Part I: GUIDE TO ECOLOGICAL PROFILING

CHAPTER I: INTRODUCTION

Planning is, or aspires to be, a rational act that seeks to reduce the uncertainties of the future by relying on information, its analysis and interpretation, as the basis for policy and action. The quality of the plan, therefore, is influenced by the type and nature of information available for use by planners and decision-makers.

Generating the data that goes into the Socio-economic Profile (SEP) and/or the Ecological Profile (EP) is the first step in characterizing the planning area – whether it is a province, city, municipality, barangay or any other geographical or political territory.

What is an Ecological Profile?

An **Ecological Profile (EP)** is the more comprehensive replacement of the usual socioeconomic profile which gives equal coverage to the physical, biological, socioeconomic, cultural and built environments.;

This is the preferred form and LGUs are encouraged to shift from the SEP to the EP

What is the difference between Socio-Economic Profile (SEP) and Ecological Profile (EP)?

The **Socio – Economic Profile (SEP)** is a basic reference about all possible aspects of the locality. It is the most important information base for the comprehensive planning of a city or municipality. As an information system for planning, however, the SEP has certain built – in limitations, namely:

1. It serves as a simple snapshot of the area at a given point in time that precludes any appreciation of change, much less the magnitude of that change.

2. The geographical distribution of data attributes is not consistently shown, i.e., some data are disaggregated down to the barangay level, some are aggregated at the city, municipal, or provincial level only.

3. The SEP normally gives cursory treatment to the physical and environmental sectors, which are of particular importance to planning at the local level.

The Ecological Profile, as mentioned above, is a merger of the socioeconomic and biophysical profiles of the study area and treats these subjects on equal footing.

Why is ecological profiling important for planning purposes?

1. To help the LGU determine the:

    a. current level of services to its constituents,
    b. resources available, and
    c. environmental factors which will affect policy and to which policy is expected to bring changes

2. To identify problem situations affecting the target or specific segments of the population.

Who are responsible for ecological profiling?

By virtue of its functions under the Local Government Code, the Local Planning and Development Coordinator (LPDC) is responsible for preparing the LGU Profile and spearheading the analysis of data gathered. He/ she shall be supported by:

1. All LGU departments/ offices/ units,

2. National government agencies operating within the locality, and the

3. Sectoral or functional committees in providing data, information and statistics pertaining to their respective sectors.

The planning team, when organized, need not generate the information it requires to perform its functions. Rather, it should take off from the wealth of information maintained in the Local Planning and Development Office (LPDO) and augment these with data from the Information Office, relevant departments and offices, and national government agencies concerned.

What is the role of the province in ecological profiling of its component LGU?

The province may:

1. Provide common sources, methodology, format or templates for data gathering to facilitate comparative data analysis, interpretation & presentation;

2. Serve as the channel for cascading information and technology from the regional or national level to all levels of local government; and/or

3. Acquire modern technology, such as computer software which could be shared with component LGUs.

What is the role of national government agencies in ecological profiling?

National government agencies operating in the LGU can:

1. Provide assistance/guidance in identifying data needs, concerns and indicators, and in setting/using data gathering tools and techniques;

2. Provide tools and analytical guides and techniques for gathering and analyzing data;

3. Conduct training on the use of analytical tools, guides and techniques;

4. Copy furnish LGUs with data/ maps generated by their field offices;

5. Provide LGUs with the results of their routine as well as project monitoring and evaluation activities;

6. Provide guides/tools in developing indicators specific to various development/ sectoral issues and concerns and updating/developing Local Development Indicators (LDIs);

7. Provide guides/tools in developing indicators specific to various development/ sectoral issues and concerns;

8. Provide assistance/guidance in assessing specific sectoral performance, issue/sector specific performance;

9. Provide tools and conduct training on the review of programs and activities particularly their responsiveness to specific issues and concerns; and

10. Assist in validating results of the vision-reality gap analysis.

What are the possible/ suggested sources of data?

1. Inventories
2. Surveys
3. Census
4. Community-based Monitoring System (CBMS) – CBMS is an organized way of collecting information at the local level for use of local government units, national government agencies, non-government organizations, and civil society for planning, program implementation and monitoring. It is a tool to diagnose poverty, identify appropriate interventions to targeted beneficiaries.

   It is a good source of data because it was designed to address existing data gaps for diagnosing the extent of poverty at the local level, formulating appropriate responses to problems, identifying eligible beneficiaries for anti – poverty programs and requirements for development planning and monitoring that are disaggregated at the household level.

   While the CBMS is poverty – focused, its results can yield such other data / information that can be utilized for a variety of purposes.

   A rider questionnaire is appended to the CBMS instrument. This is intended to yield data on reproductive health and gender and development issues such as the following:

   a. Type of person (doctor, nurse, midwife, *hilot*, friend/relative, others) who assisted in the delivery during childbirth

   b. Place (home, public hospital, public health center, private hospital, private clinic, others) where pregnant women give birth

   c. Perceptions regarding HIV/AIDS

   d. Cases of domestic violence (insulting spouse/partner, slapping, beating kicking, punching spouse/partner, withholding financial support, forced sex)

5. Local Governance Performance Monitoring System (LGPMS) – LGPMS is a self-assessment management and development tool that enables local governments, i.e., provinces, cities, and municipalities – to determine their capabilities and limitations in the delivery of essential public services.

6. Plan and Post-Project Monitoring and Evaluation (M & E) Results
7. Data Generated by Other LGU Offices/Departments and National Government Agencies
8. Donor-funded Project Reports

What are the minimum contents of an Ecological Profile?

The Ecological profile should have, as its minimum contents, data on the five development sectors, namely:

a. Population and Social Services
b. Local Economy
c. Infrastructure and Physical base
d. Environmental Management and Natural Resources
e. Institutional

The detailed contents of each sectoral profile are presented in Part II of this Guide.

Shown in Annex "A" is a Sample Outline of an Ecological Profile. Table 1.1 summarizes the suggested data inputs to the profile.

Annex "A"

SAMPLE OUTLINE OF AN ECOLOGICAL PROFILE

CHAPTER I HISTORY

CHAPTER II GEO-PHYSICAL ENVIRONMENT

- 2.1 Geographical Location
- 2.2 Political Boundaries
- 2.3 Topography
  - 2.3.1 Elevation
  - 2.3.2 Slope
- 2.4 Geology
  - 2.4.1 Rock Formations
  - 2.4.2 Landforms
  - 2.4.3 Soils
  - 2.4.4 Land Capability Classes
- 2.5 Land Resources
  - 2.5.1 Land Classification
  - 2.5.2 Existing General Land use
  - 2.5.3 Urban Land Use Pattern
- 2.6 Mineral Resources
- 2.7 Coastal Resources
  - 2.7.1 Coral Reef
  - 2.7.2 Seagrass Communities
  - 2.7.3 Mangrove Forests
  - 2.7.4 Coral Lifeforms and Associated Species
  - 2.7.5 Reef Fish Communities
- 2.8 Freshwater Resources
  - 2.8.1 Surface Run-off
  - 2.8.2 Groundwater Resources
- 2.9 Climate
  - 2.9.1 Atmospheric Temperature
  - 2.9.2 Relative Humidity
  - 2.9.3 Cloudiness
  - 2.9.4 Rainfall
- 2.10 Natural Hazards/ Constraints
  - 2.10.1 Flooding
  - 2.10.2 Erosion and Siltation
  - 2.10.3 Infiltration and Soil Drainage

CHAPTER III POPULATION AND SOCIAL PROFILE

- 3.1 Social Composition and Characteristics
- 3.2 Population Size and Growth Rate
- 3.3 Growth of Barangay Population
- 3.4 Migration Patterns

3.5 Population Density
3.6 Household Distribution
3.7 Urban – Rural Distribution
3.8 Tempo of Urbanization
3.9 Age – Sex Distribution
3.10 Dependency Ratio
3.11 Present Status of Well-being
  3.11.1 Health
    a. Health Personnel and Facilities, Public and Private
    b. Ten (10) Leading Causes of Morbidity (All Ages)
    c. Ten (10) Leading Causes of Mortality (All Ages)
    d. Nutritional Status
    e. Other Health Statistical Data
      i. Total number of births
      ii. Total number of deaths
      iii. Total number of infant deaths (Under 11 months old)
      iv. Total number of maternal deaths
      v. Total number of neo-natal deaths (1 – 27 days old)
      vi. Total number of deaths (50 years old)
      vii. Total number of deaths with medical attendance
      viii. Birth rate
      ix. Death rate
      x. Infant mortality rate
      xi. Maternal mortality rate
    f. Family Planning Services

  3.11.2 Social Welfare
    a. Social welfare programs and services available
    b. Number of types of clientele
    c. Number and location of day care centers

  3.11.3 Education
    a. Educational Attainment and Literacy Rate
    b. School-age population and Participation Rate, by level (elementary, secondary, tertiary)
    c. Number and location of schools, by level, public and private
    d. Other Educational Statistics
      i. Total Enrolment (past 3 school years)
      ii. Number of teachers
      iii. Number of classrooms

  3.11.4 Housing
    a. Number of housing units, by type of building (single, duplex, etc.) and construction materials
    b. Tenure on the house and homelot
    c. Sources of drinking water
    d. Type of fuel used for lighting and cooking

e. Types of garbage disposal

3.11.5 Employment and Income
a. Employment rate, by sector
b. Number of overseas Filipino workers (OFWs)

3.11.6 Recreation and Sports Facilities
a. Type, number and location of sports and recreational facilities

3.11.7 Protective Services
a. Total number of police personnel
b. Police – population ratio
c. Types and volume of crime in the LGU
d. Fire-fighting personnel and facilities
e. Occurrence of fire and response time

CHAPTER IV LOCAL ECONOMY

4.1 The Primary Sector

4.1.1 Agricultural Crops
a. Agricultural Croplands
b. Crop Production
4.1.2 Livestock and Poultry
a. Number and volume of production by type of livestock and poultry
b. Livestock and Poultry Production – Consumption Relationship
4.1.3 Fisheries
a. Inland Fisheries
b. Municipal Fisheries
c. Commercial Fisheries
4.1.4 Food Self-sufficiency Assessment
4.1.5 Forestry
a. Forest-based production activities
b. Type and volume of production
4.1.6 Agricultural Support Facilities
a. Production Support Facilities
b. Post-harvest Facilities

4.2 The Secondary Sector
4.2.1 Manufacturing
4.2.2 Construction
4.2.3 Mining and Quarrying
4.2.4 Electricity, gas and Water

4.3 The Tertiary Sector
4.3.1 Financial Institutions
4.3.2 Wholesale and Retail Trade
4.3.3 Transportation and Communications
4.3.4 Personal Services (e.g. beauty parlors, dress and tailoring shops, piano/ photo studios, funeral parlors, etc.)

a. Community services (janitorial and security services, courier services, etc.)

