIP</td>
<td>National Commission on Indigenous People</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-Governmental Organization</td>
</tr>
<tr>
<td>NSO</td>
<td>National Statistics Office</td>
</tr>
<tr>
<td>PALECO</td>
<td>Palawan Electric Cooperative</td>
</tr>
<tr>
<td>PNP</td>
<td>Philippine National Police</td>
</tr>
<tr>
<td>PO</td>
<td>People’s Organization</td>
</tr>
<tr>
<td>PPC</td>
<td>Puerto Princesa City</td>
</tr>
<tr>
<td>PPSRNP</td>
<td>Puerto Princesa Subterranean River National Park</td>
</tr>
<tr>
<td>RSC</td>
<td>Rural Service Center</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
</tr>
<tr>
<td>SIFMA</td>
<td>Socialized Industrial Forest Management Agreement</td>
</tr>
<tr>
<td>SNP</td>
<td>Supervised Neighborhood Play</td>
</tr>
<tr>
<td>SRI</td>
<td>Self-Reliance Indicator</td>
</tr>
<tr>
<td>TSP</td>
<td>Total Suspended Particulates</td>
</tr>
<tr>
<td>VAWC</td>
<td>Violence Against Women and Children</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

The existing Comprehensive Land Use Plan (2001-2010) was updated along with the Zoning Ordinance, the implementing tool of this plan. This plan is the long term guide for realizing the desired spatial pattern of development by regulating the type and location of private and public investments. It also serves as the primary guide for the management of land, water, and other natural resources of the city.

THE PEOPLE’S ASPIRATIONS

This document reflects the collective aspirations of the Puerto Princesans as presented by the 35 members of the Technical Working Group who are deployed among the five development sectors: social, infrastructure and land use, economic, environment and institutional during the planning process.

THE DEVELOPMENT DIRECTIONS

This plan has adopted the following goals which all political jurisdictions and administrative levels are enjoined to carry in their respective physical development plans:

a. *Rational distribution of the population.* This can be achieved through a properly conceived and designed urban form characterized by such indicators as concentration without congestion, well-serviced communities in hazard-free locations, and the like.

b. *Access to social services and economic opportunities.* This goal is deemed achieved if appropriate social services are provided in adequate amounts at reasonable proximity to the intended users, if jobs and livelihood opportunities exist to enable the people to earn sufficient income to pay for the goods and services they need, and where opportunities are open to all regardless of race, ethnicity, gender, or political and religious affiliation.

c. *Sustainable utilization of resources.* Resources are sustainably utilized if food security is assured for all, when production processes are cost effective, when there is waste minimization and all forms of wasteful practices carefully
avoided, and when every household, firm or establishment practices recovery, reuse and recycling of waste.

d. Maintenance of environmental integrity. This goal is attained when there is a clear balance between the built and unbuilt environments, minimized impervious surfaces in the built-up areas, maximized use of renewable energy, when public and private places are litter free, and high level of biodiversity in flora and fauna is maintained.

THE POLICY AREAS

In conclusion, this plan provides a general and long-term guide to the development of the city. It provides the policy framework as basis for medium term and short term plans that may be developed to achieve the desired results in the future.
Chapter 1

GENERAL INTRODUCTION

1. Background and Rationale

This Comprehensive Land Use Plan (CLUP) is an output of the major undertaking of the City Government of Puerto Princesa to prepare and/or revise its comprehensive plans as mandated in the Local Government Code of 1991 (RA 7160). The Comprehensive Development Plan and its implementing instrument, the Local Development Investment Plan, had been produced earlier to provide a rich source of programs, projects and activities to be funded through the city’s annual budget. The CLUP, for its part, will serve as the primary guide for the management of land, water, and other natural resources of the city. Its principal implementing tool is the Zoning Ordinance.

The preparation of this successor CLUP comes at a time when the predecessor plan is at the end of its plan horizon. In many important ways, this new edition of the CLUP is an updated and revised version of the predecessor plan. But there are also significant differences in terms of the approach and methodology, the spatial strategy, and the scope of policy coverage.

2. Approach and Methodology

The basic approach to this planning undertaking is capability building. It involves training of the different sectoral committees and getting them to participate in all the steps of the planning process. The process followed is that which is elaborated on in the DILG’s “Rationalized Local Planning System”. The integrated CLUP-CDP process is discussed in detail in Chapter 2 of the Comprehensive Development Plan. In this volume, the simplified process which was followed extensively is described. (See Figure 1.1.)

Focusing only on that portion of the integrated process that pertains to the CLUP the major procedural steps are as follows:

2.1. Relating the city’s vision to the national goals of physical planning. This step is the bridge that links the local vision to the national goals of physical planning. The national goals were adopted by the National Land Use Committee which are intended to be carried in all physical development plans at all levels of jurisdiction from the national down to city and
municipal levels. Making local goals consistent with and supportive of national goals ensures that local government units truly become effective partners of the national government in the attainment of national development.

2.2. *Designing and characterizing alternative spatial strategies.* A spatial strategy is an abstract conception of the desired pattern of physical development of the city which is realized through creative combination of built-up areas and open spaces. It is the organizing concept that guides the location and allocation of spaces for different land-using activities, the regulation of public and private investments, and the preservation of resources that ought to be protected against inimical human intrusion and other agents of destruction. Designing and selecting appropriate spatial strategies for a city like Puerto Princesa with its avowed advocacy for, and being a long-time practitioner of environmental conservation has been a major challenge to planning the city’s physical development.

2.3. *Detailing the preferred spatial strategy.* The preferred spatial strategy is a mere conceptual framework, a skeletal frame that defines the desired shape of future development. When the detailed elements and components are added, the resulting output is the draft Comprehensive Land Use Plan. It is in this aspect of the process and output that substantial differences between the predecessor and successor plans are manifest. The successor plan, among other things, has taken the term “comprehensive” to its utmost limit, that is, it encompasses not only the entire territorial jurisdiction of the city but also the whole stretch of landscape from the top of the mountain to the bottom of the sea. The basic framework for delineating geographical areas for policy enforcement is the Environmentally Critical Areas Network (ECAN) consisting of terrestrial, marine, and ancestral domain components. The ECAN concept is established in the Strategic Environmental Plan for Palawan (RA7611).
2.4. **Formulation of land and water use policies.** For effective land use regulation, the CLUP must be comprehensive in terms of territorial and policy coverage. In order that every portion of the city's territory is covered with appropriate policy, the four land use policy areas adopted by the National Land Use Committee namely, settlements, infrastructure, production and protection, are used to organize all proposed policy interventions. These policy proposals were generated from the application of various analytical techniques in the course of the planning process notably the Problem-Solution Matrix, map overlay analysis, and the Upstream-Downstream Impact analysis. The local implications of relevant national laws and other administrative issuances were likewise taken into account in the formulation of these policies. To facilitate their implementation the proposed policies are further classified into programs and projects, services or non-projects, and regulatory measures. The proposed programs and projects that are “owned” by the city are then picked up for inclusion in the City Development
Investment Program for funding through the development fund in the annual budget. The identified services needed to carry out aspects of the plan are incorporated into the regular functions of existing departments and offices of the City government, or serve as basis for the creation of new executive bodies. The services or non-project components of the proposed policy interventions may also guide the crafting of capability building programs for existing personnel of the executive branch of the City Government. The proposed regulatory measures will be farmed out to the national or local legislative bodies whichever has the proper jurisdiction. In some instances regulatory measures are promulgated in the form of issuances by the city’s Chief Executive.

2.5. Revision of the existing Zoning Ordinance. In as much as the predecessor CLUP has undergone a major revision, the Zoning Ordinance which is the principal instrument for implementing the CLUP has also undergone substantial revision. Salient features of the revised Zoning Ordinance include the integration of the ECAN zoning and the urban land use zoning which are erstwhile separate documents and are enforced by two separate bodies. The integrated ordinance will now be enforced by a single regulatory body. Another important feature of the revised Zoning Ordinance is the consideration it gives to the total catchment concept wherein policies for certain upstream areas are tested for their sensitivity to their potential impact on downstream areas. A necessary extension of the total catchment concept as a salient feature of the revised zoning is the incorporation of the municipal waters under one use regulatory regime. Since the national government has devolved to local governments authority to manage near shore areas of up to 15 km of the shore the coastal LGUs like Puerto Princesa are expected to manage and protect their respective portions of the national territorial sea for the benefit of small fisher folk and coastal communities.

3. Barangay Clustering

In the wake of the recent change of status of Puerto Princesa to that of a highly urbanized city (HUC) and the revision by the National Statistics Office of the 1970 definition of an urban place wherein all barangays belonging to a highly urbanized city are now considered urban, there should no longer be rural barangays in Puerto Princesa. Pending full-blown consideration of the legal, administrative and practical implications of the new NSO definition, however, the urban-rural delineation adopted in the previous plan has been retained. The practical value of maintaining the urban-rural dichotomy is that it allows focusing of analysis and targeting of interventions on
areas and sectors that suffer from various forms of disadvantage, on one hand, and concentrating investments in growth areas to spur rapid development, on the other. As shown in chapter 3 of this volume, the urban-rural delineation has highlighted the stark differences between these two areas in terms of indicators of development. Reducing these differences over time, and thus achieving social equity and spatial parity, is a goal implicit in all development programs.

For the sake of consistency the clustering of barangays for both urban areas (Figure 1.2) and rural areas (Figure 1.3) which was adopted in the predecessor plan have been modified in this successor plan to conform with the revised spatial strategy as discussed in detail in Chapter 4. The delineation and characterization of new barangay clusters are taken up at length in Chapter 5.

4. Organization of this Volume

This volume, like its counterpart CDP, consists of seven chapters. Having emanated from a common source, the two plans share the same vision statement and characterization of the current reality. But beyond these similarities the two plans are distinct and have different features and purposes.

The brief general introduction, Chapter 1, is devoted largely to the discussion of the mandate and rationale for the formulation of the CLUP and the approach and methodology adopted in its formulation.

Chapter 2 reiterates the vision statement with the added effort to demonstrate the essential connection between the city’s vision and the national goals of physical planning, thereby showing that the city is indeed an effective partner in the attainment of national development.

Chapter 3 discusses the challenges to the development of Puerto Princesa focusing on territorial and spatial issues particularly on the disparity between urban and rural areas. Herein lies the importance of maintaining the distinct delineation of urban and rural areas.

Chapter 4 elaborates on the spatial strategy which will serve as the organizing concept for the location of land-using activities. The present strategy adopts the strategy in the predecessor plan in its essential features but offers very substantial modifications and adds important details to it.

Chapter 5 puts the conceptual spatial strategy in detail resulting in the draft Comprehensive Land Use Plan. This chapter contains a more detailed characterization
of the different barangay clusters as the geographical basis of policy formulation and enforcement.

Chapter 6 collects all appropriate policy proposals that cover all areas of the City’s territory. To facilitate implementation, the policies are classified into projects, non-projects and regulatory measures. The regulatory measures are either incorporated into the revised zoning ordinance or may be issued as single-purpose ordinances or executive orders.

Chapter 7 lays out the tools and strategy for implementing the revised CLUP.

Technical annexes are included at the end and are referred to in their proper contexts.
Fig. 1.2 Urban Area Barangay Clusters
Figure 1.3 Rural Area Barangay Clusters
5. Acknowledgments

This Comprehensive Land Use Plan is the combined output of the 35-member Technical Working Group whose members are deployed among the five development sectors: social, infrastructure and land use, economic, environment, and institutional. Representing various departments and offices of the city government, the members of the TWG, whose invaluable contributions are hereby acknowledged are listed below.

Team Leader - Engr. Jovenee C. Sagun
City Planning and Development Coordinator II

Assistant Team Leader - George G. Vasquez
Assistant City Planning and Development Coordinator

Sector Facilitators and members:

A. Social Sector

Facilitator Ofelia SJ. Aguilar, Project Evaluation Officer III, OCPDC

Members
1. Lolita Yulo, City Social Welfare and Development Officer
2. Mary Josephine Macasaet, Statistician II, OCPDC
3. Lorraine Banzuelo, Project Development Officer III, OCPDC
4. Lydia del Rosario, Social Welfare Officer IV, CSWDO
5. Elma Reynoso, Public Health Nurse IV, CHO
6. Mary Joy Tianchon, Public Health Nurse III, CHO
7. Chona Cabiguen, Sanitary Inspector IV, CHO
8. Dely Bacolod, Nutritionist-Dietician IV, CHO
9. Estela May Raboy, Nutritionist-Dietician III, CHO
10. Engr. Eduardo Driz, Housing & Homesite Regulation Officer V, CMO
11. PSSUPT Virgilio Parocha, Chief of Police, City PNP
12. Hon. Carlos Bonales, Punong Barangay, Salvacion, CDC Representative
13. Domingo Padul, OIC-Asst. City Schools Division Superintendent
14. Hon. Eleutherius Edualino, City Councilor
15. Cherry Nagales, Asst. Statistician, NSO
16. SFOI Rico Pagmanoja, Fire Marshall, City BFP
17. SFOI Ferdinand Tolentino, Fire Marshall, City BFP
18. Elizabeth Natividad, Representative, Urban Poor Affairs
B. Infrastructure Sector (Physical/Land-Use Sector)

Facilitator  Romeo B. Policarpio, Project Development Officer II, OCPDC
Members  1. Engr. Sergio Tapalla, City Engineer
2. Engr. Ricardo B. Lagrada, Engineer IV, CED
3. Engr. Leonida G. Kho, Engineer III, CED
4. Ronilito Cases, Information Technology Officer I, OCPDC
5. Ma. Lourdes P. Bonete, Project Development Officer II, OCPDC
7. Engr. Ramil Balloroso, Housing and Homesite Regulation Officer I, CMO
8. Hon. Frellyn Castro, Punong Barangay, San Pedro, CDC Representative
9. Hon. Modesto Rodriquez, City Councilor
10. Antonio Jesus Romasanta, General Manager, City Water District
11. Engr. Danilo Alagao, District Engineer, DPWH 3rd Engineering District

C. Economic Sector

Facilitator  Elizabeth C. Alzaga, Project Development Officer IV, OCPDC
Members  1. Melissa T. U. Macasaet, City Agriculturist
2. Rolando Bustamante, Project Development Officer II, OCPDC
3. Vilma Hoseley, Computer Programmer III, OCPDC
4. Cecilia Viguesilla, Project Development Officer II, OCPDC
4. Enera Tuibeo, Supervising Agriculturist, OCA
5. Delia Martinez, Agriculturist II, OCA
6. Aileen Cynthia Amurao, Supervising Labor and Employment Officer, CMO
7. Melinda Mohamad, Tourism Operations Officer III, CMO
8. Dr. Indira A. Santiago, Veterinarian I, City Veterinary Office
9. Hon. Roy Gregorio Ventura, Punong Barangay, Maunlad, CDC Representative
10. Atty. Robert Chan, Executive Director, PNNI, CDC Representative
11. Hon. Rafaelita Oliveros, City Councilor
12. Aurora Duff, Micro Processor
13. Multi-Purpose Cooperative Representative
D. Environment and Natural Resources Sector

Facilitator  Daniel G. Tejada, Project Evaluation Officer IV, OCPDC
Members  1. Mary Ann Joylle Madriñan, Community Development Officer II, City ENRO
2. Albert James Mendoza, Park Superintendent, CMO
3. Earl Buenviaje, Executive Assistant IV, CMO
4. Julius C. Cayabyab, Senior Administrative Assistant II, OCPDC
5. Hon. Ramil Gonzales, Punong Barangay, Cabayugan, CDC Representative
6. Inocencio Magallanes, Executive Director, Haribon Palawan
7. Edilberto Magpayo, Operations Officer, Palawan Conservation Corps
8. Felomino Racuya, PCSDS Representative
9. Gaspar Bactol, Ecosystems Management Specialist, DENR-CENRO
10. Rhodora Ubani, Ecosystems Management Specialist, DENR-PENRO
11. Dr. Oscar Nalzaro, Academe Representative

E. Institutional Sector

Facilitator  Coleen Caryl C. Catama, Project Development Officer II, OCPDC
Members  1. Corazon Abayari, City Treasurer
2. Renato C. Javarez, LGOO V, City DILG
3. Marina April V. Cahilig, Administrative Officer V, City Accounting Office
4. Angelina E. Magbanua, Administrative Officer I, HRMO
5. Elsa O. Colar, LAOO III, City Assessor’s Office
6. Clyde A. Caabay, ITO I, OCPDC
7. Roberto D. Herrera, Budget Officer IV
8. Engr. Rey Maranan, LGOO, City DILG
9. Hon. Oliver Miguel Reynoso, Punong Brangay, Masigla, CDC Representative
10. Hon. Luis Maracaaida III, City Councilor
11. Hon. Mark Hagedorn, City Councilor
Chapter 2

THE CITY’S VISION AND THE
NATIONAL GOALS OF PHYSICAL PLANNING

1. Introduction

There are two ways in which the City’s vision statement reflects the LGU’s resolve to act out its role as an effective partner in the attainment of national goals. One, through the “outward looking” component of the vision statement, the City identifies the products and services it can offer as its unique or significant contribution to the development of the wider region of which it is a part, or to the nation at large. The other is by making sure that the City’s vision and sectoral goals are at least consistent with, if not directly supportive of the national goals.

This chapter demonstrates how the vision of Puerto Princesa relates to the national goals of physical planning as adopted by the National Land Use Committee.

2. National Physical Planning Goals

The National Land Use Committee has adopted the following goals which all political jurisdictions and administrative levels are enjoined to carry in their respective physical development plans:

a. Rational distribution of the population
b. Access by the population to social services and economic opportunities
c. Sustainable utilization of resources
d. Maintenance of environmental integrity

2.1 Rational population distribution. This goal of physical planning can be pursued at different levels. At the national level, this goal is being implemented through the long-running policy of “national dispersion through regional concentration”. This entails the development of the cities of Cebu and Davao as counter-magnets to Metro Manila and the re-population of sparsely populated regions through agricultural resettlement programs. At the regional and provincial levels, rational population distribution is achieved by maintaining a functional hierarchy of urban centers, ranging from major to minor and satellite centers. Through these urban centers government services and economic opportunities are being delivered more or less efficiently to the regional population.

At the city or municipal level, rational distribution of the population can be achieved through a properly conceived and designed urban form characterized
by such indicators as concentration without congestion, well-serviced communities in hazard-free locations, and the like.

2.2 Access to social services and economic opportunities. This goal is deemed achieved if appropriate social services are provided in adequate amounts at reasonable proximity to the intended users, if jobs and livelihood opportunities exist to enable the people to earn sufficient income to pay for the goods and services they need, and where opportunities are open to all regardless of race, ethnicity, gender, or political and religious affiliation.

2.3 Sustainable utilization of resources. Resources are sustainably utilized if food security is assured for all, when production processes are cost effective, when there is waste minimization and all forms of wasteful practices carefully avoided, and when every household, firm or establishment practices recovery, reuse and recycling of waste.

2.4 Maintenance of environmental integrity. This goal is attained when there is a clear balance between the built and unbuilt environments, minimized impervious surfaces in the built-up areas, maximized use of renewable energy, when public and private places are litter free, and high level of biodiversity in flora and fauna is maintained.

3. Relating the City’s vision to the national goals

For many years the city of Puerto Princesa has self-consciously cultivated the image of a “city in a forest.” The city’s inhabitants desire to keep the same image indefinitely into the future, not only as an ideal to aspire for but as a reality to live with.

The image of a city in a forest best encapsulates the city’s vision articulated as early as a decade earlier:

“Puerto Princesa: A model city in sustainable development, exhibiting the character of a city in a forest and demonstrating the proper balance between development and environment.”

What does it mean for Puerto Princesa to be a model city in sustainable development? To determine the full answer is to split the question into two: 1) What services, lessons or experiences can Puerto Princesa offer as its unique contribution to regional and national development? 2) What kind of environment for living and for making a living can Puerto Princesa assure its present and future inhabitants? The first pertains to the desired roles that the city can perform in its regional context. This is known as the outward-looking
component of the vision. The second embodies the desired qualities of the city as a human habitat. This part is called the inward-looking component of the vision.

3.1 Desired Regional Roles of Puerto Princesa City. Notwithstanding its newly acquired status as a highly urbanized city (HUC) which confers on Puerto Princesa political independence from the province of Palawan, the city’s geographical, economic and cultural ties with the province and with the rest of the country remain unaltered. Considerations of what the city can best contribute to the development of the province and the wider region are not only a valid concern but also an imperative. It fulfills one of the main objectives of devolution according to the Local Government Code (Sec. 2, a): to enable LGUs “to become effective partners in national development.”

Three major roles for Puerto Princesa to play in the region, derived from the vision of a model city in sustainable development have been identified, namely:

a. As an eco-tourism destination.

b. As exemplar of healthful recreation.

c. As a center for applied research in ecology, ecosystems, marine and terrestrial flora and fauna; in indigenous knowledge systems, practices and folkways; and in environmental governance initiatives.

3.1.1 Eco-tourism destination. The increasing tourist traffic, both local and foreign, is contributing no doubt to increased volume of business for the local economy. But Puerto Princesa does not promote any type of tourism. It has chosen to specialize in eco-tourism because this type of tourism is the most environment-friendly and sustainable. Among other benefits, eco-tourism offers pleasurable experiences with minimal tourist impact upon the natural environment. Moreover, eco-tourism especially of the community-based variety, accords mutual benefits to both the tourists and the host communities.

To ensure minimal tourist footprints, the provision and positioning of support facilities are non-intrusive. Facilities for tourist accommodation are kept at a safe distance from the tourist resource while transport and communication facilities are laid out with the most unobtrusive alignments. Visitor welfare and security are assured through professional service-oriented workers, maintenance of peace and order, adequate supply of food, water and power, and effective enforcement of standards and regulations. Finally, consistent with the role of Puerto Princesa as a model, good practices will be continuously documented for replication by other LGU’s elsewhere.
Relative to the national goals of physical planning, this desired role of Puerto Princesa is seen to contribute directly and substantially to providing access to economic opportunities, to sustainable utilization of the city’s resources, and to the maintenance of environmental integrity. It will, however, have a minimal contribution to the goal of rational distribution of population.

3.1.2 Healthful sports and recreation. Consistent with and complementary to its espousal of environment and community-friendly tourism Puerto Princesa prides itself in being a promoter of wholesome and healthful sports and recreation. Examples of recreational activities that are very much welcome in Puerto Princesa include, but are not limited to nature-oriented sports like mountaineering, zip lining, canopy walk, nature trekking, eco-camping, rock climbing, rappelling, caving, island hopping, hiking, biking, bird watching, dolphin/whale watching, monkey trailing, para-sailing, snorkeling, SCUBA diving; active indoor sports like basketball, volleyball, badminton, swimming; outdoor sports like tennis, golf; simple outdoor recreation like picnicking, beach swimming, and similar pursuits. Competitive sports that expose the protagonists to extreme risks such as motocross racing and sports activities that encourage heavy betting and habitual gambling such as horse racing, cockfighting, jai-alai, casino, lottery in its many forms, and the like will not be actively promoted in the city.

The active promotion of healthful recreation is achieved by positive programs such as infrastructure support, provision of ample space and facilities to host regular sports events, public funding for multi-level inter-jurisdictional athletic meets and competitions, as well as policies formulated and implemented to prevent unwholesome activities from taking place in the city.

This desired role of Puerto Princesa is seen as having minimal impact on the goal of rational population distribution because the types of recreational activities being promoted are not likely to induce migration. On the other hand, it will open substantial access by the local residents and visitors alike to social services and provide the former with job opportunities. Similarly, it will redound to sustainable utilization of resources and maintain the integrity of the environment provided proper safeguards are put in place.

3.1.3 Center for applied research in ecology, ecosystems, marine and terrestrial flora and fauna, indigenous knowledge systems, practices and folkways and environmental governance initiatives. A more systematic approach to playing out its role as model in sustainable development is the establishment of an “Institute for Applied Research.” The institute is seen functioning as the hub for
the collection and exchange of scientific information in the areas of ecology and ecosystems, marine and terrestrial flora and fauna, indigenous people’s knowledge systems, practices and folkways, and the application of such information in regulating natural resources development, management, preservation and other aspects of environmental governance. Researches in the utilization of scientific knowledge are conducted in-house by the Institute’s organic staff, through collaboration with existing colleges and universities, or by funding relevant thesis and dissertations of graduate students. Dissemination of research results is routinely done by means of conferences, seminars, forums, workshops, conventions and multi-media publications.

Some visible outcomes of the effectiveness of this role of Puerto Princesa include an updated resource inventory of flora and fauna, a more precise zonation of environmentally critical area networks (ECAN), more marine (fish sanctuaries, marine reserves and the like) and terrestrial (bird sanctuaries, etc.) protected areas established, watershed management, forest land use planning, ancestral domain delineation and management, and more relevant policies enacted. More extensive documentation of ethnographic studies using print media, film, video and electronic media is also an anticipated outcome, so is the number of such environmental governance initiatives that found replication, adoption or adaptation among other local government units elsewhere.

This desired role of Puerto Princesa strongly supports the fourth goal of national physical planning, namely, maintenance of environmental integrity. To a certain degree, especially when researches on indigenous people’s folkways can lead to improvements in their settlement patterns and quality of life, this desired role will also contribute to the attainment of the goals on rational population distribution and ensuring access to social services. However, it is seen to contribute slightly to the goal on sustainable utilization of resources.

3.2 Desired Qualities as Human Settlement. The other half of what Puerto Princesa can do as a model in sustainable development is to secure for its own inhabitants the qualities of a desirable human habitat. Known as the inward-looking component of the vision, it is concerned with describing the future scenario in terms of desired qualities of the various sectors comprising the totality of local development. Thus, each of the five development sectors generated a set of descriptors or desired qualities that best describe what they want their sector to be like in the future. By putting together the descriptors for the social, economic, environment, infrastructure and multi-institutional sectors, a composite picture of Puerto Princesa as a desirable human settlement is derived.
To further facilitate monitoring and evaluation to determine progress toward attainment of the vision each descriptor is translated into measurable and observable indicators of success. Each success indicator is then matched with each of the national goals to determine whether it is directly or indirectly supportive of the national goal, or whether it has no contribution to, or worse, it is in conflict with the national goal.

3.2.1 Desired qualities of the city’s inhabitants. Under the old vision of the city the inhabitants are looked upon as disciplined and responsible stewards of the City’s ecosystems and resources. In the view of the Social Sector, for the people to be disciplined they must be God-fearing; to be responsible they have to be empowered; and to be able to do all these they must be in good health.

These more specific traits envisioned for the city residents are said to have been attained if the following indicators are observed to obtain:

a. God-fearing

- Zero unsolved crimes
- Zero number of neglected children
- Zero number of children in conflict with the law (CICL)
- Zero number of dysfunctional families
- 100% compliance with the Anti-Illegal Drug Law
- 100% compliance with various laws protecting children, women, and the family
- 100% compliance with “No Smoking in Public Places”
- 100% observance of curfew hours by minors
- Zero illegal gambling
- No tax delinquents, evaders and cheats
- Full participation in spiritual and religious activities

b. Empowered

- All children 6-12 years old are in elementary school
- All 13-16 year old youth are in secondary school
- 100% participation in Community Organizations/Activities
- 100% Electoral Participation Rate
- 100% Graduation Rate in Elementary and Secondary Levels
- All persons 10 years old and above able to read and write simple messages in any language or dialect
- All 3-5 year old children have access to ECCD
- 100% of live births registered
- 100% implementation of Accessibility Law
- 100% implementation of IPRA Law
- Access to Information Technology (IT)
- Complete registration of senior citizens and full availment of their privileges
- All inhabitants in the labor force (15 years old and over) have equal access to manpower development training
- Men and women are equal partners in development
- All households have decent housing
- All differently-abled persons avail of privileges and services due them.

c. Healthy

- All lactating mothers practice exclusive breastfeeding for the first 6 months
- All children are fully immunized against TB, DPT, Polio, Hepa B and measles
- All are well nourished particularly children and mothers.
- All pregnant women get at least four pre-natal check-ups
- All pregnant mothers are fully immunized against tetanus
- All pregnant women who are at risk get emergency obstetric care
- All deliveries are handled by skilled personnel and performed with proper health facilities
- All pregnancies are spaced at least three years apart
- All families have access to and use only iodized salt, fortified rice and other fortified foods
- All households in the city have access to safe drinking water
- Every household in the city has sanitary toilet
- Reduced prevalence of dental carries
- Improved environmental sanitation in urban poor communities where disadvantaged children are found
- All sick persons have access to medical services/facilities
- 100% of population eat at least 3 full meals a day.
- No mentally ill cases in the City.
- All residents practice healthy lifestyles
- City is STD/HIV/AIDS free

3.2.2 Desired character of the local economy. The old vision has drawn up a scenario wherein the city inhabitants enjoy an improved quality of life “as they enjoy directly or indirectly the bounties of nature and the fruits of their labor…with appropriate facilities for tourism agriculture, commerce and environment-friendly industries.”

