4.3 Case Study for El Nido North

4.3.1 Profile of the Study Area

Location and Geographical Features

- The study area is located at the northern end of the main island of Palawan. The area extends over 25 km north to south and 10 km west to east, covering 250 sq. km. (refer to Figure 4.3.1). The area's geology is characterized by rocky limestone formation, especially in the Bacuit Bay area. Along its irregular shoreline, a number of pocket beaches can be found.

- The study area includes four (4) barangays, namely, Bucana, Barotoan, Pasadena, and Villa Libertad.

Socioeconomic Condition

- In 1995, the total population of the four barangays was 6,950, a growth of 3.6% per year from its 1990 population of 5,820 (refer to Table 4.3.1). Majority of the people are self-supporting farmers and fishermen. Tourism is relatively well-developed although it is concentrated in the El Nido town and a couple of offshore islands (Miniloc and Pangulasian).

- The top five serious community problems in the case study area included livelihood, lack of medical services, lack of roads, lack of power, and lack of water.

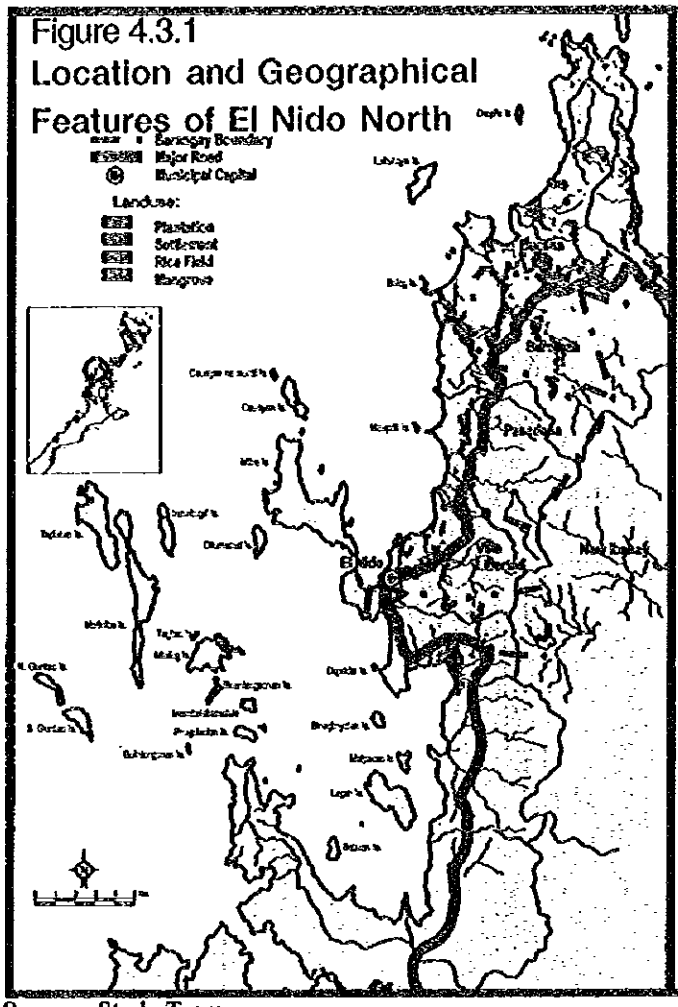
Transportation and Infrastructure

- Roads and road transport are limited. Although a national road which links El Nido town with Taytay and further to Puerto Princesa City has not been paved and becomes impassable during the rainy season. The study area is served with a two-lane earth/gravel road. A private airstrip with a 1,000m x 30m runway is in operation mainly serving the resort guests. There is a municipal port in El Nido town.

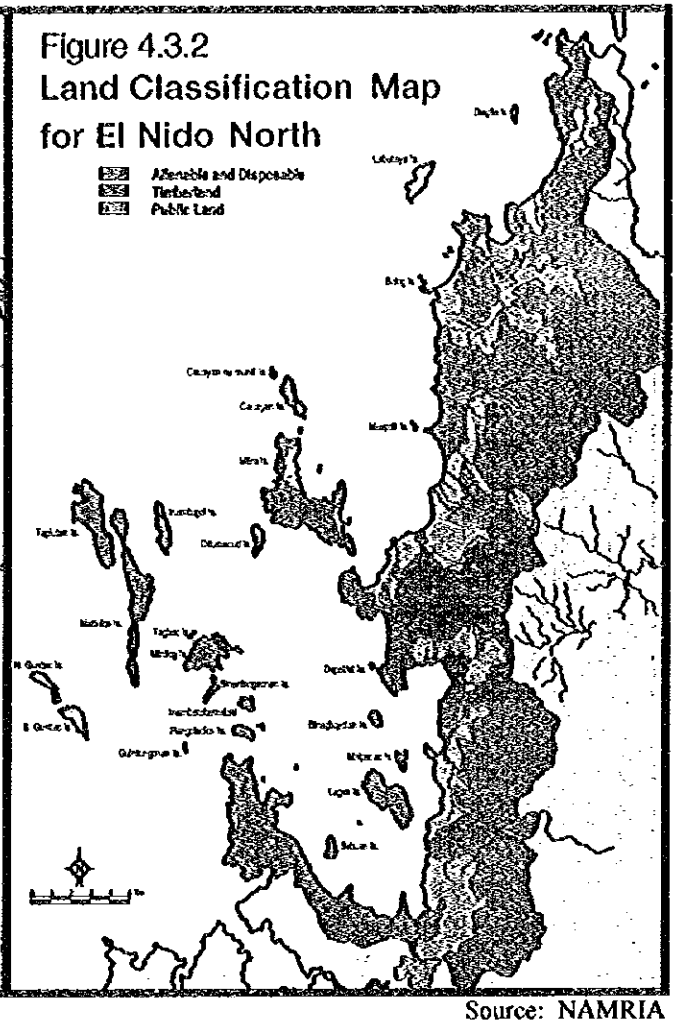
- NAPOCOR/PALECO provides limited electricity service for about 150 consumers between 6 p.m. and midnight. There is no water supply facility in the study area except in Barangay Bebeladan where Level III system is provided. However, potential water sources have been identified in the barangays of Tiniguiban and Villa Libertad. Communication facilities are also limited to a telephone station and a post office located in the poblacion.

Land Classification and Owership

- The lands are mostly owned by the government (more than 70%) due to the wide existence of timberland. However, most of the coastal areas where tourism development is possible are owned privately.



Source: Study Team



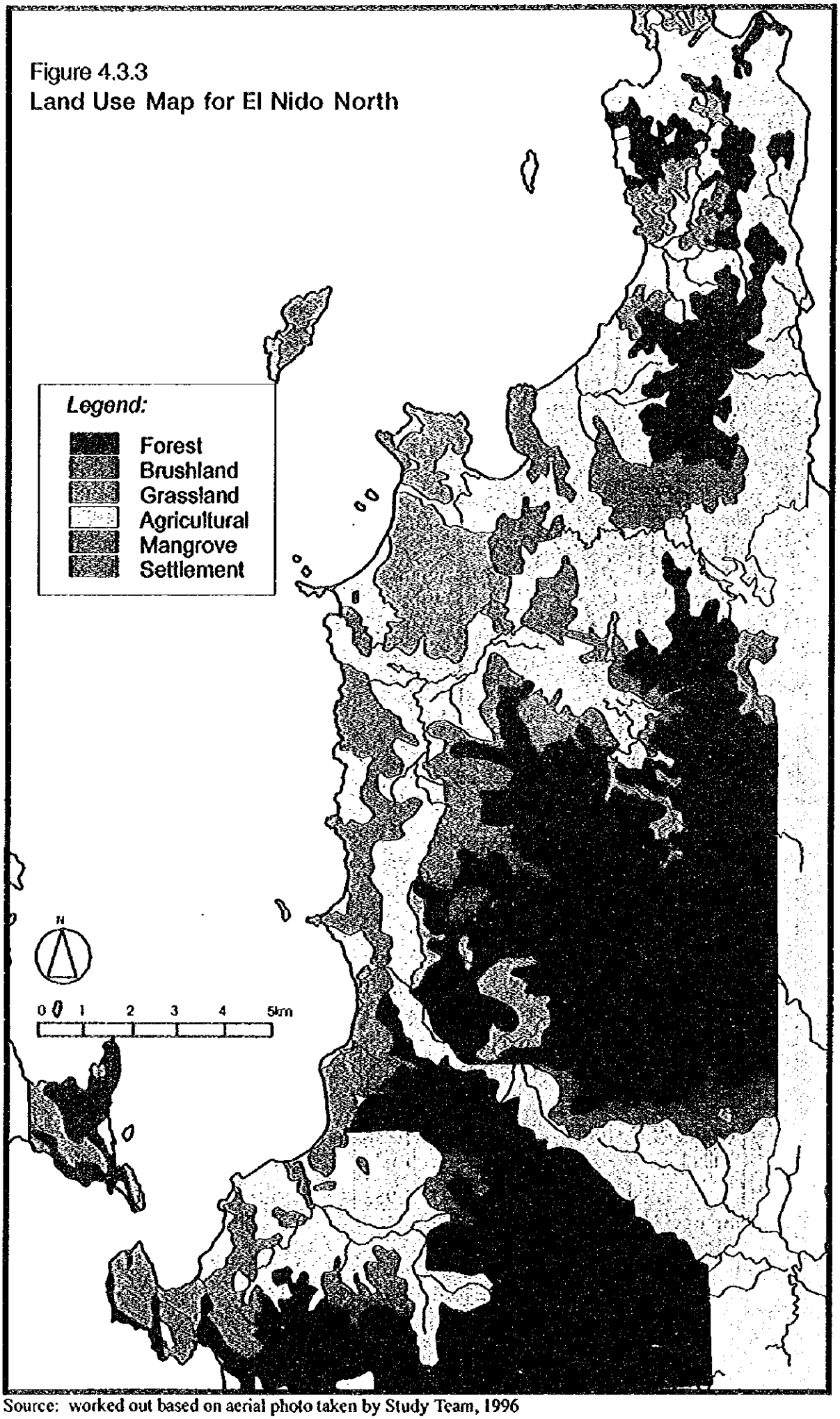
Source: NAMRIA

Table 4.3.1
Population Growth

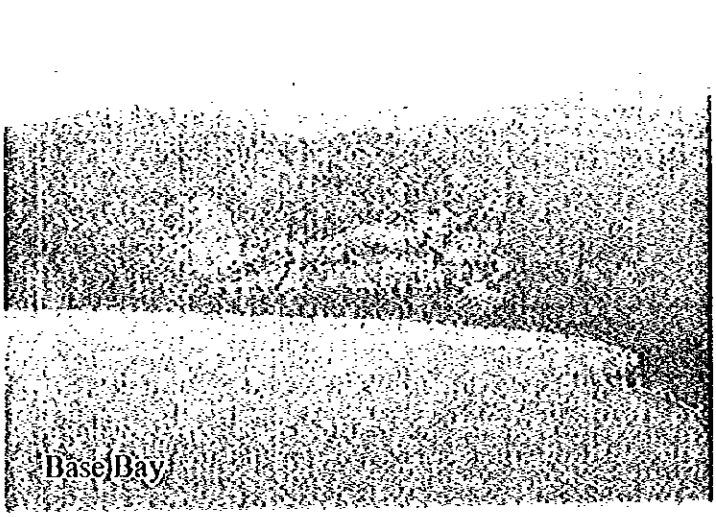
Barangay	1990	1995	1990-1995 Growth Rate %/yr.
Bucana	2,696	3,094	2.8
Barotoan	1,309	1,495	2.7
Pasadena	904	1,338	8.2
Villa Libertad	912	1,025	2.4
Total	5,821	6,952	3.6