CHAPTER V INFRASTRUCTURE/ UTILITIES/ FACILITIES

5.1 Inventory of Roads by classification (Barangay, City/ Municipal, Provincial and National), length and type of pavement (concrete, asphalt, gravel and earth)
5.2 Inventory of Bridges by classification (Barangay, City/ Municipal, Provincial and National), length, type of construction (RCDG, steel truss, timber, others) and condition (passable, unpassable, needs repair, etc)
5.3 Irrigation System
5.4 Flood Control and Drainage Facilities, by location, type of facility (group rip-rapping, concrete lining, etc.), length, width, thickness
5.5 Domestic Water Supply
5.6 Electric Power Supply
5.7 Transport Facilities
5.8 Communication Facilities
5.9 Waste Disposal System
5.10 Port
5.11 Municipal/ City Cemetery
5.12 Slaughterhouse
5.13 Public Market

CHAPTER VI LOCAL INSTITUTIONAL CAPABILITY

6.1 Local Government Structure
   a. The LGU's Organizational Structure
6.2 Local Fiscal Management
   a. Status of Financial Health
   b. Revenues by Source
   c. Actual Expenditures by General Account
6.3 Development Legislation
   a. Inventory of resolutions passed/ ordinances enacted, by sector, by year
6.4 LGU – CSO – Private Sector Linkages

Table 1.1
SUGGESTED DATA INPUTS TO ECOLOGICAL PROFILING AND POSSIBLE / SUGGESTED SOURCES OF DATA

DATA	POSSIBLE/SOURCES OF DATA
POPULATION AND DEMOGRAPHY	
Population Composition	
Total population, by sex and sex ratio, by barangay, urban and rural	NSO, CBMS
Population distribution, by barangay, migrant and non – migrant classification	NSO, CBMS
Average annual population growth rates	NSO, CBMS; may be computed
Total Household Population by Age Group, Sex, Urban – Rural	NSO, CBMS
Household population 10 Years Old and over by Age Group, Sex and Marital Status	NSO, CBMS
Percent of male/ female headed households by marital status	NSO, CBMS
Average household size, total municipality, by barangay	NSO, CBMS
Household Population by Mother Tongue	NSO, CBMS
Household Population by Religious Affiliation	NSO, CBMS
Household Population, 7 Years & Over by Educational Attainment	NSO, CBMS
Percent of elementary, secondary, college and higher education graduates by sex	NSO; To be computed
Literacy of the Household Population 10 Years Old and Over by Age Group, Sex	NSO
Household Population 15 Years Old and Over by Sex and Employment Status	NSO
Employed Persons, by Sex, by Occupation Group	NSO
Percentage of women in managerial/ supervisory and technical positions	NSO
Gainful Workers 15 Years by Occupation Group and Industry Group	NSO
Unemployed Person 15 years Old and over by Age Group, Sex and Highest Educational Attainment	NSO
Number of employed persons by age, sex, spatial distribution and occupation	NSO
Unemployment rate	NSO
Informal employment rate	NSO
Number of households with income below the poverty threshold (municipal and provincial average)	NSO
Number of household below the food threshold (municipal and provincial average)	NSO
Number of households who experienced food shortage (municipal and provincial average)	NSO
Dependency ratio (total, young, adult, economic dependency ratio)	NSO
Literacy of household population 10 years old and over	NSO
Poverty incidence	NSO
Proportion of households with income less than the poverty threshold	NSO
Proportion of households with income less than the food threshold.	NSO
Proportion of households who eat less than three full meals a day	NSO
Proportion of persons aged 15 years old and above who are not working but are actively seeking work	NSO
Number of households by income bracket	NSO
Labor force participation rate or activity rate by age, sex, type of occupation and geographic location	NSO
Number of households by income bracket and sex of household ahead	NSO
Average family income by sex of household head	
Number of Overseas Filipino Workers by sex, age group, place of work and major occupational group	NSO; DOLE; OWWA
Share Employment, underemployment, unemployment rates, of women to total employment by major occupation group and class	NSO

DATA	POSSIBLE/SOURCES OF DATA
Population Distribution	
Number of Households by Sex of Household Head and Average Household Size by Barangay	NSO
Population Density by Barangay, Urban and Rural	NSO; may be computed
Gross Population Density	NSO; may be computed
Net Population Density	NSO; may be computed
Level or urbanization	To be computed
Tempo of urbanization	To be computed
Sex–specific in – and out – migration rates	NSO
Population Change	
Total Population per Census Year from 1903 to latest census year	NSO
Historical Growth Rate of Population (1903 to latest census year)	NSO
Projected Annual Population for the next years spanning the planning horizon of the Plan, By Barangay	To be computed
Migration pattern	NSO
Migration rate	To be computed
SOCIAL SECTOR:	
Health and Nutrition	
Nutritional status by sex and age group	DOH, PHO, C/MHO
Nutritional status of pregnant women (incidence of malnutrition)	DOH, C/MHO
Proportion of children 0 – 5 years old who are moderately and severely underweight (below normal – low and below normal very – low)	Local Nutrition Office, Local Social Welfare and Development Office, C/MHO, CBMS
Magnitude and proportion of malnourished children 0 – 5 years old vs. total children 0 – 5 years, by sex, by barangay, municipal and provincial average	Local Nutrition Office, Local Social Welfare and Development Office, C/MHO, CBMS
Total number of child births (less than 1 year old)	CBMS
Percent of population with iron, iodine and vitamin A deficiencies by sex and age group	Local Nutrition Office, Local Social Welfare and Development Office, C/MHO, CBMS
Number of malnourished children by sex, degree of malnutrition, by barangay	Local Nutrition Office, Local Social Welfare and Development Office, C/MHO, CBMS
Traditional beliefs and practices of the people pertinent to health	Focus Group Discussions, Key Informants Interview, C/MHO
Percent of infants with low birth weight by sex	C/MHO
Sex – specific mortality rate by age group and leading causes	C/MHO
Sex – specific morbidity rate by age group and leading causes	C/MHO
Sex – specific crude birth rate	C/MHO
Sex – specific crude death rate	C/MHO
Contraceptive prevalence rate by type of contraceptive method used	C/MHO
Incidence of teenage pregnancy	C/MHO
Percentage of births attended by health personnel by type of personnel	C/MHO
Livebirths by sex, by barangay	C/MHO
Life expectancy by sex	C/MHO
Number of persons who died, by sex, by cause of death	CBMS
Magnitude and proportion of children 0 – 5 years old who died vs. total number of children 0 – 5 years, by sex, by barangay, by municipal and provincial average	C/MHO; CBMS
Magnitude and proportion of women who died due to pregnancy related causes vs. total pregnant women, by barangay, by municipal and provincial average	C/MHO; CBMS
Proportion of children under five years of age who died due to illness	C/MHO; CBMS
Number of deaths, by sex, all causes, in a calendar year	C/MHO; CBMS
Number of deaths, less than 1 year of age in a calendar year; number of livebirths in the same year	C/MHO; CBMS
Ten leading causes of mortality and morbidity (as reflected by the recorded consultations and hospitalization) over the past three (3) years	C/MHO; CBMS

DATA	POSSIBLE/SOURCES OF DATA
Morbidity	
Proportion of persons afflicted with HIV/AIDS, malaria and other diseases	C/MHO; CBMS
Ten leading causes of morbidity (as reflected by the recorded consultations and hospitalization) over the past three (3) years	C/MHO; CBMS
Epidemic occurrence during the last three (3) years	C/MHO
Sex – specific morbidity rate by age group and leading causes	C/MHO; CBMS
Number and proportion of couples that practice family planning methods, by type of family planning methods	C/MHO; CBMS
Number and proportion of households with access to: • Supplemental Feeding Health assistance program including Philhealth	C/MHO; CBMS
Number of persons per health personnel	C/MHO
Number of health personnel by sex	C/MHO
Doctor – population ratio	C/MHO; may be computed
Health programs (national government, local government, non-government / people's organizations), by type, frequency of service, beneficiaries	C/MHO; CBMS
Magnitude and proportion of households without access to safe drinking water vs. total number of households	C/MHO; CBMS
Number of households without access to safe water (municipal and provincial average)	C/MHO; CBMS
Magnitude and proportion of households vs. total number of households, by source of drinking water	C/MHO; CBMS
Magnitude and proportion of households with access to sanitary toilet facility vs. total number of households, by barangay	C/MHO; CBMS
Magnitude and proportion of households, by type of toilet facility vs. total number of households	C/MHO; CBMS
Number and proportion of households that access health facilities, by type of health facilities	C/MHO; CBMS
Number of persons per hospital bed	C/MHO
Number of health facilities, urban – rural	C/MHO; DOH
Hospital bed – population ratio	C/MHO; DOH
Health facilities – population ratio, by type	C/MHO; DOH
Number and location of medical/health facilities, by type, areas served, personnel composition and services offered.	C/MHO; DOH
Education	
Current and past three (3) years enrolment per school, public and private, by level, by sex	DepEd
Magnitude and proportion of children 6 – 12 years old not attending elementary school, by sex, by barangay vs. total number of children 6 – 12 years old, by sex, by barangay	CBMS
Number of children 6 – 12 years old not attending elementary school (municipal and provincial average)	CBMS
Number of children 13 – 16 years old not attending high school, (municipal and provincial average)	CBMS
Magnitude and proportion of children 13 – 16 years old, by sex, by barangay who are not attending high school vs. total number of children 13 – 16 who are not attending high school, by sex, by barangay	CBMS
Number of households with access to Education /scholarship program	CBMS
School enrolment by place of residence of pupils	DepEd District Office
Name of Educational institutions, by Level, Location, Public/Private	DepEd District Office
Name of Schools and Location	DepEd District Office
Type of construction materials / existing condition of school facilities	DepEd District Office
Drop-out rate, by sex	DepEd District Office