The Economic Sector has summarized this scenario into three adjectives namely, diversified, vibrant and environment-friendly and generated corresponding success indicators as shown below.

a. Diversified

- 100% of potentially irrigable land irrigated and developed
- Optimum utilization of fishing grounds by local fishers
- Optimum utilization of agricultural land
- Non-timber forest product related industries multiplying
- Rural industries proliferate
- Availability of non-farm technical jobs
- Exportable surplus in livestock and poultry production
- Excellent power and energy generation support
- Strong Construction Industry
- Competitive manufacturing firms
- Potential tourism attractions developed
- Tourist attractions diversified and fully utilized
b. *Vibrant*

- No business closures
- Prevailing industrial peace
- Zero unemployment
- Income per capital above the national poverty threshold
- Utilities and infrastructure support facilities in place
- Specific areas in CBD regulated and provided for informal sector
- Banks and other financial institutions available
- Distinct PPC products competing in global market
- Investment Code on fiscal incentives implemented
- Tourist arrivals and tourism receipts increased
- Tourist attractions and events promoted and marketed
- Tourism establishments offering high standards of facilities and services to tourists flourishing

c. *Environment-friendly*

- No metallic (large scale) mining industry
- No hazardous and pollutive industries (ECC and other standards compliant)
- Solid and Liquid Waste Management Facilities in place
- All establishments practicing 3R’s (Reduce, Reuse, Recycle)
- Emissions and effluents from transport vehicles and industries within DENR standards
- Sustainable ecotourism achieved
- Zero noise pollution

3.2.3 Desired qualities of the environment. Other than the phrase “city in a forest,” there are no explicit descriptors for the desired qualities of the environment under the old vision statement. The Environment Sector has therefore supplied new descriptors for the desired qualities of a city in a forest: *clean, safe* and *restored*. The success indicators for each descriptor are attached below.
a. **Clean**

- Air quality within DENR standards (TSP not exceeding 80µg/Ncm; PM 10 not exceeding 54 µg/Ncm).
- Water quality within DENR standards.
- No occupancy on salvage zones/easement of rivers and seas.
- All residents (households, firms and institutions) segregate their solid waste at source accordingly and dispose it ecologically.
- Hazardous waste properly disposed of.
- Sewage and effluent monitoring system in place.

b. **Safe**

- Safe/potable drinking water (continuous protection and enrichment of watersheds).
- All farmers/producers adopted organic farming practices.
- Rabies/avian flu-free.
- No violators on noise pollution regulation (not exceeding 60 decibels at residential).
- All liquid wastes from establishments treated before discharging.
- All rivers and coastal waters are safe for aquatic life forms and recreational activities.
- All Environmental laws and ordinances strictly enforced.
- Zero burning of plastics.

c. **Restored**

- The terrestrial forest covering 159,203 hectares and mangroves and other coastal vegetation growing in 5,737 hectares restored and enriched and protected.
- All Ancestral Domains, Protected Areas and Watersheds delineated and boundaries marked.
- All river embankments rehabilitated and maintained.
- Zero erosion in coastal zones.
- No trace of salt water intrusion.
Policy on ground water extraction adopted and implemented.
Disturbed caves restored and protected.
All wildlife habitats restored and protected.

3.2.4 Desired quality of the built environment. The old vision has partially described the desired cityscapes thus: “Its major thoroughfares developed as boulevards, promenades and stretches of tree-lined and coastal highways interspersed with parks and resorts....”

To draw up a more complete scenario of a desirable cityscape the Infrastructure Sector came up with the descriptors planned, balanced and attractive and generated measurable indicators of success as follows:

a. Planned

- 100% infrastructure facilities for agriculture developed
- 100% rural and urban barangays energized
- 100% city thoroughfares developed
- Well-designed drainage system in place
- City road networks well articulated
- 100% flood free city
- Telecommunication facilities fully established/are in place
- Water utilities fully upgraded to Level III
- Institutions for elderly and disadvantaged sector fully established and operational
- Public service institutions put in-place
- Airport and seaport facilities and services of international standard
- Inter-modal transport linkages established
- Rainwater harvesting facilities in place
- Land transport terminal and services of national standard
- Liquid waste management facilities in operation
- Educational facilities conformed with national standards
- Protective services facilities fully established
- Health support facilities adequate
b. **Attractive/balanced**

- Boulevards, promenades and stretches of tree-lined and coastal highways interspersed with parks fully developed
- 100% environment-friendly Solid and Liquid Waste Management Systems established
- Slum-free city
- Hierarchy of public parks established

3.2.5 **Desired quality of local governance.** This aspect of local development is conspicuously missing from the old vision statement. The task of generating the desired qualities of local leadership and governance processes falls on the Institutional Sector. Accordingly, the Sector came up with the following descriptors: *transparent, participative* and *self-reliant*.

To determine the level of attainment of these ideals, appropriate success indicators were likewise formulated as shown below.

a. **Transparent**

- 100% enforcement of Anti-Red Tape Act and Anti-Fixer Law in all government transactions
- Quarterly posting of mandatory periodic reports on collections and disbursements including grants of the City in conspicuous and public areas/places
- 100% local residents/bidders participation in government procurement process

b. **Participative**

- 100% of the fully organized and accredited NGOs/POs actively participating in the operations of the special bodies of the City
- 100% participation of accredited and non-accredited NGOs/POs in all government programs/projects
- 100% execution of LDC functions as mandated in Sec. 109 of the Code
- 100% functional Executive Committee created according to Sec. 111 of the Local Government Code
- 100% functional Sectoral Committees mandated under Sec. 112 of LGC

c. Self-reliant

- 100% SRI requirement met
- 100% implementation of investment incentives and development related ordinances
- 100% self sustaining economic enterprises
- Debt-free City Government
- 100% implementation of revenue assessment and collection schemes enumerated in the Local Government Code
- Balanced budget in each fiscal year of operation

Relating the foregoing success indicators for each sectoral descriptors to the four national goals of physical planning yielded the following results. (See Annex 2.1 for details.)

Of the total of 101 success indicators, an overwhelming proportion of 88% and 89% are deemed directly supportive of goal no. 1 and goal no. 2, respectively. An equal proportion of more than half or 59% directly support goal no. 3 and goal no. 4. The remaining indicators relate to the goals in some indirect way. An insignificant number of indicators either have no clear relation to or are in conflict with the goals.

On the whole, the vision statement of Puerto Princesa is strongly supportive of the national goals of physical planning.
## ANNEX 2.1

### THE CITY’S VISION AND THE NATIONAL GOALS OF PHYSICAL PLANNING

<table>
<thead>
<tr>
<th>Vision of Puerto Princesa</th>
<th>National Physical Planning Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Outward – Looking</strong></td>
<td>Goal 1</td>
</tr>
<tr>
<td>Desired Roles of Puerto Princesa</td>
<td></td>
</tr>
<tr>
<td>1. Eco-Tourism destination</td>
<td>x</td>
</tr>
<tr>
<td>2. Exemplar of healthful recreation</td>
<td>x</td>
</tr>
<tr>
<td>3. Center for applied research in ecology, ecosystems, marine and terrestrial flora and fauna; in indigenous knowledge systems, practices and folkways; and in environmental governance initiatives</td>
<td>✓</td>
</tr>
</tbody>
</table>

<p>| <strong>II. Inward – Looking</strong> | | | | |
| Desired Qualities of Puerto Princesa as Human Habitat | | | | |
| <strong>A. Social Sector</strong> | | | | |
| 1. God fearing | | | | |
| ‣ Zero Crime Rate | ✓ | ✓ | ✓ | ✓ |
| ‣ Zero number of neglected children | ✓ | ✓ | ✓ | ✓ |
| ‣ Zero number of children in conflict with the law (CICL) | ✓ | ✓ | ✓ | ✓ |
| ‣ Zero number of dysfunctional families | ✓ | ✓ | ✓ | ✓ |
| ‣ 100% compliance to the Anti-Illlegal Drug Law | ✓ | ✓ | ✓ | ✓ |
| ‣ 100% compliance to the R.A. 9262 (VAWC Law) and R.A. 7610 (Special Protection of Children against Child Abuse, Exploitation and Discrimination) | ✓ | ✓ | ✓ | ✓ |
| ‣ 100% compliance to “No Smoking in Public Places” | ✓ | ✓ | ✓ | ✓ |
| ‣ 100% implementation of curfew hours to minors | ✓ | ✓ | o | o |</p>
<table>
<thead>
<tr>
<th>II. Inward – Looking</th>
<th>National Physical Planning Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Social Sector (cont.)</td>
<td>Goal 1</td>
</tr>
<tr>
<td>1. God fearing</td>
<td></td>
</tr>
<tr>
<td>▪ Zero illegal gambling</td>
<td>✓</td>
</tr>
<tr>
<td>▪ No tax delinquents, evaders and cheats</td>
<td>✓</td>
</tr>
<tr>
<td>2. Empowered</td>
<td></td>
</tr>
<tr>
<td>▪ All children 0-5 years old are well nourished</td>
<td>✓</td>
</tr>
<tr>
<td>▪ All children 6-12 years old are in elementary school</td>
<td>✓</td>
</tr>
<tr>
<td>▪ All 13-16 years old are in secondary school</td>
<td>✓</td>
</tr>
<tr>
<td>▪ 100% participation in community organizations/activities</td>
<td>✓</td>
</tr>
<tr>
<td>▪ 100% Electoral Participation Rate</td>
<td>✓</td>
</tr>
<tr>
<td>▪ 100% Graduation Rate in elementary and secondary levels</td>
<td>✓</td>
</tr>
<tr>
<td>▪ All persons 10 years old and above able to read and write simple message in any language or dialect</td>
<td>✓</td>
</tr>
<tr>
<td>▪ All 3-5 years old children have access to ECCD</td>
<td>✓</td>
</tr>
<tr>
<td>▪ 100% live births registered</td>
<td>✓</td>
</tr>
<tr>
<td>▪ 100% implementation of Accessibility Law</td>
<td>✓</td>
</tr>
<tr>
<td>▪ 100% implementation of IPRA Law</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Access to information technology</td>
<td>✓</td>
</tr>
<tr>
<td>3. Healthy</td>
<td></td>
</tr>
<tr>
<td>▪ All infants 0-11 months old fully immunized</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Zero malnutrition rate of preschoolers (0-71 months old)</td>
<td>✓</td>
</tr>
<tr>
<td>▪ All post partum mothers have positive attitude towards breastfeeding practices</td>
<td>✓</td>
</tr>
</tbody>
</table>
## Vision of Puerto Princesa

### National Physical Planning Goals

<table>
<thead>
<tr>
<th>II. Inward – Looking</th>
<th>Goal 1</th>
<th>Goal 2</th>
<th>Goal 3</th>
<th>Goal 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Social Sector (cont.)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Healthy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ All expectant mothers have access to skilled health workers</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% access to health facilities especially in the rural areas</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ All households with access to safe drinking water</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ All households have access to sanitary toilet disposal</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% availability of contraceptive devices</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ All residents practice healthy lifestyle</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% full implementation of ASIN Law</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>B. Economic Sector</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Diversified</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ 100% of potentially irrigable land irrigated</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Optimum utilization of fishing grounds by local fishers</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Optimum utilization of agricultural land</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Self-sufficient livestock and poultry production</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Non-timber forest product related industries multiplying</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Rural industries proliferate</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Availability of non-farm/technical jobs</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Excellent power and energy generation support</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Strong construction industry</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Competitive manufacturing firms</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vision of Puerto Princesa</td>
<td>National Physical Planning Goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. Inward – Looking</td>
<td>Goal 1</td>
<td>Goal 2</td>
<td>Goal 3</td>
<td>Goal 4</td>
</tr>
<tr>
<td>B. Economic Sector (cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Vibrant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ No business closure</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Prevailing industrial peace</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Zero unemployment</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Income per capita above the national poverty threshold</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Utilities and infrastructure support facilities in place</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Specific areas in CBD regulated and provided for informal sector</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Concentration without congestion</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Banks and other financial institutions available</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ World-class eco-tourism destinations/products and services</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Distinct PPC products competing in global market</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Investment code on fiscal incentive fully implemented</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3. Environment –friendly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ No hazardous and pollutive industries (ECC compliant)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Solid and liquid waste management facilities in place</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Emission from industries within DENR standards</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ No mining industry</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>C. Environment Sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Clean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Good air quality (TSP not exceeding 80µg/Ncm; PM10 not exceeding 54µg/Ncm; chemical pollutants: NOx, Sox</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ No occupancy on salvage zones/easement of rivers and seas</td>
<td>✓</td>
<td>x</td>
<td>x</td>
<td>✓</td>
</tr>
<tr>
<td>Vision of Puerto Princesa</td>
<td>National Physical Planning Goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. Inward – Looking</td>
<td>Goal 1</td>
<td>Goal 2</td>
<td>Goal 3</td>
<td>Goal 4</td>
</tr>
<tr>
<td>C. Environment Sector (cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Clean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ All residents/ establishments/ institutions/ industries segregate their solid waste at source accordingly and dispose it ecologically</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ All environmental laws and ordinances strictly enforced</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Safe drinking water</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ All liquid wastes from establishments treated before discharging</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ All rivers and coastal waters are safe for recreational activities</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>2. Safe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ All residents/ establishments/ institutions/ industries segregate their solid waste at source accordingly and dispose it ecologically</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ All environmental laws and ordinances strictly enforced</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Safe drinking water</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ All farmers adopted organic practices</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ No violators on noise pollution regulation (not exceeding 60 decibels at residential)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ All liquid wastes from establishments treated before discharging</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ No residential areas on hazard prone areas</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vision of Puerto Princesa</td>
<td>National Physical Planning Goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>--------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II. Inward – Looking</td>
<td>Goal 1</td>
<td>Goal 2</td>
<td>Goal 3</td>
<td>Goal 4</td>
</tr>
<tr>
<td>C. Environment Sector (cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Restored</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ All rivers and coastal waters are safe for recreational activities</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ The terrestrial forest covering 159,203 hectares and mangroves growing in 5,737 hectares restored and enriched</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ All Ancestral Domains, Protected Areas, Watersheds and parks delineated and boundaries marked</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ All river embankments rehabilitated and maintained</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ No trace of salt water intrusion on ground water</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Policy on groundwater extraction adopted</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Policy on rain/storm water collection of every project/establishment owner Adopted</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>D. Infrastructure Sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Planned</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ 100% infrastructure facilities for agriculture developed</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ 100% rural and urban barangays electrified</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>▪ 100% City thoroughfares developed</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>▪ 100% flood free City</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Telecommunication facilities fully established/are in place</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>▪ Water utilities fully upgraded to Level III</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Institutions for the elderly and disadvantaged sector fully established and operational</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Vision of Puerto Princesa</td>
<td>National Physical Planning Goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Outward – Looking</td>
<td>Goal 1</td>
<td>Goal 2</td>
<td>Goal 3</td>
<td>Goal 4</td>
</tr>
<tr>
<td>D. Infrastructure Sector (cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Planned</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Public service institutions put in-place</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>▪ Airport and seaport facilities and services of international standard</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
</tr>
<tr>
<td>2. Attractive</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Boulevards, promenades and stretches of tree-lined and coastal highways interspersed with parks fully developed</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ 100% environment – friendly Solid Waste Management Systems established</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Squatter-free City</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>3. Balanced</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ Educational facilities conformed with national standards</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>▪ Protective services facilities fully established</td>
<td>✓</td>
<td>✓</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>E. Institutional Sector</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Transparent</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ 100% enforcement of Anti-Red Tape Act and Anti Fixer Law in all government transactions</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Monthly/quarterly posting of mandatory periodic reports on collections and disbursements of the City in conspicuous and public area/places/publication/network</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ 100% local residents/bidders participation in government procurement processes</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>o</td>
</tr>
<tr>
<td>Vision of Puerto Princesa</td>
<td>National Physical Planning Goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>II. Inward – Looking</strong></td>
<td><strong>Goal 1</strong></td>
<td><strong>Goal 2</strong></td>
<td><strong>Goal 3</strong></td>
<td><strong>Goal 4</strong></td>
</tr>
<tr>
<td><strong>F. Institutional Sector (cont.)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Participative</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ 100% of the fully organized and accredited NGOs/POs actively participating in the operations of the special bodies of the City</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% participation of accredited and non-accredited NGOs/POs in all government program/projects</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% execution of Local Development Council (LDC) functions as mandated in Section 109 of the Local Government Code</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% functional Executive Committee created according to Section 111 of the Local Government Code</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% functional Sectoral Committees mandated under Section 112 of the Local Government Code</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% functional Local Development Council Secretariat as mandated under the Section 113 of the Local Government Code.</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>3. Self-reliant</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ 100% Self Reliance Index requirement</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% implementation of investment incentives and development related ordinances</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ 100% self sustaining economic enterprises</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>▪ Debt-free</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Vision of Puerto Princesa</td>
<td>National Physical Planning Goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>II. Inward – Looking</strong></td>
<td>Goal 1</td>
<td>Goal 2</td>
<td>Goal 3</td>
<td>Goal 4</td>
</tr>
<tr>
<td>E. Institutional Sector (cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Self-reliant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>▪ 100% implementation of revenue assessment and collection schemes enumerated in the Local Government Code</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>▪ Balanced budget in each fiscal year of operation</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
Chapter 3

PHYSICAL DEVELOPMENT CHALLENGES

1. Introduction

In order to draw a sharp contrast between the desired quality of the city as described in the preceding chapter and the current reality, this chapter takes stock of the current status of development of Puerto Princesa, focusing on the aspects of development that touch on land and other natural resources. More specifically, this chapter highlights the physical constraints to, and opportunities for future development as inputs to the formulation of the Comprehensive Land Use Plan (CLUP). Readers who are interested in a comprehensive characterization of the current state of development of Puerto Princesa may refer to Chapter 4 of the Comprehensive Development Plan (CDP), a separate volume.

Discussions in this chapter revolve around three sub-themes: 1) Constraints and opportunities posed by natural resource and geophysical endowments of Puerto Princesa, 2) Issues related to utilization and conservation of such resources, and 3) Disparities in the allocation of services and provision of physical facilities between the urban and the rural areas.

2. Geophysical and Natural Resource Endowments

2.1 Inordinately large area of unclassified public forest. Puerto Princesa City and Davao City share the honor of having the largest land areas among the existing cities of the Philippines. Puerto Princesa, however, has a relatively large area that remains Unclassified Public Forest. Data gathered as of 2008 showed a total of 50,301.71 hectares of alienable and disposable (A&D) or 22% of the total land area of the city; 18,210.98 hectares of classified forest (Timberland) or 18% of the total city area; and 158,161.33 hectares or 70% of the city’s land area remaining unclassified (See Fig. 3.1).

What are the implications of this observation?

From the conservationist’s point of view, the fact that a large portion of the city will be left open and not available for development will only bring a great deal of good to the inhabitants of the city. Potentially this undeveloped area will remain under vegetative cover and will be able to perform various environmental services such as keeping a steady supply of oxygen, carbon sequestration, aquifer recharge, and the like, for the ultimate well-being of the
human population. This is also consistent with and highly supportive of the image of Puerto Princesa as a city in the forest.

From the developmental perspective, on the other hand, the observed condition will have the effect of depriving the city of a substantial source of additional revenue and other benefits, tangible and intangible. Where will these potential benefits come from?
Assume a hypothetical case where the entire land area of Puerto Princesa has been subjected to basic land classification. Using the criterion of 18% slope, the total coverage of A&D lands would reach 84,494 hectares or an additional 34,000 hectares over the current figure. So much land can be made available in the market and once the title has been transferred to private owners, the parcels are immediately assessed for real property tax purposes. The hidden social benefit of this scenario is that there will be many more qualified individuals and groups who are able to acquire their own piece of land and along with it the empowering status of being property owners.

But if all areas with slopes of 18% and below are released as A&D will not the total hectarage of forest lands be reduced? On the contrary, the remaining 142,180 hectares will now be classified as forest land compared to the current figure of 18,211 hectares (Refer to Fig. 3.2). That gives a ratio of 63% forest or open areas. This ratio far exceeds the average for most of the world’s capital cities which ranges from 25% to 40% open space.

Finally, from the perspective of environmental governance the unclassified public forest is virtually in limbo. Its indeterminate legal status leaves it open to all kinds of speculative claims and even illegal occupation while regulatory agencies are adamant to enforce whatever policies apply. The net effect is over exploitation and degradation of resources.

2.2 Large chunks of forest land under ancestral domain claims. Ancestral domain claims by various tribes of the native population in different parts of the city have an aggregate area of 93,839 hectares. This is much bigger than the area of A&D lands which is only 50,302 hectares. Ancestral domain and A&D lands take up 66% of the total land area of Puerto Princesa. The remaining 34% is the share of forest lands.

Although the ancestral domain is considered private it is exempt from the real property tax, special levies, and other forms of exaction. The existence of large tracts of ancestral domain lands therefore does not yield immediate benefit to the local government. Eventually, the full implementation of the Indigenous People’s Rights Act (RA 8371) will open potential sources of local revenue. Specifically, Sec. 12 of the said Act classifies as alienable and disposable (A&D) those portions of ancestral domains which are individually owned and which are “agricultural in character and are actually used for agricultural, residential, pasture, and tree farming purposes, including those with a slope of eighteen percent (18%) or more”. The same section also gives
owners of such ancestral lands the option to secure title to their property under the Land Registration Act (CA 141, as amended). The City Assessor should keep track of these registered ancestral lands and include them in the roster of taxable property. In addition, the City Assessor should implement Sec. 60 of the IPRA which removes the tax-exempt privileges from those portions of ancestral domains which are actually used for large-scale agriculture, commercial forest plantations, or residential purposes, or upon titling by private persons.

2.3 Geographical configuration. The island province of Palawan, including Puerto Princesa, is narrow and elongated and divided longitudinally in the middle by spine-like mountain ranges and steep hills and is framed on two sides by two water bodies, the West Philippine Sea on the west and the Sulu Sea on the east. This peculiar geographical configuration poses a number of development limitations and challenges such as the following.

The potential for groundwater storage and production is limited due to the relatively small size of watersheds and the short intermittent streams. Furthermore, due to the closeness of the framing seas the aquifers are highly vulnerable to saltwater intrusion.
Figure 3.2 Slope Map
• Proximity to the framing oceans, moreover, exposes the coastal areas to water-related hazards such as storm surge, tsunami, and sea level rise, the latter due to the effect of global warming. In Puerto Princesa, three out of every four barangays are situated along the coast.

The steepness of the hills and mountain ranges makes the soil highly susceptible to erosion and even landslides in some areas.

The narrow strip of valleys lying between the steep hills and the sea limits the amount of lands available for agriculture and human settlements.

2.4. Extensive coastal zone and marine resources. Compensating for the limited land resources are the extensive coastline and abundant marine resources. The coastline of Puerto Princesa stretches to a total length of 416 kilometers on both sides of the island. The total surface area of its municipal waters of 327,586 hectares is almost 50% larger than its total land area. In addition, three major embayments serve as excellent fishing grounds and important tourism resources: Honda Bay and Puerto Princesa Bay on the eastern side and Ulugan Bay on the west coast.

Mangroves, seagrass meadows and coral reefs constitute the marine life habitat. In Puerto Princesa there are 18 true and 20 associated mangrove species belonging to 14 families and 27 genera of vascular plants. Satellite data in 2004 indicate a total mangrove forest cover of 5,737 hectares widely distributed throughout the coastline but with highest concentrations in the three bays of Honda, Ulugan and Puerto Princesa. Besides serving as sanctuary for fisheries, these mangrove forests are being promoted as ecological tourism destination.

Seagrass meadows are important grazing areas for sea turtles, sea cows (dugong) and other marine wildlife which are highly prized components of sea-based recreation and tourism experiences. Dense seagrass meadows covering wide areas are found in some portions of Puerto Princesa Bay particularly in Bancal-Bancal, Iwahig and Mangingisda, in certain portions of Honda Bay from San Pedro to Tagburos, Luli Island, and Tadio/Pundeado Island, and in deeper waters off the coast from Concepcion to Binduyan. Generally, the west coast and the inner portions of the bay have sparse growth of seagrass due to the effect of siltation from eroded soil.
Coral reefs provide sanctuary for juvenile fish that are not yet ready for harvesting. They are therefore an indispensable support to the fishing industry. In Puerto Princesa, the western coast is found to have generally poor coral cover, except in two areas, Pinanganakan Island in the north and near barangay Napsan in the south. The good coral cover is mostly found along the eastern seaboard particularly off the coast of barangay Kamuning and in large portions of Honda Bay.

Preserving and enhancing the growth of these marine habitats in order that they can perform their ecological services as well as yield sustainable economic value are a continuing challenge to the physical development of Puerto Princesa.

3. The Pattern of Land Use Change

Observed changes in the way land and other natural resources are used are a strong indication of the character, intensity and direction of the city's physical development up to the present. Analysis of the causes and implications of these changes will give a hint into the challenges and opportunities for future development. Observations on land use change are based on measurements of the area coverage of various land uses taken at two points in time spanning a period of 10 years (See Table 3.1).

3.1 There is steady reduction in agricultural land coverage during the 10 year period averaging 6 ha/yr. This is due to the conversion of formerly irrigated rice lands along the national highway in barangay Tagburos, and of mango and coconut plantations in barangays Tagburos, San Jose and San Manuel to give room for large-scale investments in commercial developments such as shopping malls, hotels, and residential subdivisions. The effect of this change on agricultural production, particularly of food and feed grains is minimal considering that the major crop areas are located in the rural barangays. On the other hand, the increased investments in services and manufacturing activities is expected to create non-farm employment opportunities and boost local government receipts from taxes and fees.
As shown in Table 3.1, the observed changes in the pattern of land uses in the urban area of Puerto Princesa are discussed below.

3.2 Commercial and industrial land uses which are the defining activities in urban areas currently occupy a relatively small share in the total built-up area. However, both types of urban land uses have shown increases at the rate of 8 ha/yr in the case of commercial, and 2 ha/yr for industrial. Compared to that of commercial land use, the growth of industrial land use is quite sluggish. This is consistent with the long-standing environmental conservation policy of the city administration. Ever wary of the pollution impact of most manufacturing
processes, the city government has been very cautious about allowing industrial firms to locate in Puerto Princesa. Given the changing character of manufacturing activities in the wake of widespread use of smart and clean technologies, local government officials might need to rethink their policy on industrial land use. There are two good reasons for promoting industrial investments in Puerto Princesa. One is the well-known multiplier effect wherein one industrial employment created will give rise to a multiple of other jobs in ancillary activities. Another reason is addressed to reducing the logistical vulnerability of an island like Palawan: It should at least be able to produce and process its own food and energy requirements.
3.3 **Residential land use** grows at the staggering rate of 97 ha per annum. Already residential land use has the most extensive area coverage in the existing built-up area (See Fig. 3.3). What factors explain the disproportionate share of residential land use in the built environment of Puerto Princesa? The immediate cause can be traced to the successive acts of reclassification of agricultural and forest areas to urban uses through Presidential Proclamation in Tiniguiban-Kaakbayan area, through an act of Congress in Tiniguiban and Sta. Monica, through an amendment of the zoning ordinance affecting portions of San Jose and San Manuel, and through spot zoning to develop relocation sites for socialized housing projects in Sicsican, Tagburos, Sta. Monica, Sta. Lourdes and Irawan. Also contributing to the extensive area coverage of residential land use is the existence of informal settlements encroaching on lands of the public domain such as the Government Center, public parks, and foreshore areas in coastal zones (See Fig. 3.4).

Figure 3.4 Location of Formal and Informal Settlements
Urban Area, Puerto Princesa City
Probing deeper into why people want to come and reside in Puerto Princesa can lead to a number of probable reasons. It can be surmised that the early settlers in Palawan and in Puerto Princesa for that matter were “pioneers” considering that Palawan, together with Mindanao, was promoted as the “Land of Promise”. Palawan and Mindanao over the decades before and after 1950 received the bulk of frontier settlers from the rural areas of mainland Luzon under various agricultural resettlement programs. Directly or indirectly, Puerto Princesa benefited from this influx of frontier settlers. Many of the children and grandchildren of the frontier settlers have since moved to become the early residents of Puerto Princesa. The opening of the Iwahig Penal Colony has also contributed significantly to the population growth of Puerto Princesa. Inmates who are awarded farm lots in the penal farm are able to raise their own families inside the colony. More recent migrants into Puerto Princesa seem to have a different profile and motivation. Increasingly, Puerto Princesa is attracting the more affluent, highly educated urbanites who are in search of alternative lifestyles. In the eyes of outsiders especially the young urban professionals, corporate executives, and retirees, Puerto Princesa is perceived as the perfect example of “ex urbia”. Ex urbia is described by geographers as a place sufficiently distant from a metropolis to be able to retain its rural character and yet not too far to be inaccessible. It is a place that is basically rural in appearance but has acquired, and can actually support the cultivation of urban tastes and lifestyles. Being a mere one hour away by air from Metro Manila, Puerto Princesa is increasingly being eyed as an ideal place for setting up second homes for weekend rest and recreation, for engaging in earth-bound hobbies like a gentleman’s farm or pleasure boating and diving, or for permanent settlement in retirement. These are the type of future residents of Puerto Princesa whose servicing requirements should be the subject of in-depth study.

Another factor that will attract the better-informed segment of the population to settle in Puerto Princesa is the felicitous information that Palawan is more hazard free than any other part of the Philippine archipelago as far as tectonic earthquakes and volcanic eruptions are concerned. Perhaps it is about time places outside the urban area which are currently sparsely populated are promoted for development (See Fig. 3.5).

3.4 Institutional land use has experienced a decrease at the rate of 7 ha/yr. This is due to the conversion of portions of a number of government-owned lands to residential use such as the military reservation in Tiniguiban, the lot owned by the Palawan Integrated Area Development Project in Irawan, and the
government center in Sta. Monica. The net effect of the reduction in the area of institutional reserves is the shortage of office space for a few offices of the City Government. These offices resort to renting office spaces in private buildings scattered in different parts of the city. Moving around to transact business with such offices entails additional expense on the part of the general public.

3.5 Utilities, except roads and tourism-related facilities have experienced a net increase of 4 ha/yr. The building of roads however, seems to have lagged behind. This trend has to be reversed if effective control of the pace and pattern of urbanization is desired.