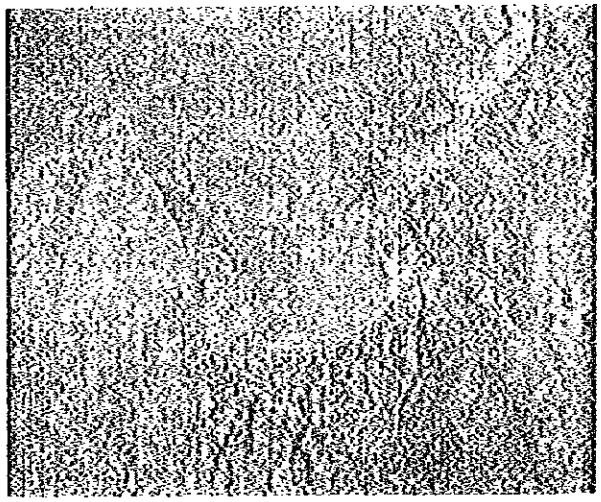
Source: NSO

Figure 4.3.3
Land Use Map for El Nido North



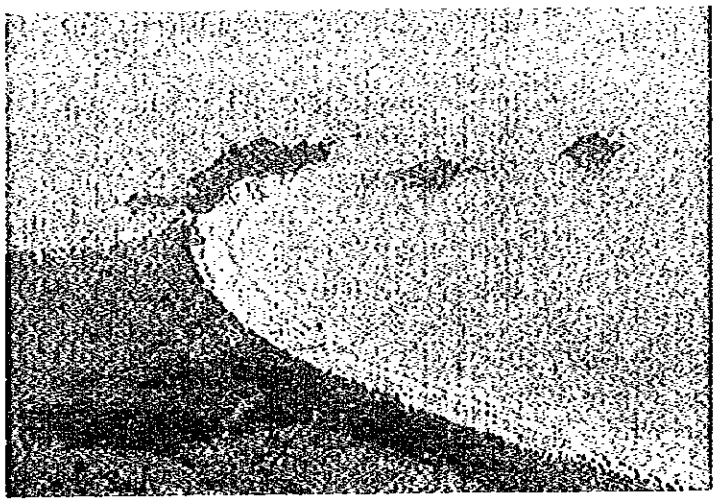
Source: worked out based on aerial photo taken by Study Team, 1996



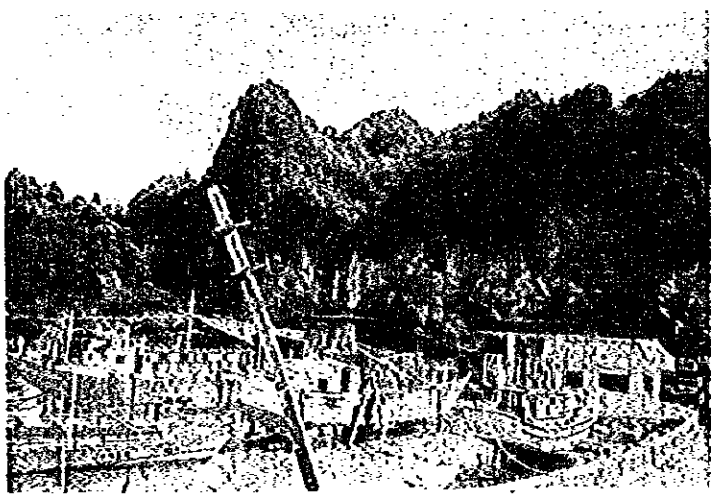


Poblacion El Nido

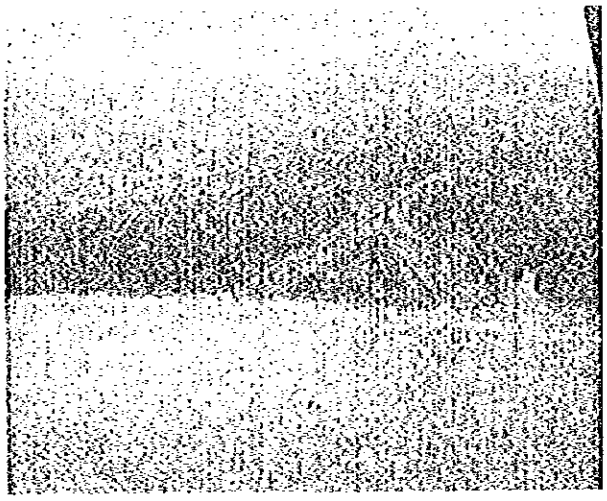
Pasadeña



Nacpan



El Nido Feeder Port



Rio Airstrip

Environment

- Forest cover in the area also has been decreasing. Old growth forest decreased between 1985-1992 at an average rate of 11% per year and thereafter through 1996 at 5.4% where the forest is converted to agricultural areas due to logging and kaingin activities.

- Lowland evergreen forest (dipterocarp forest) is the characteristic ecosystem in the mainland, while it is limestone forest (karst forest, molave forest) in the islands whose ecosystem has remained intact due to constrained accessibility. Endangered species currently under human pressure include the Philippine Cockatoo, Palawan Hornbill, and Tabon Bird (*megapodius freycinet*). The islands located on the routes of migratory birds provide resting sites as well as breeding sites for the swiftlets.

- The conditon of coral reefs along the coast have become poor while those in offshore islands surrounded by limestone cliff remain excellent. Scarce seagrass beds are found throughout the study area. There are no large and dense mangrove forests. The dugong and sea turtle are observed in many locations. The latter is popular in Gointongoan Island (Turtle Island) and other offshore islets.

- Indigenous people of Tagbanua ethnicity reside in the sitios of Yocoton, Patuyo and Poblacion of Barangay Bucana (a total of 13 households). They are engaged in agriculture and fishery. At present, they are facing a critical transition stage. It has become difficult for them to maintain their own culture because of a scattered and decreasing population. They are presently preparing to claim their "ancestral domain" with the help of NGOs.

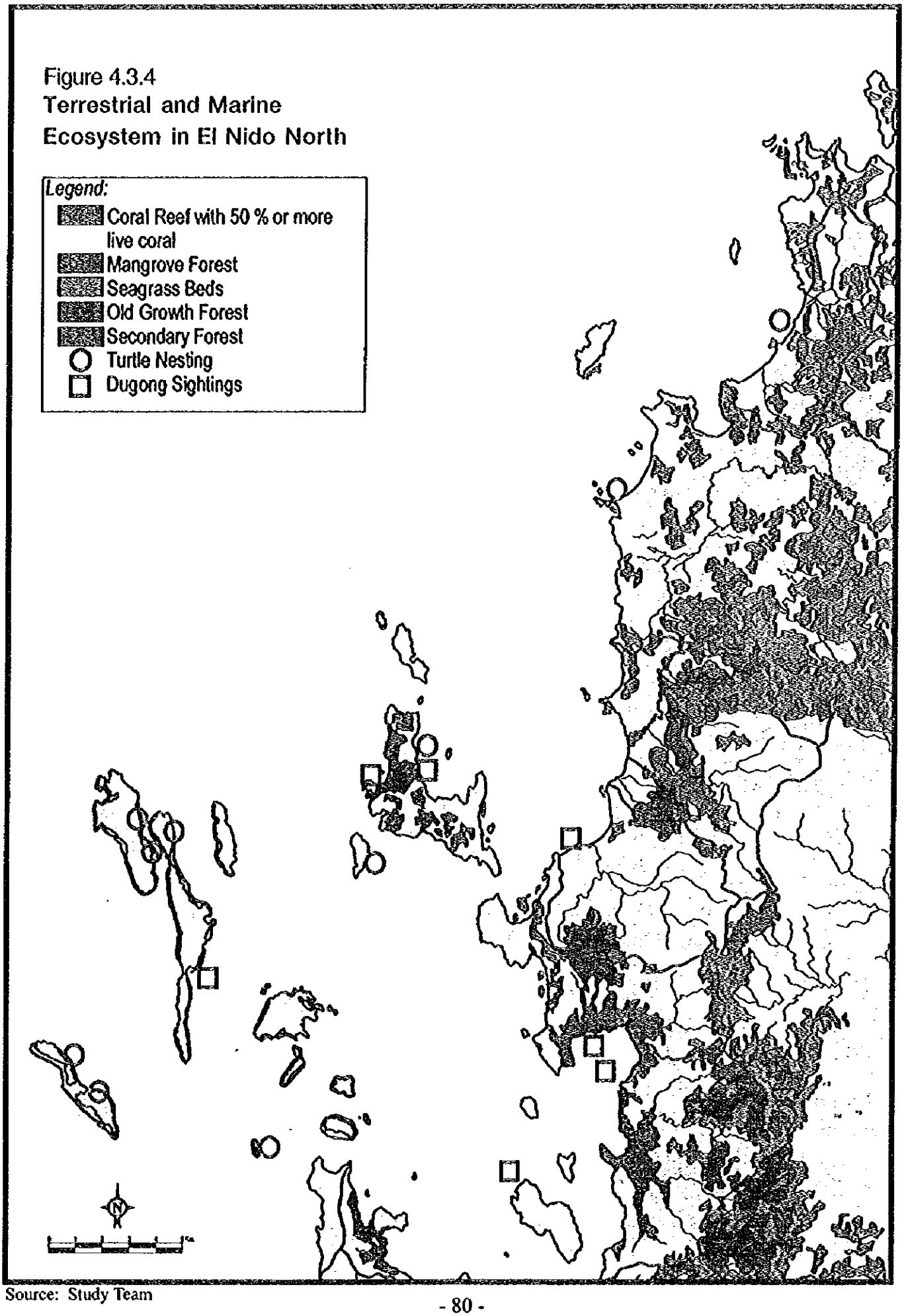
- The environment in the study area will further degrade unless adequate measures are taken particularly for the following:

  (1) Control of water quality. The environment in El Nido Marine Reserve has deteriorated due to water pollution caused by sewage which are disposed directly into the coastal area.

  (2) Prohibition of logging activities and the practice of kaingin in the remaining forest. Effective enforcement measures should be adopted.

  (3) Protection of wildlife. Wildlife habitats should be maintained/restored and laws strictly enforced against illegal activities.

Figure 4.3.4
Terrestrial and Marine
Ecosystem in El Nido North



Source: Study Team

4.3.2 Environmental Management

Environmental Management Area Classification

- In order to provide a basis for environmental management plan formulation, the study area has been classified based on the assessment of existing environmental conditions and levels of needed actions. Criteria has been set by target environment (refer to Table 4.2.2 of the case study for Busuanga West). Most of the areas will be covered under preservation or conservation area which give a useful basis for further protection and enhancement of the area's environment (refer to Figure 4.3.5).

- Most of the water area is covered by the El Nido Marine Reserve, suggesting that water pollution control be given the highest priority in the study area. A standard set by the DENR A.O. No. 34, s. 1990, which categorizes national marine park as Class SA, should apply to the area (refer to Table 4.3.2).

Table 4.3.2
Criteria of Surface Water Quality

Classification	Beneficial Use
Class SA	1) Waters suitable for the propagation, survival and harvesting of shellfish for commercial purposes; 2) Tourist zones and national marine parks and reserves established under Presidential Proclamation No. 1801; existing laws and/or declared as such by appropriate government agency. 3) Coral reef parks and reserves designated by law and concerned authorities.
Effluent standards under Class SA states that discharging of sewage and/or trade effluents is prohibited or not allowed.	