DATA	POSSIBLE/SOURCES OF DATA
Total number of teachers employed by sex, per school, per level, public and private	DepEd District Office
Inventory of non-formal programs for manpower training	DepEd District Office; TESDA; DOLE; DTI
Proportion of children 13 – 16 years old, male/female who are not in high school vs. total number of children 13 – 16 years old	CBMS
Proportion of children 13 – 16 years old, male/female who are not in high school vs. total number of children 13 – 16 years old	CBMS
School – age population, age – sex composition by geographic area	NSO; DepEd District Office
DATA	**POSSIBLE/SOURCES OF DATA**
School – age participation rates by sex	DepEd District Office
Enrolment rates, drop – out rates by sex	DepEd District Office
Elementary and secondary completion rates by sex	DepEd District Office
Simple and functional literacy rates by sex	DepEd District Office; NSO
Number of schools by level (elementary, high school, etc.), type (public or private), location	DepEd District Office
Classroom – pupil ratio	DepEd District Office; may be computed
Teacher – pupil ratio	DepEd District Office; may be computed
Elementary and secondary cohort survival rates	DepEd District Office
Social Welfare And Development	
Number of differently–abled persons by sex and type of disability	C/MSDWO
Percentage distribution of social welfare development clientele served by type and sex	C/MSDWO
Existing social welfare organizations/ instrumentalities (public and private) by: a. Location b. Manpower complement c. Services offered, e.g., family life education and counselling, day care services, senior citizen services, supplemental feeding, relief/rehabilitation, etc., including clientele served)	C/MSDWO
DSWD Clientele System	
Number of families in especially difficult circumstances, e.g., a. Those unable to meet basic minimum needs/ belonging below the poverty threshold b. Solo-parent – headed families c. Those at risk as manifested by threats to family dissolution due to infidelity of spouse, working wife, OFW spouse, violence in the family, etc. d. Those experiencing crisis such as death, chronic illness, role reversal, etc. e. Those unprepared and unable to fulfil their responsibilities to their members per Family Code and PD 603; Those who are displaced due to man-made and natural disasters	C/MSDWO
Location of Communities: a. Where 50% or more of their population are unable to meet their basic needs b. At risk and lacking preparedness for disaster c. With unresolved survival, security and enabling needs (without potable water, without sanitary toilets, without day care centers, without schools, etc.) d. Of disadvantaged social, ethnic or religious groups e. Prone to conflicts between government armed forces and organized armed groups f. Classified as urban poor or informal settlements	C/MSDWO

DATA	POSSIBLE/SOURCES OF DATA
Number and location of women who are: a. Victims of physical abuse/battering b. Functionally illiterate, lack skills in personal care, livelihood, etc.	C/MSDWO
No. of delinquent/ law offenders	C/MSDWO; PNP
Number of persons with disabilities, by type of disability, by sex, by barangay	C/MSDWO
Number of elderly, by sex, by barangay	C/MSDWO; Local Office of Senior Citizens Affairs
Indigenous peoples in especially difficult circumstances	C/MSDWO; NCIP
Public Order And Safety	
Crime rates by type and sex and age group of victim	PNP
Percentage of abusers of minors by sex of abuser	PNP; C/MSWDO
Population – firefighter ratio	BFP
Incidence of human rights violations	CHR, PNP, C/MSWDO
Length of period of military operation	AFP
Percentage of poor people having access to social protection and safety nets	C/MSWDO
Vulnerable groups and degree of vulnerability	C/MSDWO
Housing	
Number of households living in makeshift housing (municipal and provincial average)	CBMS; NSO
Magnitude and proportion of households who are informal settlers vs. total number of households, by barangay	CBMS; NSO
By type of building, tenure status of housing unit	NSO
By tenure status of lot	NSO
Percentage distribution of owner-households in occupied housing units, by mode of acquisition	NSO
Percentage distribution of owner-households in occupied housing units, by reported sources of financing	NSO
Number of households who are informal settlers (municipal and provincial average)	NSO
Number of households with access to Housing program	CBMS
Number of households with electrical connections	CBMS; MERALCO; Local Electric Cooperative
Average monthly electrical consumption	CBMS; MERALCO; Local Electric Cooperative
Types of materials used for walls and roofs dwelling units	CBMS; NSO
Number of Housing Units, occupied and vacant	NSO
Number of Housing Units, by type of building (single, duplex and shanties)	NSO
Number of Housing Units, by type of construction materials of outer walls and roofs)	NSO
Number of Housing Units, by state of repair and year built	NSO
Number of Housing Units, by floor area and number of occupants per housing unit	NSO
Percentage distribution of renter households in Occupied Housing Units by Monthly rental	NSO
Inventory of subdivisions, by type (open market, economic, socialized)	HLURB
Average cost of housing (house and lot, if available)	HLURB
Number of housing units in danger zones	LPDO
Number of housing units affected by infrastructure projects	LPDO; DPWH
Number of housing units subject of court order for eviction	Courts
Percent distribution of households by type of housing unit occupied and sex of household head	NSO
Percent distribution of households by main source of water supply and sex of household head	NSO; Local Water District/Concessionaire

DATA	POSSIBLE/SOURCES OF DATA
Percent distribution of households by type of toilet facilities used and sex of household head	LPDO; C/MHO
Percent distribution of households by type of garbage disposal and sex of household head	LPDO
Characteristics of existing housing units by sex of household head (construction materials used; house and lot tenure)	NSO
Number of households without own housing units by sex of household head	NSO
Public Order And Safety	
Magnitude and proportion of households with victims of crime, by sex, by barangay vs. total number of persons, by sex, by barangay	CBMS; PNP
Number of persons victimized by crime (municipal and provincial average)	PNP; CBMS
Number of persons victimized by crime by type of crime, by sex	CBMS; PNP
Incidences of various crimes	PNP
Ratio of fire services per person	BFP
Proportion of household members victimized by crime	PNP
Total number of policemen/firemen, barangay brigades	PNP; BFP; Barangay Affairs Office
Existing number of police and fire facilities, e.g., fire trucks, police patrol car, communications equipment, etc.	PNP; BFP
Number and location of existing policy headquarters/fire departments, prison camp, etc.	PNP; BFP
Number and location of existing security and detective agencies	PNP
Total number of private security agencies/force	PNP
Crime rate / fire incidence for the past three (3) years	PNP; BFP
Number of criminal complaints filed, investigated and resolved	PNP
Other facilities for emergency, warning and rehabilitation purposes	PNP
Sports and Recreation	
Number, type, area and location of existing sports and recreation facilities a. Active recreation areas (areas for hiking, tennis, basketball, swimming, fencing, golf, horseback riding, jogging, etc.) b. City/municipal parks c. Coliseum/ sports center/ sports complex/ sports field d. Gymnasium/ stadium e. Neighbourhood park/ playground/play lots	LGU; LPDO
8. Passive recreation areas (areas for strolling, picnicking, playing chess, movies, etc.)	LGU; LPDO
9. Listing of existing and potential open space for sports and recreation	LGU; LPDO
ECONOMIC SECTOR	
Number and proportion of households with access to programs • Comprehensive Land Reform Program • Skills or livelihood training program • Credit program	DAR; CBMS; C/MSWDO; TESDA; DTI
Number of persons employed by sector (primary, secondary, tertiary)Sources of income	CBMS
Net household income from various sources	CBMS
Financial sector involvement in insurance and other risk spreading instruments	LGU
Prices of food products	DTI
Volume of agricultural products by type of product	DA; C/MAO
Volume and value of food imports	DTI; DA; C/MAO
Average household expenditure on food	NSO

DATA	POSSIBLE/SOURCES OF DATA
Crop production	
a. Agricultural area devoted to crop production	DA; C/MAO
b. Area, location and production, by major crops	DA; C/MAO
c. Key grain areas and key commercial areas	DA; C/MAO
d. Agricultural support facilities	DA; C/MAO
Livestock and Poultry	
a. Key Livestock Development Areas	DA; C/MAO
1. Inventory of Livestock and Poultry Farms	DA; C/MAO
2. Volume and Value of Production	DA; C/MAO
3. Pasture Lands	DA; C/MAO
Fisheries	
a. Area and Location of Key Fisheries Development Areas	DA; BFAR; C/MAO
b. Area, Location and Production of Fishing Grounds/ Fishponds	DA; BFAR; C/MAO
c. Fishery Resources and Facilities	DA; BFAR; C/MAO
d. Other Fishing Activities	DA; BFAR; C/MAO
e. Fisheries Technology	DA; BFAR; C/MAO
Agrarian Reform Communities	
a. Location	DAR
INFRASTRUCTURE SECTOR	
Mobility and Circulation Network	
Inventory of roads and streets, by system classification and road surface	DPWH; Local Engineering Office
Inventor of ancillary road facilities	DPWH; Local Engineering Office
Inventory of bridges, by type of construction material and general condition	DPWH; Local Engineering Office
Existing modes of transportation and transportation facilities	PPA; DPWH; ATO; Local Engineering Office
a. Airports by classification and location	DOTC
b. Ports by classification and location	DOTC, PPA, LGU
c. Land transportation terminal and parking facilities, by barangay	LGU
Communications	
Inventory of communication facilities	DOTC
Number, Location, Service Area of Telecommunication Facilities and Services	DOTC, other service providers
Water	
Location of water sources	LGU, NWRB,
Number of Connections and Average Water Consumption, by Type of Consumer: Waterworks System	
Location of Level II Water System, Barangays and No. of Household Served	
Types of Level I Water System, by barangay	
Other sources of water	
Power	
Sources of water supply	Local water district; other water service providers
Inventory of power utilities	LGU
Number of Connections and Average Power Consumption, by Type of Users	Local electric cooperative; MERALCO; other energy/power service providers
Non-conventional sources of water supply	DOE; LGU
Flood control and drainage facilities	NIA
Social Support	
Average distance of health facilities to population centers	C/MHO
Municipal / private cemeteries and memorial parks	LGU
Economic Support	
Irrigation system	NIA
Public markets	LGU
Slaughterhouse	LGU
Post-harvest facilities, by type, by barangay	DA; LGU