All together the built-up area grew from a total coverage of 2,421.15 hectares in 1998 to a combined total of 3,438.07 hectares in 2009. This represents an annual increase of 101.69 hectares. At this rate, the remaining vacant lands will be completely built over in 20 years, assuming that current densities are maintained and assuming further that the agricultural lands in the urban area especially the irrigated and irrigable rice lands continue to be protected from conversion.

3.6 A final observation regarding the pattern of land use change is the increasing share of forest and open space. Over the 10 year period of observation, forests and open space in the urban area actually increased by 350.24 hectares or a yearly increase of 35 hectares. There are two processes that contribute to the increase of open space. One is the consistent reforestation programs of the city government particularly in the watersheds and the mangrove forests. The other factor that adds to total open space is the mandatory 30% open space requirement imposed on all subdivision projects with at least 10 saleable lots.

This continuing process of regreening is the best assurance that the urban area will maintain ecological balance even when it is completely built up. For this reason, the overall green cover of Puerto Princesa is not expected to change much (See Fig. 3.6 Existing Land Use, Puerto Princesa).

4. Challenges of Services Backlogs and Urban-Rural Disparities

The last set of development challenges discussed in this chapter have to do with existing deficiencies in the provision of services, infrastructure and physical facilities that impact on the use of land and other natural resources. To the extent that data are available disparities between the urban and rural sectors of the city are highlighted.
Figure 3.5 Overall Settlement Pattern
Puerto Princesa City
4.1 *Road network and circulation.* The most common parameters for determining adequacy of the circulation network are road density and connectivity. Road density is indicated by the ratio of the total length of all roads regardless of class or construction standards to the total land area. This is then compared with the national standard of 1.0 kilometer of road for every square kilometer (100 hectares) of land area. The test of connectivity, on the other hand, is whether there are barangays with no roads traversing any portion of their territory, or whether there are roads that lead to nowhere or dead ends.

Latest road inventory in Puerto Princesa indicate a total of 803.96 kilometers distributed into 193.65 km (24%) of national roads, 261.21 km (33%) of city road and 349.10 km (43%) of barangay roads. This yields a gross density of 0.4 km for every square km, which is still a long way from attaining the national standard. The main reason for this backlog is obviously the existence of a mountainous terrain in the northern and southern portions of the city territory (See Fig. 3.7).

In terms of connectivity only two rural barangays are not traversed by any road at all, the northernmost barangays of Marufinas and New Panganggan. All other barangays are at least traversed by a road in some parts of their territory. By connecting Marufinas and New Panganggan to Cabayugan and on to the adjoining municipality of San Vicente the connectivity of the western coastal barangays will be completed. The main constraint to building a road in these two barangays is the presence of the Puerto Princesa Subterranean River National Park which recently won as one of the New 7 Wonders of Nature. It is feared that building a road through the Park might compromise its integrity.

A critical component of the scheme to complete the connectivity of every part of the city is the need to provide permanent bridges and the upgrading of existing ones of temporary construction. A detailed discussion of the needed bridges is found in the next chapter.

In the urban area, the road density of 1.93km/sq km is much higher than that for the entire city. However, there is an apparent difference between the Old Poblacion and the northern sector of the urban area. In the northern sector there is a need to cut the superblocks into smaller ones by laying out a denser network of municipal streets. Individual developers should not be allowed to build their own access roads to avoid creating a maze of unplanned interior streets and alleys in the new urban area. With a more rational street pattern a hierarchy of functions can be imposed for the benefit of residents and visitors alike (See Fig. 3.8). The proposed major roads for construction or improvement are enumerated in the next chapter.
Connectivity in the urban area still leaves much to be desired. This is due principally to the location of the airport and the alignment of the runway which restrict circulation between the north sector and the Old Poblacion (See Fig. 3.9). The only link between the two sectors is the national highway that runs through the western end of the runway. There being no alternative route the national highway carries the heaviest vehicular traffic daily (See Fig. 3.10). An alternative to the national highway that will absorb some of its arterial functions is clearly needed. The proposed new arterial is discussed in detail in chapter 4.

4.2 Domestic water supply. The provision of domestic water supply is where a glaring disparity occurs between the urban area and the rural area. The present extent of service of the Puerto Princesa Water District covers all of the 35 urban barangays and only two out of 31 rural barangays. The type of service enjoyed by urban households is level III which is characterized by piped water directly supplied inside the household (See Fig. 3.11).

Rural barangays, on the other hand, 14 (Bahile, Macarascas, Salvacion, Napsan, Bagong Bayan, Buenavista, Tagabinet, Babuyan, Langogan, Binduyan, Concepcion, Tanabag, San Rafael, Manalo) are supplied by level II systems wherein water is piped from the source to a common stand pipe serving a cluster of households without individual connections (See Fig. 3.12). To date the most far-flung barangays of Marufinas and New Panggangan in the north and Kamuning in the south depend on level I. Level I involves direct collection from the source, whatever the source.

The distinct advantage of level III over level II and level I is that the availability of flowing water inside the household is highly correlated to improved sanitation due to the ease of washing, bathing, and toilet flushing, assuming that the quality of water supplied through the three systems is the same. If the quality is not the same, level III and level II have the advantage over level I in that they allow treatment before water is distributed to the final consumers. The challenge for Puerto Princesa therefore is how to upgrade all level I to level II and some level II systems to level III for purely domestic use purposes. It is noted, however, that where the water is partly used for agricultural purposes, level I is the preferred mode of delivery system because of the absence of chemical treatment in the latter system which might prove inimical to the growth of some plants.
Figure 3.7 Existing Road Network, Puerto Princesa City
Figure 3.8 Urban Area Road Network
4.3 *Power supply.* The availability of electric power hastens the modernization of any community. In 2009 about 73% of all households availed of power supply provided by the Palawan Electric Cooperative. In that same year, 58 out of 66 barangays were already served with electric power. The remaining unconnected barangays include New Panggangan, Marufinas, Cabayugan, Tagabinet, Buenavista, and Bagong Bayan, Napsan, Simpocan all on the west coast. The unconnected barangays are quite remote and sparsely populated. Households in those areas are too few and far between to justify extension of distribution lines to them.
Figure 3.10 - Heavy Traffic Roads

Their limited options include appealing to the missionary component of the franchise of the utility company, in this case the PALECO, or by tapping alternative power sources such as solar, wind, wet-cell battery, or biogas. Resorting to such alternatives the total energization of Puerto Princesa is within reach in the foreseeable future provided the on-going problem can be sorted out soon between the main supplier NAPOCOR and its sub-contractors, the Independent Power Producers (See Fig. 3.13)
Figure 3.11 Water District Production Facilities
DOMESTIC WATER SUPPLY (RURAL AREA)

Multi-Centered: Urban Area Plus Rural Service Centers
- Brgy. Napsan, Manglingo, Bacungan, Cabugan, Cabugan, and San Rafael

Figure 3.12 Domestic Water Supplies, Rural Areas
Figure 3.13 Power Supply, PPC
4.4 Health facilities. All major or tertiary-level hospitals in Puerto Princesa are located in the urban barangay clusters (See Fig. 3.14). Of these major hospitals the better known are Ospital ng Palawan, Palawan Adventist Hospital, and MMG-Cooperative Hospital. The prevailing ratio of hospital bed to total population is 1:1,000 which is up to the national standard. Considering however, that these tertiary-level hospitals serve a bigger clientele that includes to those coming from the neighboring towns the effective ratio could be much smaller. The Western Command of the Armed Forces of the Philippines also maintains a hospital at the WesCom compound but priority is given to military personnel and their families.

Figure 3.14 Health Facilities

Among the rural cluster barangays, their medical services needs are catered for by eight satellite hospitals or clinics (See Fig. 3.15). In terms of spatial distribution, it would seem that Cabayugan RSC has the most number with three clinics located within its area of influence. San Rafael and Mangingisd
RSCs have two clinics each within their respective areas of influence. Only RSC Bacungan does not have any satellite clinic within its area of influence.

Considering that these satellite hospitals are mostly referral clinics and in view of their distance from the urban area their most important need is an ideal ambulance service equipped with all necessary medical equipment that can respond quickly in an emergency.
4.5 **Public Educational Institutions.** Owing to the central place function of Puerto Princesa a significant portion of the city's built-up area is taken up by educational institutions. At the tertiary level, two state universities, the Palawan State University in Bgy. Tiniguiban and the Western Philippines University in Bgy. Sta. Monica, each occupies extensive campuses. There are, in addition, six private colleges and universities and 14 private technical vocational schools most of which occupy smaller land areas co-located with residential and commercial areas. All existing tertiary educational institutions are located in various points in the urban area.

The City Government has a major stake in public elementary and secondary schools because LGU’s are mandated by law to collect the Special Education Fund tax and use the same for the provision and maintenance of public school’s physical facilities. Lately, the national government adopted a policy of universal pre-school education. It is anticipated that the local governments will assume a bigger responsibility than they are currently involved through the running of day care center sand supervised neighborhood play (SNP) in remote clustered settlements.

In 2009 Puerto Princesa had 75 elementary schools 23 of which are located in urban barangays and 52 in the rural. The combined number of classrooms is 688 for the use of 31,407 elementary students. This yields a classroom-student ratio of 1:46, slightly over the national standard of 1:45. In terms of urban-rural comparison, the urban area schools had an enrollment of 22,050 housed in 433 classrooms or a ratio of 1 classroom for every 51 students. In the rural areas there were 9,357 pupils sharing 255 classrooms or a ratio of 1:37.

At the secondary level, there were seven schools in the urban area and the remaining 20 distributed among rural barangay clusters. There are four annex schools that cater to the needs of adjacent barangays without secondary schools like Sicsican-Sta. Monica Annex, Tagburos-San Jose Annex, Cabayugan-New Panggangan Annex and Tagbarungis-Inagawan Annex. The total number of classrooms in the urban area is 202 apportioned among a secondary school population of 11,403 or a ratio of one classroom for every 56 students. On the other hand, there were 106 classrooms for a combined enrollment of 3,999 or a ratio of 1:40.

It appears that the rural barangay clusters are more adequately provided with elementary and secondary schools than their urban counterparts. The need for pre-school facilities is temporarily being met by accommodating them in public
elementary schools. But separate or additional pre-school facilities will have to be provided in the future when all pre-school age children will be required to enroll, the existence of 40 private pre-school institutions notwithstanding. Considering that all private pre-school institutions are located in the urban barangays, all elementary schools in the rural barangays will have to provide facilities for pre-school education (See Fig. 3.16).

4.6 Outdoor Recreation and Open Space. To complement formal education as a medium of cultural development of the city residents there should be a network of outdoor recreational facilities and open space. This is also pursuant to the desired role of Puerto Princesa as a model in healthful and wholesome recreation.

To date, there is a major public recreational facility located within the government center in Bgy Sta. Monica, the Ramon V. Mitra Sports Stadium. It has adequate facilities to host regional and national sports events and athletic meets. But it is not designed to be used by the local residents so it lies underutilized for most parts of the year (See Fig. 3.17). The only facility of its kind and of such a scale, its location is not within easy reach by most residents of the city. However, the City has recreational/sports facilities that are open to the public that includes Magarwak Integrated Recreation and Nature Park, Boy Scout Camp, Balsahan in Iwahig, City Beach in Sitio Tagkawayan, Brgy. Bacungan. Public open spaces such as the public plaza, historical sites, the baywalk and the like are concentrated in the urban barangay clusters (See Fig. 3.18 and 3.19).

What is needed is a hierarchy of public open space consisting of neighborhood children's play lots to barangay parks, to cluster-level ball fields that are distributed throughout the barangays particularly in the rural areas where sufficient land is still available. The need for ball fields, in addition to the covered courts that were very popular among barangay officials, is anticipated to rise in the wake of the growing interest of Filipinos in football (European soccer). At the very least, each of the Rural Service Centers shall maintain its own ball field.
Figure 3.16 Public Schools by District, Puerto Princesa City
Figure 3.17 Public Recreation Facilities
Figure 3.18 Open Space
4.7 Facilities for Public Safety. The facilities for ensuring public safety and order include tanod outposts in barangay, police precincts and detention cells, Naval/Coast Guard stations, fire-fighting units including fire hydrants and other Military installations.

Police protection service emanates from the central headquarters of the Philippine National Police situated along the national highway in Bgy San Pedro. In addition, two police stations are located in the urban clusters in Bgy Model and Bgy. Irawan. The rural clusters are served only by seven police outposts located in barangays Cabayugan, San Jose, San Isidro, Tagumpay, Bacungan, Manggingisda, and Tanglaw. The city has 23 detention cells housing 418 detainees. There is one cell for 18 detainees (See Fig. 3.20).
Serving as protectors against terrorism coming from the sea, there are Naval/Coast Guard stations located in Ulugan Bay and Masipag, in addition to that of in the city port.

For its part, the Bureau of Fire Protection maintains its headquarters also along the national highway in Bgy San Pedro. The unit has five fire trucks and a personnel complement of 29. This fire-fighting force is complemented by three fire trucks of the Air Transportation Office and one truck each from the WesCom and the Palawan Chamber of Commerce. Fire hydrants are also strategically located in various points of the urban area (See Fig. 3.21).

4.8 *Telecommunication Facilities.* A vital infrastructure support to a modernizing community is communication. The traditional mode of communication, the mail service, is fast giving way to electronic modes. At any rate, the Philippine Postal Corporation still maintains one post office with 23 employees who serve the entire population of Puerto Princesa, or one employee for every 2,000 households. Some of the services of the post office such as package handling and money transfer are now being offered by a number of private forwarding companies, pawnshops, and commercial banks.

Land-based telephone services are catered by three telephone companies, the Pilipino Telephone Corporation (PILTEL), Globe Telecom, and Telecommunications Distribution Specialist, Inc. (TDSI), all privately owned. Land-based telephone communication is also rapidly being replaced by wireless modes like radio, television, and mobile phones. Local radio stations, augmented by branch stations of giant radio and television companies based in Metro Manila cover the entire city, province and neighboring provinces with radio and television signals.
Figure 3.20 Location of Police Facilities
Figure 3.21 Location of Fire-Fighting Facilities
Fig. 3.22 Location of Cell Sites and Radio Repeater Stations
As can be seen in Fig. 3.22, the landscape of Puerto Princesa is riddled with cell sites and radio repeater stations. Almost all areas of Puerto Princesa are now within the coverage of any or all of the giant companies like Digitel, Globe Telecom, and Smart Telecom. The only portion of the city that is not accessible by mobile phone is the southwest corner consisting of barangays Napsan, Bagong Bayan, and parts of Simpocan. 2009 CBMS data revealed that there are 27,612 subscribers of mobile phone in the city, distributed into 23,387 (85%) in urban and 4,225 (15%) in the rural clusters.

4.9 Waste Management Facilities. Another important hallmark of a modern city can be seen in the way its waste is managed, both solid and wastewater. The existing wastewater management system consists mainly of septic vaults individually installed whose outfall is the storm drainage system. Only the Old Poblacion has a piped collection system (See Fig. 3.23). A monitoring canal rest in the Old Public Market area (Slaughterhouse in Calle Bajo) cleanses the wastewater from the market area before draining to the Puerto Princesa Bay. In many other parts of the urban area open canals and creeks serve as drainage/sewage outfall. No treatment process is introduced before the sewage is finally thrown out to the sea. The current
system is not conducive to the aspirations of the city to become a major tourist
destination. There is clearly a need to prepare a master plan for a sewerage system
that serves both the north and south sectors of the urban area considering the
volume of storm water that will be collected and the domestic waste water that will
be generated. There is also a need to adopt an appropriate low cost facility on
domestic waste water treatment before disposal to public drainage.

As far as solid waste management is concerned however, the city can take pride in
having installed a modern sanitary landfill, one of the few cities in the Philippines
to have done so (See Fig. 3.24).

Figure 3.24 Sanitary Landfill

4.10 Cemeteries and Memorial Parks. As a legitimate land use in its own right, public and
private burial areas take up an estimated total of over 100 hectares. In the urban
barangays there are five cemeteries two of which are privately owned and
operated, namely, the Puerto Princesa Memorial Park in Bgy San Jose and Loyola
Memorial Park in Bgy Bagong Silang. The three public cemeteries are in barangays
Sicsican, portions of barangay Masipag and Maunlad, and Tagbueros.
In the rural barangays there are 14 public cemeteries located in barangays Bahile, Macarascas, Buenavista, Cabayugan, Maruyugon, San Rafael, Tanabag, Langogan, Inagawan, Mangingisda, Iwahig, Kamuning, Bagong Bayan, and Simpocan. Barangays with no cemeteries of their own are allowed to use those of the barangays most accessible to them (See Fig. 3.25).

Considering the distances between barangays it is probably more sensible to allow every rural barangay to own and manage its own public cemetery. Another challenge for the City Government is to look into the feasibility of developing and managing a public memorial park with crematorium facility that will cater to all income classes.
Figure 3.25 Existing Cemeteries
Chapter 4

THE SPATIAL STRATEGY

1. Introduction

This chapter elaborates on the spatial strategy or urban form that shall guide the location of future land uses in relation to the existing ones. The present revised edition does not supplant or replace the salient features of the predecessor Comprehensive Land Use Plan (2001-2010). Rather, it seeks to extend, amplify, or modify its predecessor, as the case may be. This is to ensure continuity and rationality of public and private investments considering that physical development projects invariably take a long time to gestate and that once the projects are established these will have a fairly long economic life, adding to the community’s fixed assets, defining the shape, intensity and direction of the built environment and altering the landscape of the city more or less permanently. To make a radical departure from the current plan is therefore neither feasible nor desirable.

To ensure the desired continuity, this chapter starts with a review of the chosen spatial strategy under the predecessor CLUP to determine what features are still valid and which projections failed to materialize. Lessons and insights derived from the review shall serve as springboard for making future revisions, modifications or new proposals.

2. The Spatial Strategy in the Predecessor CLUP

The spatial strategy adopted in the Comprehensive Land Use Plan 2001-2010 is quoted from pages 18-19 of the document and reproduced below.

The growth of the existing Central Business District or the Old Poblacion and its immediate environments are (sic) physically constrained by the Puerto Princesa Bay, the Honda Bay, and the Puerto Princesa Airport. Further development of the area will result in greater transport problems, traffic congestion and added strain on what have already been considered narrow roads in built-up areas, inadequate community services, and inadequate parking facilities.

Certainly the urban center will still continue to grow, but primarily through urban infill or appropriate development of vacant/idle lots. The much bigger part of urban development is expected to occur in Barangay San Jose and its neighboring barangays. This will become the secondary urban center. This preferred development option includes
the development of Barangay Mangingsida across the Puerto Princesa Bay mainly for settlement and support commercial purposes.

Urban development in the City of Puerto Princesa has largely been dispersed over an unreasonable large area. The provision of roads, water and other basic services and facilities has been costly. These services and facilities are most of the time inadequate. The proliferation of commercial establishments along major roads in a ribbon-like development has contributed to traffic congestion on these roads.

The more compact form of urban growth is desired. This Comprehensive Land Use Plan has included land use policies and zoning mechanisms to induce a more compact form of urban development by matching the future supply of land with the future demand, taking into account the various legal, environmental and other physical constraints on land in the City. This scheme is expected to control or minimize the problems resulting from urban sprawl.

To support this objective, the northern part of the zoned urban area in the City Zoning Ordinance of 1998, consisting of Sicsican, Irawan, Tagburos, and Sta. Lourdes, is designated Future Urban Zone where urban development shall be strictly regulated or prohibited within the specified time frame.

Certain types of development will be allowed in the rural barangay especially those that have become part of the traditional Filipino way of life provided that the activities will support the goals and objectives of this Plan and will not violate any land use policy or zoning regulation.

3. Critique of the Existing Spatial Strategy

The current spatial strategy of promoting more compact urban development and thereby reducing urban sprawl is still valid today. Pursued vigorously, this strategy of growth leads to efficient utilization of urban space and of existing urban utilities, as well as delays the conversion of agricultural and forest lands to urban uses to maintain a healthy balance between the built and the inbuilt environment. If only for these significant features, the existing spatial strategy is worth adopting and extending into the time horizon of this successor CLUP.

A review of the implementation of the spatial strategy covering its ten-year plan horizon reveals a number of features that failed to materialize as conceived in the plan. One is the envisioned compact development of the Old Poblacion through in-fill of vacant lands and intensified investments therein. Following the relocation of the city
hall from the Old Poblacion to Barangay Sta. Monica in the north, and the subsequent opening of the alternate city market in Barangay San Jose along with the establishment of the integrated bus and jeepney terminal there, new investments tended to leapfrog into the new urban center. Concentration of investments in the new urban center to the north of the airport has led to the corresponding onset of blight in the Old Poblacion. This can be traced partly to the constricted traffic circulation posed by the airport runway.

Secondly, the projected in-filling of Bancao-Bancao and the spilling over of development to Barangay Mangingisda across the bay did not seem to take off. This could be due to the underdeveloped boat landing facilities on the Poblacion side to match the more developed facility in Mangingisda. Another factor could be the fact that the Environmental Estate located in Sta. Lucia across the bay has not attracted enough investors to create intensive traffic to the south.

A third weak point of the strategy is its vagueness about what to do with the non-urban barangays. Although it does identify barangay service centers, there are no substantial policy proposals about these centers, much less about non-center barangays. The disproportionate bias toward the urban area may be the reason behind the observed disparity between the urban and the rural areas in practically all indicators of development.

Despite the above-mentioned weaknesses of the old CLUP’s spatial strategy, this successor plan seeks to adopt the same strategy in its basic conceptions. A number of modifications are however necessary to enhance its chances of success at being realized.

4. Modifications on the Current Spatial Strategy

1. Multiple-centered development strategy. Unlike its predecessor CLUP which focused development in the urban area, this successor plan gives the rural areas equal attention. In a word, the modified strategy is one that promotes a multiple-centered pattern of urban growth. It designates five barangays to serve as satellite service centers, namely, Napsan, Mangingisda, Bacungan, Cabayugan and San Rafael. Giving high priority to the development of the rural areas will enable them to catch up with the urban areas in terms of quality of life indicators. However, the rural barangays will not be developed uniformly. Initially, investments shall be concentrated on the service center barangays which will in turn diffuse development to their respective areas of influence. Over time the non-center barangays will also be able to catch up with their respective centers. (See Fig. 4.1.)
NEW ALTERNATIVE SPATIAL STRATEGIES FOR PUERTO PRINCESA

OPTION 3: Multi-Centered: Urban Area Plus Rural Service Centers
Brgy. Napsan, Mangingisda, Bacungan, Cabayugan and San Rafael
2. **Seamless development of the urban area.** Another feature of this strategy which deviates from the old one is the integration of the Old Poblacion and the new urban center at Barangay San Jose into one seamless urban area. It will be noted that the old strategy regards the Old Poblacion as the major urban center and the San Jose site as minor urban center. The most important obstacle to the effective fusion of the two urban growth areas is the location of the airport in barangay San Miguel. The alignment of the runway effectively bisects the urban area into the north and south sectors. The two sectors are connected only by the national highway which traverses a constricted area on the west end of the runway. Inefficient communication between the two areas leads, on one hand, to under-investment in the old Poblacion resulting in urban blight which is beginning to manifest itself. On the other hand, there is evidence of uncontrolled urbanization in the north sector where private investment seems to precede public infrastructure development.

In order to achieve the proper integration of the north and south sectors, critical public sector policy interventions are necessary to be put in place. These interventions include development of a well-articulated circulation network plus a multi-modal transport system, the prevention of blight in the Old Poblacion, and a stricter enforcement of development controls in the new urban growth area.

Toward improving access between the two sectors of the urban area, it is proposed to open a coastal road along the Honda Bay shoreline passing through barangays San Jose, San Manuel, San Pedro and San Miguel and cutting a tunnel under the eastern end of the runway and connecting to the eastern end of Rizal Street and Manalo Street Extension in barangay Bancao-Bancao. (Fig. 4.2.) Designed as an alternate arterial to the national highway, this proposed road will provide a more free-flowing traffic circulation between and around the entire urban area. It will certainly improve the accessibility of the Old Poblacion and property owners there will be encouraged to invest again thereby averting the onset of urban blight.

In addition to this alternate arterial, other new roads need to be opened in the north not only to improve internal circulation therein but more importantly, to rationalize the urban development of the area. This can be done by enforcing a policy that public infrastructure development must come ahead of private investments. The following roads or sections need to be opened or improved:
Figure 4.2 Proposed Alternatives to the National Highway

1) Opening or development of subdivision roads to improve access in barangays San Miguel, San Manuel and San Jose with an estimated total length of 10 kilometers. This will eventually become the East Collector Road and will serve as the outer limit of the CBD.

2) Widening of Socrates-Abanico Road

3) Opening and development of abandoned road in Bgy Tiniguiban (Nestorio Lim property to NAPOCOR)

4) Opening and development of subdivision roads in Sta. Monica going to the new public market

5) Improvement of MP Road to Jalandoon (San Pedro) to Lanzanas, San Manuel to DYSP and finally to North National Highway
6) Opening of new road from Socrates Road to Nadayao Road connecting to Taylor Road

7) Study feasibility of opening a coastal road from the seaport to Palumco.

Over the long term, another major infrastructure investment will further improve the accessibility of the entire urban area, namely, opening a ferry service plying between the Baywalk at San Isidro and Tiniguiban Cove. This will provide a direct connection between the Old Poblacion and the new government center at Sta. Monica, greatly facilitating commuting and further contributing to the seamless integration of the urban areas.

An added premium that this project is expected to yield is that it will enhance the touristic potential of the Puerto Princesa Bay. By building and modernizing other boat landing facilities around the bay such as those of the Sta. Lucia Environmental Estate, the Iwahig River landing, and the Bagong Sikat wharf commuting between the Old Poblacion and strategic points across the bay will become more intensive. Pleasure boating within the bay waters can then be actively promoted as an additional tourist experience (See Fig. 4.3).

3. **Mangingisda to play a dual role.** The existing spatial strategy regards the resettlement area of Barangay Mangingisda across Puerto Princesa Bay as an expansion area of the Poblacion. This projection however has so far failed to materialize due to the sluggish development of Bancao-Bancao which had been projected in the plan to spill over to Mangingisda. The main concern of this strategy is how to improve direct access to Mangingisda by sea especially the modernization of boat landing facilities on the Poblacion side to match the already well-developed one in Mangingisda. Also, greater public investments in urban utilities and facilities will be needed in Mangingisda to lure the private sector to respond more aggressively.

The development of Mangingisda will receive higher priority because, in addition to catching the over spill of the Old Poblacion, it has been identified as one of the five rural service centers. Additional investments are anticipated when Mangingisda comes under full-steam development together with the other four rural service centers (See Fig. 4.4).

4. **Major investments in the Rural Service Centers.** In order to kick start the development of the identified Rural Service Centers, the most important consideration is to ensure that the target barangays are accessible from other barangays and from the rest of the city. As far as external accessibility is concerned all the RSCs are already connected with existing arterial roads. However, portions of certain arterials especially
Fig. 4.3 Proposed Boat and Fish Landing
those on the west coast are not yet accessible in all types of weather due to the absence of bridge structures or inadequacy of existing structures. The most number of new bridges that need to be constructed are in RSC Napsan with 11 new bridges to cross as many intermittent rivers and 4 bailey bridges that need to be replaced with permanent materials.

Among the five RSCs, Cabayugan suffers from low external accessibility due to the absence of a road connecting Cabayugan with the two northernmost barangays of Marufinas and New Panggangan. Building a road through these two barangays and connecting to the next town of San Vicente will enhance accessibility of RSC Cabayugan tremendously. The remaining two RSC’s, San Rafael and Mangingisda, have adequate external accessibility. The accessibility by land of RSC Mangingisda however, is somewhat adversely affected by the existence of 4 bailey bridges in Irawan and one in Sta. Lourdes along the South National Highway (See Fig. 4.5).

Almost a dozen new bridges will have to be built to improve accessibility to the three contiguous barangays of Napsan, Bagumbayan and Simpocan. Bacungan, another RSC, where additional five rivers to ford currently do not have any bridge structures. One timber bridge needs to be replaced with a permanent structure in barangay Bahile, an influence area of RSC Bacungan. In RSC Cabayugan, there are 4 new bridges to construct plus 2 bailey bridges that need upgrading in Cabayugan itself and another one in barangay Buenavista, an influence area of RSC Cabayugan.

There are at least three boat landing facilities that need upgrading and these are located in RSC Mangingisda, RSC Bacungan, and RSC Cabayugan.

Adequate domestic water supply, no less than level 3, at least in the barangay centers of the RSCs will have to be installed.

Electric power supply will have to be provided in RSC Bacungan, RSC Napsan, and RSC Cabayugan. RSC Mangingisda and RSC San Rafael are already provided with adequate power supply.

Additional policy interventions are found in Chapters 6 and 7.
Figure 4.4 Rural Service Centers
Figure 4.5 Proposed New Bridges
Chapter 5

THE REVISED COMPREHENSIVE LAND USE PLAN:
AREA PROFILES AND ANALYSES

1. Introduction
This chapter and the next comprise the comprehensive land use plan proper. The basic framework of the plan is simply a more detailed elaboration of the spatial strategy discussed in chapter 4. Its substantive contents consist of policy proposals and intervention measures designed to address the challenges of spatial development of Puerto Princesa presented in chapter 3. All of these are consistent with and pursuant to the local vision and goals as well as the national goals of physical planning articulated in chapter 2. Although this CLUP is a “revised” edition, it will become obvious to the reader that this current edition is a radical departure from its predecessor in many important respects.
In order not to unnecessarily overtax the reader with a very lengthy chapter, the contents of the plan are spread in two chapters.