Source: Study Team

Garbage from resort and other tourism facilities should be disposed of appropriately and responsively. When they rely on the municipal disposal site, they should be adequately charged.

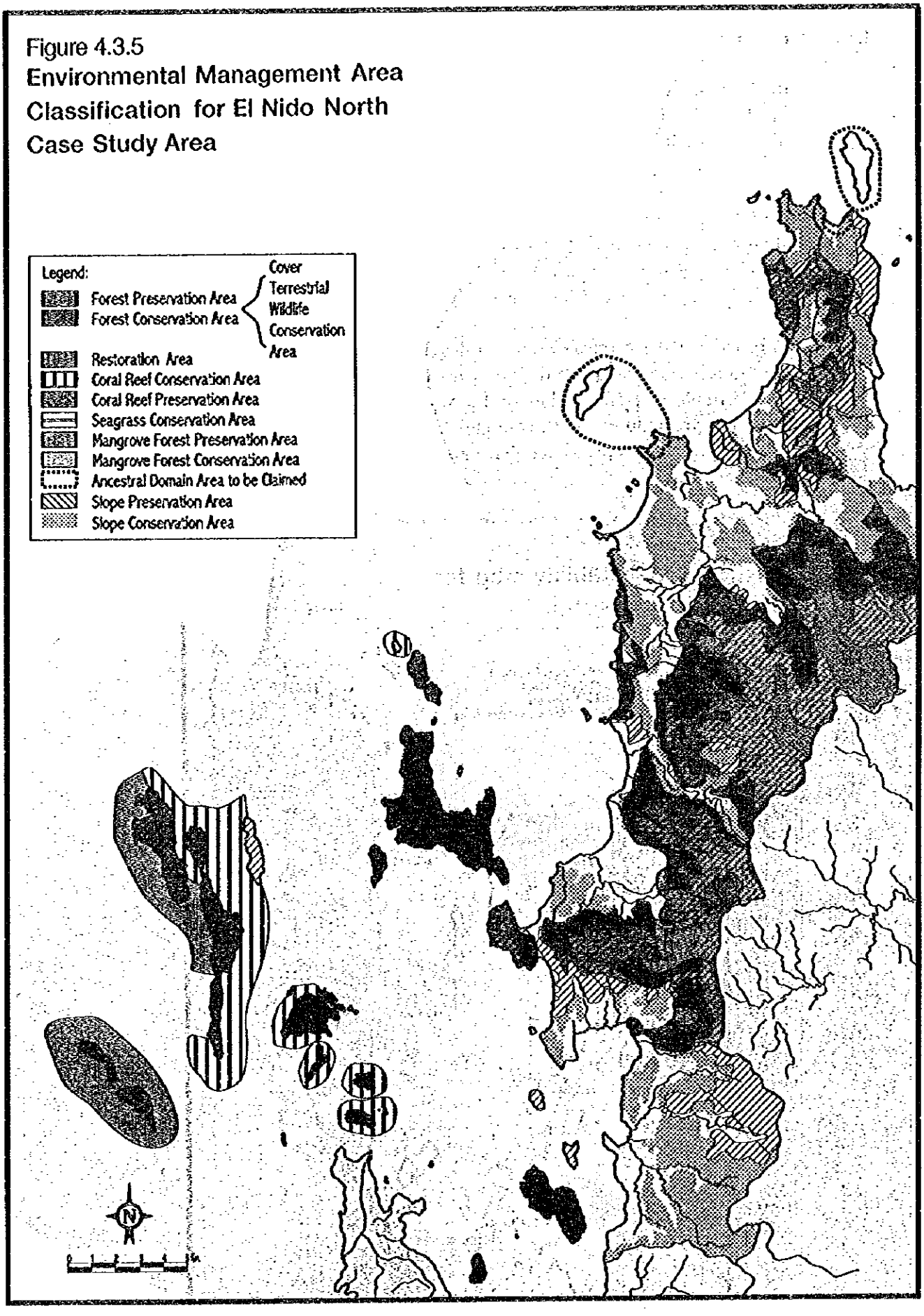
- Environmental management in the tourism area should be shared adequately between the tourism management body and environmental management authority. However, it is advisable that implementation work such as conservation activity, patrolling, monitoring, education and guidance for tourists, etc. may be done mainly by the former with necessary coordination with the latter. Estimated costs for environmental conservation and restoration of the area is an initial cost of P20.7 million and O&M cost of P1.9 million per year (refer to table 4.3.3).

Table 4.3.3
Estimated Costs for Environmental Conservation/Restoration

Measures	Initial Cost P'000	O & M Cost P'000/yr.	Total(1997-2010) P'million
1. Restoration			
1) Reforestation (360 ha)[1/]	13,790	-	13.8
2) Rehabilitation or Eroded Area[1/]	5,910	-	5.9
2. Monitoring of Key Environment[2/]	-	1,390	19.5
4. Overall Environmental Area Management and Administration[4]	1,000	500	8.0
Total	20,700	1,890	47.2

Source: Study Team
1/ including nursery operation, plantation establishment, maintenance, administration etc., estimated unit cost is P 19,700/ha
2/ including personnel, equipment, satellite data analysis
3/ including vehicles, boats, communication equipment, computers, diving equipment, etc.
4/ including establishment of a main office, 2 inland and marine stations, operation and management.

Figure 4.3.5
Environmental Management Area Classification for El Nido North Case Study Area

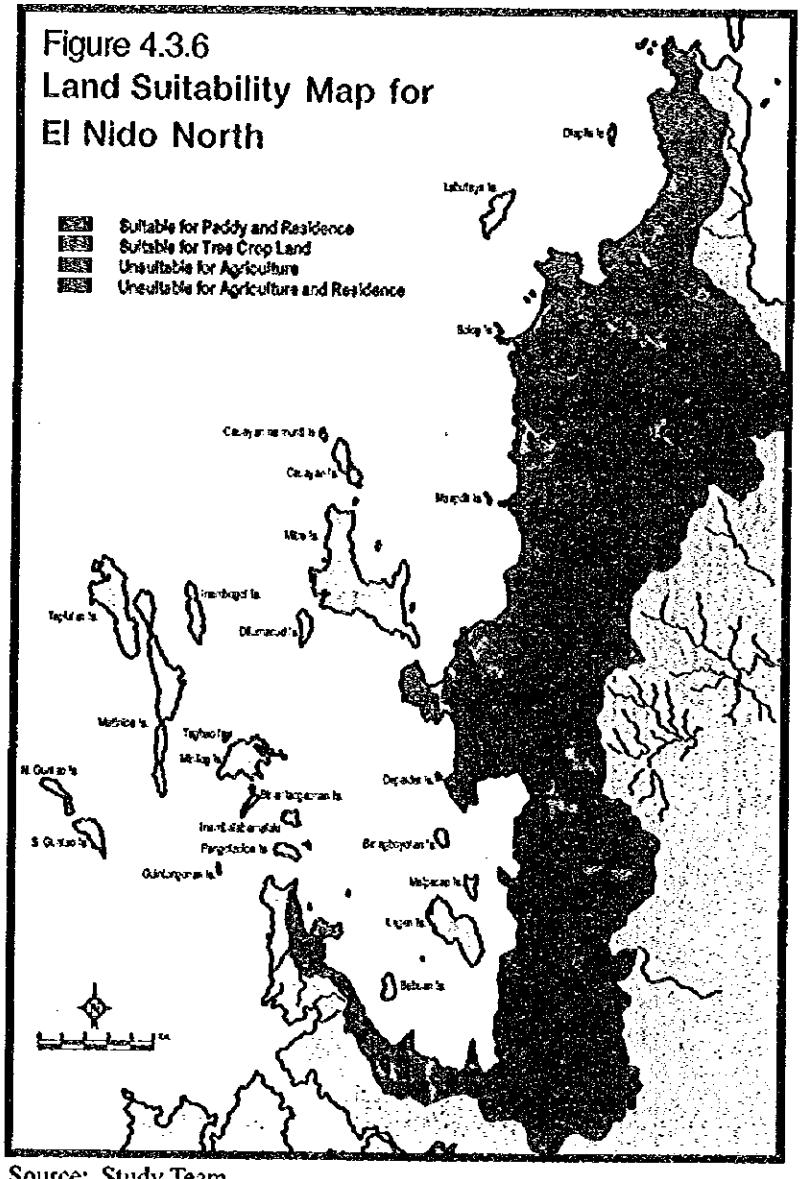


4.3.3 Socioeconomic Framework and Preliminary Land Use Plan

- In the case study area population is expected to increase from 6,950 in 1995 to 12,100 in 2010 (during the same period the municipality's population will increase from 21,900 to 35,200).

- Land suitability has been assessed according to the method applied for Busuanga west. Identified suitable areas for development are limited to relatively narrow areas along the existing roads (refer to Figure 4.3.5). Available lands are considered sufficient to meet future requirements in the study area even though land uses may compete; therefore, a land use plan is needed.

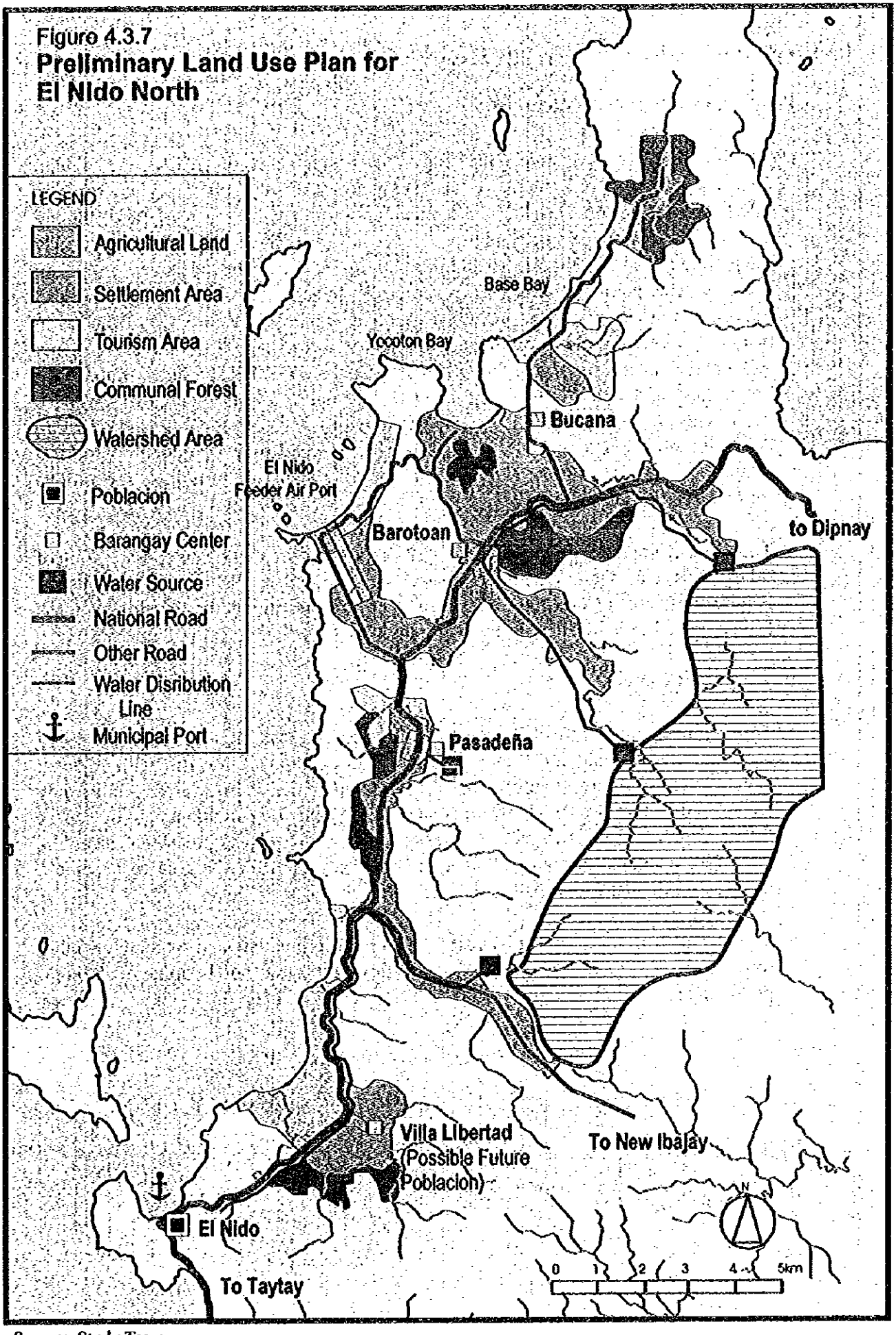
- In order that the proposed tourism development can be adequately integrated with the future overall land use requirements of the area, a preliminary land use plan has been formulated (refer to Figure 4.3.6). The land uses comprise settlement area or urban use, agricultural lands, communal forest, etc. With regard to water supply, watershed area and supply system have also been preliminarily planned.