DATA	POSSIBLE/SOURCES OF DATA
Availability and accessibility of tourism facilities	
Institutional Support	
City/municipal and barangay halls	LGU
Facilities for justice administration	LGU, DOJ
Facilities for public safety and protection (e.g., police and fire stations and sub-stations)	LGU, PNP, BFP
PHYSICAL AND SPATIAL BASE	
Geophysical	
Flood-prone areas	PAGASA,NAMRIA
Areas with Erosion Potential	MGB
Land Use	
Existing General Land use	LGU
Existing Urban Land Use	LGU
Network of Protected Agricultural Areas (NPAAs) and Network of Agricultural Areas for Development (NAADs)	DA
CARPable Areas/Lands	DAR
Agricultural Lands Converted to Other Urban Uses	
a. Location	HLURB; DAR
b. Area	DAR
c. Actual No. of Farmer-Beneficiaries	DAR
Reclassified Lands	
d. Lands that can no longer be subject to reclassification	DAR
ENVIRONMENTAL MANAGEMENT SECTOR	
Solid waste disposal system, by type (municipal/city garbage collection, composting, burning, waste segregation, etc.)	CBMS; LGU
Frequency of garbage collection	CBMS; LGU
Hazards or threats which may damage the locality or community	MGB; PHIVOLCS; PAGASA
Disaster history , including causes of disaster incidents, areas affected by various disasters in the past	DPWH; Local Engineering Office; NDCC
Forces that can damage the locality, e.g. wind for typhoon and tornado; water (heavy rain, flood, river overflow, giant waves,), land (slide erosion, mudflow, lahar), seismic (ground shaking, ground rupture, liquefaction, tsunami, industrial / technological (pollution, radioactive leaks)	MGB; PHIVOLCS; PAGASA; LGU
Rapidity of arrival of hazard and its impact (e.g., very slow: 3 – 4 months in the case of drought; 3 – 4 days in the case of cyclone; very rapid for earthquake)	MGB; PHIVOLCS; PAGASA; LGU
Frequency of the occurrence of the hazard – seasonally, yearly, once in 10 years, once in a lifetime	MGB; PHIVOLCS; PAGASA; NDCC; LGU
Particular time of the year when hazards occur – wet or dry season?	MGB; PHIVOLCS; PAGASA; NDCC; LGU
Length of time the hazard is felt (e.g., days, weeks, months that an area is flooded etc.)	MGB; PHIVOLCS; PAGASA; NDCC
Location of hazard prone urban areas,	MGB; PHIVOLCS; PAGASA; NDCC; LGU
Percentage of forest cover vs Total Land Area of the city/municipality	DENR-FMB
Rate of deforestation / reforestation	DENR-FMB
Consumption patterns of population (e.g., high us of disposable products like Styrofoam, plastics, disposable diapers, etc. that are usually thrown in the environment)	LGU
Availability of technology that are environment - friendly	LGU; DTI
Solid & Industrial Waste Disposal a. Existing garbage disposal practices b. Garbage disposal system (management personnel, number and capacity and general condition of garbage trucks, frequency of garbage collection)	LGU; DENR
INSTITUTIONAL SECTOR	
Number and proportion of persons with membership in community organization, by type of community organization	CBMS; LGU
Number and proportion of registered voters vs. total population	CBMS; COMELEC; LGU

DATA	POSSIBLE/SOURCES OF DATA
Number and proportion of registered voters who voted in the last elections vs. total number of registered voters	CBMS; COMELEC; LGU
Precinct – level voting – age population	COMELEC
Registered voters by barangay (not only by precinct)	COMELEC
Taxable and tax-exempt property	Assessor's Office; Treasurer's Office
Area coverage of specific land uses and their boundaries	LPDO
Ownership of properties	Assessor's Office; Treasurer's Office
Assessed and fair market values of specific parcels	Assessor's Office
Percentage of women in managerial/ supervisory and technical positions in the local government bureaucracy	LGU
Public policies affecting education	LGU; DepEd
Prices of land/ real estate in a given area	LGU; Assessor's Office; Real Estate Companies/Brokers
Level of government investments in the area like infrastructure (e.g., roads, bridges, government facilities, water supply, etc.)	LGU
Leadership / membership in labor unions, cooperatives and peasant organizations by sex	LGU; CDA
Percentage distribution of local government expenditures by specific activities	LGU
Barangay and municipal/city level data • Income, receipts and revenues Running summaries of collection and disbursement records	LGU; Barangay Affairs Office
Financial Statements	Treasurer's Office
Information on barangay political activities	Barangay Affairs Office
Current measures being undertaken, if any, for various hazards	LDCC; NDCC; C/MSWDO
Structure of governance	LGU; LPDO; Local Administrator's Office
Legislations dealing with disaster management and risk reduction	Local Sanggunian
Proportion of local government budget allocated for disaster management and risk reduction activities	Treasurer's Office
Administrative structure and arrangements for disaster management	LDCC; Local Administrator's Office
Risk reduction strategies, if any, for hazard prone areas	LDCC; C/MSWDO
Community organizations: formal and informal; traditional, governmental, non – governmental	LGU

SOME SUGGESTED MAPS

MAPS	POSSIBLE/SOURCES OF DATA
GEO-PHYSICAL CHARACTERISTICS	
Geographical Location	NAMRIA
Political Boundaries	LGU
Topographic Map	NAMRIA
Elevation	NAMRIA
Slope	NAMRIA
Soils	BSWM
Land Capability Classes	BSWM
Land Classification	BSWM
Land Suitability	BSWM
Soil Suitability	BSWM
Geological Map	DENR-MGB
LAND USE	
Forest/Timberlands	DENR-FMB
Mineral Lands	DENR-MGB
National Parks	DENR-PAWB
Existing General Land Use	LGU
Existing Urban Land use	LGU
POPULATION AND DEMOGRAPHIC PROFILE	
Population Distribution by Mother Tongue, Ethnicity, Religious Affiliation	LGU

MAPS	POSSIBLE/SOURCES OF DATA
Population Density	LGU
SOCIAL SECTOR	
Location of social service facilities (schools, health facilities, senior citizens center, parks and playgrounds, sports and recreation, etc.)	LGU
Location of police and fire stations and sub-stations, jail facilities, etc.	LGU
Location of Subdivisions by Type,	LGU
Informal Settlement Areas	LGU
Resettlement Sites	LGU
Potential Lands for Housing	LGU
ECONOMIC SECTOR	
Network of Protected Agricultural Areas (NPAAs) and Network of Agricultural Areas for Development (NAADs)	DA
Location of Key Livestock Development Areas and Poultry Farms	DA
Agricultural Lands by Major Crops	DA
Key Production Areas	DA
Location of Fisheries Zone	DA
Protected Areas for Agriculture	DA
Lands Covered by CARP	DAR
Lands Distributed to CARP Beneficiaries	DAR
Agrarian Reform Communities	DAR
Irrigated Area	NIA
Forest/Timberlands	DENR-FMB
ENVIRONMENTAL MANAGEMENT	
Mangrove Forests	DENR-PAWB; DA
Hazard Maps (Seismic, Erosion Potential, Flood-prone, etc.)	DENR-MGB; PHIVOLCS
Protection Forests	DENR-FMB
Garbage disposal sites	LGU
INFRASTRUCTURE	
Roads and Bridges, by Administrative Classification	DPWH, LGU
Ports and Airports	DOTC
Energized Areas	LGU; Local Power Service provider
Areas covered by various levels of water supply	LGU; Local Water supply service provider
INSTITUTIONAL	
Location of Government offices	LGU
Location of Election Precincts	Local COMELEC
Zoning	Zoning Office; LPDO; Local Engineering Office
Cadastral	Local Assessor's Office

CHAPTER II: SUGGESTED CONTENTS OF AN ECOLOGICAL PROFILE

A. HISTORY OF THE CITY/MUNICIPALITY

B. GEO-PHYSICAL ENVIRONMENT

1. **Geographical Location** – This is determined by indicating the north, east, west and south boundaries of the planning area, as well as the latitudinal and longitudinal coordinates.

2. **Topography** – This involves identifying the types of reliefs present, i.e. mountains, hilltops, plains, depressions; location of each type (barangays covered); and scope in terms of land area.

   2.1 Elevation - can be derived from the topographic map. Unless more refined elevation categories are desired, only those elevation ranges necessary to understanding the differences in ecological characteristics may be delineated such as the following:

   - Below 500 m - Warm lowland
   - 500 m – 1,000 m - Warm – cool upland
   - Above 1,000 m - Cool highland

   2.2 Slope - degree of inclination of a given area. It can be derived from the topographic map and should conform with the standard slope ranges prescribed by the National Land Use Committee as follows:

   - 0 – 3% - Flat or level land
   - 3% - 8% - Level to undulating
   - 8% – 18% - Undulating to rolling
   - 18% - 30% - Rolling to moderately steep hills
   - 30% - 50% - Moderately to steeply mountainous
   - Above 50% - Very steeply mountainous

3. **Geology**

   3.1 Rock Formations

   3.2 Landforms

   3.3 *Soils* - Different soil classification units found in a given area. These are grouped on the basis of their external and internal characteristics which include the soil series, soil type and soil phase.[1]

   3.4 *Land Capability Classes* – areas for cultivation according to soil conservation management requirements.