Chapter 5 introduces the six categories of geographical areas for land use policy formulation and enforcement into which the entire territory of Puerto Princesa is divided. Consisting of clusters of barangays, there are two such clusters in the urban area and six in the rural areas. Each geographical area is the setting of more detailed characterization and analysis and the formulation of policy intervention measures appropriate to its peculiar character and requirements. Chapter 5 limits itself to profiling and analysis of each geographical area. Policy interventions, the subject of Chapter 6, are classified under the four land use policy areas of settlements, infrastructures, production and protection and are phrased in the form of projects, non-projects or services, and regulatory measures to facilitate their implementation and enforcement. Regulatory measures are consolidated in chapter 7.

When these successive chapters are read as a continuum they convey the impression that the CLUP is truly comprehensive in that it embraces the entire territorial jurisdiction of Puerto Princesa and that every portion of this territory is covered with appropriate policies.
2. Geographical Areas for Policy Formulation and Implementation

2.1 The Urban Area
The urban area referred to in this plan is the same urban area delineated in the predecessor plan. It consists of 36 barangays occupying the peninsula which is bounded by the Puerto Princesa Bay on the west and south and the Honda Bay on the east. It comprises the Old Poblacion at the tip of the peninsula and the urban expansion area covering the remaining part up to the base of the peninsula to the north. For purposes of policy formulation and enforcement, the urban area is hereby divided into two districts: the Central Business District (CBD) and the remaining portion of the urban area peripheral to the CBD (Non-CBD Periphery).

2.1.1 The New Central Business District (CBD)
Consistent with the spatial strategy to develop the old and new portions of the urban area into a seamless built form the CBD is now expanded to embrace both the old CBD and the new market site in Bgy San Jose and all areas in between which lie within the influence zones of the national highway (North and South Road). For zoning purposes, the external boundary of the new CBD shall be defined as follows:

"From a point of origin at the City Wharf moving clockwise through to the Baywalk thence to a line 200 m from and parallel to Malvar St. until it intersects the National Highway, then follows San Jose Seminary St., barangay boundary of Tiniguiban continuing to the Government Center boundary, then through Mitra Road up to the boundary of barangay San Jose, thence through a straight line 1 km away from and parallel to the National Highway until it intersects WesCom Road, then follows the first lot boundaries along the National Highway through the western end of the airport runway until it intersects Rizal Ave., then through Rizal Ave. to the intersection with Abrea St., follows Abrea St. up to its intersection with Manalo St., thence through Manalo St. to Sandoval St., then to Taft St. until it intersects Rizal Ave., and finally through Rizal Ave. and back to the point of origin at the City Wharf."

There are 11 urban barangays embraced within the CBD boundary in their entirety namely, Bagong Pag-asas, San Isidro, Tagumpay, Matahimik, Maningning,
Manggahan, Model, Masikap, Magkakaibigan. Maligaya and Matiyaga. Twelve barangays have a portion included within the CBD boundary while the remaining portion falling outside the CBD boundary forms part of the non-CBD periphery. These barangays are Mandaragat, San Pedro, Tiniguiban, Sta. Monica, San Jose, San Manuel, San Miguel, Bancao-Bancao, Milagrosa, Tanglaw, Kalipay and Liwanag. Figure 5.1 shows the boundaries of the new CBD. The estimated land area of the new CBD is 1,587 hectares.

The Central Business District or CBD, as the name implies, is the most accessible part of the city. Owing to its high accessibility the CBD commands the highest property values. Therefore, among the different competing uses of particular urban sites, it is business or commercial land uses that usually outbid the others. This can be explained by the fact that businesses establishments need to access the widest possible range of patronage for maximum profitability, hence their desire to locate in the most accessible part of the city. Moreover, businesses are in a position to pay very high rent because they are able to pass on the cost to their customers. The spatial impact of this screening process is the concentration of commercial activities in the same area of high rent. It is ironical though that many of the residents in the CBD core are those who can least afford the high rent. Eight of the 11 core barangays are hosts to informal settlers.

The strongest evidence of this process is the behavior of the population in terms of their spatial distribution. Analysis of population figures for the three sub-areas of the Urban Cluster during the census years 1990, 1995, 2000 and 2007 reveals that the core of the CBD (the 11 barangays that are inside the CBD in their entirety) has experienced a “hollowing out” over the last 20 years or so with an annual growth rate of 2.72% in 1990-1995; then an AGR of -1.98% in 2000-2007; or an average of -0.84% in 1990-2007. In contrast, the immediate outer core (the 12 barangays with only portions inside the CBD) grew by 10.19%, 4.82%, and 6.99% in the same periods. The peripheral urban barangays (the 12 outermost barangays which are completely outside the CBD) also experienced a moderately high growth rate of 5.07%, 3.92%, and 5.39%, respectively. For the entire Urban Cluster, the comparable figures are 7.50%, 4.00%, and 5.48%, respectively. In terms of population size, the CBD core had 10,385 inhabitants in 2007. In the same year, the outer core had an
aggregate population of 105,503 while the peripheral area had 45,930 residents. In terms of percent share to the total population of the Urban Cluster, the core accounts for 6.4%, the outer core 65.2% and the periphery 28.4%. From these data it can be observed that there is a clear outward drift of the urban population from the core as increasing investments in commercial activities tend to ease out or replace residential functions in the CBD core. Another factor that has contributed to the hollowing out of the core population is the sustained effort of the city government to relocate the informal settlers to various off-site relocation areas.
Figure 5.1 The New Central Business District
The spatial outcome of the phenomenon observed above is the dominance of commercial land uses in the CBD core. Data on the geographical distribution of business firms registered with the Mayor’s Permit and Licenses Office tend to bear this out. There are 1,008 registered business firms in the CBD core. The implication of this is that the service population that the CBD caters to is not confined to the residents but includes the “floating” or daytime population. The daytime population of the CBD consists of native residents attending schools, going to work, or doing their shopping; residents of other parts of the city and of other towns in the province of Palawan transacting business with public and private offices or shopping for durable goods; plus the growing streams of visitors and tourists shopping for souvenirs and savoring the food treats and the sights and sounds of the city during the early hours of the evening. The rest of the evening, the CBD core is almost deserted.

The bulk of the urban residents tuck themselves away at the outer core where the highest concentration of residential subdivisions can be found. There are 47 residential subdivisions situated in these barangays. The outer core is also a convenient in-city relocation area for informal settlers. However, all 12 barangays in the outer core are found to harbor informal settlements in no less than 21 identified sites. Corollary to the predominant residential function of the outer core is the proliferation of institutional land uses, particularly educational institutions. Data as of 2007 indicate that 86% of public pre-schools and 60% of private ones are found in the outer core. Out of the 22 public and 23 private primary and elementary schools in the urban area, 12 (55%) and 13 (57%), respectively, serve the population of the outer core. At the secondary level, three out of seven (43%) public high schools and nine out of 13 privately run high schools (69%) are located in the outer core. The same trend obtains at the tertiary level. All existing government-owned colleges and technical/vocational schools and four out of six (67%) private colleges and seven out of 11 (64%) privately-run tech/voc schools are sited in the outer core.

There are other services found to predominate in the outer core. More than one-third (36%) of all existing multi-purpose cooperatives and nearly half (45%) of man-made tourist attractions are found in the outer core barangays. However, at least two barangays are not yet fully energized, Bancao-Bancao and San Manuel. Likewise,
some residents of six barangays still depend on level 1 water supply system: Milagros, San Jose, San Manuel, San Miguel, San Pedro and Tiniguiban.

Barangays in the outer core that are prone to disasters include flooding – Bancao-Bancao, San Miguel, San Pedro and San Jose; storm surge – Sitio Jacana in Bancao-Bancao and Bgy Liwanag; harmful algal bloom – San Jose, Mandaragat, San Pedro, San Miguel, San Manuel, Tiniguiban, Bancao-Bancao, Liwanag, and Sta. Monica. Also susceptible to fire from terrorist bomb threats is Bgy. Liwanag because it lies within a 250 km radius from the oil depot.

2.1.2 Non-CBD Periphery
The non-CBD peripheral area consists of the remaining portion of the barangays which are partially included within the CBD plus the 12 other urban barangays which are not included within the CBD whether in whole or in part. The non-CBD barangays of the urban area are as follows: Bagong Sikat, Bagong Silang, Mabuhay, Masigla, Masipag, Maunlad, Pagkakaisa, and Princesa, all in the Old Poblacion; and Irawan, Sicsican, Sta. Lourdes, and Tagbueros in the new urban expansion area in the north. Figure 5.2 shows the extent of the peripheral urban area.

The non-CBD periphery differs in character from the rest of the urban area, particularly the northern barangays of Tagbueros, Sta. Lourdes, Sicsican and Irawan which still have substantial portions of their territories utilized for agriculture or are under forest cover. The peripheral barangays have a substantial share of informal settlements. Informal settlements are observed to proliferate along the coastal zones of the following peripheral urban barangays: Bagong Sikat, Bagong Silang, Mabuhay, Pagkakaisa, Sta. Lourdes and Tagbueros. Inland informal settlements are found in Masipag, Maunlad, Princesa, Sicsican and Sta. Lourdes. Even the Irawan Watershed is not spared.

Next to the outer core, the peripheral area has a fairly high population growth rate (5.38%), slightly lower than the overall growth rate of the urban area (5.48%). What account for the relatively high population growth rate of the periphery are the series of resettlement projects particularly in barangays Sicsican, Irawan, Tagbueros, Princesa and Sta. Lourdes.
In terms of social services, the peripheral area appears to be under-served in some respects. There are no public pre-schools although there are eight private ones. A total of eight public (36%) and five private (22%) elementary schools cater to the needs of the local population. Three out of seven (43%) and two out of 13 (15%) high schools are situated in the periphery. There are no tertiary-level educational institutions except for one private technical/vocational school found in the area. Primary health care is provided through seven Barangay Health Stations. For higher level medical services the existing hospitals in the outer core are accessible to the population of the periphery. As regards water utilities, the Irawan Watershed is the principal source of domestic water supply for the urban residents through the City’s Water District.
Figure 5.2 The New CBD PERIPHERY
However, some residents of barangays Maunlad, Pagkakaisa, Princesa, Sicsican, Sta. Lourdes and Tagburos are found to be depending on level 1 water supply systems. Some households in Sta. Lourdes (34%), Irawan (6%) and Tagburos (5%) do not yet avail of electrical connection. Two existing cemeteries complement the other four in the CBD bringing to a total of six for the entire urban area.

Agriculture and other non-urban forms of livelihood still contribute a significant share in the economy of the peripheral area. Nearly all (89%) active poultry raisers in Puerto Princesa and one-third (33%) of all contract growers are located in the urban periphery. The area also contributes eight natural and four man-made attractions to the tourism industry of the city. The existing wharf at Sta. Lourdes handles a large number of tourist traffic daily being the main launching point for island hopping in Honda Bay. Nine out of 50 (18%) multi-purpose cooperatives are based in the peripheral urban barangays.

Pockets of low-lying areas in Sicsican, Tagburos, Sta. Lourdes and Irawan are vulnerable to flooding. The coastal settlements of barangays Maunlad, Bagong Silang, Bagong Sikat, Mabuhay, and Sitio Aplaya in Tagburos may be exposed to storm surges. The near shore fisheries of Tagburos, Sta. Lourdes, Irawan, Sicsican, Bagong Silang, Pagkakaisa and Mabuhay could be under threat of harmful algal bloom.

2.2 The Rural Areas

Similarly, the rural areas identified in the predecessor plan are retained as such in this revised CLUP. In light of the designation of five rural barangays as rural service centers and consistent with the multiple-center strategy, the clustering of barangays has been modified accordingly. Each rural barangay cluster consists of the Rural Service Center barangay and other barangays within its area of influence. Listed below are the service centers and their respective influence areas with a brief characterization of each area.
2.2.1 The New Barangay Clusters

1. **Napsan**—Bagong Bayan and Simpocan

Napsan Cluster is situated on the southwestern corner of Puerto Princesa. Situated at the boundary with Aborlan, Bgy Napsan also serves as the southwestern gateway to Puerto Princesa. All three barangays comprising the cluster are facing the Palawan Passage of the West Philippine Sea. Napsan Cluster has a combined land area of 30,908 hectares which accounts for 13.23% of the total area of rural barangays and 12.45% of the total area of Puerto Princesa.
Figure 5.3 Southwestern Cluster
The topography of Napsan Cluster is predominantly hilly and mountainous with over three-fourths (75.4%) of Cluster land area having slopes greater than 18%. Only the uppermost elevations still have intact forest stands. The midslopes down to the foothills are largely brush and grass lands. Hence, its floral biodiversity index is low to very low. In terms of fauna resources, the Napsan Cluster has the highest endemnicity of faunal species and the greatest number of flagship species in the entire City. However, the Cluster has the highest percentage of threatened fauna at 88.23%.

Each of the three barangays has extensive but largely underdeveloped beach fronts. A number of privately owned beach resorts are already in operation. But the area awaits more substantial investments in the development of leisure estates that offer sea-based recreational activities such as surfing, sport fishing, SCUBA diving, whale and dolphin watching, and the like. The configuration of the coastline which is characterized by the absence of significant embayments however, poses a limitation to fisheries and general navigation. Direct exposure to the open sea, moreover, renders the coastal communities in the Cluster vulnerable to storm surges and sea level rise.

Potential land-based economic activities include upland agriculture and the processing of fruits and nuts as well as handicrafts utilizing minor forest products which are in abundance in the area. Land-based tourism and recreation resources include Mt. Salakot Trek and Salakot Waterfalls, both in Bgy. Napsan.

Major public sector investments need to be put in place before the private sector can be expected to respond positively. The most important public investments in the area are the concreting of over a hundred kilometers of roads. This is due to the fact that among the five barangay clusters, the Napsan Cluster has by far the worst condition of road surfacing. Also, nearly a dozen creeks need permanent bridge structures to allow access to and from the area in all types of weather. The Cluster is still completely unenergized although some households have installed individual lighting systems powered by solar energy. The Cluster is currently the only area in Puerto Princesa that is out of range of all cellular phone providers. With improved access, electric power supply and telecommunication lines will follow suit. Water
utilities are likewise underdeveloped. Only Napsan and Bagong Bayan have level 2 while Simpocan has level 1 water systems.

Despite its relatively remote conditions the area is apparently attracting movers and migrants. The area’s population has grown at a moderately high rate of 3.73% annually for the period 1990-2007. All three barangays experience positive growth, especially that of Bagong Bayan. The early movers are apparently taking advantage of the relatively low land values but probably also foresee the great potentials of the area. Because of its extensive land area, the Cluster remains sparsely populated. Its latest (2007) gross population density is 14 persons per sq. km. compared to that of the City which is 85 persons per sq. km. Compared to the gross density of the entire rural area which stands at about 6 persons per sq km, Napsan Cluster appears to be relatively more populous. In terms of population size, RSC Bgy Napsan continues to have the most number of residents in the Cluster including a significant share of native Tagbanua who have now taken to residing in an urban-type subdivision, the 80-lot public housing in Purok Labtay. Napsan Cluster appears to be adequately served with health care facilities. There is a Satellite Clinic in Bgy. Napsan. In addition, each barangay has its own Barangay Health Station. There are also two public cemeteries, one each in Napsan and Simpocan but both are situated in privately owned lots.

Facilities for basic education available in the Cluster appear to be adequate. There are three elementary schools in Napsan: Labtay, Sto. Nino, and Napsan Centro; one in Bagong Bayan, and two in Simpocan, with the one in Bual-Bualan limited to primary level. The Cluster high school is situated in Napsan with an annex in Simpocan.

Small-scale private markets or talipapa serve the needs of barangay residents. The Bagobuk Community Multi-Purpose Cooperative serves the entire Cluster population.

Mangingisda Cluster lies on the southeastern part of Puerto Princesa. The last (or first) barangay in the Cluster, Kamuning, borders on the municipality of Aborlan and serves as a southern gateway to Puerto Princesa.

Mangingisda Cluster has a combined land area of 49,825 has, representing 21.33% share of total rural area and one-fifth (20%) of the entire land area of the city. Its aggregate population in 2007 was 16,351, up from 7,336 in 1990. This represents an annual growth rate of 4.76%, the highest rate among the five clusters. This cluster also has the highest gross population density at 33 persons per sq km. The reason for the relatively dense population of this cluster is that over the last decade so, this cluster received several waves of resettlers. Resettlers are of two types: the former informal settlers from several urban barangays and the agrarian reform beneficiaries. The resettled urban residents are beneficiaries of the City Government’s housing projects covering a total area of more than 80 ha situated in Mangingisda and in Sitio Bucana in Bgy Iwahig. The agrarian reform beneficiaries received farm lots and home lots. The two agrarian reform communities (ARC), LUZVIMANGI and TAKAMIN, cover 5,972 hectares or about one-eighth (12%) of the total area of the Cluster.
Figure 5.4 Southeastern Cluster
A dominant feature of the Mangingisda Cluster is the vast expanse of the Iwahig Penal Colony which practically covers half of the southern part of the city facing the east coast. The original inhabitants of the colony consisted of the officials and personnel as well as the inmates and their families. Inmates were awarded homesteads. Later migrants and resettlers joined in to form what are now the present barangays.

On account of its accessibility to the urban area by land and water, Mangingisda Cluster is probably the most urban and urban oriented among the five clusters. This is evidenced by the proliferation of poultry farms and contract growers whose products are destined for consumption in the urban area. Growers in the Cluster account for more than half of total production of poultry in the city. This is evidenced by the proliferation of poultry farms and contract growers whose products are destined for consumption in the urban area. Growers in the Cluster account for more than half of total production of poultry in the city. There are three multi-purpose cooperatives that cater to the financial, marketing and other commercial needs of the Cluster populace namely, the CKPlus MPC of Luzviminda, the Mabuhay MPC of Kamuning, and the Piat-Nga Farmers MPC also of Kamuning.

Owing to its proximity to the urban area particularly the Puerto Princesa Airport Mangingisda Cluster has a big potential for the development of manufacturing and processing industries. For this purpose the Environmental Estate in Bgy Sta. Lucia has been identified in the previous CLUP but investments seem too slow in coming. Likewise, Mangingisda Cluster has a big chance of attracting tourists who can spare just a day or two to visit. This would require development of a fast and convenient land and water transport systems to convey visitors and recreationists to the identified tourism experiences that the Cluster offers: 1) Sta. Lucia hot springs and the Environmental Estate, 2) Tagbarungis beach in Bgy Inagawan, 3) Kamuning beach, 4) Firefly watching and river cruising along Iwahig River, 5) Balsahan natural spring pool in the Iwahig Penal Farm, 6) Bucana beach in Bgy Iwahig, 7) Turtle Bay and beach in Bgy Mangingisda, and 8) Iwahig Prison and Penal Farm. Possible areas for tourist attractions development include Mari culture Site, Giant Clam Garden, fish cages of BFAR and South Sea Exclusive Philippines in Sta. Lucia.
In terms of public utilities, Mangingisda Cluster is within the service area of PALECO. About 60% of potential consumers of electric power are already served by the utility firm. Water supply systems however are limited to level 1 and level 2. It is also within the range of cellular phone service providers.

Educational facilities are adequately provided up to the secondary level. There are eight elementary schools in the Cluster namely, Inagawan, Inagawan Sub, Iwahig, Kamuning, Luzviminda, Tawiran in Luzviminda, Mangingisda, and Mangingisda West. Only Montible and Sta. Lucia have no elementary schools because of their small population. At the secondary level, there are three high schools catering to the needs of the Cluster population, namely, one each in Inagawan, Luzviminda, and Mangingisda. Barangay Mangingisda houses the demo farm of Western Philippines University which provides agriculture-related trainings. A Satellite hospital is located in Brgy Mangingisda. Health care services are dispensed through the Barangay Health Station. Five barangays have a BHS each, namely, Luzviminda, Inagawan, Inagawan Sub-Colony, Kamuning and Mangingisda. There is one public cemetery each in Inagawan and Mangingisda. A third one is under development in Kamuning.

Topographically, more than half (56%) of Mangingisda Cluster’s land area falls within slope range above 18%. Nonetheless, the Cluster has a relatively large area with slopes 0-3%. These low-lying areas identified as flood-prone are located in Montible, Inagawan and Inagawan Sub-Colony. The three barangays directly facing the Sulu Sea, Inagawan, Inagawan Sub and Kamuning, may be vulnerable to storm surge, and all coastal areas in the Cluster are potentially at risk to sea level rise.

3. **Bacungan** – Santa Cruz, Bahile, Macarascas and Salvacion

Bacungan Cluster directly adjoins the urban area to the north and is considered as the largest among the five identified clusters. With a combined area of 63,277 has Bacungan Cluster accounts for 27% of the total area of rural barangays and 25.48% of the entire city. In 2007, the Cluster population is 8,513 growing at the rate of 2.56% annually since 1990 census. This yields a gross population density of 13 persons per sq. km. which is the lowest among the five clusters.
Figure 5.5 Central Cluster
Bacungan Cluster’s topography is characterized by mountainous terrain with 60% of its land area falling within slopes higher than 18%. Barangay Bacungan is uniquely positioned that it straddles the breadth of the city with coastal zones in both the east and the west coasts. However, there are a number of low-lying areas in the Cluster which are vulnerable to flood, such as, Puroks Maligaya, Centro and Masagana in Bgy Salvacion, the pier area in Bgy. Bahile, and Sitios Maranat I and Centro in Bgy. Bacungan. Bacungan Cluster is exposed to storm surges coming from either the east or west direction. The Sitios of Sta. Fe, Talaodyong, Nagtabon and Tagminatay in Bgy. Bacungan are found to be at risk to landslides. All barangays with portions facing the sea are susceptible to sea level rise.

Bacungan Cluster has rich natural endowments. Found within this cluster are the two most significant forest reservations, namely: the Puerto Princesa City Forest Reserve in Sitio Nagtabon, Bgy. Bacungan and the Bahile-Macarascas Wilderness Area fringing Ulugan Bay. The Forest Reserve has the highest terrestrial flora biodiversity index based on transects at Sitios Talaodyong and Nagtabon. The Wilderness Area harbors intact old growth mangrove forests in barangays Salvacion, Sta. Cruz, Bacungan, Bahile and Macarascas. The highest diversity of mangrove species are found in Bgy. Macarascas. Bacungan River, with a watershed of 11,343 ha, drains 18% of the Cluster land area. The marine portion of the Cluster territory contains seagrass meadows where sightings of dugong (sea cow) were recorded. The beaches in the Cluster are found to be the nesting places of sea turtles. The main tourist attractions of Bacungan Cluster are:

1. Starfish Island and Viewdeck in Bgy. Salvacion
2. Nature Park in Salvacion
3. Bahile River, Mangrove Footwalk and Interpretive Area, Isla Rita, Kayulo River and Waterfalls, all in Bgy. Bahile
4. Diving and snorkeling around Tres Marias rock outcrops in Ulugan Bay
5. White sand beaches in Sitios Talaodyong and Nagtabon, Tagkawayan/City Beach, the City Wilderness Park, scenic sights of seascapes and landscapes in Sitio Camansala, all in Bgy. Bacungan

Being proximately located to the urban area, the Cluster has significant share of urban-oriented economic activities among which are agricultural, fishing and
seaweeds farming, backyard goat-raising and livestock and poultry production. There are three poultry contract growers with a combined production of 19,200 chickens within an approximate area of 5,000 sq. m. accounting for 17% of total production in the city. There is an average of 3 tons of fish handled weekly at the Macarascas and Bahile Wharves and Fish Landing which are brought to the city markets and to any point of destination. The distinct landscape of Bacungan makes it conducive for forage and pasture development which is mainly suitable for goat-raising. Vast tracts of land area within the Cluster are planted with a variety of fruit-bearing, almaciga and mahogany trees. Four multi-purpose cooperatives provide business services to the Cluster population, namely: the Bahile Community Tourism MPC, Bahile Share MPC, and New Era Homeowners MPC at Candés, Bacungan, and the Salvacion MPC.

In terms of social services, the City government has established two resettlement sites: the Tribal Village in Bahile which accommodates 44 indigenous tribal families and the Pier Resettlement Project also in Bahile for some 300 pier workers and informal settler families. Basic health care services are dispensed at the Barangay Health Stations of which all barangays in the Cluster have one each situated within the vicinity of the barangay center. Barangay Salvacion provides for the medical needs of the residents through the Salvacion Satellite Clinic. There are two public cemeteries in the Cluster located in Bahile and in Macarascas. Facilities for basic education in the Cluster are made available in seven elementary and three high schools. Elementary schools are located in Bacungan Centro, Candés, Maranat and San Carlos, all in Bacungan, and one each in Bahile, Salvacion and Sta. Cruz. Macarascas has no elementary school but it has a national high school. The other two national high schools are located in Bacungan and Bahile. The Palawan Conservatory Corps Training School caters to the Out of School Youth education. St. Exequiel Moreno Boarding School provides for the needs of the Indigenous People within the area. Trade and business are held in Barangay Talipapa established in each component barangay in the Cluster.

Electricity is available in the Cluster but only 22% of households are connected. Most communities in the Cluster are provided with level 2 water supply systems. The Cluster is also within the range of cell sites or telecommunication networks.
Bacungan Cluster’s topography is characterized by mountainous terrain with 60% of its land area falling within slopes higher than 18%. But there are a number of low-lying areas which are vulnerable to flooding such as puroks Maligaya, Centro and Masagana in Bgy Salvacion, the pier area in Bgy Bahile, and in sitios Maranat I and Centro in Bgy Bacungan. Being uniquely positioned that it straddles the breadth of the city with coastal zones in both the east coast and the west coast, Bacungan Cluster is exposed to storm surges coming from either direction. The sitios of Sta. Fe, Talaodiong, Nagtabon and Tagminatay in Bgy Bacungan are found to be at risk to landslides. All barangays with portions facing the sea are susceptible to sea level rise.

6. **Cabayugan – Buenavista, Tagabinet, Marufinas and New Pangangan**

Cabayugan Cluster occupies the northwestern corner of Puerto Princesa. The most prominent feature of the Cabayugan Cluster is the world-renowned Puerto Princesa Subterranean River National Park. The PPSRNP has been voted as one of the New 7 Wonders of Nature.

Cabayugan Cluster has a combined land area of 37,197 ha which accounts for about 16% of the total area of the rural clusters and about 15% of the land area of the city. Over the 17-year period from 1990-2007 the combined population of the Cluster grew from 3,518 to 6,107 representing an annual growth rate of 3.25%. This makes the Cluster population the third fastest growing after Mangingisda and Napsan Clusters. With a population density of 16 persons for every square kilometer in 2007, Cabayugan Cluster is the second most sparsely populated next to Napsan Cluster.

The natural endowment of this Cluster is unique principally for the presence of karst forests and geological formations that present the most spectacular landscapes. These breath-taking views seem to dramatically usher visitors as they approach the star attraction – the Underground River. The karst forests are also the habitat of terrestrial flora with high biodiversity and endemnicity index. The Sabang River watershed covers a total of 1,674 ha which is less than 5% of the Cluster’s land area.
Its marine resources encompass the northern portion of Ulugan Bay and the entire St. Paul Bay which are important fishing grounds of the city. Farther offshore is Pinanganakan Island which has a good coral cover. Frequent sightings of sharks and sea turtles are observed in these waters. The near shore areas however have very poor water visibility due to siltation from rivers and shore erosion from strong waves. This sometimes leads to fish kill episodes. The near shore areas of Buenavista, Cabayugan, Marufinas, New Panggangan and Tagabinet are also found to be susceptible to harmful algal blooms.

Tourism is the most important economic activity in the Cluster. Due to the presence of the PPSRNP, Cabayugan Cluster easily corners the bulk of the tourist traffic in Puerto Princesa. Visiting the underground river is not the only experience that the area offers. Within the vast reservation area there are a variety of resources and facilities that tourists who have more than a day to spare can experience such as the following:

1. Ethnographic site museum at Cabayugan Centro
2. Lion’s Cave, Daylight Hole and Cawili Cave
3. Monkey trail and Jungle trail
4. Sabang Waterfalls
5. Sabang beach
6. Mangrove paddleboat tour
7. Buddhist Temple Meditation and Spiritual Retreat Place
8. Ugong Rock Spelunking, Summit Viewdeck and Zipline
9. Marufinas beach
10. New Panggangan beach
11. Kayasan Ecological Retreat and Camp
12. Kayasan Ancestral Domain in Bgy Tagabinet
13. Wildlife Observation and Bird Watching
14. Cross-country trek from PPSRNP to barangays Concepcion and Tanabag on the east coast
15. Mountain Climbing from Mt. Cleopatra in Marufinas to Concepcion
16. Buenavista beach, viewdeck and Paraw sailing in Ulugan Bay
17. Diving and snorkeling around Tres Marias islets in Ulugan Bay
18. Hotels, restaurants, resorts (Sheridan Resort and Spa, Daluyon Beach Resort and others)
19. Bayatao Tribal Village

In terms of physical infrastructures, Cabayugan Cluster is benefited by major investments of the national government in the form of concreted road access to the PPSRNP. In contrast, the northernmost barangays of the Cluster, Marufinas and New Panggangan, are not accessible by road. The main reason for the reluctance of the city government to provide road access is that any possible alignment will traverse the national park reservation and opening access by land will certainly lead to the park’s degradation. The Cluster is as yet unserved by a centralized electric power provider.

Some establishments and a few households have acquired their own generator sets. Lack of reliable power supply is most severely felt in Sitio Sabang where tourists who stay overnight invariably look for the night life. For water supply, most areas in
the Cluster rely on level 1 system. Only Cabayugan has a level 2 system but the one in Sabang can probably sustain a level 3 system. The entire Cluster is within the range of cellular phone service providers.