Source: Study Team

Figure 4.3.7

Preliminary Land Use Plan for El Nido North



Source: Study Team

4.3.4 Tourism Development Structure Plan

Tourism Development Potentials

- Tourism resources existing in the study area are similarly diversified and of high quality as those of Busuanga west case study area. Coral reefs, especially those in off-shore islands, are excellent. Frequent opportunities of sea turtle and dugong sightings, clear water, white sand beaches, scenic beauty from land and sea, especially the marble cliffs in El Nido town and in small off-shore islands, the sunset, and so on compose the marine and scenic resources. Inland natural resources are also important tourism resources including mountain ranges with 300 - 600 meters in height covered by old growth and secondary forests and habitats of rare and endangered species such as orchid, Philippine Cockatoo, Palawan Eagles, waterfalls, hot springs, and so on. However, many of the habitats for endangered species have decreased or fragmented due to illegal activities such as logging and *kaingin*. Activities of indigenous peoples such as nido hunting may be added to tourism attractions. These tourism resources can provide ample opportunities for various tourism activities in different areas.

- Tourism development potentials have been assessed by area with due consideration of other constraint factors such as water supply, land availability, environmental implications, etc. Carrying capacity of each area identified for development has been assessed to more specifically determine tourism development potentials.

Development Concept

- Tourism development in El Nido case study area will also be adequately integrated with environment and local socioeconomy. Integration of tourism with regional development structure, involvement of local communities and resources will be duly considered. Tourism development is intended to generate additional funding source for environmental conservation and restoration. While development enhances the local socioeconomy and environment, it should also aim for the area to become a competitive and leading resort in the international market.

- Targeted size of development by year 2010 is to accommodate approximately 95,000 tourists (80,000 foreign and 15,000 domestic) with 1,060 hotel rooms of different price ranges.

Physical Development Framework, 2010

No. of Tourist and Tourist-nights

		Foreign	Domestic	Total
No. of Tourists (000)	5 nights	60	0	60
	4 nights	20	15	35
	Total	80	15	95
Tourists-nights (000)		380	60	440

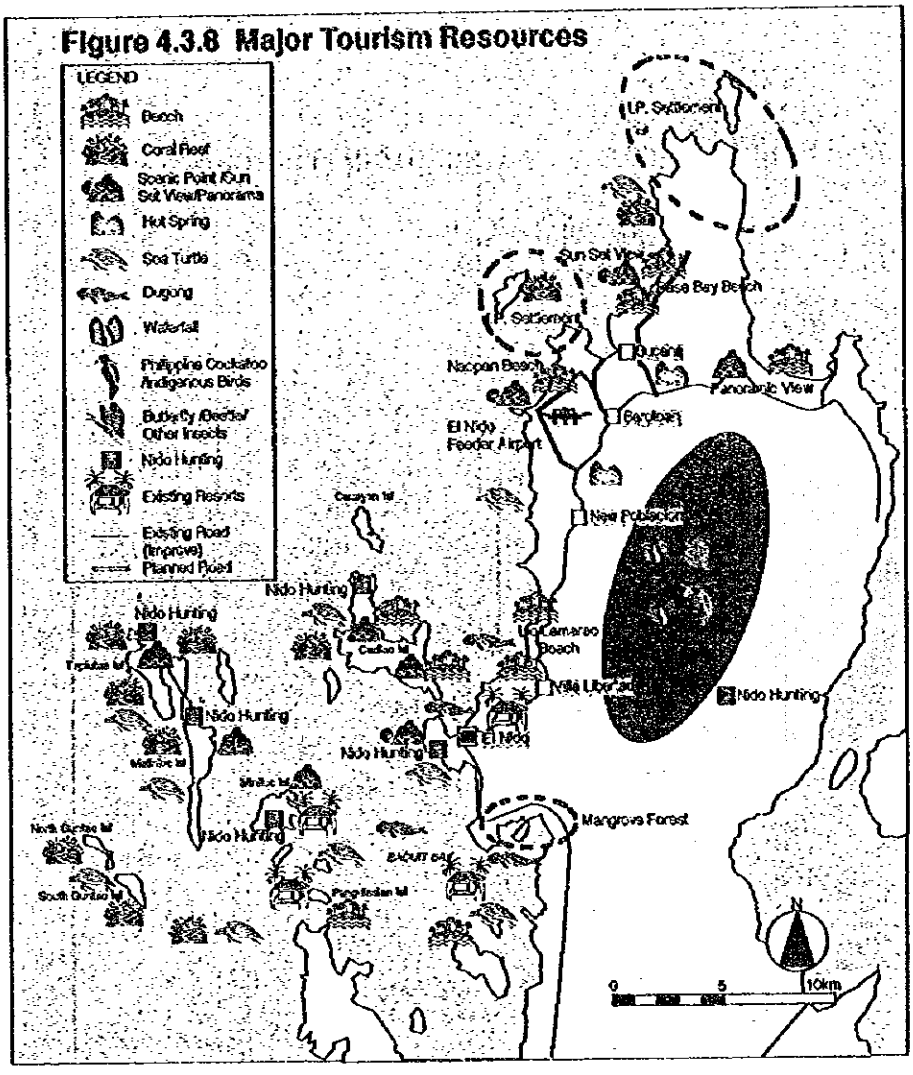
Source: Study Team

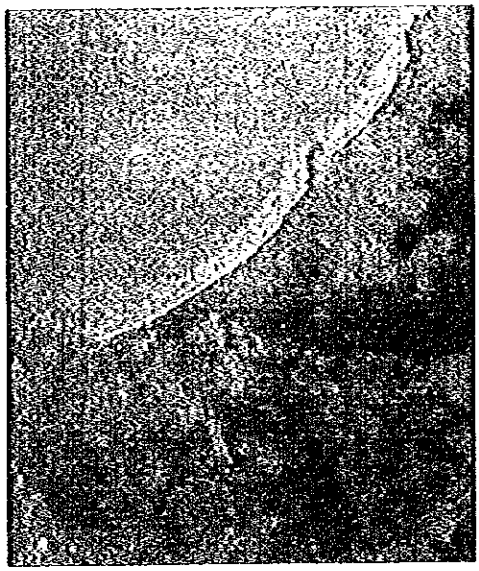
No. of Tourists Stay in El Nido N.

Tourist Inflow	2000	2010
Average Daily	250	2,350
- Board in El Nido N.	140	2,200
- From Outside	110	150
Peak Day	800	4,550
- Board in El Nido N.	550	4,220
- From Outside	250	330