   3.5 *Land Suitability* - land categories (usually in five classes) based on the degree to which the characteristics of the land can satisfy the environmental requirements of specific crops, without deterioration.[2]

[1] *HLURB Guidelines for the Formulation/Revision of a CLUP: Mapping, Vol. VII*
[2] *Ibid*

3.6 *Soil Suitability* - data on the degree of soil suitability for urban development.[3]

4. Land Resources

4.1 Agricultural – lands devoted to or suitable for the cultivation of the soil, planting of crops, growing of trees, raising of livestock, poultry, fish or aquaculture production, including the harvesting of such farm products, and other farm activities, and practices performed in conjunction with such farming operations by persons, whether natural or juridical, and not classified by law as mineral land, forest land, residential land, commercial land, or industrial land. (RA 8435)

Table 2.1: Categories of Agricultural Lands, Year ___

CATEGORIES OF AGRICULTURAL LANDS	LOCATION	TOTAL AREA (IN HAS.)
1. Protected Agricultural Lands		
a. Highly restricted		
b. Moderately restricted		
c. Conditionally restricted		
2. Lands Approved for Conversion		
3. CARPable Lands		
4. Reclassified Lands		
5. Lands that cannot be subject to Reclassification		
a. Lands distributed to agrarian reform beneficiaries		
b. Lands with Notice of Acquisition already issued		
c. Lands voluntarily offered for coverage under the Comprehensive Agrarian Reform Act		
6. Agrarian Reform Communities		

4.1.1 Protected Agricultural Lands

a. Highly restricted – These are the most efficient agricultural lands. They include the irrigated, paddy or terrace ricelands, the rainfed paddy ricelands, efficient diversified cropland and presently agro-industrial lands located on the level to nearly alluvial plain. They are the traditional courses of food and cash crops.

b. Moderately restricted – These are moderately efficient lands within 8 – 18% slope, presently planted to agricultural crops but need high farm management and input levels.

c. Conditionally restricted – These are lands considered less suitable for agricultural use and more suitable for agro-forestry. For agricultural use, they require high level of farm management for sustainable production.

d. Irrigated Area - total area within the service area of an irrigation system served in a particular year. This refers to the area served during the wet season plus any submerged during the wet season that is served in the dry season. *(Bureau of Agricultural Statistics)*

[3] *Ibid*

e. Irrigable Area - gross area for irrigation less unsuitable portion for irrigation purposes. *(Bureau of Agricultural Statistics)*

f. Irrigable Service Area - area of an irrigation system that is presently provided with irrigation and drainage facilities and where irrigation and drainage services can be rendered. *(Bureau of Agricultural Statistics)*

g. Potential Irrigable Service Area - the maximum area which an irrigation project can serve considering the extent of arable lands and the available water supply. *(Bureau of Agricultural Statistics)*

4.1.2 Forest or Timber - Forest Land – includes the public forest, the permanent forest or forest reserves, and forest reservations. *(Forest Management Bureau)*

a. Public Forest or Forest Reserves - lands of the public domain which have been the subject of the present system of classification and declared as needed for forest purposes.

b. Production or Commercial Forests - forest of commercial tree species in which the volume of trees with 15 cm. and over in diameter at breast height and merchantable height of at least 5 meters measured from the base up to the first branch, is 40 cubic meters or more per hectare.

4.1.3 Mineral Lands – lands where minerals exist in sufficient quantity to justify the necessary investments in extracting and utilizing such materials.[4]

4.1.4 National Parks – refer to a forest reservation essentially of primitive or wilderness character which has been withdrawn from settlement or occupancy and set aside as such exclusively to preserve the scenery, the natural and historic objects and the wild animals or plants therein, and to provide enjoyment of these features in such a manner as will leave them unimpaired for future generations. *(Protected Areas and Wildlife Bureau)*

Table 2.2: Land Classification, by Area and Location, Year ____

LAND CLASSIFICATION	LOCATION	AREA (In Has.)
Agricultural Lands		
Forest Lands		
Mineral Lands		
National Parks		
Total		

Source: _____

4.1.2 Ancestral Domain – If present, map areas in the city/ municipalities that are covered by CADT or CADC.

[4] *NPFP, 1993-2002, NEDA, 1992*

Table 2.3: Area and Location of Forestlands by Sub-category and Primary Use, Year ___

Category	Location	Area (In Has.)	% vs. Total
1. Production Forests			
a. Timber production (Natural)			
b. Timber production (plantations)			
c. Agro-forests			
d. Pasture/grazing lands			
e. Mineral areas			
f. Watershed Areas			
i. Community-based Forest Management Areas			
g. Other uses (e.g., tourism, fish farms/ponds, etc.			
Sub-total			
2. Protection Forests			
a. NIPAS Areas			
b. Non-NIPAS Areas			
Sub-total			
GRAND TOTAL			

Source: _____

5. *Land Use*

5.1 Existing General Land Use – present distribution of land uses covering the entire LGU

Table 2.4: Land Use Categories

LAND USE CATEGORY	AREA (in hectares)	% Share to Total Area
Built-Up Area		
Agriculture		
Forest		
Mineral		
National Parks		
Total		

5.2 Urban Land Use – This refers to land uses for residential, commercial, industrial, infrastructure, institutional, parks and playgrounds and other activities and uses, such as dumpsites, cemeteries, buffer zones or greenbelts, etc..

Table 2.5: Inventory of Commercial Areas, Year ___

Type of Commercial Areas	Location	Area (In square meters	Service Area	
			Local	Provincial/ Regional
1. Central Business District				
2. Public Market				
3. Commercial strips/ talipapa (wet/dry neighborhood commercial center				
4. Commercial complex (range of dry goods store, boutique shops, recreation/ entertainment establishments				
5. Malls				
6. Others				

Source: _____

Table 2.6: Historical Data on Commercial Areas, Year ___ to Year ___

Barangay	Commercial Areas (In Hectares)				
	Year 1	Year 2	% Increase/ Decrease	Year 3	% Increase/ Decrease
1.					
2.					
3.					
4.					
5.					
n...					

Source: _____

Table 2.7: Historical Data on Industrial Areas, Year ___ to Year ___

Barangay	Industrial Areas (In Hectares)				
	Year 1	Year 2	% Increase/ Decrease	Year 3	% Increase/ Decrease
1.					
2.					
3.					
4.					
5.					
n...					

6. Mineral Resources – minerals/ rocks with potential economic value. (RA 7076)

7. Coastal Resources

   7.1 Coral Reef – marine shelves or platforms formed by the consolidation of the skeleton of hermatypic corals through cementation by coralline algae and lithification processes.[5]

   7.2 Seagrass Communities – intertidal zones, usually sandy-muddy, where vegetation is dominated by flowering grasses; transition zones between coral reefs and mangroves.[6]

   7.3 Mangrove Areas – tidal areas covered by salt-tolerant, intertidal species; areas declared as mangrove swamp forest reserves by Proclamation No. 2152 and mangrove forests declared as wilderness areas by Procalmation No. 2151.[7]

   7.4 Coral Lifeforms and Associated Species

   7.5 Reef Fish Communities

8. Freshwater Resources

   8.1 Surface Run-off

[5] *National Physical Framework Plan, 1993-2002. NEDA, 1992*
[6] *Guidebook on Sustainable Land Use Planning and Management, DENR, 1997*
[7] *DENR Administrative Order 96-97, 1997*

8.2 Groundwater Resources – all the water in the zone of saturation below the water table whatever be the geologic nature on which it is standing or through which it is moving.[8]

9. Climate – average weather conditions in an area.

9.1 Atmospheric Temperature - the degree of warmth or coldness in the atmosphere.

9.2 *Relative Humidity* – ratio of the amount of water vapour actually in the air to the maximum amount the air can hold at that temperature.[9]

9.3 Cloudiness

9.4 Rainfall – amount of precipitation (rain, hail, etc.) expressed in millimetres depth, of the layer of water which has fallen.[10]

C. POPULATION AND SOCIAL SECTOR PROFILE

1. Social Composition and Characteristics

1.1 *Household and Family* – The NSO differentiates a "household" from a family by the following definitions:

1.1.1 Family – consists of a group of persons living in the same household related by blood, marriage or adoption. The different types of families are as follows:

a. Nuclear family, with the following variations:
   i. Father, mother or one spouse only
   ii. Father and mother
   iii. Father, mother and unmarried children
   iv. One spouse and unmarried children

b. Extended family, i.e. in addition to nuclear family
   i. Horizontal (same generation, e.g., cousin, brother)
   ii. Vertical , e.g., father or mother of either spouse
   iii. Horizontal – vertical, e.g., father and brother of either spouse

1.1.2 Household – consists of a person living alone or a group of persons who sleep in the same housing unit and have a common arrangement for the preparation and consumption of food. The different types of households are as follows:

a. One-person household
b. Nuclear family household
c. Horizontally extended family household
d. Vertically extended family household
e. Horizontally and vertically extended household
f. Household of related persons
g. Household of unrelated persons

[8] *Glossary of Irrigation Terms for Use in the Philippines, UPLB, 19?*
[9] *Philippine Statistical Yearbook. NSCB, 1996, 1997, 1998, 1999*
[10] *Ibid*

1.2 Age – Sex Distribution

Table 2.8
Total Population, By Sex: Philippines, Region, Province, City/Municipality
(1990 – 2007)

AREA	TOTAL POPULATION, BY YEAR											
	1990			1995			2000			2007		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total
REGION												
PROVINCE												
CITY/MUNICIPALITY												
Barangay 1												
Barangay 2												
Barangay 3												
Barangay 4												
Barangay n...												

Source: _____

1.3 Sex Ratio - the ratio between males and females in a population expressed in number of males per 100 females.

1.4 Age Dependency Ratio - the percentage of persons in the ages defined as dependent (under 15 and over 65 years old) to those in the ages defined as economically productive (15 to under 65 years) in the population.[11]

1.5 School-Age Population - the population between the ages of seven and twenty-four, inclusive, irrespective of the existing requirements of compulsory education or the period of education provided for in various types of schools.

1.6 Household Population, 7 Years Old and Over, by Educational Attainment

1.7 Labor Force – the population 15 years old and over who contribute to the production of goods and services in the country.