Available social services include three (3) satellite clinics situated in Cabayugan Centro, Buenavista and Tagabinet-Nasuduan. A separate 24-hour clinic for local and foreign tourists is also available in Sabang. Lower level health care services are dispensed in the Barangay Health Stations located at the center of barangays Tagabinet, Marufinas, and New Panggangan. Only Bgy Buenavista is not provided with a BHS. The City has put up a housing project for 32 informal settlers in sitio Sabang. Sabang, the staging point for trips to the Underground River, is provided with a Police Community Precinct/Tourist Police Outpost manned by 12 police officers. There are currently 10 elementary schools in the Cluster: four in Cabayugan – one in the centro and one each in sitio Nasuduan, Sabang, and Tagnipa; three in Tagabinet – Centro, Kayasan, and Makiwara sitios; and one each in barangays Buenavista, Marufinas and New Panggangan. Three (3) high schools serve the entire Cluster, the Cabayugan National High School, Buenavista-Macarascas Annex and Tagabinet-Cabayugan Annex.

The topography of Cabayugan Cluster is dominated by hills and mountains. More than three-fourths (76%) of the Cluster’s land area belongs to slope class above 18%. Less than one-fourth (24%) of the Cluster’s area has slopes below 18%. Nonetheless, there are identified flood-prone areas such as those in Buenavista Centro and in sitios Masagana and Maligaya in Tagabinet. Portions of Tagabinet are vulnerable to landslides while all coastal areas of the Cluster are potentially at risk to storm surge and sea level rise.

20. **San Rafael** – Manalo, Maruyogon, Lucbuan, Mauyon, Babuyan, Tanabag, Concepcion, Binduyan and Langogan

San Rafael Cluster comprises 10 barangays on the northeastern part of Puerto Princesa. All 10 barangays have their faces on Honda Bay and their backs on the mountain. The high-rising mountains send swift run-off down their steep slopes causing flash floods in the narrow plains. Langogan and Binduyan with their high
mountains are vulnerable to landslides. Each of the many islands and islets dotting Honda Bay belongs to that barangayin whose territorial waters the island is located. Only Bgy. Maoyon has no coastal area. The nine coastal barangays are potentially vulnerable to natural hazards such as storm surge.

Figure 5.7 Northeastern Cluster

sea level rise, and harmful algal blooms. All component barangays are strung together at their footslopes near the coastline by the concrete-paved north national highway leading to the next town, the Municipality of Roxas. The last (and first) barangay, Langogan therefore serves as the northern gateway to Puerto Princesa.

San Rafael Cluster has a total land area of 52,406 ha, the second largest next to Bacungan Cluster. It accounts for 22% of the combined area of rural clusters and 21% of the total area of Puerto Princesa. The population of the Cluster in 2007 is 13,510, the second highest next to Mangingisda Cluster. San Rafael Cluster, however, has the lowest population growth rate of 2.29% per annum for the period
1990 to 2007. Within the Cluster there seems to be a shifting of population. Census data for 2000 and 2007 show that all barangays to the south of San Rafael, except Babuyan, have growth rates lower than the Cluster average, with San Rafael posting a negative growth. On the other hand, all barangays to the north after San Rafael have higher growth rates than the Cluster average with Langogan having the highest. This seems to suggest that the residents of the southern barangays are moving to the northern barangays. As the border barangay it is likely that Langogan is also receiving movers from the neighboring barangays of the Municipality of Roxas. In terms of population density, San Rafael Cluster accommodates 26 persons in every square kilometer, the second highest after Mangingisda Cluster.

Its natural endowments consist mainly of the forested mountains and the municipal waters. It has a very narrow coastal plain and foothills. The forested parts especially those in higher elevations still have a good stand of large trees but hillside cultivation (kaingin) is observed to be rampant. Also upland settlements belonging to the Batak tribe who live on hunting and kaingin are common. Consequently, the biodiversity rating of the area for both flora and fauna is “very low”. An exception is Bgy. Langogan which has the third highest endemnicity of terrestrial fauna in Puerto Princesa. However, Langogan also has the third highest number of threatened fauna species in the city, apparently due to unregulated hunting. Seven rivers (Manalo, Maruyugon, Binduyan, Babuyan, Langogan, Tanabag and Concepcion) emanating from the upper mountain reaches have a combined watershed that is larger than the land area of the Cluster. Unfortunately, due to the small and narrow agricultural plain, the rivers are underutilized for irrigation purposes. Certainly, a more productive use for this fresh water resource must be found before it is thrown into the sea.

The status of marine life habitats consisting of coral reefs, seagrass meadows and mangroves defines the ability of the Cluster to sustain fisheries, tourism, and other sea-based economic activities. Transect surveys indicate that coral reefs in Honda Bay are generally in good to excellent condition resulting in higher species richness of reef fishes. Good seagrass cover is found stretching from the coastal waters of Concepcion through to Binduyan. Dugong grazing marks are observed especially in the waters of Babuyan, Tanabag, Concepcion Langogan and Binduyan. San Rafael is
exceptional in that it has poor seagrass cover but whale sightings are recorded there. Sea turtle nesting areas are found in the offshore islands of Bgy Manalo (Isla Putting Buhangin, Snake Island and Arriceffi Island) and Bgy Lucbuan (Isla Barlas and Tadjo Island). Mangrove forest plantations of robust growth are found in the coastal areas of Bgy Concepcion, Babuyan and Bgy Tanabag, and in the offshore islands of Bgy Manalo, namely, Dos Palmas, Snake Island, and Starfish Island. Mangrove areas of up to 45 ha have been converted to fishponds and resorts.

The two dominant ecosystems, the mountains and the bay, are naturally the most important tourism resources of the Cluster. The most frequented tourist sites in the San Rafael Cluster are the beaches. Some of these beaches are found on the mainland such as those in San Rafael, Lucbuan, Binduyan, Tanabag and Concepcion. But the favorite ones are the beaches on the islands particularly Pandan Island, Snake Island, Isla Putting Buhangin, and Arriceffi Island, all belonging the Bgy Manalo. Island hopping in Honda Bay has become an almost indispensable feature of packaged tours in Puerto Princesa. These islands are visited by tourists’ everyday. Unfortunately, none of these visits emanate from or terminate in the San Rafael Cluster. Perhaps one reason for this is that there is no all-weather boat landing facility serving the Cluster. Mountain-related tourism experiences that the Cluster can offer include caving (Taraw Cave in San Rafael and Marangreg Cave in Maoyon), shooting the rapids or simply swimming in the Olangoan Waterfalls of Binduyan, cross-country trekking from San Rafael, Tanabag or Concepcion to PPSRNP in Cabayugan on the west coast, and mountain climbing, scaling the heights of Mt. Cleopatra straddling Bgy. Concepcion and Bgy. Marufinas on the west coast. These are attractive to tourists who are extremely adventurous. But support facilities and safety provisions have to be put in place first. River cruising, bamboo rafting, kayaking and bird watching are among the nature and adventure attractions and activities that tourists can experience in the river ecosystems in this cluster. The settlements of the Batak indigenous cultural communities in the four barangays in this Cluster can be found in the villages of Sitio Riandakan in Barangay Maoyon, Sitio Kalakuasan in Barangay Tanabag, Sitio Tagnaya in Barangay Concepcion and Sitio Manggapen in Barangay Langogan where a cultural tourism program is pursued to assist in the preservation of Batak culture, indigenous folkways and production of traditional handicrafts.
In terms of infrastructure facilities, the Cluster is highly accessible through the northern national highway. Access to the interior parts of each barangay, especially those situated in the mountains is difficult. Alternative access to the mountains other than roads must be found. Electricity is already available in all barangays in the Cluster but only 20% of potential consumers are actually connected. All barangays except Maoyon and Tanabag have either level 1 or level 2 or both systems in place. The entire Cluster is within the range of cellular phone service providers.

Social services that enhance the welfare of the Cluster inhabitants include public housing, the Melwang Project in Bgy Lucbuan, which resettled 57 families who were formerly informal settlers. Financial, marketing and other business services are provided by three multi-purpose cooperatives, the Manalo Small Coconut Farmers Agrarian Reform Beneficiaries MPC, the Maruyugon MPC, and the San Rafael, Tanabag and Concepcion MPC. Although every barangay in the Cluster has its own Barangay Health Station, four barangays have notably high incidence of child malnutrition. These are barangays Binduyan, San Rafael, Langogan, and Maruyugon which have significant proportions of tribal population. Three public cemeteries serve the burial need of the Cluster population located in Manalo, Maruyugon and Langogan. In terms of educational opportunities, only San Rafael Cluster among the five clusters has an existing college level institution. Palawan State University recently opened an extension program in San Rafael. Basic education is adequately provided by 14 elementary schools and four high schools. The elementary schools and their locations are: 2 in Babuyan – Centro and sitio Anilawan; 2 in Lucbuan – Centro and sitio Baruang; 3 in Langogan – Centro and sitios Makandring and Manggapin, and one each in barangays Binduyan, Concepcion, Maruyugon, Manalo, Maoyon, San Rafael, and Tanabag. The four high schools are Babuyan, Langogan, and San Rafael, all national high schools, and the Puerto Princesa Rural High School in Bgy Maruyugon.

Rural Service Centers (RSC)

Rural Service Centers are barangays designated as such based on their potential to perform central functions, that is, services that cater to the needs not only of their
own inhabitants but also those of neighboring barangays. The main function of an RSC is that of an outpost in which services and facilities of the city government as well as extension offices of the national government are concentrated. This is aimed at literally bringing government closer to the people in that residents of far-flung areas need not go all the way to the city hall to transact business with government. Another important function of an RSC is that of logistics or supply center. On one hand, the RSC is the consolidator of the products of the different barangays within its cluster and from where these products are brought to markets elsewhere. On the other hand, products from other areas are brought to the RSC for distribution within the cluster barangays.

From the city-wide perspective the entire barangay is the rural service center. Within each RSC barangay, a smaller portion representing the most accessible part of the barangay is delineated for zoning purposes. It is in this portion of the RSC barangay where public and private investments in institutions and establishments intended for area-wide patronage will be concentrated. Land uses to be promoted in this portion of the barangay are typically urban. The following are the brief descriptions and maps of the RSC barangays.

1. RSC Barangay Napsan
Barangay Napsan is the biggest among the three barangays comprising the Southwestern Cluster in terms of both population and land area. Geographically, Napsan is not in the center of the cluster. But it has the highest external accessibility in the cluster as it lies at the junction to two major arterials, the Montible-Napsan national road that extends up to the Municipality of Aborlan and the Napsan-Bacungan city road. Being the most highly accessible, Napsan has the best chance of becoming urbanized and the best opportunity to perform central functions vis-à-vis the rest of the cluster, including the nearby barangays of Aborlan south of the border. The identified site for establishing the central facilities and services of the cluster is at and around the junction of the two major roads near the coastal zone at Sitio Centro which will benefit directly from the anticipated increase in public and private investments. (Refer to Fig. 5.8.)
2. RSC Barangay Mangingisda
Barangay Mangingisda has the largest population among the eight barangays that comprise the Southeastern Cluster. In terms of land area, it has the second smallest
next to Bgy. Inagawan. Located almost equidistant from the north and south ends of the cluster, Mangingisda has the advantage of a well-developed seaport facing the Puerto Princesa Bay. Thus, it has the highest external accessibility among the barangays in the cluster. Being directly linked by water to the urban area of the city, Mangingisda is in the best position to consolidate the products of the cluster barangays destined for markets elsewhere as well as in-bound goods from other areas for distribution to the component barangays. Mangingisda has the largest area devoted to settlements being the beneficiary of the city’s relocation projects as well as the agrarian reform program of the national government. Therefore it has the best potential to become urbanized within a short span of time. The physical framework for rapid urbanization in the form of road and street networks is already in place. The RSC site shall utilize portions of the existing resettlement subdivisions. (Refer to Fig. 5.9.)
Figure 5.9  RSC Barangay Mangingisda
3. RSC Barangay Bacungan

Barangay Bacungan has many superlative features. For one, it has the largest land area not only among the Central Cluster barangays but among all the 66 barangays in Puerto Princesa. It is the only barangay that straddles across the entire breadth of the city with coastal areas on the west facing the Palawan Passage of the West Philippine Sea and on the east facing the Honda Bay on the Sulu Sea. Among the RSC barangays Bacungan is the most accessible by land. Although it is not situated at the geographical center of the cluster Bacungan is criss-crossed by north-south and east-west arterials making it within easy reach to and from any part of the cluster. Within its cluster consisting of five barangays, Bacungan has the biggest population and the highest annual growth rate, although the cluster as a whole is losing population. The identified site for establishing the cluster service center is at Sitio Centro near and around the junction of the major arterials where some of the initial infrastructures are already in place. (Refer to Fig. 5.10.)
Figure 5.10  RSC Barangay Bacungan
4. RSC Barangay Cabayugan

Barangay Cabayugan lies at the geographical center of the Northwestern Cluster consisting of five barangays. Its seaward side is framed by two bodies of water, the Ulugan Bay on the west and St. Paul Bay on the north. (Refer to Fig. 5.11.) The landward side is bounded on the east by Bgy. Marufinas and on the south by Bgy. Tagabinet. Among the barangays in the cluster Cabayugan has the second largest land area next to Marufinas. It has the largest population with a growth rate that is second to Bgy. Buenavista’s. Cabayugan, like the rest of the cluster is thickly forested and mountainous. Settlements are concentrated in two places: along the coast and along the national road that serves as principal access to the PPSRNP. This road runs like a spine through the middle of Bgy. Cabayugan in a northsouth direction. The road terminates at Sitio Sabang which is the staging point for trips to and from the Underground River National Park. Sitio Sabang is also an important landing area for the residents of the two roads-less barangays of Marufinas and New Panggangan.
Figure 5.11  RSC Barangay Cabayugan
Naturally, Sitio Sabang is rapidly growing on account of its central functions within the cluster but more so by catering to the needs of foreign and local tourists. Along the same road 10 kilometers to the south is the traditional Sitio Centro of Bgy. Cabayugan. The site for the cluster service center is the old barangay center but some city-level services will have to be shared with Sitio Sabang. Services catering to tourists may be sited in Sabang whereas services directed to the cluster population will be made available at the old barangay Centro.

5. RSC Barangay San Rafael
Barangay San Rafael is situated at the central part of the Northeastern Cluster comprising 10 barangays all facing the Honda Bay. Compared to the other barangays in the Cluster San Rafael does not seem to enjoy superlative endowments. In fact, in a number of indicators San Rafael occupies the middling position. In terms of land area, for example, San Rafael the third largest next to Langogan and Binduyan. Similarly, it ranks fifth in population size and only San Rafael experienced negative growth rate during the period 2000-2007. It would seem that geographical centrality is the main advantage of San Rafael. Nevertheless, this is an important advantage for a barangay that will be imbued with performing central functions relative to the rest of the cluster. This important advantage was not lost on the officials of Palawan State University when they decided to open an extension of their academic programs in San Rafael. Reportedly, their extension program in San Rafael has been able to recruit enrollees even from the Municipality of Roxas north of the border. Certainly, its designation as RSC will enhance this central function of San Rafael. The identified site is or near the existing barangay hall site just on the boundary with Bgy Tanabag. The choice of this site is based on the fact that it is the place of highest population concentration. Also, being at the broadest end of the tapering plain that characterizes the built up and buildable portion of the barangay, the RSC site leaves enough room for future urban expansion. (Refer to Fig. 5.12.)
Figure 5.12  RSC Barangay San Rafael
Border barangays, namely, Langogan in the north and Kamuning in the south, which serve as gateways to Puerto Princesa are designated as satellite service centers.

1) Barangay Langogan is the largest in terms of land area among the 10 barangays comprising the San Rafael Cluster. It is the third most populous barangay after Babuyan and Manalo but it has the highest population growth rate. This may be due to the possibility that residents of nearby barangays in the Municipality of Roxas are moving into Langogan, the first city barangay, for what reason it is not quite clear. It is probable that, given similar economic opportunities between the barangays on both sides of the border, the attraction of Langogan is the availability of better-quality services that the city offers. Building on this advantage, Langogan is now designated as a satellite service center to extend better services to the adjoining barangays. Unlike in an RSC, however, no city government services will be decentralized in a satellite center. The services will be concentrated in a well-planned rest stop where the best things that the city can offer will be showcased. Figure 5.13 shows the indicative location of the planned rest stop in Langogan.
2) Barangay Kamuning
Barangay Kamuning stands at the southern gateway to Puerto Princesa. Kamuning and Inagawan, are the oldest settlements in the southern part of the city. These barangays are the only ones in the Mangingisda Cluster that are situated on completely flat terrain, a physical feature that makes them highly suitable for urban development. The designation of Kamuning as a satellite service center will enable it to share some of the decentralized city services that would otherwise be available only in RSC Mangingisda. However, like in Langogan, the extension services need not be housed in a city government building. A well-planned commercial complex can provide enough space for certain frontline government services and accommodate a rest stop. The commercial complex can attract customers from adjacent barangays in the Municipality of Aborlan and thereby contribute to inflow of capital to the city. Figure 5.14 shows the possible site for the commercial complex.
2.2.4 RSC Barangay Periphery
The remaining part of each RSC barangay and satellite service center is designated as RSC Barangay Periphery. In this area public and private investments are less intense and the land uses are typically rural in character. These peripheral areas of RSC barangays are however within direct influence of the urban developments in the center. It is highly probable that the peripheral areas will, over time, catch the overspill of the urbanizing areas.

2.2.5 Non-RSC Barangay Centers
All rural barangays which are not designated as RSC belong to this category. Each of these barangays belongs to a cluster oriented around a particular RSC. Policies appropriate to a particular cluster shall apply to all barangays belonging to that cluster. Within each non-RSC barangay, a central portion which may either be the geographical centroid or the most accessible part of the barangay or the location of
the largest settlement is delineated as such for zoning purposes. Within this central part are usually located the barangay hall, schools, health center, and other government services. Desirably, small markets and similar shopping areas as well as social and cultural facilities will be located in these barangay centers. For zoning purposes, the land use to be promoted in these centers is typically urban in character.

2.2.6 Non-RSC Barangay Periphery
Remaining portions of each non-RSC barangay belong to this area category. Land use policies in these peripheral areas are typically rural in character.
Chapter 6

COMPREHENSIVE LAND USE PLAN: POLICY INTERVENTION MEASURES

1. Introduction

This chapter continues from the previous one. It embodies the proposed policies deemed appropriate for each of the geographical areas or barangay clusters described in Chapter 5. Policies come in the form of developmental intervention measures such as programs, projects and non-projects or services rendered by the public sector. Another form of policies consists of regulatory measures such as zoning, taxation, and the like, which seek to prohibit, curb, or mitigate the effect of certain individual or group behavior that is deemed inimical to the general welfare of the city’s inhabitants. This chapter deals with the developmental intervention measures. The regulatory measures are the subject of Chapter 7.

Consistent with the national goals of physical planning as expounded in Chapter 2, the proposed policies aim to achieve for each area in particular and for the entire city in general:

a. Rational distribution of the population;
b. Access by the population to social services and economic opportunities;
c. Sustainable utilization of resources; and
d. Maintenance of environmental integrity.

The policy proposals are further grouped under the four land use categories adopted by the National Land Use Committee. The four categories are briefly described below.

2. The Land Use Categories

In any given territory all land uses can be classified into four functional types: settlements or areas utilized for living, production areas or areas for making a living, infrastructure areas or areas occupied by physical structures and facilities that support both functions of living and making a living, and protection areas or areas that are not utilized for any of the above functions but which serve as life support system. The settlements, production and infrastructure areas constitute the built up area or the built form whereas the protection area is the unbuilt environment. These four land use categories are used to organize the land use policies proposed in the plan. This ensures complete coverage of any given territory. Existing land uses in, and future land use policies for Puerto Princesa are classified accordingly.
2.1 Settlement Areas

Settlement areas in Puerto Princesa comprise residential areas and other areas utilized principally for living or activities associated with the residential function. These include institutions that cater to the health, educational, cultural and recreational needs of the inhabitants. Residential areas in the urban area differ from those in the rural area. In the case of Puerto Princesa, a third type of settlements exists, namely, those belonging to indigenous tribes. Although indigenous settlements are invariably located in rural areas they may not be totally identified with the latter but, to the extent possible, are to be treated as distinct settlements in their own right.

2.2 Infrastructure Areas

Infrastructure areas are those utilized in the establishment of public facilities such as roads, ports, airports and the like, utilities such as power, water, telecommunications, as well as public institutions like government centers, public schools, barangay halls, etc. The area allocated to infrastructures for purposes of policy generation and enforcement includes not only the actual building site but also includes the regulation easement or right of way around or along the public facility.

2.3 Production Areas

Production areas are those devoted to the creation of wealth in general, such as the production of goods and services for own consumption or for the market. Production areas may also be referred to as areas for making a living or where livelihood activities are carried out. Production facilities may be stand alone such as factories located in designated industrial zones or inter-mixed with or co-located in residential areas. Some production areas are located away from urban areas such as agricultural farms, mining sites, and fishponds. Most production activities such as commercial and office establishments are always located in urban environments.

2.4 Protection Areas

Protected areas are those areas where human settlements are generally not allowed. These include protected areas for the maintenance of biodiversity in critical ecosystems, for sustaining a desired level of food security, for protecting the human population from disasters, and for ensuring the continued link between generations through preservation of common heritage. In conceptual terms, protected areas
function as the life-support system for the other three areas. In terms of land use outcomes, the protection areas are the open, unbuilt, and usually vegetated areas.

3. Policy Intervention Measures by Area Clusters

3.1 Proposed Policies for the Urban Area

For purposes of policy formulation and enforcement the urban area is seen as consisting of two sectors: the inner core or central business district and the outer portion or urban periphery.

3.1.1 The Central Business District (CBD)

A. Development Theme for the Area

Pursuant to the spatial strategy to merge the Old Poblacion and the new urban growth area into one seamless built-up area the CBD has been expanded accordingly as described in Chapter 5. The new urban growth area which was referred to in the past as “uptown” will now become the “new downtown”. The implication of this is that the higher-level goods and services that used to be concentrated in the Old Poblacion are now available also in the new downtown. This can be attributed to the fact that most major public investments in the last two decades have been concentrated in the new downtown such as the transfer of the city hall to the government center in Sta. Monica, establishment of a new market and bus terminal in San Jose and the construction of the city Coliseum in Tiniguiban, to name a few. Private sector investments have obviously followed in the same direction. Large business establishments are observed to be locating along the North National Highway to capitalize on the high accessibility offered by this arterial. The most recent completed and on-going business establishments and institutions are located on both sides of the highway. Private residential subdivision developers likewise have found it convenient to tap the highway for access to their projects. To date nearly all existing private residential subdivisions are located north of the airport runway from San Miguel all the way to Sta. Lourdes. As a result close to two-thirds (65%) of the urban population of Puerto Princesa is concentrated in the new CBD’s outer core. The shopping and work-related trips of this large population are causing the traffic gridlock along the highway and Malvar St. the only access routes to the Old Poblacion. The creation of a new downtown will provide an alternative shopping node and is expected to ease the traffic situation, among other benefits. On the other hand, this might lead to the further blighting of the Old Poblacion.
A more enlightened policy is needed on how to make the Old Poblacion and the new downtown equally attractive to shoppers. The secret seems to lie in the difference between a shopping center and a shopping district and which type of facility to promote in each area. A shopping center is a free-standing, self-contained retail establishment whose scale of operations is so large that it literally sucks up small businesses in its vicinity. Although the mix of activities in a shopping center sometimes includes non-business services it does not incorporate any type of residential functions. This type of establishment should not be allowed in the Old Poblacion not only because of lack of sufficient space but more so because it will “kill” the existing small businesses already located there. Shopping centers are better located in the new downtown where large parcels are still available to accommodate the customary sprawling building layout including the mandatory provision of parking space. Moreover, the shopping center is the right facility in the new downtown because the predominant type of housing accommodation is the subdivision which is uniformly residential in character. A subdivision resident has to go out of the subdivision to avail of the goods and services that he/she needs. The target market of the shopping centers consists of the local residents and those from other localities.

The Old Poblacion, on the other hand, should be assisted to retain and enhance its traditional function as a shopping district. A shopping district is basically a residential section of the city where the houses are built close to the street curb and are of two or three storey high. The ground floor is reserved for commercial uses, usually small to medium scale family owned and operated businesses, while the upper floors are devoted to professional services and offices or used by the owner as residential quarters. The physical layout of the Old Poblacion with its gridiron street network and the predominance of self-built owner occupied housing are conducive to its promotion as a shopping district. There is a bewildering variety of goods offered in a shopping district. Displays are extremely spontaneous and random and good buys are usually discovered by sheer serendipity. Prices are not fixed and haggling is the rule of the game. Some streets in a shopping district are usually closed to vehicular traffic so that shoppers can freely walk around safely. The target market of the shopping district, unlike that of the shopping center, is principally made up of tourists and visitors who are out to savor the ambience of Puerto Princesa while hunting for souvenirs and good bargains. Tourists probably hate going to more of the same shopping centers that they are too familiar with back in their home cities. Thus, having their own niche markets, the Old Poblacion and the new downtown can be developed and promoted equally on their own terms.
B. Proposed Programs in Support of the Theme

1. Programs on Settlements
   a. Building more tenement housing in barangays Matahimik, Mabuhay, Pagkakaisa, Bagong Silang, and Bagong Sikat to provide in-city relocation for the existing informal settlements in the area.
   b. Providing proper and affordable housing for the secondary and tertiary level students who come from far-flung areas preferably one dormitory in Manggahan for the Old Poblacion and another one in Sta. Monica within the government center for the new downtown.
   d. Bringing full electric power service to all households in Bancao-Bancao and San Manuel.
   e. Upgrading the water system to level 3 in the entire barangay of Milagrosa, San Jose, San Manuel, San Miguel, San Pedro, and Tiniguiban.

2. Programs on Infrastructures
   a. Construction of a new and bigger City Hall building on the same site in Sta. Monica
   b. Construction of a separate city Legislative Building in the City Hall vicinity
   c. Construction of the City Hospital along PSU Road
   d. Upgrading of the City Science High School into the City College
   e. Modernizing the utility systems at least in the CBD by:
      1) Rehabilitating and upgrading existing drainage systems
      2) Providing a common easement for all utility lines underground within existing road rights of way
      3) Preparing and implementing a drainage and sewerage master plan
   f. Improvement of the internal circulation system in the entire urban area with the following features:
      1) Installing better street furniture such as
         • Additional pedestrian sidewalks on some portions of Rizal Avenue
         • Use of signage and directional signs of national if not international standards
         • Lamp posts with provisions for paid advertising boards
- Safe pedestrian crossing through pedestrian cross-walks or traffic lights in major intersections and pedestrian footbridges across heavy-traffic thoroughfares

2) Improving circulation flow by:
   - Designating some streets as one-way streets
   - Installing closed circuit television (CCTV) cameras in strategic road sections for traffic management and crime detection

  g. Designation of dedicated bike lanes with proper road marking and traffic separation restraints (See Fig. 6.1)

  ![Proposed Provision of Dedicated Bike Lane](image)

  **Fig. 6.1 - Proposed Dedicated Bike Lanes in the CBD**

  h. Improvement, extension and/or construction of new arterials, collectors and distributors in the new downtown. (Refer back to Chapter 4 for the project list and location map.) These are intended to rationalize large-scale private business investments in the new
downtown and to entice residential developers to locate their projects in the CBD for the desired land use mix therein.

i. Development of inter-modal circulation system by opening a ferry boat service between the Baywalk in San Isidro and Tiniguiban Cove. (Refer back to Chapter 4 for the discussion and map.) This is intended to provide a direct alternative link between the Old Poblacion and the new downtown for equitable sharing of development benefits.

3. Production-Support Programs
   a. Conduct a study to identify streets to be pedestrianized and city blocks to be designated as shopping districts, including operation of night markets, within the Old Poblacion.
   b. Widening of the old market site and construction of a new public market on the site
   c. Construction of an additional building in the new market site in San Jose to house the Agricultural Trading Post
   d. Establishment of a Livestock Auction Market at the San Jose Market site
   e. Provision of technical assistance in Aqua-Silviculture (e.g. crab fattening) to farmers in San Jose, San Manuel and San Pedro
   f. Provision of assistance to the development of the area’s tourism potentials such as:
      1) Development of agro-ecotourism in San Jose and Sta. Monica
      2) Maintenance and promotion of Plaza Cuartel historical park in Liwanag, and the Eulalia Pocket Forest park in Matiyaga
      3) Promotion of water sports in San Pedro and the annual motocross races in Sta. Monica

4. Environmental Protection Programs
   a. Creation of additional public parks such as the following:
      1) Establishment of waterfront parks along the coast of Puerto Princesa Bay in San Isidro to Matahimik on the north side and in Bagong Sikat on the south side
      2) Conversion of the existing Butterfly Garden and Mini Zoo in Sta. Monica into a Children’s Park
      3) Declaration as public park the following sites:
         • Plaza in front of the City Coliseum
         • 60 meter easement from the breakwater at Baywalk
         • Portion of the San Jose Market occupied by ornamental plant growers
• The sites occupied by the Sports Complex, City Hall Complex, Palawan State University campus and the City Science High School campus to be declared as a contiguous public park

b. Roadside improvements
   1) Periodic trimming of roadside tree plantings
   2) Cleaning of existing open canals and construction of new CHB open canals in Bancao-Bancao

c. Ensuring safety of buildings
   1) Maintenance of the Sports Complex in Tiniguiban
   2) Regular monitoring of electrical layouts of buildings

d. Formulation of hazard-specific disaster preparedness plans for:
   1) Flooding in Bancao-Bancao, San Miguel, San Pedro and San Jose
   2) Harmful Algal Blooms in San Jose, Mandaragat, San Pedro, San Miguel, San Manuel, Tiniguiban, Bancao-Bancao, Liwanag, and Sta. Monica
   3) Storm Surges in Sitio Jacana, Bancao-Bancao, and in Liwanag
   4) Chemical Fire from oil depot in case of terrorist attack in Liwanag

For a summary of proposed projects and their locations see figure 6.2
Figure 6.2 Indicative Locations of Proposed CBD Projects
3.1.2 The Non-CBD Periphery

A. Development Theme for the Urban Periphery

The role of the urban periphery in this Plan is that of a catch basin for the development overspill of the CBD. No major public investments that will have the effect of prematurely inducing development will be introduced in the periphery in the short term, particularly in the northern urban barangays of Tagburos, Sta. Lourdes, Sicsican and Irawan. This will delay, if not altogether avoid, the conversion of the remaining agricultural lands to urban uses for the sake of maintaining food security. On the other hand, the peripheral barangays of the Old Poblacion may be assisted to increase their intensity of development to provide greater consumer demand for the goods and services offered in the shopping districts of the Old Poblacion. It is this area where the principle of concentration without congestion can be demonstrated by undertaking in situ or in-city relocation of informal settlements through medium-rise residential constructions.