Source: Study Team

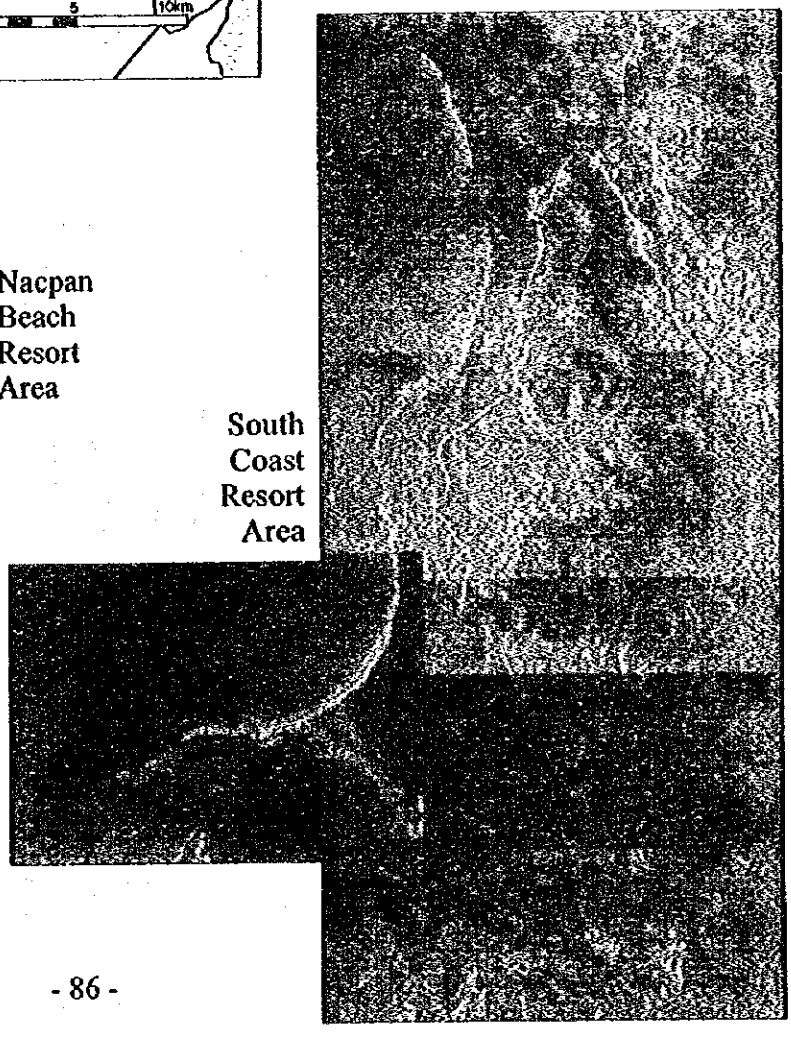
Figure 4.3.8 Major Tourism Resources





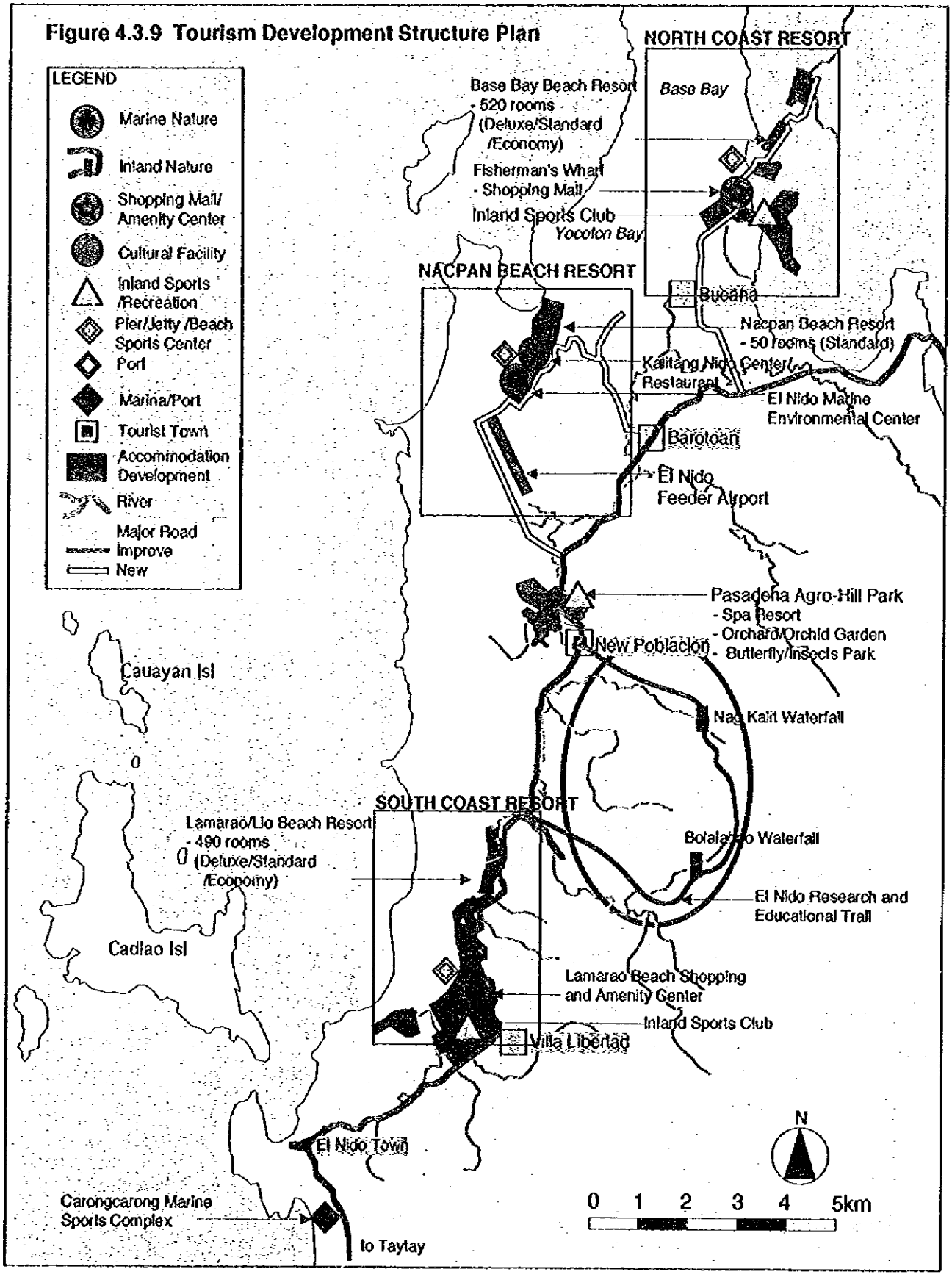
North Coast Resort Area

Nacpan Beach Resort Area



South Coast Resort Area

Figure 4.3.9 Tourism Development Structure Plan

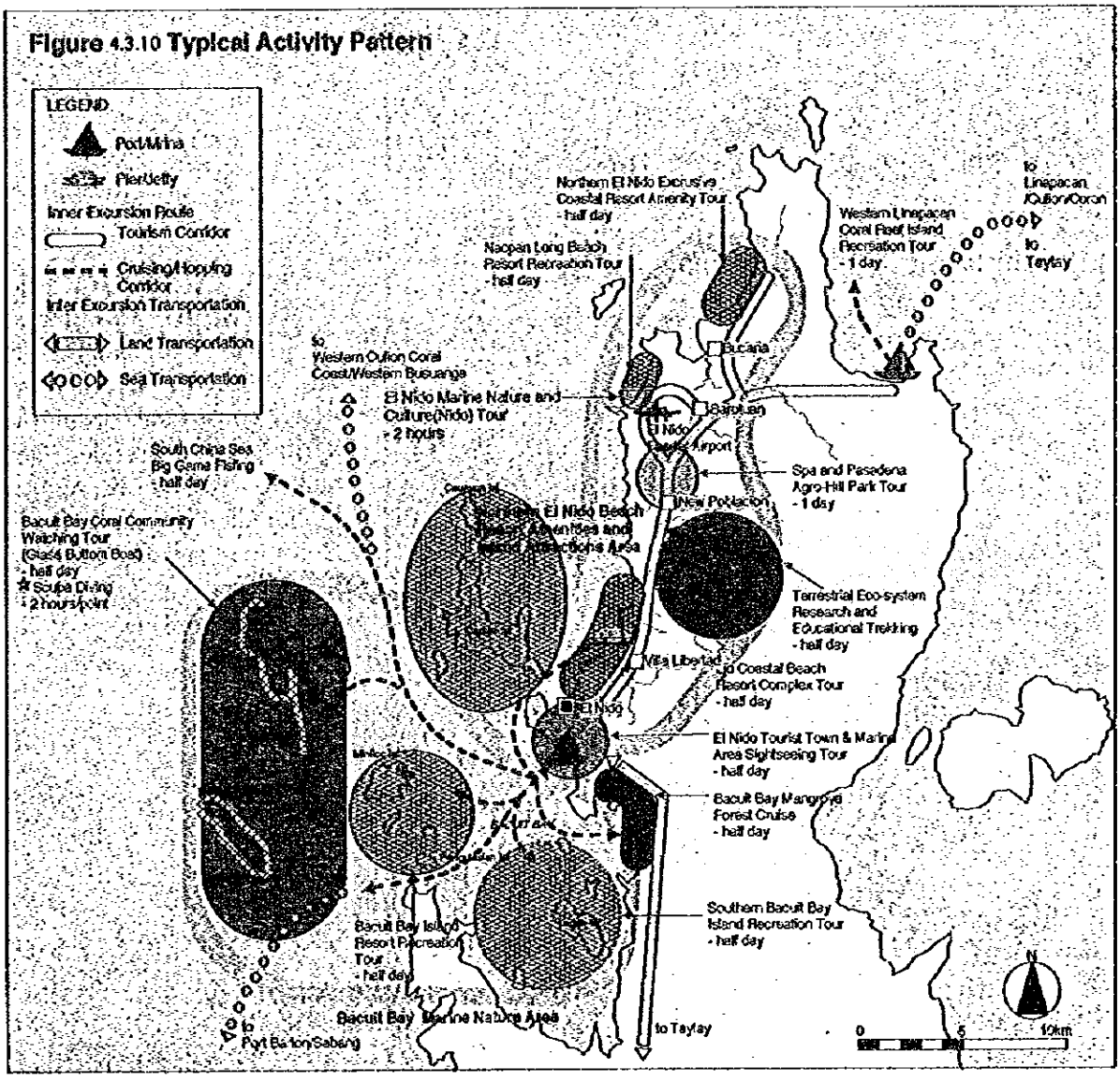


Development Structure Plan

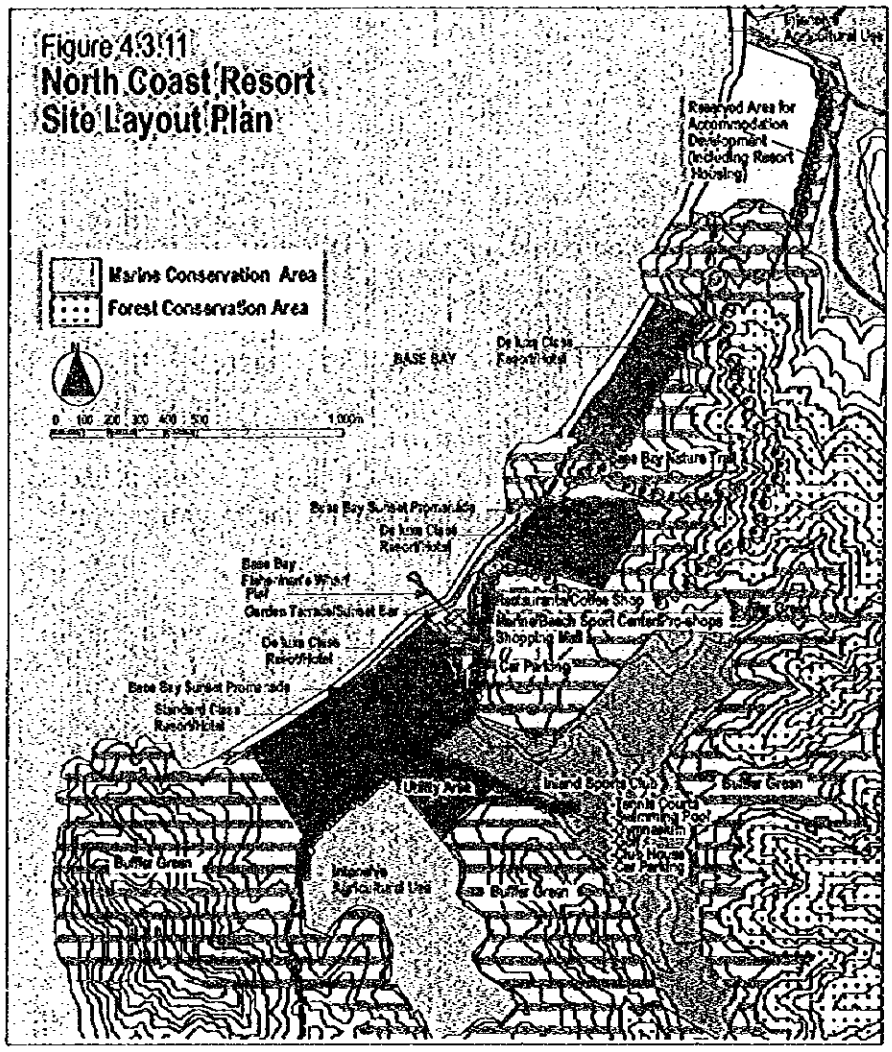
- Tourism development in the area will be composed of three (3) resort areas where development concentrates including Base Bay coastal area, Nacpan beach, Lio coastal area and tourism activity areas covering the entire Bacuit Bay and adjoining open sea, plus the whole stretch of coastal and inland areas north of El Nido town (refer to Figure 4.3.9)

- The proposed developments will be basically along the existing road from which access roads will be constructed to link the development in the coastal and inland areas. A new public airport will be constructed about 20 km north of El Nido town to provide direct air transport services for the area.

- Tourism activities to be provided in the area are varied and extensive both in marine and terrestrial. With the improvement of regional transportation infrastructure, Linapacan and Taytay areas could be effectively integrated (refer to Figure 4.3.10).