1.7.1 Employed - persons aged 15 years old and over who are reported:

a. At Work even for an hour during the reference period.

b. With a Job/Business Even Though Not At Work during the reference period because of temporary illness/injury, vacation or other leave of absence, bad weather or strike/labor dispute or other reasons. Likewise, persons who are expected to report for work or to start operation of a farm or business enterprise within two weeks from the date of the enumerator's visit, are considered employed

c. Underemployed – all employed persons who express the desire to have additional hours of work in their present job or an additional job, or to have a new job with longer working hours. *(National Statistics Office)*

[11] *NSCB*

d. Invisibly Underemployed - employed persons, male and female who already worked 40 hours during the reference week but who still want additional hours of work.

e. Visibly Underemployed - employed persons who worked less than 40 hours during the reference week and wanted additional hours of work.

1.7.2 Unemployed - persons 15 years old and over, male and female as of their last birthday and are reported as:

a. without work, i.e., had no job or business during the basic survey reference period; and

b. currently available for work, i.e., were available and willing to take up work in paid employment or self-employment during the basic survey reference period, and/or would be available and willing to take up work in paid employment or self-employment within two weeks after the interview date; and

c. seeking work, i.e., had taken specific steps to look for a job or establish business during the basic survey reference period; OR not seeking work due to the following reasons: (a) tired/believe no work available, i.e., the discouraged workers who looked for work within the last six months prior to the interview date; (b) awaiting results of previous job application; (c) temporary illness/disability; (d) bad weather; and (e) waiting for rehire/job recall.

1.7.3 Persons not in the Labor Force - refers to the population 15 years old and over, male and female who are neither employed nor unemployed e.g. persons who are not working and are not available during the reference week and persons who are not available and are not looking for work because of reasons other than those previously mentioned. Examples are housewives, students, disabled or retired persons and seasonal workers.

1.7.4 Labor Force Participation Rate - proportion of the total number of persons, male and female in the labor force to the total population 15 years old and over.

1.7.5 Employment Rate **-** the ratio of the total number of employed persons to the total number of persons in the labor force.

1.7.6 Unemployment Rate **-** proportion of the total number of unemployed persons to the total number of persons in the labor force.

1.7.7 Underemployment Rate**-** the ratio of the total number of underemployed persons to the total number of employed persons.

1.8 Mother Tongue - the language/dialect spoken by a person at his earliest childhood or the language/dialect that person first learned to speak. Data on mother tongue are used primarily in the analysis of the ethnic origin of a person long after assimilation to the other customs of the majority population has taken place.

Table 2.9: Household Population 15 Years Old and Over by Employment Status
Year ___ - Year ____

Year	Labor Force Participation Rate	Employment Rate (In %)	Unemploy-ment Rate (In %)	Underemploy-ment Rate (In %)	Visible Underemploy-ment Rate

Table 2.10: Household Population by Mother Tongue

Mother Tongue	Household population	% to Total

Source: _____

1.9 Religious Affiliations

1.10 Marital Status - refers to the civil status of all persons 10 years old and over. A person in this age group is classified as:

1.10.1 *Single* - a person who has never been married.

1.10.2 *Married* - a person married in a religious or civil ceremony, either living together with the spouse at the time of visit, or temporarily living apart because the spouse is employed elsewhere or is in the Armed Forces, etc.

1.10.3 *Widowed* - a married person whose spouse died and who has not remarried up to the time of visit

1.10.4 *Separated/Divorced* - a person who is permanently separated from his spouse, legally or through mutual consent or whose marriage with another has been annulled or dissolved and can therefore remarry.

1.10.5 *Others* - a person living consensually together (by mere consent) as husband and wife without the benefit of a legal marriage

1.10.6 *Unknown* - a person whose marital status is not known to the respondent, or whose marital status is being concealed by the respondent.

1.11 Magnitude of Poor Families/ Individuals - refers to the number of families/individuals whose annual per capita income falls below the annual per capita poverty threshold.

2. Population Size and Growth Rate – Population size is the net effect of births, deaths, in-migration and out-migration added to the base population; while growth rate is change in the population size between two points in time.

2.1 Total Population – all persons in a locality, male and female, both nationals and aliens, native and foreign-born persons, internees, refugees and any other group physically present within the borders of a country at a specified time.

2.2 Total Household Population - This refers to the aggregate of private household population. Compared to total population, this excludes population enumerated in institutional households such as national/provincial/municipal/city jails/detention centers, military camps, tuberculosis pavilions, mental hospitals, leprosaria/leper colonies or drug rehabilitation centers.

Table 2.11
Household Population 10 years Old & over, by age Group, Sex and Marital Status

Age Group	MARITAL STATUS																	
	Single			*Married*			*Widowed*			*Separated/ Divorced*			*Others*			*Unknown*		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
10 – 14																		
15 – 19																		
20 – 24																		
25 – 29																		
30 – 34																		
35 – 39																		
40 – 44																		
45 – 49																		
50 – 54																		
54 – 59																		
60 – 64																		
65 – 69																		
70 – 74																		
75 & over																		

Source: _____

Table 2.12: Total Population, Households and Average Household Size, by Barangay, Year ___ to Year ___

Barangay	Population			Number of Households			Average Household Size		
	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3	Year 1	Year 2	Year 3
I. URBAN									
a.									
b.									
c.									
n…									
Sub-total									
II. RURAL									
a.									
b.									
c.									
n…									
Sub-total									
TOTAL									

Source: _____

Table 2:13: Historical Growth of Population

Year	TOTAL POPULATION				AVERAGE ANNUAL GROWTH RATE			
	Philippines	Region	Province	City/ Municipality	Philippines	Region	Province	City/ Municipality
1903								
1918								
1939								
1948								
1960								
1970								
1975								
1980								
1990								
2000								
2007								

Source: _____

2.3 Population Density - concentration of population in relation to land area.[12]

2.4 Migration Patterns - The data on present residence vis-a-vis residence five (5) years ago.

Table 2.14: Migration Pattern

Sex	Household Population 5 years and Over	Place of Residence									
		Same City/ Municipality	%	Other City/ Municipality; Same Province	%	Other Province	%	Foreign Country	%	Unknown	%
Male											
Female											
Both Sexes											

Source: _____

2.5 Urban – Rural Distribution - urban and rural population shares to total city/ municipal population.

2.6 Tempo of Urbanization – the difference between the urban and the rural rates of population growth.[13]

2.7 Present Status of Well-being

2.7.1 Education

a. Literacy of HH Population, 10 Years Old and over, by age group, by Sex

b. Enrolment - the total number of students who have registered as of August 31 in a given school year. *(Department of Education, Culture and Sports)*

[12] *HLURB Guidelines for the Formulation/Revision of a CLUP: Mapping, Vol. VII, 1997*

[13] *Journal of Philippine Development, Number37, Volume XX, No, 2, 2nd Semester 1993*

c. Drop-out *rate*

d. Historical Enrolment by Level for the Last Three School Years

Table 2:15: Student-teacher and Student-classroom Ratio by Level

Type/Level	Number of Enrollees			Total No. of Teachers	Total No. of Classrooms	Student-Teacher Ratio	Student-Classroom Ratio
	Male	Female	Total				
PRIVATE							
1. Elementary							
2. Secondary							
PUBLIC							
1. Elementary							
2. Secondary							

Source: _____

Table 2.16: Elementary and Secondary Enrolment in Government and Private Schools SY 1990-91 to SY 2008-09

School Year	Elementary			Secondary		
	Total	Public	Private	Total	Public	Private
2005-06	12,913,845	11,982,462	931,383	6,267,015	4,979,030	1,287,985
2006-07	13,145,210	12,096,656	1,048,554	6,363,002	5,072,210	1,290,792
2007-08	13,411,286	12,318,505	1,092,781	6,506,176	5,173,330	1,332,846
2008-09	13,686,643	12,574,506	1,112,137	6,763,858	5,421,562	1,342,296

Source: Department of Education

Gather information on the Historical Enrollment Participation Rate for the Last Three (3) Years

Table 2.17: Historical Enrolment by Level for the Last Three School Years

LEVEL	SCHOOL YEAR 1	SCHOOL YEAR 2		SCHOOL YEAR 3		CURRENT SCHOOL YEAR	
	Total Enrolment	Total Enrolment	% Increase/ Decrease	Total Enrolment	% Increase/ Decrease	Total Enrolment	% Increase/ Decrease
Elementary							
Secondary							
Tertiary							
Vocational/ Technical							
TOTAL							

Source: _____

Table 2.18: Historical Enrollment Participation Rate for the Three (3) Years

YEAR	ENROLMENT PARTICIPATION RATE			
	Elementary	Secondary	Tertiary	Technical/Vocational
Year 1				
Year 2				
Year 3				

Source: _____

Table 2.19: Teacher-Pupil/Student Ratio

Level	Total Enrolment			No. of Authorized Positions for Teacher			Gross teacher-Pupil/Student Ratio			No. of Teacher Actually Teaching			Net teacher-pupil/student Ration		
	SY 1	SY 2	SY 3	SY 1	SY 2	SY 3	SY 1	SY 2	SY 3	SY 1	SY 2	SY 3	SY 1	SY 2	SY 3
Elementary															
Secondary															
Tertiary															
Vocational/Technical															
Total															

2.7.2 Health

a. Health Facilities, Public and Private

Show in a map the actual distribution of existing health facilities, such as barangay health stations, rural health units, government and private hospitals and clinics.

Hospitals may be classified into the following:

Tertiary Hospital - fully departmentalized and equipped with the service capabilities needed to support certified Medical Specialists and other licensed physicians rendering services in the field of Medicine, Pediatrics, Obstetrics and Gyneacology, Surgery, their subspecialties and ancillary services.

Secondary Hospital - equipped with the service capabilities needed to support licensed physicians rendering services in the field of Medicine, Pediatrics, Obstetrics and Gyneacology, General Surgery and other Ancillary Services.

Primary Hospital - equipped with the service capabilities needed to support licensed physicians rendering services in Medicine, Pediatrics, Obstetrics and Minor Surgery.

b. Health Services

i. Primary health services, also known as basic health services, consist of services available at city/municipal health centers, rural health units or barangay health stations.

ii. Secondary heath services are those provided by some rural health units, infirmaries, district hospitals and out-patient departments of provincial hospitals.

iii. Tertiary health services include medical and surgical diagnostics, treatment and rehabilitative care undertaken usually by medical specialists in a hospital setting.

iv. Family Planning Services

c. Health Personnel

Take an inventory of health personnel, public and private present in the city/municipality, if possible, by barangay.