B. Programs in Support of the Development Theme

1. Programs for Settlements

   a. Development of more socialized housing projects in Sicsican, Irawan, Sta. Lourdes and Tagburos
   b. Relocation of the illegal occupants of the Irawan Watershed to prevent contamination of the city’s water supply
   c. Establishment of Retirees Village in Sta. Lourdes and Irawan
   d. Construction of medium-rise housing for the informal settlers in the peripheral barangays of the Old Poblacion
   e. Installation of signage and directional signs is all subdivisions
   f. Upgrading water systems to level 3 and ensuring 100% access by households in Maunlad, Pagkakaisa, Princesa, Sicsican, Sta. Lourdes and Tagburos
   g. Bringing to 100% electric service connection to all households in Sta. Lourdes, Irawan and Tagburos
   h. Establishment of public pre-schools in all existing public elementary schools in the area
   i. Establishment of a public technical/vocational school

2. Programs for Infrastructures

   a. Transport-related projects:
1) Opening of collector or distributor roads to inter-connect subdivisions
2) Installation of standard signage in all subdivisions
3) Provision of safe crossings in schools along the national highway
4) Construction of waiting sheds for commuters along major roads
5) Opening commuter ferry service from Sicsican to Baywalk
6) Opening commuter ferry service from Irawan to Baywalk

b. Modernization of urban utility systems such as
   1) Installation of a common utility easement underground
   2) Rehabilitation and upgrading of existing drainage systems
   3) Provision of cell sites with regulation buffers where needed

c. Protection-support infrastructures
   1) Construction of a lighthouse at the Sta. Lourdes wharf in Honda Bay
   2) Rehabilitation of road embankments in Caramuran Bridge in Sta. Monica and in Iratag Bridge in Irawan

3) Installation of CHB opens canals along the streets in Sicsican

3. Programs to Stimulate Production Activities
   a. Establishment of an Urban Agricultural Estate in Irawan that will house research and extension services to farmers to include:
      1) Tissue culture laboratory
      2) Mango pulp weevil detection center
      3) Animal disease diagnostic laboratory
   b. Establishment of an Agricultural Training Center and Demonstration Farm in Irawan on innovative technologies such as:
      1) Large and small ruminant production
      2) Dairy farming
      3) Artificial insemination
   c. Provision of post harvest facilities such as:
      1) A satellite market and agricultural trading post in Irawan
      2) An Integrated Agricultural Processing Center in Irawan
      3) Mango processing center in Irawan
      4) Cashew processing center in Tagburos
      5) Centralized waste treatment plant for small hogs and poultry farms in Sta. Lourdes and Sicsican
      6) A feed mill plant in Sta. Lourdes
   d. Additional production support to agriculture in the form of:
      1) Establishment of greenhouses in Irawan, Sicsican and Sta. Lourdes
      2) Survey and assessment of fishponds in Tagburos, Sta. Lourdes, Sicsican and Irawan
3) Seaweeds farming in San Manuel
4) Crab fattening in Tagburos and Sta. Lourdes
5) Agro-forestry in Sta. Lourdes

e. Support to ecological tourism
   1) Promotion of non-motorized sports activities such as Hot Air ballooning in Mitra Road
   2) Floating water fountain in Puerto Princesa Bay
   3) Environment friendly water sports like rafting, kayaking, rowing, boating circuits, etc. (See figure 6.3)

4. Programs for Environmental Protection
   a. Establishment of the following public parks:
      1) The area occupied by DA-PAES as Nature Park
      2) The former City quarry site in Sitio Magarwak to become City Park
      3) Waterfront parks with access road to Honda Bay from San Pedro to Sta. Lourdes.
      4) Irawan and Sta. Lourdes Flora and Fauna Reserve
      5) Memorial parks in Sicsican and Tagburos
      6) Construction of view decks in identified visual corridors along the national highway in Sta. Monica and Sta. Lourdes
   b. Enforcement of protected area laws and ordinances
      1) Continuous protection of Irawan Watershed
      2) Protection of Bat Island in Honda Bay
      3) Strictly no conversion of irrigated and irrigable farm lands in Sicsican, Irawan and Tagburos
      4) Demarcation of fish sanctuaries in San Isidro in Puerto Princesa Bay and San Jose in Honda Bay
      5) Organization and training of Barangay Fire Brigades in urban and forest fire fighting
   c. Formulation of disaster preparedness plans on the following hazards:
      1) Flooding in Sicsican, Tagburos, Sta. Lourdes and Irawan
      2) Storm Surges in Maunlad, Bagong Silang, Bagong Sikat, Mabuhay, and Sitio Aplaya in Tagburos
      3) Harmful Algal Blooms in Tagburos, Sta. Lourdes, Irawan, Sicsican, Bagong Silang, Pagkakaisa and Mabuhay
      4) Terrorist Fire within 1,000 meter radius of the oil depot in Maunlad, Masipag, Bagong Sikat, Bagong Silang, Pagkakaisa and Mabuhay

For a summary of proposed projects and their locations see figure 6.4
Figure 6.3 Proposed Boating Circuits around Puerto Princesa Bay
Figure 6.4 Indicative Locations of Proposed Non-CBD Projects
3.2 Proposed Policies for the Rural Clusters

The formulation of policies for the rural areas makes use of the geographical areas delineated and described in Chapter 5. At the highest level is the Cluster made up of several component barangays. To the extent possible, clusters are differentiated from one another. Then at the level of the individual barangays one barangay stands out being the host to the Cluster center, a site chosen to be the location of services and facilities for the Cluster-wide population. All barangays belonging to one cluster have their own respective barangay centers and, outside of these centers, the periphery.

3.2.1 Policies for the Napsan Cluster

A. Development Theme for the Napsan Cluster

The major challenge for the Napsan Cluster is how to bring the level of development at par with the rest of the city. The strategy of designating Bgy. Napsan as rural service center aims to develop it as the most urbanized community in the Cluster both in physical appearance and in performing central functions. As a central place, Napsan shall serve as consolidator of goods and services produced in the area destined for markets elsewhere, on one hand, and of inbound goods and services for distribution to various parts of the Cluster, on the other. RSC Napsan shall also serve as the outpost for extension services of the city government to far-flung communities.

B. Programs in Support of the Development of Napsan Cluster

1. Delineation and master planning of the RSC site at or near the junction of the national road from Montible to Aborlan and the city road from Napsan to Bacungan. Basic public investments for the development of the RSC site include the following:

a. Construction of a City Hall Extension building that will house the offices of the City Treasurer, City Assessor, City Agriculturist, City Veterinarian, Public Order and Safety, City Tourism, Indigenous People’s Affairs, Civil Registry, City Engineering and Social Welfare and Development.

b. Consolidation public health services under the satellite clinic and eventually upgrading it to a district hospital.
Figure 6.5 Proposed Site of RSC Napsan
c. Opening a community college to cater to the needs of all communities in the southwest coast including possibly the nearby barangays of Aborlan.

d. Establishment of a satellite market which could eventually be upgraded into a commercial center.

e. Development of a district or Cluster park as part of the City Hall Extension complex

f. Establishing a centerline of the proposed Concreting of City Road

g. Implement setback of buildings

C. Programs for the Napsan RSC Periphery

1. Programs on Settlements

- Naming of streets, footpaths, and trails w/ directional signs
- House tagging
- Encouraging investments in “gentleman’s farms”
- Retirement Communities along the beach
- Every house to front on road, trail
- Encouraging all Tagbanuas to reside in Labtay subdivision esp. those settling in environmentally critical areas
- Establishing a Tagbanua tribal center and museum

2. Programs in Infrastructures

- Upgrade to level 2 and where feasible, level 3 water systems, and incorporate rainwater collection systems
- 3-chamber septage in every new construction
- Solid waste segregation
- Soil stabilization in coastal erosion areas and critical slopes
- Cell site with range that is cluster wide
- Weather monitoring equipment
- Small water impoundment system
- Extend electric service to the RSC initially and to the entire cluster eventually
- Boat landing that can serve as fish landing

3. Programs in Support of Production
• Post harvest facility
• Expansion areas for coconut, cashew, coffee, cacao, banana
• Farm input and supply and financing to accredited seed growers
• Greenhouses for high value crops
• Certified seeds propagation farms, seed gardens
• Native chicken production
• Stock enhancement
• Agro-forestry
• Industrial Tree plantation
• Regulated quarrying
• Wild honey gathering and bee farming

4. Programs in Support of Protection

• Waterfront Parks
• Non-conversion of irrigated and irrigable lands and coconut lands
• Establishment of visual corridors along Montible-Napsan and Napsan-Bacungan roads
• Rehabilitation of undeclared watersheds
• Ground demarcation of protected forest in Napsan, Bagongbayan, and Simpocan
• Demarcation of fish sanctuaries
• Rehabilitation of road embankments and slopes and cover cropping
• Organization and Training of Bgy. Fire Brigades to address forest fires
• Periodic trimming and removal of weak road side trees
• Continuous tree planting
• Regulation of Almaciga resin gathering
• Enforcement of Mining Moratorium

D. Non-RSC Bgy. In Napsan Cluster

1. Settlements

• House tagging
• Naming of barangay streets w/ directional signs
• Delineate barangay center site and prepare development plan
• Enforce building regulations on all constructions
• Ensure every house is accessible
• Regulate tribal settlements in ECA zones
• Student housing for IP school children in Simpocan and Bagong Bayan

2. Infrastructure

• Develop street systems in Bgy. Sentro
• Rehabilitate former logging road into Bgy. Road
• Upgrade to level 2 and enforce rainwater collection systems
• Require 3-chamber septage on new constructions
• Strict solid waste segregation
• Encourage development of environment-friendly power source
• Stabilize critical slopes
• Boat landing in Bagong Bayan and Simpocan centro
• Weather observation station where appropriate

3. Production

• Promote organic farming
• Farmers field school
• Biological Pest Control Laboratory
• Soils Laboratory
• Agri-Training Center (Incl. Animal Production)
• Construction of farm-to-market roads
• Native chicken production
• Upgrading of fishing gears for commercial fisheries

4. Protection

• Fauna reservation in Bagong Bayan and Simpocan
• Non-conversion of coconut lands to urban uses in Bagongbayan and Simpocan
• Barangay Fire Brigade against forest fires
• Rehabilitation of slopes w/ cover crop
• Continuous tree planting
• Periodic trimming of weak trees along roads
• Enforcement of Mining Moratorium
• Regulation of land selling (consolidation) and land speculation
E. Non-RSC Periphery

1. Settlement

- House Tagging
- Socialized housing per RA 7279
- Gentleman’s farm
- Alternative forms of IP settlements
- Upgrade to level 2 if feasible
- All houses accessible to services

2. Infrastructure

- Safe crossings in school zones along national roads
- 3-chamber septage in new construction
- Strict waste segregation
- Environment friendly sources of power
- Soil stabilization of critical slopes
- Provide cell site where feasible
- Construction of road going to Century-old Tree
- Construction of road going to Tagkuriring and Pinagtalunan Waterfalls, Bgy. Simpocan
- Provide Public Cemetery and implement “one plant per burial”

3. Production

- Sports tourism in Sitio Tagkawayan, Simpocan
- Farmers Field School and Good Agricultural Practices demonstration farms
- Organic farming and backyard organic piggery
- Integrated Livestock and Pasture Development
- Upgrading of fishing gears for commercial fisheries
- Agro-forestry and ITP in Bagong Bayan and Simpocan
- Information center and rest room in Century-old Tree Simpocan
- View deck and Bird watching in Simpocan
- Camping facilities in Tagkawayan Beach, Simpocan
- Cacao, banana, and cashew plantations in Simpocan and Bagong Bayan
• Promotion of coco jam making
• Promotion of Karagatan Festival in Simpocan

4. Protection

• Fauna reservation in Bagong Bayan & Simpocan
• Non-conversion of coconut lands to urban uses in Bagongbayan & Simpocan
• Barangay Fire Brigade against forest fires
• Rehabilitation of slopes w/ cover crop
• Continuous tree planting
• Periodic tree trimming along roads
• Sufficient salvage zone as hedge against storm surges and sea level rise
• Effective drainage against flash floods due to runoff

3.2.2 Policies for the Mangingisda Cluster

A. Development Theme for the Cluster

Mangingisda Cluster will probably urbanize faster than any of the five clusters. This is because Mangingisda has been receiving, and continues to receive, resettled families from other parts of the city. The pace of growth of this Cluster should be accelerated in order to realize the long-time envisioned role of Mangingisda as expansion area for the Poblacion, as well as its added role as Rural Service Center for the southeastern barangays of Puerto Princesa.

B. Policies for the RSC Site

The site chosen for the Rural Service Center in Bgy. Mangingisda may not be contiguous but will utilize available and uncommitted portions of the city relocation projects and the resettlement sites of the Department of Agrarian Reform. Within this general area (See Fig. 6.7) public investments will be concentrated and private investments encouraged providing services and facilities that cater to the needs of the Cluster population.
Figure 6.6 Proposed Site of RSC Mangingisda
Initial public investments include the following:
1. City Hall Extension Building to house relevant offices of the city government such as those of the City Housing Board, City Treasurer, City Assessor, City Agriculturist, City Veterinarian, Public Order and Safety, Social Welfare and Development, City Engineering, City Tourism, and Civil Registry.
2. The satellite clinic in Mangingisda to be upgraded and eventually converted into a district or general hospital
3. A satellite public market to consolidate the Cluster-wide produce and to serve as logistics center for the Cluster population
4. A community college
5. Sports Center or Sports Stadium
6. Rehabilitation Center for Children in Conflict with the Law (CICL)
7. Level 3 water system
8. Developing an eco-village (Recycling area, operational MRF)

Critical private investments that shall be attracted into the RSC Mangingisda are:
1. Shopping center for the sale of shopping (dry) goods and consumer durables
2. Beach resorts, hotels and other tourism-oriented facilities, and tourism programs to utilize the Turtle Bay and other coves for pleasure boating, diving and snorkeling, dolphin and whale watching, and the like.
3. Processing plants for agricultural and fisheries products to create employment opportunities for the local population

C. RSC Mangingisda Periphery

1. Settlements
   - Discourage squatting
   - Organize homeowners associations
   - Naming of streets and provision of directional signs in subdivisions
   - Home tagging
   - Promote gentleman’s farms
   - Every house has access to roads
   - Enforce strict building regulations
   - Prohibit settlements in ECA
   - Upgrade to level 2; rain collection system
2. Infrastructure

- Build FMR where appropriate
- Improvement of road and drainage system
- Installation of electric posts/street lights where appropriate
- Upgrading of wharf facilities to accommodate bigger vessels
- Solid waste segregation (operational MRF)
- 3-chamber septage required on new construction
- Soil stabilization in steep slopes

3. Production

- Contract growing of chicken and hogs
- Native chicken raising
- Small water impoundment
- Fish ponds, fish pens and fish cages in Mangingisda
- Stock improvement of municipal waters and establishment of ECAN marine zones w/ markers
- Upgrading of fishing gear for commercial scale production
- Sea weeds farming in Mangingisda

4. Protection

- Establishment of Waterfront Parks w/ access road
- Organization and training of barangay Fire Brigade to combat forest and grass fire
- Periodic trimming and/or removal of weak road side trees
- Rehabilitation and enrichment of cover crops along major rivers and sloping areas

D. Non-RSC Centro

1. Settlement

- Strict implementation of Anti-squatting law (RA7279)
- Organize homeowners association
- Conduct house tagging
- Naming of barangay streets and directional signs
- Design barangay site development plans
- Strict building ordinance enforcement
• Prohibit settlements in critical areas (ECA)
• Upgrade existing water system one level higher;
• Enforce water conservation measures
• Establish a Tech/Voc School in Luzviminda

2. Infrastructure

• 3 chamber septage for new construction
• Strict solid waste management
• Shift to environment friendly power sources
• Soil stabilization measures in critical slopes
• Installation of cell site where needed

3. Production

• Farmers field school and GAP demonstration farms
• Biological Pest Control Laboratory
• Soils Laboratory
• Weather monitoring apparatus
• Tissue Culture Lab & nursery in Luzviminda
• Green houses in drip irrigation in Luzviminda
• Upgrading of fishing gear for commercial-scale production
• Promotion and development of Environmental Estate in Sta. Lucia

4. Protection

• Non-conversion of rice and coconut land to urban uses
• Manage the Pacific Ring of Fire park in Sta. Lucia
• Preservation of 2nd century-old buildings in Iwahig
• Demarcation of 2nd growth protected forest in Montible
• Organization and training of Barangay Fire Brigade
• Periodic tree trimming along the road
• Continuous tree planting
• Cover cropping of critical slopes

E. Non-RSC Bgy Periphery

1. Settlement

• Implementation of Anti-squatting law (RA 7279)
• Organization and registration of HOA
• Naming of Bgy. roads/streets; provision of directional signs
• House tagging
• Strictly enforce building permit system
• Prohibit settlements in critical areas (ECA)
• Encourage IPs to reside in fixed settlements for proper provision of services and facilities

2. Infrastructure

• Safe crossings in school zones along national/ major roads
• 3 chamber septage required for new construction
• Strict solid waste management
• Environment-friendly power sources
• Soil stabilization measures in critical slopes
• Installation of cell site where needed

3. Production

• Contract growing of poultry and swine
• Native chickens growing
• Large and small ruminants raising
• Food processing at the Environmental Estate at Sta. Lucia
• Tourism in Iwahig, Sta. Lucia, coves in Luzviminda, Sta. Lucia, beaches in Inagawan, Inagawan Sub and Kamuning
• Farmers field school and GAP demonstration farms
• Biological Pest Control Laboratory
• Seed Laboratory in Luzviminda
• Agricultural Training Center at Sta. Lucia
• Arts and Crafts Training Center
• Small water improvements; rain harvesting structures
• Expansion areas for coconut, cashew, coffee and cacao at Inagawan Sub; Agricultural Trading Post in Kamuning
• Green houses in Inagawan, Inagawan Sub and Kamuning
• Demonstration farm for small ruminants in Iwahig
• Integrated livestock and pasture development
• Commercial fish hatchery and fish cages in Luzviminda and Sta. Lucia
• Giant clam nursery in Sta. Lucia
• Upgrading of fishing gear for commercial-scale production
• Promotion and development of Environmental Estate in Sta. Lucia
• Monitoring and regulation of quarrying in Inagawan Sub and Montible
• Develop natural hot spring and spa at Sta. Lucia
• Pleasure boating, diving, etc. at Turtle Bay and other coves of Sta. Lucia, Luzviminda
• Development of 5-ha Tagbarungis beach at Inagawan
• Cacao, banana, and cashew plantations in Luzviminda and Inagawan Sub
• Cashew processing in Inagawan Sub

4. Protection

• Preservation of Acacia Park in Inagawan Sub
• Riverside Linear Park / Boardwalk in Montible River, Tagbarungis, Tacduan Beach in Inagawan, and along Iwahig River
• Non-conversion of rice lands in Iwahig, Inagawan, Inagawan Sub, Kamuning, Montible, and Sta. Lucia
• Protection of visual corridors in Montible, Luzviminda, and Inagawan Sub
• Protection of undeclared watersheds in Montible
• Protection of 2nd growth forest in Montible (through ground demarcation) Iwahig, Sta. Lucia and Inagawan Sub
• Rehabilitation of road embankment in Inagawan Sub (going to Tacduan) and Bucana area in Iwahig
• Periodic trimming of weak trees along the road
• Continuous tree planting
• Cover cropping of critical slopes

3.2.3 Policies for the Bacungan Cluster

A. Development Theme for the Bacungan Cluster

Bacungan Cluster is the ideal venue for realizing one of the desired roles of Puerto Princesa as center for applied research in ecology, terrestrial and marine ecosystems and flora and fauna, in indigenous knowledge systems, practices and folkways, and in environmental governance initiatives. Given
Figure 6.7 Proposed Site of RSC Bacungan

the rich natural endowments, intact forest and wilderness areas and the geographical advantage of access to three water bodies and relative proximity to the urban area Bacungan Cluster can very well serve as an outdoor laboratory for carrying out all sorts of researches on all types of ecosystems. Research on IP adaptation to lowland mainstream society lifestyles can be
conducted in the Bahile tribal village with respect to the Batak tribe. This could complement a similar research on the Tagbanua in Napsan. The envisioned research center to be organized for this purpose may be established in the RSC site in Bacungan.

B. Policies for the RSC Bacungan Site

1. Major public sector investments in the area:

   a. The chosen site for the RSC Bacungan is at or around the intersection of major east-west and north-south arterials in Bacungan Centro. On this site a government center building will be erected to house selected extension offices of the city government and other relevant national agencies to render such services as health, education, social welfare, public order and safety, civil registry, agriculture, fisheries, veterinary, engineering, and environment and natural resources.

   b. A community college or a research university

   c. A general hospital

   d. A satellite market / hypermarket as the trade center

   e. Modern urban utilities such as street lighting, drainage system, and level 3 water supply system and telecommunication facility

   f. A public library and museum showcasing all sorts of researches on all types of ecosystems and agricultural research studies and IP adaptation to lowland mainstream society lifestyle, artifacts and rich and typical culture

   g. IP Village established housing the IP’s within the area which will serve as the model for research and studies about IP culture, folkways and practices, and artifacts

   h. Weather monitoring station

   i. Access roads fully rehabilitated and main roads concreted

   j. Support to agriculture and fisheries which include:
- Farmers Field School and GAP demonstration farms with soil testing laboratory/center
- Mango pulp and weevil detection center and fumigation machine
  - Fully-equipped Integrated Agricultural Processing Center
  - Integrated livestock and pasture development Farm
  - Demonstration Area equipped with preservation facilities for crab fattening and sea weeds farming in Bacungan
  - Training Center for honeybee culture

2. Critical private investments to be attracted to the area:

   a. Shopping centers

   b. Theme parks

C. RSC Barangay Periphery

1. Settlements

   - Strictly implement Anti-squatting law
   - Organize homeowners
   - Naming of streets and provisions of directional signs
   - Home tagging
   - Promote gentleman’s farms
   - Every house has access to roads
   - Enforce strict building regulations
   - Prohibit settlements in ECA
   - Upgrade water system to level 2; rain collection systems
   - Require sanitary facilities in every household

2. Infrastructure

   - FMR/Touristic road/ Bacungan-Nagtabon Road; Bacungan-Candiz-Simpocan Road improvement
   - 3-chamber septage on new construction
   - Soil stabilization in critical areas
   - Cell sites where needed

3. Production

   - Talipapa in Sitio San Carlos, Bacungan
• Sea weeds farming, Bacungan
• Fish cages in Sitio San Carlos and Sitio Tagbarire, Bacungan
• Development of Agro-Forest Industrial Tree Plantation, Bacungan
• Regulated Almaciga resin gathering
• Regulated quarrying
• Development of 500-ha Wilderness Park at Talaodyong, Bacungan
• Improvement of visitor facilities for CBST sites in San Carlos, Bacungan
• Establishment of cashew processing in Bacungan

4. Protection

• Riverside/Coastal Boardwalk Park
• Waterfront parks
• Non-conversion of irrigated and irrigable lands
• Preservation of coconut lands
• Establishment of view deck at km 18 in Sitio San Carlos, Bacungan
• Prohibited construction along visual corridors
• Identification, demarcation, and proclamation of undeclared watersheds
• Ground demarcation of protected 2nd growth forests
• Demarcation of municipal waters
• Rehabilitation of road embankments/slopes
• Fire Brigade at Barangay periphery
• Require tree trimming at required height along the highway
• Tree planting in ECA
• Cover cropping of river banks and critical areas

D. Non-RSC Bgy. Centro

1. Settlement

• Strictly implement Anti-squatting Law (RA7279)
• Homeowners monitoring
• House tagging
• Naming of barangay streets and provision of directional signs
• Design barangay site development plans
• Strict building ordinance enforcement
• Prohibit settlements in critical areas (ECA)
• Upgrade existing water system one level higher; water conservation measures

2. Infrastructure

• Implement water conservation measures and rain collecting facilities
• 3 chamber septage for new constructions
• Strict implementation of solid waste management
• Soil stabilization measures in critical areas determined by proper agencies
• Power lines in unserved areas
• Cell site where needed
• Safe crossings in school zones along national/major roads

3. Production

• Weather station installation
• Farmers field school and GAP demonstration farms
• Biological Pest Control Laboratory
• Soil Laboratory
• Agricultural Training Center
• Demarcation of ECAN marine zone
• Strict implementation of fishery laws and ordinances
• Upgrading of fishing gears for commercial-scale production
• Agricultural trading post in Macarascas or Bahile
• Upgrading of Macarascas and Bahile wharf facilities

4. Protection

• Establishment of Agricultural Eco Village in Rural Agriculture Center, Salvacion
• Protection of undeclared watershed in Sta. Cruz
• Ground demarcation of 2nd growth protected forest in Sta. Cruz
• Organization and Training of Barangay Fire Brigade
• Periodic tree trimming
• Continuous tree planting
• Cover cropping of river banks and critical slopes

E. Non-RSC Bgy Periphery

1. Settlement

• Anti-squatting (RA7279)
• Organization & registration of HOAs
• Naming of Bgy. roads/streets; provision of directional signs
• House tagging
• Strictly enforce building permit system
• Prohibit settlements in critical areas (ECA)
• Encourage IP’s to reside in fixed settlements for proper provision of services and facilities

2. Infrastructure

• Safe crossings in school zones along national/ major roads
• Power lines in unserved areas
• Stabilization structures for critical areas
• Cell sites where needed
• Strict implementation of solid waste segregation

3. Production

• Contract growing and native chicken growing
• Large and small ruminants raising
• Establishment of Agricultural Research Center at Salvacion
• Construction of small impoundments and rain harvesting structures in Macarascas
• Delineation of baklad zone in Bahile (Ulugan Bay)
• Integrated Marine and Fresh water Fish Hatchery
• Demarcation of municipal waters and ECAN marine zones
• Upgrade of fishing gear
• Development of Agro-Forest ITP in Sta. Cruz and Bahile
• Regulated wild honey and rattan gathering in Macarascas
• Fish Drying Facilities in Bahile and Macarascas
• Construction of Visitor Interpretive Facility at the mangrove boardwalk in Bahile
• Development of Kayulo Waterfalls in Bahile (picnic cottage and trail)

4. Protection

• No foreshore lease application will be allowed in Ulugan Bay except in co-management with the city government
• Non-conversion of irrigated and irrigable lands in Bahile and Macarascas
• Demarcation of 2nd growth protected forest in Bahile
• Demarcation of existing fish sanctuaries in Bahile
• Periodic trimming of trees along the road
• Continuous tree planting
• Cover cropping of river banks and rip rapping of steep slopes
• Establishment of a lighthouse in Sitio Hinatuan, Bahile in Ulugan Bay

3.2.4 Policies for the Cabayugan Cluster

A. Development Theme for Cabayugan Cluster

Owing to the presence of the Puerto Princesa Subterranean River National Park known for short as Underground River, which is drawing hordes of visitors and tourists almost on a daily basis, the most important role of Cabayugan Cluster is as a host to local and foreign tourists. The development of the Cluster therefore is heavily dependent on the tourism industry. Policy interventions shall exploit to optimum levels the potentials of the area to provide varied tourism products and services while at the same time keeping the integrity of the natural environment.
Figure 6.8 Proposed Site of RSC Cabayugan
B. Policies for RSC Cabayugan

The central functions that will be performed by RSC Cabayugan will be split between two sites: Cabayugan Centro and Sitio Sabang. Cabayugan Centro is the older settlement located close to the Tagabinet border in the south. The barangay hall, elementary school, and other institutions are located in the Centro. Sitio Sabang is situated on the northern coast of the barangay at the terminus of the national road that leads to the Underground River. As the jump off point for trips to the National Park Sabang rapidly grew into a major settlement that now almost overshadows the Centro. The two sites are separated by about 10 km of concrete road. The City Hall Extension building will be established in the barangay Centro from where social and regulatory functions will be dispensed while commercial and tourist-oriented services will be located in Sabang.