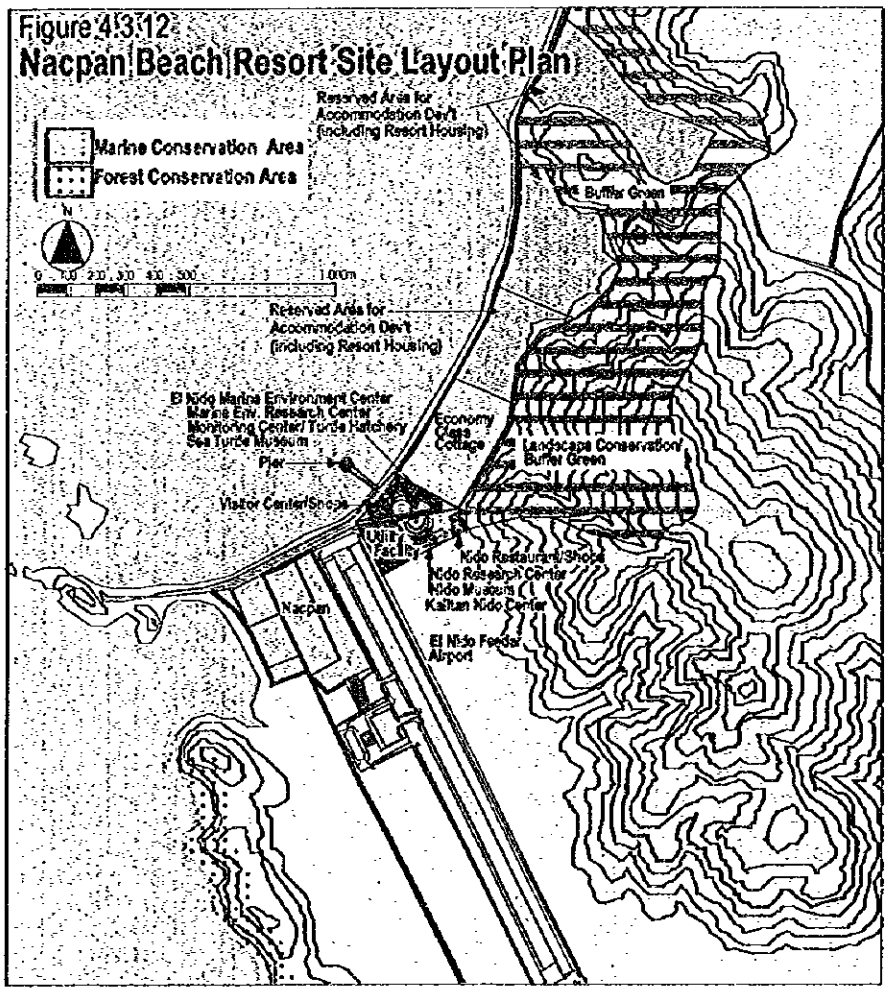
Source: Study Team



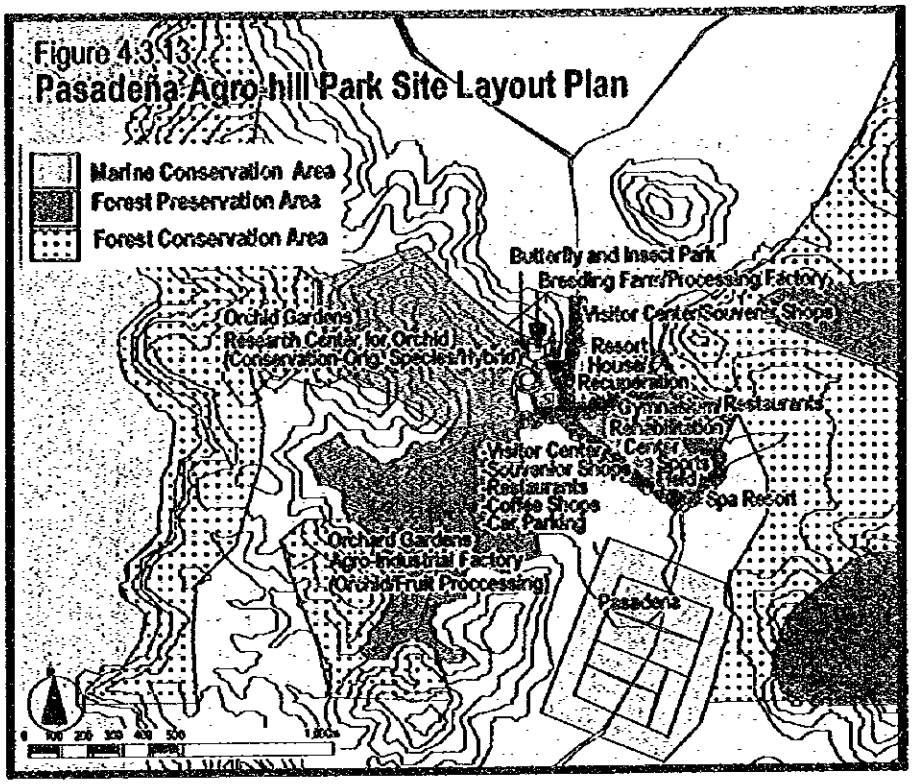
Site Layout Plans for Major Development Areas

- More detailed layout plans have been prepared for major development areas.

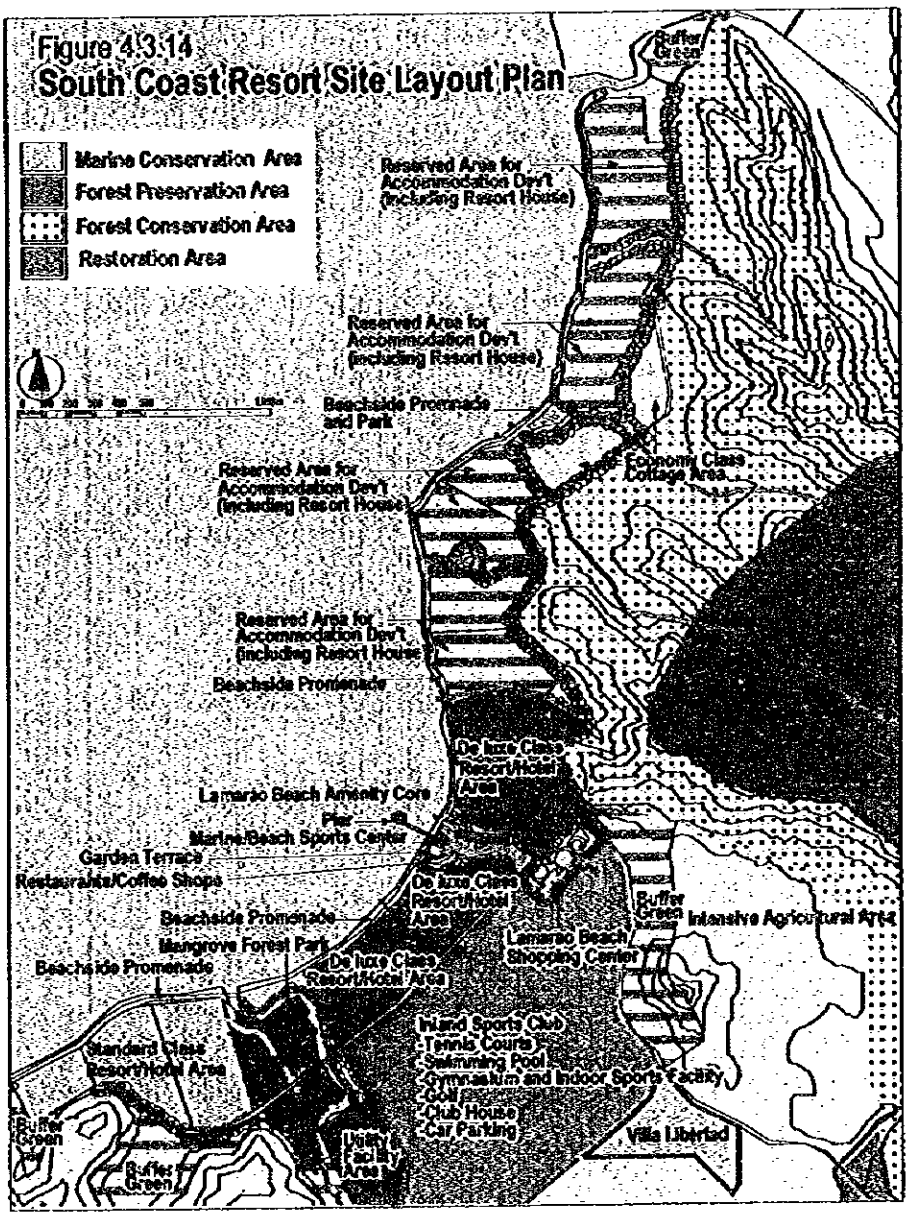
Base Bay Coastal Area (North Coast Resort): The area intends to provide a quality beach resort surrounded by rich marine and terrestrial environment. In order to protect the environment, sufficient buffer greens are to be provided between the development sites and forest preservation/conservation area. Existing community of Bucana will be integrated.



Nacpan Beach Area (Nacpan Beach Resort): This area serves as a new major entry point via air. A feeder airport will be newly constructed around which various tourist service facilities and controlled economy accommodations will be provided. Coastal areas will be reserved for future development of hotels and resort housing.



Pasadena Area (Agro-hill Park): This area will be developed near the existing Pasadena community for tourists to enjoy the hot springs for health care/therapy; the sight of orchids, butterflies, insects and so on, and at the same time to provide local communities and ICCs with additional livelihood and new business opportunities.



Lio Coastal Area (South Coast Resort): The area serves as the largest tourism development site in this case study area. Approximately 3-km long coastal area will be developed for hotels and resort housing supported with necessary infrastructure and services, amenities, buffer greens, etc. Existing community of Villa Libertad will be in tegrated and sites for controlled economy accommodation be provided.

4.3.5 Tourism Infrastructure/Facilities Development Plan

- Tourism development in the area should be associated with a set of adequate infrastructure not only to sustain a competitive quality tourism but also to minimize the negative impact on the environment. Key infrastructure, including roads, airport, port, water supply, telecommunication, solid waste management, sewage treatment, etc., have been planned in an integral manner taking into consideration the existing and future requirements of neighboring communities to maximize the effects of the development.

- External access will be strengthened by constructing a new El Nido Airport in Nacpan area with a 2,000 meter runway and a new terminal. With this tourists can access directly to the area and local residents will be benefited greatly. Internal circulation will also be strengthened by upgrading the existing circumferential road running along the coastal area and linking all major developments to each other as well as to El Nido town and the east coast area. A pleasure port which provide a base for marine activities in the area, will also be constructed.

- Water supply system will not only serve tourism development but also the residents in the affected areas. Telecommunication will be provided via a microwave network system to cover all major activity centers in the project area. Power supply for the area will rely on the El Nido grid which will be expanded and upgraded.. Solid waste management will become a critical regional issue requiring a more comprehensive solution. Tourism will have to share in this responsibility. Sewage treatment will be properly done based on stabilization/aerated pond process for areas where development concentrate, while individual septic tanks will be used for isolated development areas. This will prevent pollution of the marine ecosystem thereby maintaining sanitary conditions in the area.

- Infrastructure and tourism facilities will be developed strictly in accordance with the approved layout plan to maintain the quality of the development. They are subject for strict EIA. Hotel and accommodation developments will only be allowed in the sites designated beforehand and the developers are obliged to follow planning/design guidelines.

- Total development costs are estimated to be P8.4 billion including the basic infrastructure of surrounding communities for which the estimated shared cost (based on demand) is approximately ½ or P1.1 million.