Table 2.20: Medical Facilities and Personnel (Year)

BARANGAY	FACILITIES			NO. OF PERSONNEL					
	Type	No. of Beds	Physical Condition	Doctors	Nurses	Midwives	Sanitary Inspectors	Others	Total
1.									
2.									
3.									
4.									
5.									
n...									

Source: _____

d. Health Indicators

i. *Births*

Crude Birth rate – the ratio between the number of livebirths and number of individuals in a specified population and period of time, often expressed as number of livebirths per one thousand in a given year.

Table 2.21: Livebirths by Sex, by Barangay: Year ___ to Year ___

BARANGAY	Year 1			Year 2			Year 3		
	M	F	T	M	F	T	M	F	T
1.									
2.									
3.									
4.									
5.									
n...									

Source: _____

ii. Nutritional Status

Malnutrition is a pathological state, general or specific, resulting from the relative or absolute deficiency or excess in the diet of one or more essential nutrients. Determine the number of malnourished children for the last three (3) years.

Table 2.22: Number of Malnourished Children for the Last Three Years

BARANGAY	NO. OF MALNOURISHED CHILDREN BY DEGREE OF MALNUTRITION				
	Year 1	Year 2		Year 3	
	No.	No.	% Increase/ Decrease	No.	% Increase/ Decrease
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
n...					

Source: _____

iii. *Morbidity* – is synonymous with such everyday terms as illness, sickness or disease.[14]

- Ten (10) Leading Causes of Morbidity (All Ages)

iv. *Mortality*

- Total number of deaths
- Crude Death rate – refers to the number of deaths per 1,000 population. It is a rough measure of mortality. It is crude because it masks the effect of mortality on the population at different ages.
- Total number of infant deaths (Under 11 months old)
- Infant mortality rate – the number of deaths of infants under one year of age per 1,000 livebirths.
- Total number of neo-natal deaths (1 – 27 days old)
- *Child Mortality Rate* – the number of deaths among children below 5 years of age per 1,000 children 1 -4 years old.
- Total number of deaths (50 years old)
- Total number of deaths with medical attendance
- Total number of maternal deaths
- Maternal mortality rate – the number of deaths to women due to pregnancy and childbirth complications per 100,000 livebirths in a given year.
- Ten Leading Causes of Mortality for the Last Three Years

Table 2.23: Crude Birth Rate and Crude Death Rate for the Last Three Years: 20___ - 20___

YEAR	CBR	% INCREASE/DECREASE	CDR	% INCREASE/DECREASE
Year 1				
Year 2				
Year 3				

Source: _____

[14] *Philippine statistical Yearbook, NSCB, 1996, 1997, 1998, 1999*

Table 2.24: Ten Leading Causes of Mortality for the Last Three Years

CAUSES	NUMBER OF CASES		
	YEAR 1	YEAR 2	YEAR 3
1.			
2.			
3.			
4.			
5.			
6.			
7.			
n...			
TOTAL			

Source: _____

Table 2.25: General Health Situation for the Last Three Years

Indicators	Year 1	Year 2	Year 3
Fertility			
1. Crude Birth Rate			
2. Total Fertility Rate			
Morbidity			
1. General Medical			
2. Consultation Rate			
3. Hospitalization Rate			
Mortality			
1. Crude Death Rate			
2. Infant Mortality Rate			
3. Child Mortality Rate			
4. Maternal Mortality Rate			

Source: _____

2.7.3 Social Welfare and Development

a. Social welfare programs and services available

i. Basic Social Services are designated to provide meaningful opportunities for social and economic growth of the disadvantaged sector of the population in order to develop them into productive and self-reliant citizens and promote social equity. Basic social services of the government include Self-employment Assistance and Practical Skills Development Assistance, among others.

ii. Social welfare services extended to children, youth and adults with special needs, such as the orphaned, neglected, abandoned, disabled, etc. Such services include family life education and counselling, adoption, guardianship, foster family care, rehabilitation services, etc.

iii. Day Care Service - an arrangement whereby substitute mothering is provided to disadvantaged pre-school children as well as street children during part of the day when the mother cannot attend to their children.

iv. Supplemental Feeding - is the provision of food assistance to underweight/malnourished children to improve their nutritional

status. Undertaken through centralized neighborhood feeding and home-based feeding.

b. Types of clientele

i. Disadvantaged Children - children from 0-6 years old who are malnourished, orphaned, street children, victims of armed conflicts and children of poor families.

ii. Disadvantaged Youth - individuals 7-17 years old who due to poor parents, are out of school, sickly, alcohol/drug addicts, youth offenders or have been sexually abused or exploited.

iii. Disadvantaged Women - women from 18-59 years old who were deprived of literacy opportunities or those abused/exploited, and victims of involuntary prostitution or illegal recruitment.

iv. Disadvantaged Families - families belonging to the disadvantaged group or families belonging to the bottom 30 percent of the income strata.

v. Disadvantaged Communities - communities which have inadequate resources or facilities such as roads, water system, electricity and absence of natural resources.

vi. Disadvantaged Persons/Groups - individuals or group of individuals who are considered economically, physically and socially disadvantaged. These include needy family heads and other needy adults, indigent children, out-of-school youths, physically and mentally disabled persons, distressed individuals and families, and disadvantaged children.

The number of persons by type of disability may be recorded using the table below. Compute the percent share of each type of disability and rank from highest to lowest share. Determine which among the types of disability has the highest share of disabled persons and the type of services needed.

Table 2.26: No. Persons of Disability, by Type of disability, by Sex and Age Group

Age Group by Sex	Type of Disability									
	Total	Blindness	Muteness	Deafness & Muteness	Speech Impairment	Mental Illness	Mental Retardation	Orthopaedic Handicap	Multiple Disability	Others
Both Sexes										
Under 1										
1 – 4										
5 – 9										
10 – 14										
15 – 19										
20 – 24										
25 – 29										
30 – 34										
35 – 39										
40 – 44										
45 – 49										

50 – 54										
55 – 59										
60 – 64										
65 – 69										
70 – 74										
75 – 79										
80 & Over										
Male										
Under 1										
1 – 4										
5 – 9										
10 – 14										
15 – 19										
20 – 24										
25 – 29										
30 – 34										
35 – 39										
40 – 44										
45 – 49										
50 – 54										
55 – 59										
60 – 64										
65 – 69										
70 – 74										
75 – 79										
80 & Over										
Female										
Under 1										
1 – 4										
5 – 9										
10 – 14										
15 – 19										
20 – 24										
30 – 34										
35 – 39										
40 – 44										
45 – 49										
50 – 54										
55 – 59										
60 – 64										
65 – 69										
70 – 74										
75 – 79										
80 & Over										

vii. Distressed Individuals/ Families/ Groups - needy evacuees/ squatters/ cultural minorities/refugees and other persons who are victims of social conflicts, or other upheavals and disasters/calamities, both natural and man-made.

viii. Outreach Headcount - refers to individuals or groups of individuals extended basic and special social services.

c. Historical Number of Population Served by Type of Clientele

Table 2.27: Number of Clientele Served, by Type, by Barangay: Year ___

BARANGAY	NUMBER OF CLIENTELE SERVED, BY TYPE, BY BARANGAY											
	Disadvantaged Families	Disadvantaged Communities	Disadvantaged Women (18-59 years old)		Disadvantaged Children (1-12 years old)		Disadvantaged Youth (13-24 years old)		Persons with Disabilities		Senior Citizens	
			M	F	M	F	M	F	M	F	M	F
1.												
2.												
3.												
4.												
5.												
6.												
7.												
8.												
n...												

Source: _____

Table 2.28: Historical Number of Population Served by Type of Clientele, Year ___ to Year ____

TYPE OF CLIENTELE	YEAR 1	YEAR 2	% OF INCREASE/ DECREASE	YEAR 3	% OF INCREASE/ DECREASE	CURRENT YEAR	% OF INCREASE/ DECREASE
1. Disadvantaged Families							
2. Disadvantaged Communities							
3. Disadvantaged Women							
4. Disadvantaged Children							
5. Disadvantaged Youth							
6. Persons with Disabilities							
7. Senior Citizens							
8. Victims of Natural Disasters							
9. Victims of Man-made Disasters							
10. Others							
TOTAL							

Source: _____

d. Social Welfare Facilities

i. Day care center – refers to a place where supplemental parental care to a child, 0 – 6 years of age who may be neglected, abused, exploited or abandoned during part of the day when parents cannot attend to his/her needs, is provided.

ii. Senior Citizen Care Center – refers to a place established under RA 7876 (An Act Establishing a Senior Citizen Center in all Cities and Municipalities of the Philippines), with recreational, educational, health and social programs and facilities designed for the full employment and benefit of the senior citizens in the city or municipality. It may be a sheltered structure, a spacious room in a private or public building, a room attached to a community center, a barangay hall, or chapel.

iii. Rehabilitation Center – refers to a facility providing therapy and training for rehabilitation.

iv. Women's Center – refers to a facility with programs, activities, and/or services intended to promote an understanding of the evolving roles of women.