1. Major public sector investments include the following:

   a. A City Hall Annex to be constructed within the barangay hall site to house relevant extension offices of the city government such as engineering, agriculture and fisheries, veterinarian, indigenous people’s affairs, civil registry, treasury, social welfare, and environment and natural resources. The City Tourism Office, Public Order and Safety Office, and Business Permits Office may maintain a sub-office in Sabang.

   b. Economic support infrastructures such as:

      ▪ A satellite market in the Centro site; a commercial center in Sabang
      ▪ Pasalubong center in Sabang
      ▪ Internet access in both sites
      ▪ Reliable power supply
      ▪ All-weather wharf in Sabang for tourists and regular transport use of the residents of Marufinas and New Panggangan
      ▪ Construction of a Visitors Pavilion in Sabang
      ▪ Other tourism infrastructures in Sabang such as:
         o Canopy walk and cable car in Sabang
         o Improvement of access road to Paddle Boat tour site
         o Development of Sabang Waterfalls
         o Development of a promenade in Sabang Beach
      ▪ Development of an organized terminal system/facility for all land transport
      ▪ Improvement of existing food establishments into a more sanitary, affordable, and presentable food court (Sabang)
      ▪ Encourage establishment of commercial water refilling stations (Sabang)
c. Social support investments include:
- Level 3 water systems for Centro and Sabang
- Modern drainage and sewerage systems for both sites
- Upgrading the satellite clinic to a district or district hospital
- Establishment of a community college/technical vocational school
- Preservation of tribal heritage through a School of Living Traditions
- Establishment of rehabilitation center for malnourished children (Old Centro)
- Construction and maintenance of sanitary toilet facilities in Sabang
- Upgrading of Police Community Precinct to a Police Station (Sabang)
- Establishment of Social Welfare Desk (VAWC, Anti-Trafficking, Anti-Pornography, etc.) at PNP Station Sabang
- Additional wholesome entertainment facilities/amenities
- Development of a standard public cemetery for the cluster in Cabayugan
- Establishment of health and wellness activity center/clinics/gyms (Sabang)
- Promote establishment of churches (ecumenical) (Sabang)

C. RSC Barangay Periphery

1. Settlements
   - Discourage squatting
   - Organize homeowners associations
   - Naming of streets and provision of directional signs
   - Home tagging
   - Promote gentleman’s farms
   - Every house has access to roads
   - Enforce strict building regulations
   - Prohibit settlements in ECA

2. Infrastructure
   - Upgrade of Water System to level 2 at least
   - 3 chamber septage
   - Solid waste segregation
   - Soil stabilization of critical areas
   - Cell site where needed
3. Production

- Post harvest facilities/warehouses in Cabayugan
- Rainwater collection structures; small impoundment
- FMR where needed
- Greenhouse in Cabayugan
- Enhancement of fish stock in St. Paul Bay
- ECAN marine zoning
- Sabang Beach Economic watch

4. Protection

- Management of PPSRNP at Cabayugan
- Non-conversion of irrigated and irrigable lands
- Non-conversion of coconut lands
- Protection of undeclared watersheds
- Demarcation of fish sanctuaries
- Rehabilitation of road embankments/slopes
- Periodic trimming along roads
- Continuous tree planting
- Cover cropping of riverbanks and sloping areas

D. Non-RSC Barangay Centro

1. Settlements

- Discourage squatting
- Organize homeowners associations
- Naming of streets and provision of directional signs
- Home tagging
- Promote gentleman’s farms
- Every house has access to roads
- Enforce strict building regulations
- Prohibit settlements in ECA

2. Infrastructure

- Establish circulation network, name roads/streets, directional signs
- Upgrade to level 2 at least
- 3 chamber septage on new construction
- Solid waste segregation
• Environment-friendly power sources
• Soil stabilization
• Cell site if needed

3. Production

• Weather station
• Farmer Field School and Gap demonstration farms
• Biological Pest Control Laboratory
• Soils Laboratory
• Agricultural Training Center
• Demarcation of municipal waters and ECAN marine zone
• Upgrade fishing gear
• Construction of Buenavista’s wharf

4. Protection

• Ground demarcation of 2nd growth protected forest in Tagabinet
• Rehabilitation of road embankments and slopes in Tagabinet
• Periodic tree trimming
• Continuous tree planting
• Cover cropping of riverbanks and critical slopes

E. Non-RSC Barangay Periphery

1. Settlements

• Discourage squatting
• Organic homeowners
• Naming of streets and provision of directional signs
• Home tagging
• Promote gentleman’s farms
• Every house has access to roads
• Enforce strict building regulations
• Prohibit settlements in ECA
• Upgrade to level 2; rain collection system
2. Infrastructure

- Safe crossing in school zones along national roads
- 3 chamber septage in new construction
- Waste segregation
- Environment-friendly power source
- Slope stabilization
- Cell site where needed

3. Production

- Contract growing or native chicken growing
- Large and small ruminants raising
- Provision of farm input to accredited seed growers in Tagabinet
- Demarcation of municipal water and ECAN marine zoning
- Upgrading of fishing gear
- Agro-Forest ITP in Tagabinet and Buenavista
- Regulated Almaciga resin gathering in Tagabinet; wild honey gathering in Buenavista and Marufinas
- Establishment of fish drying facility in Marufinas and New Panggangan
- Enhancement of Buenavista View deck facilities
- Rubber plantation in Tagabinet

4. Protection

- Establishment of view deck in Tagabinet before Ugong Rock
- Protection of undeclared watersheds in New Panggangan
- Protection of 2nd growth protected forest in New Panggangan
- Demarcation of fish sanctuaries in Buenavista
- Rehabilitation of road embankment/slopes in Tagabinet
- Periodic trimming of roadside trees
- Continuous tree planting
- Cover cropping of river banks and sloping areas
3.2.5 Policies for the San Rafael Cluster

A. Development Theme for San Rafael Cluster

San Rafael Cluster will perform the traditional function of focusing government services and marshaling private investments for the ultimate benefit of the residents and visitors alike. A unique character of the Cluster is the significant share of indigenous people, notably the Batak tribe, to the total Cluster population. The Cluster then can be seen as laboratory for undertaking researches on indigenous knowledge systems, practices and folkways. Likewise, San Rafael Cluster can serve as a venue for finding ways to beneficially utilize Honda Bay as a common resource. For example, how can the Cluster benefit from the tourism activities in the islets of Honda Bay many of which belong to barangays in the Cluster?
Figure 6.9 Proposed Site of RSC San Rafael
B. Policies for RSC San Rafael

The site chosen for the government center is tentatively the present barangay hall site until a bigger one is identified. The City Hall Extension building shall house the following city government functions relevant to the Cluster: health, engineering, education, civil registry, agriculture, veterinary, fishery, social welfare, public order and safety, treasury, assessor, tourism and culture, and indigenous people’s affairs.

1. Proposed social support infrastructures are:

   a. Non-traditional access facilities for the IP population
   b. Support for the PSU extension to become a community college
   c. Establish a School of Living Tradition
   d. Provide a dormitory for IP students in the lowlands
   e. Upgrade the satellite clinic to a district or general hospital
   f. Establish police and fire station to serve the entire Cluster
   g. Development of Batak Folk Village
   h. Provision of foot bridges across rivers and other water bodies
   j. Provision of incentives for IP families with school children
   k. Trading facility for indigenous handicrafts
   l. Provision of health care/sanitation facilities and services of IPs

2. Transport and utilities

   a. All-weather wharf for regular transport, tourism and fisheries use
   b. Upgrade to level 3 water system
   c. Internet connection
d. Improve drainage system along and across the road including safe drainage outfalls

e. Proper solid waste management

f. Enforce 3-chamber septage on new constructions

3. Production support interventions:

a. Satellite market with shopping and “pasalubong center”

b. Farmers Field School with GAP (Good Agricultural Practices) and organic farming demonstration farms including expansion of plantation crops area

c. Expansion of plantation, root, and high value commercial crops production area

d. Agricultural Processing Center

e. Mango Pulp Weevil Detection and Fumigation Center

f. Drying facilities for sea weeds and other marine products

g. Demarcation of municipal waters and marine ECAN zones

h. Development and promotion of Taraw Cave as a tourist destination for caving, rappelling, cable care, ziplining, para-gliding, bird and butterfly watching

i. Development and promotion of Taraw and Erkon Caves as tourist destinations for caving, rappelling, cable car, ziplining, para-gliding, bird and butterfly watching

j. Development of eco-tours emanating from Maoyon River to Honda Bay such as river cruising, bamboo rafting, kayaking, sanctuary hopping, dolphin and whale shark watching

k. Development and promotion of Olangoan Falls
4. Protection and Conservation measures:

a. Regulating river quarry and pebble picking

b. Banning of slate rock gathering

c. Bio-Engineering and civil works interventions in river banks and coastal areas

d. Development of Small Water Impoundments

e. Reforestation and establishment of Timber plantations (Lowland Production Forest)

f. Increase provision of Easement Zones along coastlines to mitigate climate change impact (sea level rise, storm surge, etc.)

g. Non-Conversion of prime agricultural lands to other uses

C. RSC Barangay Periphery

1. Settlements

   • Discourage squatting
   • Organize homeowners
   • Naming of streets and provision of directional signs
   • Home tagging
   • Promote gentleman’s farms
   • Every house has access to roads
   • Enforce strict building regulations
   • Prohibit settlements in ECA

2. Infrastructure

   • Improve circulation between Bgy Centro and other barangays
   • FMR and access facilities to IP settlements
   • Upgrade to level 2 water system at least
   • Rain water collection facilities in small islands
   • 3 chamber septage on new buildings
   • Solid waste segregation
• Stabilization of critical areas
• Cell site where needed

3. Production

• Beach and mountain resorts
• Native chicken growing/organic farming
• Sea weeds farming
• Stock enhancement of municipal fisheries
• Upgrade of fishing gear
• Agro-forest ITP
• Regulated Almaciga resin gathering
• Cashew plantation

4. Protection

• Waterfront parks
• Non-conversion of irrigated and irrigable land
• Protection of coconut lands
• Ground demarcation of 2nd growth protected forests
• Demarcation of marine ECAN zone and municipal waters
• Bgy. Fire Brigade
• Periodic trimming of roadside trees
• Continuous tree planting
• Cover cropping of riverbanks and critical slopes

D. Non-RSC Barangay Centro

1. Settlements

• Discourage squatting
• Organize homeowners
• Naming of streets and provisions of directional signs
• Home tagging
• Promote gentleman’s farms
• Every house has access to roads
• Enforce strict building regulations
• Prohibit settlements in ECA
2. Infrastructure

- Improve circulation network in Bgy. Center, name streets, directional signs
- Level 2 or 3 water supply system when feasible
- 3 chamber septage on new construction
- Solid waste segregation
- Renewable energy sources
- Soil stabilization in critical slope
- Cell site when needed

3. Production

- Weather station
- Organic farming
- Field school for farmers on GAP
- Biological Pest Control Laboratory
- Soils Laboratory
- Agricultural Training center
- Sea weeds drying facilities
- Demarcation of municipal waters and marine ECAN zone
- Upgrade of fishing gear
- Water-based recreation and island hopping

4. Protection

- Non-conversion of rice and coconut lands
- Protection of undeclared watershed in Tanabag
- Preservation of Batac & Tagbanua tribes in Concepcion, Langogan, Maoyon and Binduyan
- Ground demarcation of 2nd growth protected forest in Tanabag
- Demarcation of fish sanctuaries in Binduyan and Tanabag
- Barangay Fire Brigade
- Periodic tree trimming
- Continuous tree planting
- Cover cropping of riverbanks and steep slopes
E. Non-RSC Barangay Periphery

1. Settlements

- Discourage squatting
- Organize homeowners
- Naming of streets and provision of directional signs
- Home tagging
- Promote gentleman’s farms
- Every house has access to roads
- Enforce strict building regulations
- Prohibit settlements in ECA

2. Infrastructure

- Upgrade to level 2; rain collection system
- Safe crossing in school zones along national roads
- 3 chamber septage
- Waste segregation
- Environment-friendly power source
- Soil stabilization
- Cell sites where needed

3. Production

- Floating market in Maoyon
- Native chicken/Organic farming
- Large and small ruminants raising (Demo farm in Maruyugon and Maoyon)
- Green houses in Maoyon Maruyugan, Langogan and Babuyan
- Integrated livestock and pasture development
- Fish ponds in Babuyan, Manalo, Maruyugon, Lucbuan, and Concepcion
- Integrated marine and fresh water fish hatchery
- Sea cucumber culture/demonstration farm
- Sea weeds nursery and production demonstration farm
- Demarcation of municipal water and marine ECAN zones
- Upgrading of fishing gear
- Agro-Forest ITP in Manalo and Binduyan
• Regulated Almaciga resin gathering in Concepcion, Tanabag and Maoyon
• Regulated rattan & and wild honey gathering in Maoyon
• Fish drying facility in Binduyan and Manalo
• Regulated quarrying in Concepcion, Maoyon, Babuyan and Langogan
• Development of river resort in Babuyan River
• Maoyon River Cruise and Bamboo Rafting Ecotourism
• Cross-country trekking (Tagnaya in Tanabag or Kalakwasan in Concepcion to Kayasan-Tagabinet)
• Trekking to Kayasan Tagbanua Village and River kayaking in Babuyan River
• Development of Tagkururing and Pinanuman Waterfalls
• Olanguan Waterfalls in Binduyan-nature adventure, hanging bridge, plunge, picnic and camping facilities
• Batac Ethnographic Museum and Visitors Center in Concepcion
• Taraw Cave Conservation and Historical Center, San Rafael
• Cacao, banana & cashew plantations in Langogan, Babuyan, Maoyon, Manalo, Maruyugon, Concepcion and Binduyan

4. Protection

• Linear Park/Boardwalk in Langogan, Maoyon, and Manalo
• Olangoan Natural Monument Park (delineation and bio-fencing)
• Non-conversion of irrigated/irrigable lands in Manalo, Maoyon, Maruyugon and Lucbuan
• Non-conversion of coconut lands in Manalo, Maruyugon and Maoyon
• Protection of undeclared watersheds in Concepcion, Binduyan, Langogan and Maoyon
• Ground demarcation of 2nd growth protected forests in Langogan, Binduyan, Concepcion, Babuyan, Maoyon, Lucban, Maruyugon and Manalo
• Periodic trimming of roadside trees
• Continuous tree planting
• Cover cropping of river banks and steep slopes
Chapter 7

IMPLEMENTING THE REVISED COMPREHENSIVE LAND USE PLAN

1. Introduction

This final chapter outlines the processes and procedures necessary to carry out the proposed intervention measures enumerated in Chapter 6. The major downstream activities to implement this CLUP consist of zoning and other regulatory measures, detailed area, system or thematic master planning, and development administration and governance.

2. Revision of the Zoning Ordinance

Consistent with the revised Comprehensive Land Use Plan the existing Zoning Ordinance has been revised accordingly. The revised zoning ordinance represents the convergence of two frameworks, namely, the new spatial strategy or urban form overlaid with the zoning principles under the Environmentally Critical Areas Network (ECAN) as stipulated in the “Strategic Environmental Plan of Palawan Act” (RA 7611). The integration of ECAN zoning and the current zoning ordinance brings the entire territorial jurisdiction of Puerto Princesa, extending from the top of the mountains down to the receiving water bodies within the limits of the City’s municipal waters, under a single regulatory regime. There are a number of implications of this “ridge to reef” or “total catchment” approach to land and water use management. For one, it provides the means and the opportunity for the City Mayor to exercise the powers of the office to “adopt adequate measures to safeguard and conserve land, mineral, marine, forest, and other resources of the city…” [Sec. 255 (b) (3) (vii), RA 7160] and those of the Sangguniang Panlungsod to “protect the environment and impose appropriate penalties for acts which endanger the environment…” [Sec. 258 (a) (1) (vi), RA 7160]. Another implication is that there is a need to merge the two existing zoning bodies, namely, the Development Control Committee and the ECAN Board. Accordingly, a new body called the Development Control and Environmental Protection Committee (DCEPC) has been created the composition and functions of which are spelled out in the draft Revised Zoning Ordinance. Yet another implication is that to enable the City to exercise authority over every portion of its territorial jurisdiction as called for under the total catchment concept there is a need to operationalize the principle of co-management between the City and concerned national government agencies as regards management of certain areas and resources which are traditionally owned and administered by the national government. The Local Government Code (RA7160) provides that “Local government units shall share with the national government the responsibility in the management and maintenance of ecological balance within their territorial jurisdiction…” (Sec. 3, i). In short, the Comprehensive Land Use Plan as currently formulated is conceptually and practically truly comprehensive in that every area and resource within the City’s territorial jurisdiction is brought under a unified framework of governance.
In addition to these two frameworks, other relevant provisions of existing national laws, policies and programs are either incorporated into or are deemed to have suppletory effect on this local legislation.

Furthermore, for consistency of land and water use policies the ECAN zone regulations are correlated to the four land use policy categories of the National Land Use Committee namely, settlements, infrastructure, production and protection. As shown in Table 7.1, the list of allowed land and water use activities under the ECAN zoning is highly consistent with the national land use policy categories. The ECAN zoning, for example, has set aside areas for human settlements by allowing this activity only in multiple use zones, traditional use zones, and in ancestral or tribal lands in both terrestrial and marine components of the local territory. Infrastructures in support of settlements are obviously allowed wherever settlements are allowed. In addition, infrastructures are allowed even in controlled use buffer zones in the terrestrial and in the transition buffer zones in the marine components provided such infrastructures are in support of the production activities allowed in those zones. Moreover, simple rudimentary infrastructures intended to assist in habitat restoration and enhancement may be allowed in the core zones. Production activities can be undertaken in all zones except in the core zones which are by their very nature “no entry, no touch” areas where only customary tribal practices of indigenous people may be allowed. Production activities that entail minimal impact on the environment and natural resources and utilize sustainable technologies are best conducted in buffer zones and traditional use areas. The most intensive production activities are reserved for the multiple use zones which are characterized by much disturbed ecosystems but have shown resiliency in the face of repeated heavy use. Finally, protection or conservation is the very hallmark of the ECAN zoning. Although conservation regulations are strictly enforced in the core zones, conservation practices are also embedded and protection measures enforced in all other zones with varying degrees of strictness.

While the ECAN zoning scheme strongly protects the natural resources and ecosystems from destructive and disruptive human occupation and utilization, there seems to be one aspect of “protection” that has been glossed over. That is the protection of the human population from the real and potential hazards posed by the natural environment as well as human-caused hazards. It has been determined that the major natural hazards likely to hit Puerto Princesa are flooding, storm surges, and rain-induced landslides. Such hazard-prone areas when properly mapped should now be added to the core protection or “no go” zones. Man-caused hazards, too, such as fuel oil storage fields which are extremely vulnerable to fires must be strictly off-limits to human settlements.

Another type of protected areas that are not adequately covered by the ECAN zoning is that of protected agricultural areas of which there are two: irrigated and potentially irrigable rice lands and coconut conservation areas. Irrigated and irrigable rice lands are protected under the Agriculture and Fisheries Modernization Act (RA 8435). Coconut lands are protected under the Coconut Conservation Act (RA 8048). The conceptual difficulty created by these protected areas stems from the fact that rice lands and coconut lands are classified as agricultural lands and
therefore they fall under the general land use category “production land”. And yet they are accorded the status of protected areas. What is the rationale behind this double entry? What exactly are these areas being protected from or against?

The laws cited specifically protect these agricultural lands from being converted into uses other than agricultural. Such type of conversion irreversibly reduces the actual hectarage being devoted to cultivation of food crops and effectively reduces the total production particularly of staple grains (rice and corn) which, on the long term, jeopardizes the country’s food security. In a very real sense, protecting agricultural lands is protecting the people from vulnerability to food shortages in the future. In the case of coconuts, protecting these so-called “tree of life” from indiscriminate cutting saves dozens of different industries that depend on coconut products and by-products from collapsing and thereby prevents the loss of millions of jobs. In the final analysis, protecting the good agricultural lands from pre-mature, if not unnecessary, conversion is also protecting the environment in that it eliminates the need for conversion of marginal sloping lands and forests to agricultural use.
## Table 7.1
General Land Use Policies and ECAN Zone Regulations

<table>
<thead>
<tr>
<th>ECAN ZONES</th>
<th>Allowed Activities</th>
<th>General Land Use Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Settlements</td>
</tr>
<tr>
<td>I. Terrestrial</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>1. Core (Primary forest)</td>
<td>Scientific research, resource inventory and monitoring authorized by the DCEPC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Allowed traditional activities of indigenous peoples (religious and cultural practices which are not causing ecosystem degradation)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restoration/rehabilitation of degraded areas (natural regeneration, assisted-natural regeneration) in areas authorized by the DCEPC</td>
<td>x</td>
</tr>
<tr>
<td>Core (Endangered habitat)</td>
<td>Restoration and rehabilitation of degraded portions (degraded habitats of endangered species) in areas authorized by the DCEPC</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Scientific research, resource inventory and monitoring in areas authorized by the DCEPC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-obtrusive and non-disruptive ecotourism activities (regulated hiking, sight-seeing, bird watching and photography) in ecotourism areas (within core zones) designated and approved by the board</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Allowed traditional activities of indigenous peoples (religious and cultural practices which are not causing ecosystem degradation)</td>
<td>x x</td>
</tr>
<tr>
<td>Core (Critical slopes)</td>
<td>Restoration and rehabilitation of degraded portions (denuded critical slopes &gt;50%)</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Scientific research, resource inventory and monitoring in areas authorized by the DCEPC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Allowed traditional activities of indigenous peoples (religious and cultural practices which are not causing ecosystem degradation)</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Regulated hiking and mountain climbing</td>
<td>x x</td>
</tr>
<tr>
<td>2. Restricted use zone</td>
<td>Restoration/rehabilitation of degraded areas</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Wildlife management in areas designated and approved by the DCEPC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scientific research</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limited fauna observation and wildlife interpretation in areas designation and approved by the DCEPC</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Nature study in areas designated and approved by the DCEPC</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supervised nature-based forest tourism and recreation (regulated botanical tours, walking/sight-seeing, nature photography, bird watching) in areas designated and approved by the DCEPC</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Indigenous peoples’ traditional activities: hunting and gathering of forest materials, rituals and ceremonies (almaciga tapping, wild honey, etc.)</td>
<td>x x</td>
</tr>
<tr>
<td>3. Controlled use zone</td>
<td>Small scale extraction of non-metallic resources</td>
<td>x</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>Gathering of minor forest products (honey, rattan, nito, etc.)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Forest Management in areas designated and approved by the DCEPC (SIFMA, CBFMA, Lease)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Eco-tourism and recreation (ridge climbing, tree climbing, biking, forest trekking, horse-back riding activities, nature-based sporting events: orienteering, marathons and triathlons)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Agro-forestry and stable upland farming</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>4. Traditional use zone</td>
<td>Sustainable extraction (bird nests)</td>
<td>x</td>
</tr>
<tr>
<td>Orchards and forest plantations</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Agro-forestry and stable upland agriculture</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Community-based forestry</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Tree plantations</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>IPs’ traditional activities (forest materials, gathering, hunting, forest species planting/husbandry, ritual ceremony)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Identified and approved livelihood activities for IPs</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Natural area sporting activities (orienteering, regulated biking) and other non-obtrusive recreation approved by the DCEPC</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Approved structures associated with authorized ecotourism (trails, pedestrian bridges, overhead canopy walkways) in areas designated and approved by the DCEPC</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Reforestation and land rehabilitation works</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>5. Multiple use zone</td>
<td>Allowed and Prohibited Use/Activities are explicitly defined in the City Zoning Ordinance.</td>
<td>x</td>
</tr>
<tr>
<td>II. Coastal (Marine)</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>1. Core (Critical habitat)</td>
<td>Restoration and rehabilitation of degraded critical habitats</td>
<td>x</td>
</tr>
<tr>
<td>Science research, resource inventory and monitoring authorized by the DCEPC</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Non-obtrusive and non-disruptive ecotourism activities (regulated kayaking, canoeing, marine photography) in designated ecotourism areas (within core zone) approved by the DCEPC</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Regulated swimming and snorkeling in designated ecotourism areas approved by the DCEPC</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Supervised scuba diving in designated ecotourism areas approved by the board</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Habitat clean-up of litter and solid wastes/material debris</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Traditional IP’s activities (agriculture, non-destructive extraction)</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Restoration and rehabilitation of degraded mangrove forest as authorized by the DCEPC</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Zone</td>
<td>Activity</td>
<td>Core (Mangrove forest)</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Core (Mangrove forest)</td>
<td>Ecotourism activities (regulated botanical tours, photography, sight-seeing, bird watching, canoeing and kayaking) in designated areas authorized by the DCEPC</td>
<td>x x</td>
</tr>
<tr>
<td>Core (Turtle nesting)</td>
<td>Hatcheries establishment</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Limited pedestrian access during egg laying and hatching seasons</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Beach recreation activities, marine wildlife observation except during turtle nesting season</td>
<td>x x</td>
</tr>
<tr>
<td>2. Transitional/ buffer zone</td>
<td>Restricted swimming and non-motorized water sports</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Restricted scuba diving and snorkeling</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Restricted small dinghy sailing and sea kayaking/canoeing</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Power boat usage permitted in designated navigable zones by the board</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Water skiing, jet skiing and paragliding allowed in designated zones only</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Lure and fly catch and release fishing</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Activity to restore habitat or biological values</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Monitoring and science research including experiments on artificial underwater structures</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Marine human activities compatible with restoration undertakings</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Reseeding of seagrass, fish, tridacna, trochus, etc/restoration of habitats</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Small scale/marginal hook and line/spear fishing 'pana'</td>
<td>x x</td>
</tr>
<tr>
<td>3. Special zone (agro-tourism)</td>
<td>Extraction of resources which may or may not be subject to EIA</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Infrastructure development which may or may not be subject to EIA</td>
<td>x</td>
</tr>
<tr>
<td></td>
<td>Commercial tourism facilities subject to EIA and other relevant laws of seaweed farming</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Fish cages, traps</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Fishing</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Swimming</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Unrestricted yacht and dinghy sailing</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Unrestricted swimming and non-motorized water sports</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Unrestricted scuba diving and snorkeling</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Power boat usage permitted in designated navigable zones by the board</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Water skiing, jet skiing and paragliding allowed in designated navigable zones by DCEPC</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Lure and fly catch and release fishing</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Unrestricted canoeing and kayaking</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Unrestricted rowing</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Sports fishing</td>
<td>x x</td>
</tr>
<tr>
<td></td>
<td>Catch and release competition fishing</td>
<td>x x</td>
</tr>
<tr>
<td>Activity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Anchoring in designated anchorage</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Pedestrian access</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Beach recreation activities</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>4. Multiple use zone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All allowed activities under the Special Zone for Tourism &amp; Agriculture/ Mariculture park</td>
<td></td>
<td></td>
</tr>
<tr>
<td>III. Tribal Ancestral Lands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecotourism and cultural tourism activities authorized by the DCEPC with concurrence of NCIP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The remaining task is how to make the ECAN zoning consistent with the existing City Zoning Ordinance (City Ordinance 163, s. 2001). For this purpose the definition of, and allowed activities in each ECAN zone as embodied in Article XII of City Ordinance 396 s. 2008 are incorporated in the revised City Zoning Ordinance. In reality, however, it is the City Zoning Ordinance that is integrated into the ECAN zoning. This is due to the differences in the scope of coverage of the two zoning schemes. Whereas the ECAN zoning covers the entire territorial jurisdiction of the city, including its municipal waters, the existing Zoning Ordinance pertains to the urban area only. Compared with that of the ECAN zoning, the extent of coverage of the regulated activities under the Zoning Ordinance pertain only to the “multiple use zone” and to a limited extent, to the “buffer zones” under the ECAN zoning. When the two zoning schemes are conflated it will be noted that there will now be significant areas of “core” and “restricted and controlled” use zones even in the urban area, implying that the urban area will not and cannot be put entirely under urban land use (See Figures 7.1 and 7.2). Conversely, outside the urban area, each rural barangay and each rural barangay cluster will now have its own designated urban zone (See Figures 7.3 through 7.7).

For purposes of comprehensive coverage of land and water use regulations the ECAN zones and sub-zones are cross tabulated against the seven barangay clusters into which the city is subdivided (Table 7.2).

<table>
<thead>
<tr>
<th>ECAN ZONES</th>
<th>Barangay Clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Terrestrial</td>
<td></td>
</tr>
<tr>
<td>1. Core (Primary forest)</td>
<td>CBD</td>
</tr>
<tr>
<td>Core (Endangered habitat)</td>
<td>x</td>
</tr>
<tr>
<td>Core (Critical slopes)</td>
<td></td>
</tr>
<tr>
<td>2. Restricted use zone</td>
<td>x</td>
</tr>
<tr>
<td>3. Controlled use zone</td>
<td></td>
</tr>
<tr>
<td>4. Traditional use zone</td>
<td></td>
</tr>
<tr>
<td>5. Multiple use zone</td>
<td>x</td>
</tr>
<tr>
<td>II. Coastal (Marine)</td>
<td></td>
</tr>
<tr>
<td>1. Core (Critical habitat)</td>
<td>x</td>
</tr>
<tr>
<td>Core (Mangrove forest)</td>
<td></td>
</tr>
<tr>
<td>Core (Turtle nesting)</td>
<td>x</td>
</tr>
<tr>
<td>2. Transitional/ buffer zone</td>
<td>x</td>
</tr>
<tr>
<td>3. Special zone (agro-tourism)</td>
<td>x</td>
</tr>
<tr>
<td>4. Multiple use zone</td>
<td>x</td>
</tr>
<tr>
<td>III. Tribal Ancestral Lands</td>
<td>x</td>
</tr>
</tbody>
</table>
The tic marks appearing in the cells indicate the presence of a specific ECAN zone inside the territorial jurisdiction of a particular barangay cluster. Such marks simply alert the planner or regulation enforcer about what regulatory policies are applicable to particular areas. Thus, one can determine at a glance that multiple use zones can be found in all barangay clusters except in the CBD of the marine component which is non-existent to begin with. The tic marks, for another example, can also indicate in what areas in the city the geographical concentration of tribal population can be found. The table further shows that core zones of both terrestrial and marine components are found in all barangay clusters except in the CBD, and so on. However, the tic marks do not show the exact location and the extent of coverage of a given ECAN zone. For these latter bits of information the reader has to refer to the accompanying maps.