Table 4.3.4 Estimated Development Costs for El Nido North

Item		Construction Cost: P million	Remarks
Regional Infrastructure	Airport	435	2000 meter runway, new terminal
	Roads	795	primary/feeder
	Port	180	new port at Coreng-corong
	Water supply	87	demand: 4,780 cum/day (35% tourism)
	Power supply	252	demand: 9,700 KVA (70% tourism)
	Telecommunications	100	demand: 1,890 lines (15% tourism)
	Solid waste disposal	90	demand: 80 cum/day (45% tourism)
	Town beautification	80	
	Medical health facility	10	
	Sub-Total	2,029	
Tourism Supporting Facilities		27	
Environmental Management Facilities		101	
Tourism Area Development		6,288	internal infrastructure, site development, landscaping
TOTAL		8,445	

4.3.6 Development and Management

- In order to assure the sustainability of the development, a number of conditions will have to be met. First, the benefits that are received should arise from the development and not from land transactions. Second, the benefits should be equitably distributed among stakeholders according to their contributions or responsibilities, and at the same time, equally shoulder the costs as well. If this process is maintained over the years, the development areas will be adequately managed.

- The conventional way that private developers construct resorts of different sizes and quality even with development permission, including EIA from the government, may not work effectively in a way that a sustainable tourism concept is assured. Developments may not take place as planned even with an effective ECAN zoning. More concrete measures are necessary with particular regard to effective control over lands and developments both on physical and management aspects.

- In order to ensure the physical quality not only of the direct project site but also to have the development shoulder an adequate share of the external infrastructure and environmental conservation costs from which the development will be benefited, at the least, the following measures are needed: statutory land use plan (e.g. effective ECAN Zoning), strict development permit system including EIA based on workable guidelines, and enforcement charges.

- Even after individual resorts have been constructed initially according to the set standards, the collective resorts may not function as an integrated resort complex nor sustain the quality as a whole. Therefore, it is considered that a single development organization to manage the development as explained in section 3.5 need to be established.

- The development organization acts as the implementing body of the developments to undertake activities such as acquiring/consolidating lands, developing common infrastructures, preparing development sites which then will be sold or leased to private developers, approving development and management plans of the private sector, managing common space and infrastructures based on collection of association dues and so on. A critical area is how to control lands wherein if acquisition is difficult, the concept of land readjustment may be applied.

4.3.7 Feasibility of the Proposed Development

Economic Aspect

- The proposed development has been evaluated similarly as the Master Plan, and a significant EIRR of 25% from the national economic viewpoint is expected. However, as to the economic impact on the local economy at the provincial/municipal level, this depends on how the local economic system will be integrated with the proposed development

- It is indicated from the analysis that government should start working to help the regional/local supply of human resources, materials and services match the demand adequately.

Financial Aspect

- The proposed development requires the costs for regional infrastucture, tourism facilities, environmental management and tourism area development excluding hotel/accommodations and other commercial facilities. On the other hand, the proposed development will produce a total of 140 ha. of building sites with completed infrastructure. When all the development costs are charged to the building sites, it will cost P6,000 per sq.m. when a half of the regional infrastructure is shared by outside the tourism sector, it will cost P5,300 per sq.m..

- With the level of infrastructure provided in the development, it is likely that resort operators will be able to absorb the level of costs. Regional infrastructure costs may also be shared by existing and future investors who will also be benefited by the development.

- An important financial aspect is that environmental fee/contribution to be collected from the tourists in this case study area should be brought to the area where environmental restoration/conservation needs are significant, because the Busuanga area with relatively superior environment requiring less restoration cost should corss-subsidize other unfavorable areas.

Social Aspect

- In the proposed development plan, tourism developments are not isolated from existing settlements but rather are integrated to expect mutual benefits such as shared infrastructure/services and exchange of needed resources. Workers can commute easily without developing separate settlements. Various tourism facilities based on local environmental/cultural resources may provide opportunities for local communities as well as ICCs to participate in the developments.

Environmental Aspect

- Proposed developments have been assessed by area/facility from environmental viewpoint (refer to Table 4.3.5). The results indicate that positive impacts are expected. Negative impacts, if any, are negligible. However, a number of project components such as roads, port and marine sports complex at Corong-corong, waste disposal facility, etc. should be carefully assessed with particular regard to ecology in the area.

Table 4.3.5
Assessment of Possible Environmental Impacts due to the Proposed Developments

Environmental Element / Project Component		Physical & Chemical Effects					Ecological Effects			Aesthetic Effects					Socioeconomic Effects						
		Water	Groundwater	Air Characteristics	Wind	Inversion	Vegetation	Terrestrial Wildlife	Aquatic Species & Habitats	Land	Atmosphere	Water	Flora & Fauna	Man-Made Objects	Demography	Manpower	Transportation	Housing and Community Infrastructure	Education, Health & Social Services	Lifestyle of Communities	Indigenous Cultural Communities
1.	NORTH COASTAL RESORT																				
	1) Base Bay Resort	C-	-	-	-	-	-	-	-	C-	-	-	-	-	C+	B+	-	-	-	-	-
	2) Inland Sports Club	C-	-	-	-	-	C-	-	-	B-	-	-	B-	-	-	C+	-	-	-	-	-
	3) Base Bay Fisherman Wharf/Shopping Center	C-	-	-	-	-	-	-	C-	-	-	C-	-	-	-	C+	-	-	-	-	-
	4) Buffer Area/Other Facilities	B+	-	-	-	-	A+	C+	C+	B+	-	-	B+	B+	-	B+	-	-	-	-	-
2.	NACPAN AIRPORT AND BEACH RESORT AREA																				
	1) El Nido Marine Environment Center	A+	-	-	-	-	C-	-	A+		-	-	-	-	-	-	-	-	-	-	-
	2) Nacpan Beach Resort	C-	-	-	-	-	C-	-	-		-	-	-	-	C+	B+	-	-	-	-	-
	3) Sewage Treatment	B+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	B+	B+	-	-
3	PASADENA AGRO-HILL PARK																				
	1) Spa Resort	B-	-	-	-	-	C-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2) Orchid and Orchard Gardens	-	-	-	-	-	B+	-	-	B+	-	-	-	-	-	B+	-	-	-	-	-
	3) Butterfly and Insects Park	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4) El Nido Mountain and Waterfall Trail	-	-	-	-	-	B-	C-	-	C-	-	-	C-	-	-	B+	-	-	-	-	-
4	SOUTH COAST RESORT																				
	1) Lamaraot/Lio Beach Resort	A-	-	-	-	-	B-	-	C-	B-	-	-	C-	-	C+	B+	-	-	-	-	-
	2) Inland Sports Club	C-	-	-	-	-	C-	-	-	C-	-	-	-	-	-	C+	-	-	-	-	-
	3) Lamaraot/Lio Beach Resort	C-	-	-	-	-	-	-	B-	-	-	B-	-	-	-	C+	-	-	-	-	-
	4) Buffer Area/Other Facilities	B+	-	-	-	-	B+	B+	-	C+	-	-	B+	-	-	B+	-	-	-	-	-
5	TOURISM SUPPORTING FACILITIES																				
	1) Tourist Office	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2) Information Center	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.	IMPROVEMENT AND UPGRADING OF LOCAL COMMUNITIES																				
	1) Beautiful Settlements	-	-	-	-	-	-	-	-	C+	-	-	B+	A+	C+	B+	B+	B+	A+	B+	-
	2) Medical Care/Health Facility	-	-	-	-	-	-	-	-	-	-	-	-	-	C+	-	-	-	A+	-	-
7.	TOURISM INFRASTRUCTURE																				
	1) Road Construction	A+	-	-	-	-	-	-	B+	B+	-	-	-	A+	-	B+	A+	A+	-	B+	-
	2) New El Nido Feeder Airport	-	-	-	-	-	C-	-	-	B-	-	C-	C-	-	-	B+	A+	B+	-	-	-
	3) Corong-corong Marine Complex	B-	-	-	-	-	C-	-	C-	-	-	B-	-	-	-	B+	B+	B+	-	-	-
	4) Corong-corong Port	C-	-	-	-	-	-	-	C-	-	-	C-	-	-	-	B+	B+	-	-	-	-
	5) Water Supply Main Pipeline	B+	-	-	-	-	?	?	-	?	-	C-	C-	-	C+	B+	B+	A+	A+	A+	-
	6) Power Supply Network	-	-	C-	-	-	-	-	-	C-	-	-	-	-	-	C+	-	A+	A+	A+	-
	7) Telecommunication Network	-	-	-	-	-	C-	-	-	-	-	-	B-	-	-	C+	C+	A+	-	A+	-
	8) Waste Disposal	B+	B+	-	-	-	B-	C-	-	B-	-	-	B+	-	-	-	-	A+	A+	-	-

Source: Study Team

A+ : Significant Positive Impact
B+ : Moderately Positive Impact
C+ : Negligible Positive Impact
? : Unclear

A- : Significant Negative Impact
B- : Moderately Negative Impact
C- : Negligible Negative Impact

5. GUIDELINES

5.1 General

- In order to ensure the actualization of sustainable tourism development, a set of guidelines is necessary with particular regard to the following:

  (1) Infrastructure/tourism facilities development
  (2) Environmental Guidelines
  (3) Investment and management

- Guidelines on infrastructure/tourism facilities intend to provide investors with appropriate planning/design concepts and standards so that the infrastructure/tourism facilities can be planned, constructed and maintained without causing any environmental problems. Moreover, authorities can have a effective reference in granting permits and monitoring the developed infrastructure and tourism facilities. Guidelines on tourism activities are related to environmental management zoning which specify the types and levels of tourism activities allowed for classified sub-zoning. Guidelines on investment and management intend to provide investors/operators with requirements and incentives in doing business and, at the same time, to ensure the utilization of local resources.

- The guidelines preliminarily worked out in this study should be further elaborated on and incorporated into existing administrative framework or institutions for effective implementation, including enforcement.

5.2 Guidelines on Infrastructure and Tourism Facilities Development

- Design standards and guidelines on regional infrastructure, such as roads, airport/airstrips, ports, water supply, sewage, waste disposal etc., are already available with various government agencies. However, it has been found that mechanical application of these standards, that is, without due consideration of specific local conditions, and lowering or neglecting the required standards during the implementation stage are more critical to environmental degradation in Northern Palawan. The only way to improve the situation is the strict application of EIA and provision of sufficient financial sources and technical measures.

- Therefore, a set of design guidelines with particular regard to tourism development for an area in Northern Palawan has been prepared, covering architecture, landscape, environment and resort area planning. Architectural guidelines cover design principles, facility layouts, outdoor-indoor relationships, architectural themes, materials, and color schemes. Landscaping guidelines cover overall policy, conservation of surrounding scenery, and planting. Environmental

guidelines cover design principles, shoreline protection, sewage treatment, solid waste disposal, air pollution, and noise. Guidelines on resort area planning cover density of accommodation units, building height, building setback, landscaping, lighting, signs, fencing, parking, footpaths etc.

Table 5.1
Guidelines on Infrastructure and Tourism Facilities Development

Guideline/Area	Existing 1/	Proposed
1. Resort Area Planning Guidelines		
Accommodation Units Density	DOT/Prov. Guideline	Regulation on gross density added
Building Height	DOT/Prov. Guideline, R.C.	Modified
Building Setback	DOT/Prov. Guideline, EIA, R.C.	Modified
Landscaping	DOT/Prov. Guideline, R.C.	Modified
Lighting	None	Newly provided for Sea Turtle conservation
Signs	DOT/Prov. Guideline	Newly added
Fencing	None	Newly provided
Parking	DOT/Prov. Guideline	Modified
Footpath		Newly provided
2. Environmental Guidelines		
Design Principles	None	Newly provided
Shoreline Protection	DOT/Prov. Guideline, EIA, R.C.	New factors added
Sewage Treatment	DOT/Prov. Guideline, EIA, R.C.	New factors added
Solid Waste Disposal	DOT/Prov. Guideline, EIA, R.C.	New factors added
Air Pollution	EIA	Added for resort environment
Noise Pollution	EIA	Added for resort environment
Regulation of Construction Work	None	Newly added
3. Landscaping Guidelines		
Overall Policy	None	Newly provided
Geographical Feature	DOT/Prov. Guideline, EIA, R.C.	New factors added
Natural Vegetation	DOT/Prov. Guideline, EIA	New factors added
Planting	DOT/Prov. Guideline, EIA	New factors added
4. Architectural Guidelines		
Design Principle	DOT/Prov. Guideline	New factors added
Facility Layout	None	Newly provided
Outdoor-indoor Relationship	None	Newly provided
Architectural Theme	DOT/Prov. Guideline	New factors added
Materials	DOT/Prov. Guideline	New factors added
Color Scheme	None	Newly provided

Source: Study Team

1/ R.C. denotes Resort Code which applies to the area where B.C. does not cover.
B.C. denotes Building Code which applies in urbanized area in PPC.

5.3 Environmental Guidelines

- Environmental guidelines include guidelines on construction of infrastructure and facilities and those on activities in relation to Environmental Management Area. When infrastructure and facilities are to be constructed in tourism area, they are subject to EIA. Therefore, strict enforcement of existing system is considered

sufficient (refer to Table 5.2). However, the following areas should be sceptically looked into with particular regard to tourism development in Northern Palawan.

- Development activities in small islands (basically to be prohibited)
- Location and method of solid waste disposal
- Method of sewage treatment

- The latter guideline intends to determine the type and magnitude of facility development activities in various environmentally critical areas specified in the environment management area plan. The guideline should cover not only tourists but also local community people as well. There are four levels of control: "not allowed," "permission required," "allowed but with special environmental considerations," and "allowed." These guidelines, however, should be further modified based on more specific plans and survey and even after the operation commences (refer to Table 5.3).

Table 5.2 Area Requiring Environmental Impact Study

Area	Required Environmental Study		Evaluating Agency
Preservation Area	Construction of structure is not allowed.		
Other Areas	Environmentally Critical Projects	EIS	EMB/DENR
	Other Projects	Project Description	Regional Office DENR

5.4 Guidelines on Investment and Management

- With regards to tourism investment, these is a couple of investment guidelines at national levels such as "tourism estate" under DOT and "economic zone" under PEZA. In order, however, to ensure the sustainability of the proposed tourism development, it is necessary to prepare a guideline for investors in local employment, local supply, environmental management within their activity area, cost-sharing for regional infrastructure and environmental management. Current incentives should be more specifically related to the above areas to be imposed on investors.

- The guidelines will be composed of a combination "regulations" and "incentives" as conceptually seen below:

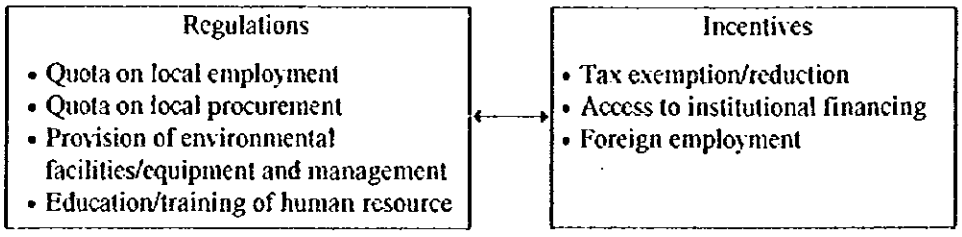


Table 5.3
Guidelines on Allowable Activities by Environmental Management Area

Management Area / Type of Activity	Forest Preservation Area	Forest Conservation Area	Terrestrial Wildlife Conservation Area 1/	Slope Preservation Area	Slope Conservation Area	Coral Reef Preservation Area	Coral Reef Conservation Area	Seagrass Conservation Area	Mangrove Preservation Area	Mangrove Conservation Area	Sea Turtle Conservation Area	Dugong Conservation Area	Ancestral Lands/Domain for ICC	Landscape Conservation Area
A. Community Activities														
1. clearing (slash-and-burn)	D	D	D	D	D	-	-	-	D	D	-	-	D	D
2. logging/cutting trees	D	C	D	C	C	-	-	-	D	D	-	-	C	D
3. hunting	D	C	D	B	C	-	-	-	D	D	-	-	C	C
4. extensive agriculture	D	D	C	D	C	-	-	-	D	D	-	-	C	D
5. navigation by small boat	-	-	-	-	-	D	C	B	C	B	B	B	A	-
6. navigation by large boat	-	-	-	-	-	D	D	D	D	C	D	D	C	-
7. boat landing on beach	-	-	-	-	-	D	D	B	C	B	D	D	C	-
8. anchoring	-	-	-	-	-	D	D	B	B	B	D	D	B	-
9. commercial line fishing	-	-	-	-	-	D	C	C	C	C	B	B	C	-
10. commercial trawling	-	-	-	-	-	D	D	D	D	D	D	D	D	-
11. commercial coral net	-	-	-	-	-	D	D	D	D	C	D	D	C	-
12. collection of shells	-	-	-	-	-	D	D	D	C	C	D	D	C	-
13. collection of aquarium fishes	-	-	-	-	-	D	D	D	C	C	C	C	C	-
14. collection reef materials (sand, coral, rock)	-	-	-	-	-	D	D	D	D	D	D	D	D	-
B. Small Scale Facilities														
1. irrigation facility	D	D	D	D	C	-	-	-	-	-	-	-	C	D
2. fish/shrimp pond	-	-	D	-	-	D	D	D	D	D	D	D	C	D
3. fishpen (cage)	-	-	-	-	-	D	D	D	D	D	D	D	C	-
C. Tourism Activities														
1. hiking/trekking	C	C	C	A	A	-	-	-	C	B	-	-	C	C
2. picnic	C	C	C	A	A	D	C	B	C	B	D	D	C	C
3. camping	D	C	D	B	A	D	D	-	D	D	D	D	C	D
4. walking on reef and beach	-	-	B	-	-	D	D	B	C	B	C	C	B	B
5. snorkelling/swimming	-	-	-	-	-	D	D	B	B	B	D	D	B	-
6. scuba diving	-	-	-	-	-	D	C	B	B	B	D	D	B	-
7. river cruise	D	B	B	-	-	-	-	-	C	B	D	D	C	B
8. wind surfing	-	-	-	-	-	D	D	B	B	A	D	D	B	-
9. rowboat	-	-	-	-	-	D	B	A	C	A	B	B	B	-
10. operation of boat including glass bottom boat	-	-	-	-	-	C	C	C	C	B	C	C	C	-
11. selling	-	-	-	-	-	D	D	B	B	B	B	B	B	-
12. cursing/yachting	-	-	-	-	-	D	D	D	B	B	B	B	B	-
13. boat landing on beach	-	-	-	-	-	D	D	D	C	B	D	D	C	-
14. anchoring	-	-	-	-	-	D	D	B	B	B	D	D	B	-
15. collection of shells by tourist	-	-	-	-	-	D	D	D	D	D	D	D	C	-
16. line fishing by tourists	-	-	-	-	-	D	D	C	D	C	D	D	B	-
17. spearfishing by tourists	-	-	-	-	-	D	D	D	D	D	D	D	D	-
D. Small Scale Tourism Facilities														-
1. trail for nature observation	C	C	C	C	B	-	-	-	C	C	-	-	C	C
2. resting facilities	C	C	C	C	B	D	D	C	C	C	D	D	C	C
3. observatory	C	C	C	C	B	D	D	C	C	C	C	C	C	C
4. mooring buoy	-	-	-	-	-	D	C	C	C	C	C	C	C	-

Source: Study Team

A: allowed
B: special environmental consideration required, restricted activities only.
C: permission required
D: not allowed
1/ based on Calamian Deer

6. CONCLUSION AND RECOMMENDATIONS

- It is concluded that tourism development can provide a good opportunity to promote sustainable development in Northern Palawan. The proposed tourism development generates significant economic benefits to the country as well as communities, and can become a potential revenue source to shoulder part of the environmental/restoration as well as regional infrastructure costs.

- A number of conditions, however, have to be met in order that the proposed tourism development can materialize positive effects. These conditions are as follows;

  (1) Environmental management system should function effectively. ECAN zoning (statutory land use plan) must be prepared and enforced. EIA procedure and environmental monitoring be properly and strictly applied, followed by necessary corrections and introduction of adequate countermeasures when and where necessary;

  (2) Public sector should take the lead on development. Unless the public sector takes the lead on and control of developments of private investors, it is likely that planned developments may not be realized. Tools of controlling the development include effective enforcement of ECAN zoning, provision of basic infrastructure and acquisition or consolidation of lands by the public sector1/;

  (3) Human resource development should be duly considered by Government to match the needs of tourism development. Otherwise, the proposed development may not benefit communities; and

  (4) Local government and communities should be involved in different areas of tourism development, i.e. planning, investment, and operation and management.

- Toward the implementation of the proposed development, it is recommended to consider the following:

  (1) Strengthening of PCSD which should function as a central arm of environmental management for Northern Palawan in close coordination with DENR. Priority areas for this include establishment of updated environmental data, conduct of scientific research, provision of necessary equipment and facilities for environmental planning, training of manpower, further elaboration of ECAN zoning criteria and planning procedure, etc. Enforcement function currently being undertaken by provincial/municipal governments also needs to be strengthened in terms of manpower, facilities and equipment.

(2) Formulation of regional development plan, including ECAN zoning, wherein proposed tourism development plans are effectively integrated based on which infrastructure developments may be re-prioritized; and

(3) For priority development areas, ECAN zoning should be immediately prepared and acted upon. A Tourism Project Office may be organized to coordinate different interests and concerns of relevant bodies, in particular, the consolidation of necessary lands for development.

- While the formulation of ECAN zoning and establishment of more effective environmental management system including strengthening of PCSD are the minimum preconditions to tourism development in Northern Palawan, realistic financing mechanism for non or less profitable undertaking such as environmental restoration /conservation and regional infrastructure development should be worked out. For this, the following need to be considered:

(1) A strong reason why the public sector should be involved in the development intensively is not only to fully realize sustainable development in respective area but also to ensure cross-subsidy between sectors (tourism, environment, infrastructure) and geographical areas[2/].

(2) Reliance on increased allotment of the central government may not be realistic as it involves great uncertainties, though the proposed development contributes significantly to the national economy. For local government to promote the development more independently, the creation of a new funding source such as environmental fee as well as charging system of regional infrastructure on resort investors/developers should be further considered.

(3) Once the above financing mechanism is worked out, ODA funding may be an advantageous option to finance the proposed development.

[1/] Concept of Land Readjustment may be an alternative wherein owners of lands join the project if they do not want to sell their lands. Land values are assessed before and after the project and land with the same or higher value of original land will be given back in desired locations (refer to Appendix E for more explanation of Land Readjustment).

[2/] For example, case study areas are those with the best tourism resources requiring less environmental conservation/restoration costs. Therefore these blessed areas should shoulder the costs of other handicapped areas in Northern Palawan.

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Note:

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OTC	Office of Tourism Coordination
OTDP	Office of Tourism Development and Planning
PCVC	Philippine Convention and Visitors Corporation
PPDC	Planning, Product Development Coordination
PTA	Philippine Tourism Authority
TP	Tourism Promotions
TSRO	Tourism Standards and Regional Offices

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