3. Other Needed Regulatory Measures

The regulation of land use cannot be the sole function of the Zoning Ordinance. Stated in another way, the Zoning Ordinance is not the only instrument that can be used to regulate land use. In fact, the Zoning Ordinance despite its wide range of subject and area coverage cannot possibly cover all that needs to be covered. The possibility that there will be subjects left out from the Zoning Ordinance net is the main reason for the creation of the DCEPC which is tasked to decide on and grant “consent on merit” to land use proposals that are not explicitly allowed or prohibited in the Zoning Ordinance. This leaves some room for the enactment of single-subject ordinances or the issuance of administrative or executive orders seeking to regulate specific actions and behaviors to achieve the same desired spatial outcome. The more of these loophole-plugging measures are put in place the better for the DCEPC because it minimizes the need for the members to decide on the basis of individual or collective discretion.

The following regulatory measures that need to be issued to supplement the Zoning Ordinance are consolidated from the outputs of several policy formulation workshops:

1. An ordinance or ordinances to enhance groundwater resources by requiring households and establishments to install rain water collection systems, making it mandatory for establishments to provide themselves waste water collection and disposal systems, to use permeable materials for paving, and regulating the rate of extraction of groundwater by establishments, among others.

2. An ordinance imposing penalties for encroachment into public easements such as sidewalks, buffers along or around utility installations such as communication towers, power transmission and distribution lines and fuel storage fields.

3. A series of ordinances regulating certain extractive economic activities such as:
   a. Quarrying in Irawan, Sta. Lourdes, Tagburos, Bacungan, Inagawan Sub-Colony, Montible, Napsan, Babuyan, Concepcion, Langogan and Maoyon
   b. Rattan and wild honey collection in Irawan, Sta. Lourdes, Napsan, Bacungan, Macarascas, Cabayugan, Buenavista, Marufinas, Maoyon and San Rafael
c. Almaciga resin gathering in Napsan, Bacungan, Tagabinet, Concepcion, Maoyon, San Rafael and Tanabag
d. Treasure hunting
e. Business dealing in junk, flammable and volatile materials

4. Ordinances prohibiting conversion of certain types of land from one use to another such as the following:
   a. Irrigated and potentially irrigable lands to non-agricultural uses in Sicsican, Irawan, Tagburos, Bacungan, Bahile, Macarasca Napsan, Kamuning, Inagawan, Inagawan Sub-Colony, Iwahig, Sta. Lucia, Montible, Cabayugan, Manalo, Maruyugon, Lucbuan, Maoyon and San Rafael
   b. Coconut lands in Napsan, Bagong Bayan, Simpocan, Iwahig, Montible, Sta. Lucia, Kamuning, Inagawan, Inagawan Sub-Colony, Bacungan, Cabayugan, Manalo, Maruyugon, Maoyon, Babuyan, San Rafael and Tanabag
   c. Forest lands to grazing areas except the marginal ones
d. Foreshore lands to fishery lease areas except the marginal ones

5. Ordinances seeking to strengthen the management of protected areas such as the following:
   a. Demarcation of municipal waters and delineation of ECAN marine zones
   b. Delineation and biofencing of buffer zones of Olangoan Natural Monument Park
   c. Protection of undeclared watersheds in Napsan, Bagong Bayan, Simpocan, Montible, Bacungan, Sta. Cruz, Cabayugan, New Panggangan, San Rafael, Langogan, Maoyon, Concepcion, Binduyan and Tanabag
   d. Listing and preservation of tribal heritage sites in Napsan, Tagabinet, Cabayugan, Marufinas, Langogan, Maoyon, San Rafael, tanabag, Concepcion and Binduyan

6. Ordinances to improve the urban form and urban design such as:
   a. Requiring all streets and roads to be named
   b. Requiring house tagging and numbering
c. Requiring that all houses front on roads and streets
d. Regulating all boarding houses
e. Regulating the size and locations of billboards
f. Requiring all establishments along main thoroughfares to plant ornamentals in pots or plant boxes

4. Detailed Master Planning

Many of the proposed projects either of city-wide or area-specific applications are simple enough to be included in the LDIP or AIP for implementation with funds from the annual budget of the City Government. A number of major proposals however are sufficiently
complex to merit further in-depth study and could be the subject of detailed master planning. The aim of detailed master planning is to break down the complex project into simple activity components which could then be implemented either piece-meal through the annual investment programming process or by contract with possible funding from external sources.

There are three categories of detailed master plans derived from the CLUP and the CDP: a) Area Master Plans which cover or pertain to smaller portions of the city’s territory; b) System Master Plans which are concerned with the efficient functioning of a facility or service through the proper coordination and integration of its various components; and c) Thematic or Topical Plans which deal with a single topic or with a number of related topics forming a unified theme. Two examples of the area and one each of the system and thematic master plans are elaborated on in the succeeding sub-sections. The prototypes are carefully chosen for their potential contribution to the realization of the multi-center spatial strategy which is the binding element of this CLUP. The discussions are not “plans” per se but they take the form of general considerations, broad ideas or terms of reference to guide whoever will prepare the actual plans themselves. The order in which these examples are presented does not reflect any perceived importance or priority.

4.1 Area Master Planning of Rural Service Centers

Establishing the five rural service centers in the identified RSC barangays is the first step towards realizing the multiple-center spatial strategy. This sub-section outlines the specific activities that need to be undertaken by the City Government.

1. Transfer of ownership of identified sites to the city government. With the exception of the Mangingisda site, all other sites are privately owned. Steps should therefore be taken to transfer ownership of those sites to the city government. This will entail the following sub-steps:
   a. Instrument survey to establish the metes and bounds. The identified sites are thus far indicative. Instrument survey will be able to fix the property boundaries. This will also allow determination of affected parcels and the owners thereof. Then negotiations for the transfer of ownership will follow.
   b. Acquisition of sites. The City Government shall use all available modes of land delivery including outright purchase, long-term lease, joint-venture, usufruct, donation, and of course, expropriation. The choice of mode of acquisition shall be guided by the principle of mutual benefit to the private owner and the public whom the City Government represents.
   c. Registration of the newly acquired sites in the name of the City Government.

2. Construction of Cluster Center buildings. To make its presence felt in the rural cluster the City Government will have to construct a building or building complex in each RSC site that will house the city services that will be decentralized to the clusters. A decision will have to be
taken whether there will be a uniform design for the building or unique design for each cluster. Using a uniform design will create a strong impact on the public’s sense of recognition. It is also economical in that the same architectural design can be used over and over. Adopting a unique design for each cluster, on the other hand, especially when it is perceptively done creates a distinctive character for the individual cluster. However, this option is more expensive. In any case, whoever will be commissioned to make the architectural design should be one who has a deep sense of place. Also, the designer should be conversant with emerging as well as mature technologies of “green building”.

3. **Building occupancy and use.** When the building is ready for occupancy or better yet, even as early as during the design stage, a decision has to be taken about whether the building will be used exclusively by government or it will share space with private commercial users. There are at least two major advantages for considering the latter option. One is the probability that the lot owner may allow free use of his property by the government in exchange for the opportunity to earn income from other uses of the same lot. This saves the government the cost of land acquisition. Another advantage is that a trip to the government center becomes a multi-purpose trip thus making the center more attractive and increasing the chances of its being patronized by the intended population.

4. **Encouraging the people to patronize the center.** People in the rural barangays have known no other place to go for all their needs but the Poblacion or urban center. Over time they may have developed place loyalties which are difficult to change. It will certainly take some effort for the cluster management to get the people to patronize their cluster center and create, cultivate and foster a cluster spirit. This is the very purpose of establishing cluster centers namely, to offer an alternative sites close to the homes of rural barangay residents so that they do not have to travel all the way to the urban center for most of their needs. To this end the following ideas and measures may be tried:

   a. **Upgrade basic utilities** especially external and internal access, telecommunication facilities, electric power supply, and level 3 domestic water supply systems. Internal access includes roads, trails, rivers, tram lines and other facilities to convey people and goods to and from the centers to the interior sitios and communities. All clusters are currently deficient in this regard. As to external access, only Napsan cluster needs major investments in arterial roads and bridges. Only Napsan cluster also needs to be connected by cellular phone to the rest of the city. All centers require level 3 water supply systems while the benefits of electricity have yet to reach the residents of Napsan and Cabayugan clusters.

   b. **Bring up social services to the level enjoyed by the urban clusters.** Police and fire fighting force presence in the cluster centers will give the residents a sense of public safety. Upgrading the satellite clinics to district hospitals will further enhance the security of rural residents.
c. *Organize and open post-secondary schools* and in areas with significant number of tribal population schools of living traditions. Such schools shall become the locus of research on and promotion of historical and cultural practices, festivals, and similar events.

d. *Establish satellite markets and shopping centers.* Such economic hubs shall serve a dual purpose of consolidating cluster products destined for external markets and distributing in-bound products to the constituent communities. The presence of establishments offering convenience and shopping goods nearer home is a strong incentive for rural residents to patronize their own centers. Each cluster must also identify and develop their signature products as well as tourist attractions and destinations.

### 4.2 Master Planning for Inter-Modal Urban Transport Systems

The imminent expansion and upgrading of the existing airport to an International Airport will most probably involve the physical separation of the domestic terminal and the international one. The existing terminal will most likely be retained to serve domestic traffic and a new one to handle international traffic will be built on the WesCom side of the runway. Anticipating this new configuration, it would be well for the City of Puerto Princesa to design and develop an inter-modal urban transport system. Such a system will have the following features:

1. **A land-based transport subsystem.** This consists of a trunk loop (exact routes to be determined by ground survey) with dedicated lanes plied by a rapid bus transit initially but gradually upgraded to an electric tram or light rail transit. The rapid transit line will encircle the CBD with stops at selected traffic nodes such as government offices, shopping centers, public parks, boat landings, and the airport terminals. The components of the trunk loop may consist of the following road sections or links:
   a. Section 1 – Rizal Avenue – PPC wharf – San Isidro Ferry Boat Station
   b. Section 2 – Abrea Rd – Abueg St. – Bagong Sikat Ferry Boat Station – PPC wharf – San Isidro Ferry Boat Station – Baywalk Coastal – Socrates Rd – Abanico St. – South National Highway
   c. Section 3 – Kalayaan Coastal Rd via runway tunnel/underpass – Wescom Rd – San Pedro-San Jose Secondary Rd – San Jose Bus and Jeepney Terminal
   d. Section 4 – Kalayaan – WesCom Rd – Malvar St. – City Proper – PPC wharf – San Isidro Ferry Boat Station
   e. Section 5 – San Jose Bus and Jeepney Terminal – Government Center – Tiniguiban Ferry Terminal – South National Highway

   Motorized tricycles may no longer be allowed inside the CBD but will convey passengers between the transit stops and the outlying residential areas. Non-motorized tricycles and electric jeepneys will be used inside the CBD. Bicycles will be recognized and promoted as a legitimate urban transport mode and supported by dedicated lanes and provided with safe parking stands.
2. A water-borne transport subsystem. This will utilize to the maximum extent the relatively calm waters of Puerto Princesa Bay as an alternative mode of urban transport. The existing boat landings at San Isidro and Bagong Sikat will serve as the hubs and will be upgraded to safe all-weather facilities equipped to handle bigger volumes of passenger traffic. Radiating from the hubs are ferry routes, namely, San Isidro-Tiniguiban and San Isidro-Sicsican. New boat landings will have to be built in Tiniguiban and Sicsican. The Bagong Sikat will have three spokes, namely, Bagong-Sikat-Mangingisda, Bagong Sikat-Sta. Lucia, and Bagong Sikat-Bucana, in Iwahig. Permanent structures have to be built in Sta. Lucia and in Bucana. Inter-municipal boat traffic will be diverted to Jacana in Tagburos so that smaller vessels need not jostle for space against larger inter-island vessels at the Puerto Princesa seaport.

4.3 Master Planning for a World-Class Tourist Destination

The recent inclusion of the Underground River among the world’s 7 Wonders of Nature has been drawing unprecedented numbers of visitors to Puerto Princesa. The tourist boom however may have its downside in terms of straining the carrying capacity of the underground river itself. It is about time the City put in place a master plan for a world-class tourism destination a major component of which is how to manage the rapidly growing tourist traffic. Other concerns that the master plan should address include:

a. How to link the Underground River with other Palawan destinations such as the El Nido resorts with their high-end clientele.

b. How to link the PPUR experience with the equally popular island hopping tours of Honda Bay.

c. To avoid over-concentration of tourist traffic in the northern part of Puerto Princesa and thereby spread the benefits to other areas of the city as well, what tourism products can be developed in the other clusters: central, southeast and southwest? How do you bring tourists to those relatively less frequented areas?

d. Given the variable length of stay of visitors, design tourism circuits good for a one-day, two-day and three-day trip.

The following discussions represent the initial thinking of the different functional committees in response to the above concerns.

1. Sabang Area Development – an important strategy to manage the tourist traffic in the PPUR is to develop the Sabang area to provide enough holding capacity where visitors to the underground river are processed so that the prescribed number of visitors per day is strictly enforced. This needs a variety of experiences to be provided while visitors await their turn. Some of the must-provide items include the following:

   a. On-line booking to PPUR /computerized system, setting up of Tourism Information Centers, Comfort Rooms, Information Sheds and other visitor facilities
b. Development of alternative tourism adventure packages within Sabang Area - Local Village Tour (e.g. visit to ethnographic museum/local farms, cultural presentation, bird watching, mangrove paddle boating)

c. Development of alternate routes from Sabang going to PPUR providing a combination of experiences such as zipline, boardwalk, jungle trek, hammock, carabao-driven cart, etc. (separate entrance and exit boardwalk)

d. Upgrading of facilities such as spacious waiting area with mini lecture and information materials, world-class restrooms

e. Upgrading of sea craft going to PPUR (ferry boat with entertainment and restaurant)

f. Provision of additional upgraded boats (plying inside the cave) with clean and well-maintained protective gear

g. Provision of additional manpower to maintain cleanliness and orderliness within the PPUR area

2. Linking El Nido to PPUR – to enable the high-end clientele of El Nido resorts to include PPUR in their itinerary:

   a. Encourage investors to invest in fast craft from El Nido to Sabang

   b. Provide facilities for high-end water transport such as an all-weather boat landing in Sabang or a marina in nearby Ulugan Bay

3. Linking PPUR Experience with other tourism experiences in Honda Bay

   a. From Island Hopping through Babuyan River with jump off point at Maoyon River Cruise Station; From Maoyon River Station, land trip through a new road to be opened (Maruyugon to Buenavista (Sitio Madahon) to Sabang

   b. Kayak from Babuyan River to Tagabinet to Sabang

   c. Honda Bay to Tandayak River (Manalo) to Salvacion to Sabang

   d. Honda Bay to San Rafael (Jungle trek) to Sabang

   e. Honda Bay to Concepcion (jungle trek) to Cleopatra’s needle to Sabang

   f. Honda Bay to Maoyon then take subway from Maoyon to Macarascas then take a boat going to Sabang

   g. Honda Bay to Tagbato to Salvacion to PPUR

   h. Honda Bay to Bush Island to Salvacion View Deck to Salvacion to PPUR

   i. Honda Bay to San Rafael (Taraw Caves jungle trek) to Sabang

   j. Honda Bay to Binduyan (Olangoan Falls) to Concepcion jungle trek to Cleopatra’s Needle to Sabang

4. Developing Tourism Products in Other Clusters – to spread the benefits of tourism to other parts of the city the natural attractions of the other clusters need to be identified and promoted. Table 7.3 presents some of the products that the different clusters can offer visitors.
Table 7.3
Cluster Tourism Products

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Tourism Products</th>
</tr>
</thead>
</table>
| **Bacungan** – Santa Cruz, Bahile, Macarascas and Salvacion | • Agri-tourism (farm visits) snorkelling, diving, sports fishing, swimming, Bahile-Ulugan Bay Tour  
• Safari development in Sitio Tarunayan |
| **Cabayugan** – Buenavista, Tagabinet, Marufinas and New Panggangan | • PPUR, zipline, spelunking, trekking, bird watching, Kayasan Nature Trekking |
| **San Rafael** – Manalo, Maruyogon, Lucbuan, Maoyon, Babuyan, Tanabag, Concepcion, Binduyan and Langogan | • Diving, ecotourism, jungle trekking, spelunking, bird watching, cultural heritage, river cruise, Development of Taraw Cave and Historical Park, Babuyan Marine Sanctuary and Boat Sailing |

5. Suggested Tourism Circuits – of variable length, the following tourism circuits will cater to the needs of visitors who have only one, two or three days stay in Puerto Princesa (See Table 7.5 and Figure 7.8.)

Table 7.4
Tourism Circuits

<table>
<thead>
<tr>
<th>Tourism Circuits</th>
<th>Tour Packages</th>
</tr>
</thead>
</table>
| **Tourism Circuit 1 – PPC Northwest (Cabayugan, Marufinas, New Panggangan, Tagabinet, Buenavista)** | • *One Day Tour* - PPUR, Ugong rock zipline, spelunking or trekking, swimming, Buenavista View Deck  
• *Two-Day Tour* - PPUR, Ugong rock zipline, spelunking, trekking, bird watching, swimming, Buenavista View Deck  
• *Three-Day Tour* - PPUR, Ugong rock zipline, spelunking, trekking, bird watching, swimming, Buenavista View Deck, diving, snorkelling |
| **Tourism Circuit 2 – PPC Honda Bay (Tagburos, Sta. Lourdes, Bacungan, Manalo, Salvacion)**     | • *One Day Tour* - PPUR, Ugong rock zipline, spelunking or trekking, swimming, Buenavista View Deck  
• *Two-Day Tour* - PPUR, Ugong rock zipline, spelunking, trekking, bird watching, swimming, Buenavista View Deck  
• *Three-Day Tour* - PPUR, Ugong rock zipline, spelunking, trekking, bird watching, swimming, Buenavista View Deck |

189
| Tourism Circuit 3 – City Proper | • *One Day Tour*: City tour, swimming or downtown fun tour (thru e-jeep)  
| | • *Two-Day Tour*: City tour, swimming, historical cultural promenade |
| Tourism Circuit 4 – PPC Northeast (Langogan, Concepcion, San Rafael, Babuyan, Lucbuan, Maruyugon, Maoyon) | • *One Day Tour*: PPUR, Ugong rock zipline, spelunking or trekking, swimming, Buenavista View Deck  
| | • *Two-Day Tour*: PPUR, Ugong rock zipline, spelunking, trekking, bird watching, swimming, Buenavista View Deck  
| | • *Three-Day Tour*: PPUR, Ugong rock zipline, spelunking, trekking, bird watching, swimming, Buenavista View Deck, diving, snorkelling |
| Tourism Circuit 5 – PPC Southwest (Napsan, Simpocan, Bagong Bayan) | • *One Day Tour*: aquasports, Turtle Nesting Site, bird/butterfly watching  
| | • *Two-Day Tour*: camping, bird/butterfly watching with aquasports  
| | • *Three-Day Tour*: Regatta with Aquasports, bird watching, butterfly watching at Salakot Waterfalls, Irawan-Simpocan Trekking, Swimming, Turtle Nesting Site |
| Tourism Circuit 6 – Southeast (Sta. Lucia, Mangingisda, Iwahig, Inagawan Sub-Colony, Kamuning) | • *One Day Tour*: Dolphin/whale watching or bird/firefly watching or butterfly watching or agritourism (aqua culture/farm visits) or swimming/picnicking/camping or Puerto bay cruise or diving  
| | • *Two-Day Tour*: Dolphin/whale watching, bird/firefly watching, butterfly watching and agritourism (aqua culture/farm visits), diving and swimming/picnicking/camping |
| | • *Three-Day Tour*: Dolphin/whale watching, bird/firefly watching, butterfly watching and agritourism (aqua culture/farm visits), diving, swimming/picnicking/camping |
5. **How to Bring Tourists to Less Frequented Areas**
   a. Intensive promotion and marketing
   b. Production of collaterals
   c. Development of tour packages
   d. Virtual marketing
   e. Participation in international events
   f. Road improvement leading to destinations
   g. Provision of utilities and communication facilities
   h. Provision of 24/7 tourist police services
   i. Creation of barangay tourism promotion and monitoring board
   j. Installation of a world-class tourism information center
   k. Provision of world-class rest rooms
Figure 7.1 Tourism Circuits Puerto Princesa City

**PUERTO PRINCESA CITY**

**DEVELOPMENT OF TOURISM DESTINATION CIRCUITS**

- **Tourism Circuit 1:** PPC Northwest (TC1-NW)
- **Tourism Circuit 2:** PPC Honda Bay (TC2-HB)
- **Tourism Circuit 3:** PPC City Proper (TC3-CP)
- **Tourism Circuit 4:** PPC Northeast (TC4-NE)
- **Tourism Circuit 5:** PPC Southwest (TC5-SW)
- **Tourism Circuit 6:** PPC Southeast (TC6-SE)

**DEVELOPMENT Considerations and Strategies:**
- Sustainability
- Physical Devt.
- The Tourism Circuit
  - CLUP/CDP/AIP
  - Infrastructure
  - Attractions
- Thematic Strategy
- Ecotourism
- Historico-Cultural
- Agritourism
- Adventure Tourism
- Tourism Devt Criteria
  - Accessibility
  - Heterogeneity and attractiveness
  - Availability of facilities and services
  - Potential market demand
  - Seasonality
Forest Management Planning

Pursuant to the effort to promote the image of Puerto Princesa as a city in a forest and of its long-term vision of becoming the model in sustainable development not only in the region but also nation-wide, a forest management plan will have to be prepared. Likewise, consistent with the total catchment approach to comprehensive land and water use planning and management, the forest master plan shall incorporate the existing and proposed ancestral domains which cover a sizeable portion of the city’s forest lands, as well as an urban forestry component.

In the case of Puerto Princesa, this type of area plan will involve mainly delineation and demarcation of forest land boundaries inasmuch as the policy framework is already in place in the form of the integrated ECAN and urban zoning as discussed in Section 2 of this chapter. The ECAN zoning has likewise defined each zone in terms of the criteria for its delineation. For effective enforcement of zoning policies by the government and to ensure compliance thereof by the citizens the zones must be clearly demarcated on the ground. The delineation process shall proceed in two stages: basic land classification to determine what portions of the forest shall be retained as forest and which parts may be released as alienable and disposable. Also alongside basic classification is the delineation of ancestral domains to determine what areas shall now be awarded ancestral domain titles and what areas will remain as non-tribal lands. These processes will create four basic land classes out of the existing vast areas of Unclassified Public Forest (See discussions in chapter 3 of this volume), namely, A&D in tribal lands, A&D in non-tribal lands, forest in tribal lands, and forest in non-tribal lands. (Refer to Table 7.5 below.)

<table>
<thead>
<tr>
<th>Basic Land Classification</th>
<th>Ancestral Domain</th>
<th>Non-Tribal Lands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alienable and Disposable (A&amp;D)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Forest</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. A&D in tribal lands – Sec. 12 & Sec. 60, IPRA, CA 141
2. Forest in tribal lands – ECAN Zoning
3. A&D in non-tribal lands – CA 141
4. Forest in non-tribal lands – ECAN Zoning

The first stage in the delineation process is the function of two national government agencies: DENR, through NAMRIA, and the National Commission on Indigenous People (NCIP). The city government of Puerto Princesa may however, initiate and facilitate the process by providing logistical support to the survey parties. Stage 1 is deemed completed when the tribal lands are awarded certificates of ancestral domain title to specific tribal communities, pursuant to the procedures prescribed in the Indigenous People’s Rights Act (RA 8371). At the same time, the process of basic land classification is deemed completed when the areas delineated as A&D are officially declared as such either through Presidential Proclamation or by an act of Congress.
The second stage in the delineation process is sub-classification. Sub-classification takes off from the output of basic classification by subjecting the four categories to finer-grained classification for a more effective application of pertinent laws and policies. There are three main purposes of sub-classification: to provide a basis for sharing of responsibility for the management of specific areas and resources between the national government and the LGU, to regularize tenure of current occupants and future claimants of particular parcels for possible assessment of the real property tax, and to formulate and enforce more focused policy interventions.

Pursuant to the first purpose, governance of forest lands within non-tribal areas will be covered by co-management instruments between the LGU and the Forest Management Bureau of DENR whereas the governance of forest lands within ancestral domains may be the subject of co-management between the LGU and the NCIP on behalf of the specific tribe concerned.

Pursuant to the second purpose, sub-classification of the A&D lands facilitates conveyance of titles to qualified applicants as well as it allows determination of what properties are taxable and what lands are tax-exempt. Even parcels within the ancestral domain can be the subject of individual ownership and may be assessed the real property tax (See Sec. 60, RA 8371). Sub-classification of forest lands in non-tribal areas will be able to identify forest lands whose occupants could be granted regular tenure under various community-based forest management schemes of DENR. Of course, the entire ancestral domain is communally owned by the tribe except those covered by individual titles.

As regards the third purpose, delineation and demarcation of the five ECAN zone categories across the ancestral domains and non-tribal lands creates 10 categories of forest zones and allows the application of specific and focused forest land use policies. These 10 forest land use zones are shown on Table 7.6 below.

<table>
<thead>
<tr>
<th>Table 7.6 Forest Land Use Zoning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECAN Zone</td>
</tr>
<tr>
<td>Core</td>
</tr>
<tr>
<td>Restricted</td>
</tr>
<tr>
<td>Controlled</td>
</tr>
<tr>
<td>Traditional Use</td>
</tr>
<tr>
<td>Multiple Use</td>
</tr>
</tbody>
</table>

1. Core Zone in Ancestral Domain  
2. Restricted Zone in Ancestral Domain  
3. Controlled Zone in Ancestral Domain  
4. Traditional Use Zone in Ancestral Domain  
5. Multiple Use Zone in Ancestral Domain  
6. Core Zone in Non-Tribal Land  
7. Restricted Zone in Non-Tribal Land  
8. Controlled Zone in Non-Tribal Land  
9. Traditional Use Zone in Non-Tribal Land  
10. Multiply Use Zone in Non-Tribal Land
After the delineation and demarcation, a detailed resource inventory shall be conducted to facilitate formulation of focused policy interventions and enforce land use regulations in specific locations or sites.

The urban forestry component shall consist of adoption of green building technologies, establishment of a hierarchy of parks and open space, road greening, and installation of rain collection facilities in the CBD. In the non-CBD periphery, these measures shall be supplemented by continuous observance of mangrove planting programs like the Love Affair with Nature and the Pista Y Ang Kagueban, enrichment, rehabilitation and protection of the Irawan watershed, protection of Bat Island, and the like.

5. Management of Planned Change

Finally, how will all these proposed changes be managed? This section discusses the following concerns:

a. The design of an administrative structure for the governance of each of the clusters and the relationship between the cluster structure and the component barangays, on one hand, and the city government on the other.
b. What city-level services to decentralize to the cluster centers?
c. How to foster a “cluster spirit” among the residents of component barangays.

5.1 The proposed administrative structure – shown in Figure 7.9 below is the proposed administrative structure for each of the five clusters. The whole structure will be under the over-all direction of the City Mayor, under the direct supervision of the City Administrator through a suitable assistant. The Cluster Officer for each cluster shall be designated by the Mayor from among the city government functionaries. The Cluster Officer shall initially head a cluster management council consisting of the barangay chairmen of component barangays. Later on, the Cluster Officer shall be elected from among the chairmen of the component barangays. Field Officers of offices and departments with decentralized functions shall be assigned by the head of office concerned from among the existing staff or from new recruits as funds warrant. Additional staff from city hall may be fielded on rotation basis.

The cluster governance structure shall not be construed as another layer of the city government bureaucracy. It is simply an extended arm of the city government to bring it closer to the people. It should not entail too much cost to the city. The benefits of this policy of city dispersion through cluster concentration are already discussed in previous chapters of this CLUP but it can be added that, from the standpoint of local governance, the cluster approach offers an excellent opportunity for barangay leaders to overcome parochial views and to look at issues and concerns beyond their barangay boundaries. It is hoped that barangay leaders who are given the chance to take on responsibilities in cluster-level governance are better prepared to handle leadership positions at the city level and beyond.
5.2 City Services to be Decentralized – the following services of the city government will be decentralized to each cluster center. Some services may be withdrawn or added as the need for these arises according to the peculiar requirements of specific clusters. For example, an office of tribal affairs may be needed in San Rafael, Cabayugan, Bacungan and Napsan clusters where sizeable tribal populations are found.

a. Health Services
b. Social Welfare and Development Services
c. Registration of Birth, Death, Marriage
d. Peace and Order Management
e. Tourism Services
f. Agriculture and Veterinarian Programs operation/management
g. Assessment and Collection of Realty and Business Taxes
h. Processing of Licenses and Business Permits
i. Infrastructure management/ service/ operations
j. Zoning enforcement

5.3 How to Foster Cluster Spirit – some ideas to help the cluster residents develop a feeling of oneness and team spirit are listed below.

a. Intensify IEC on this initiative
b. Provide transportation facility on schedule basis – barangay to cluster center
c. Facilitate release of barangay share and aid from the tax collections to their respective barangays
d. Provide and establish recreation facilities and amenities in their cluster centers
e. Ensure peace and security through police visibility
f. Regularly provide operational/mobilization fund
g. Schedule regular cultural festivals and trade fairs promoting each cluster’s strength and marketability and competitions with high value rewards
h. Develop satisfaction index and regularly conduct client satisfaction survey
i. Regularly conduct sports competitions by cluster rather than by barangay