Table 2.29: Physical Condition of Facilities, by Barangay: Year ___

BARANGAY	PHYSICAL CONDITION OF FACILITIES														
	Day Care Center			*Senior Citizen Care Center*			*Rehabilitation Center*			*Women's Center*			*Others*		
	G	*P*	*C*	*G*	*P*	*C*	*G*	*P*	*C*	*G*	*P*	*C*	*G*	*P*	*C*
1.															
2.															
3.															
4.															
5.															
n…															

Source: _____
Legend: G: Good; well-maintained; P: Poor; needs improvement; C: Critical; Needs priority action

Table 2.30: Type of Social Services and Social Welfare Organizations, by Barangay, Year: ___

BARANGAY	SOCIAL WELFARE ORGANIZATION	TYPE OF SOCIAL SERVICES					
		Family Life Education & Counselling	*Family Planning Assistance*	*Day Care Services & Supplemental Feeding*	*Medical Care*	*Relief / Rehabilitation*	*Others (Please Specify)*
1.							
2.							
3.							
4.							
5.							
n…							

Source: _____

e. Other suggested data to be generated/ obtained by type of Social Welfare and Development Program/ Service are listed in Table 2.31:

Table 2.31: No. of Clients per type of Social Welfare and Development Program/Service

CAPITAL ASSISTANCE					
Data	**Total**	**Male**	**% of Total**	**Female**	**% of Total**
1. Persons belonging to below-food threshold families					
2. Persons belonging to poverty-threshold but not below food-threshold					
3. Persons belonging to above-poverty threshold					
4. Persons belonging to below-food threshold families provided Self-Employment Assistance (SEA)					
5. Persons belonging to poverty-threshold but not below food-threshold provided SEA capital grants					
6. Persons belonging to above-poverty threshold provided SEA grants					
7. Youth belonging to below-food threshold families					
8. Youth belonging to below-food threshold families provided capital grants					
9. Elderly persons belonging to below-food threshold families					
10. Elderly persons belonging to below-food threshold families provided SEA capital grants					

11. Persons with disabilities/ special group persons belonging to below-food threshold families					
12. Persons with disabilities/ special group persons belonging to below-food threshold families provided SEA capital grants					
13. Persons belonging to poverty threshold families but not below family threshold					
PRACTICAL SKILLS DEVELOPMENT					
14. Persons belonging to below-food threshold families who completed Practical Skills Development Training					
15. Persons belonging to below-food threshold families still undergoing Practical Skills Development Training					
16. Youth belonging to below-food threshold families who completed Practical Skills Development Training					
17. Elderly persons belonging to below-food threshold families who completed Practical Skills Development (PSD) Training					
18. Persons with disabilities/ special group persons belonging to below-food threshold families who completed Practical Skills Development Training					
19. Persons belonging to poverty threshold families but not below family threshold who completed PSD Training					
20. Persons belonging to above-poverty threshold who completed PSD Training					
FAMILY WELFARE					
21. Solo parents provided special services					
22. Engaged/married given marriage counselling services					
23. Couples assisted on Responsible Parenthood Services					
24. Families counselled on Families/Casework/					
COMMUNITY WELFARE					
25. Persons who participated in community/group actions					
26. Volunteers trained/mobilized for community services					
27. Functional community welfare structures organized					
WOMEN WELFARE					
28. Women who completed maternal/child care training					
29. Women who completed self-enhancement skills training					
30. Women who completed Community Participation Skills Development Training					
31. Mothers given Nutritional Education Sessions					
CHILD DEVELOPMENT					
32. Pre-school children (0-6 years old) served in Day Care Centers					
33. Moderate and severely underweight pre-schoolers provided supplemental feeding					

34. Out-of-school youth trained					
35. Street children provided community-based services					
YOUTH DEVELOPMENT & EMERGENCY ASSISTANCE					
36. Pre-delinquent youths provided community-based services					
37. Persons who completed training on disaster management					
38. Persons provided food/cash incentive					
39. Stranded persons provided appropriated assistance					
40. Persons provided financial/material assistance					
41. Families provided materials/cash for construction					
ELDERLY AND PERSONS WITH DISABILITIES					
42. Individuals at-risk assisted in early detection of and intervention for their disability situation					
43. Persons with disabilities assisted in acquiring technical aids					
44. Elderly who acquired vocational skills and placed for employment					
45. Elderly who actively participate in family and community activities					
46. Elderly enabled to form interest group and/or self-help organizations					
47. PWDs who acquired vocational skills and placed for employment					
48. PWDs who actively participate in family and community activities					
AFTER CARE AND FOLLOW-UP SERVICES					
49. Recovered drug dependents provided care and follow-up services					
50. Recovered alcoholics provided care and follow-up services					
AFTER CARE AND FOLLOW-UP SERVICES					
51. Released prisoners provided care and follow-up services					
52. Negative hansenites provided care and follow-up services					
53. Improved mental patients discharged from institutional care provided care and follow-up services					

2.7.4 Housing

A list of data for profiling and analyzing the housing sub-sector is shown below:

a. Number of homeless

b. Number of Households in Occupied Housing Units by Tenure Status of Lots and Housing Units

Table 2.32: Tenure Status of House/ Lot

BARANGAY	TENURE STATUS OF HOUSE/ LOT									
	OWNED		BEING AMORTIZED		RENTED		OCCUPIED WITH CONSENT OF OWNER		OCCUPIED WITHOUT CONSENT OF OWNER	
	House	*Lot*	*House*	*Lot*	*House*	*Lot*	*House*	*Lot*	*House*	*Lot*
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
n...										
Total										

Source: _____

c. Number of Owner-Households in Occupied Housing Units, By Barangay, by Mode of Acquisition

Table 2.33: Number of Households in Occupied Housing Units, by Barangay, By Mode of Acquisition

BARANGAY	No. of Households in Occupied Housing Units, by Mode of Acquisition						
	Purchased	Constructed by Owner/Occupants With/Without Help From Friends & Relatives	Constructed by Hired/Skilled Workers	Constructed by Organized Contractor	Inherited	Others, e.g. Lottery	Not Reported
1.							
2.							
3.							
4.							
5.							
6.							
7.							
n...							

Source: _____

d. Occupied Housing Units by Condition (State of Repair) of the Building and Year Built

e. Number of Households by Type of Toilet Facilities

f. Number of Households in Occupied Housing Units by Main Source of Drinking Water

g. Number of Households by Kind of Fuel Used for Lighting

Table 2.34: No. of Buildings by Condition

YEAR BUILT	TOTAL NO. OF OCCUPIED HOUSING UNITS	NO. BUILDINGS BY CONDITION (STATE OF REPAIR)						
		Minor Repair/ Needs No Repair	*Needs Major Repair*	*Dilapidated/ Condemned*	*Under Renovation/ Being Repaired*	*Unfinished Construction*	*Under Construction*	*Not Reported*
1990-2000								
1986-1990								
1981-1985								
1971-1980								
1961-1970								
1957-1960								
1950 or Earlier								
Don't Know/ Not Reported								

Source: _____

Table 2.35: Number of Households by Type of toilet Facilities

BARANGAY	NUMBER OF HOUSEHOLDS BY TYPE OF TOILET FACILITIES						
	Water Sealed, Sewer/Septic Tank Used Exclusively by the HH	Water Sealed, Sewer/Septic Tank Shared with other HHs	Water Sealed, Other Depository, Used Exclusively by the HH	Closed Pit	Open Pit	Others, e.g. Pail system, etc.	None
1.							
2.							
3.							
4.							
5.							
n…							

Source: _____

Table 2.36: Number of Households by Main Source of Drinking Water, By Barangay: Year ____

BARANGAY	NUMBER OF HOUSEHOLDS BY MAIN SOURCE OF DRINKING WATER			
	Level I (Rain collector, Wells & Springs)	*Level II (Communal faucet systems)*	*Level III (Waterworks system)*	*Peddler*
1.				
2.				
3.				
4.				
5.				
n…				

Source: _____

Table 2.37: Number of Households by Kind of Fuel Used for Lighting, by Barangay: Year ___

BARANGAY	NO. OF HOUSEHOLDS BY KIND OF FUEL USED FOR LIGHTING				
	Electricity	*Kerosene*	*Liquefied Petroleum Gas*	*Oil*	*Others*
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
n...					

Source: _____

Table 2.38: Summary of Housing Facilities and Utilities

BARANGAY	TYPE OF FACILITIES/ UTILITIES							
	Water Supply		*Power*		*Water-Sealed Toilets*		*Garbage Collection System*	
	No. of HHs Serves	No. of HHs Un-served	No. of HHs Serves	No. of HHs Un-served	No. of HHs Serves	No. of HHs Un-served	No. of HHs Serves	No. of HHs Un-served
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
n...								

Source: _____

h. Informal Settlement Areas

i. Resettlement Areas – refer to sites identified by the appropriate national agency or by the local government with respect to areas within its jurisdiction, which shall be used for the relocation of the underprivileged and homeless citizens.[15]

[15] *RA 7279*

Table 2.39: Informal Settlement Areas

BARANGAY	LOT AREA (In Has.)	LAND OWNERSHIP		ZONING CLASSIFICATION	NO. OF FAMILIES	YEAR OCCUPIED	UTILITIES PRESENT	ENTITIES PROVIDING ASSISTANCE	TYPE OF ASSISTANCE
		Gov't.	*Private*						
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
n...									

Source: _____

Table 2.40: Number of Displaced Units, by Barangay, Year ____

BARANGAY	NO. OF DISPLACED UNITS				TOTAL NUMBER OF DISPLACED UNITS
	Housing Units in Danger Zones	*Housing Units in Uninhabitable Areas*	*Housing Units Affected by Infrastructure Projects*	*Housing Units for Demolition or With Court Order for Eviction*	
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
n...					
TOTAL					

Source: _____

Table 2.41: Inventory of Resettlement Areas, Year ____

Barangay / Name of Resettlement Area	Land Ownership	No. of Families	No. of Housing Units	Utilities / Facilities / Amenities					Administration / Management
				Water	*Power*	*Garbage Disposal System*	*Community Center*	*Others*	
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
n...									
TOTAL									

Source: _____

j. Inventory of Residential Subdivisions

A subdivision or condominium may be classified as follows:

Open Market – refers to housing constructed and financed by the private sector as a business venture and sold at prevailing market price and interest.[16]

Economic Housing – refers to housing units within the affordability level of the average income earners; projects provided to moderately low income families with low interest rates and longer amortization periods.

Socialized Housing – Section 3(r) of RA 7279 defines socialized housing as housing programs and projects covering houses and lots or homelots only undertaken by the Government or the private sector for the underprivileged and homeless citizens which shall include sites and services development, long-term financing, liberalized terms on interest payments, and such other benefits in accordance with the provisions of this Act. Its IRR further states that they refer to projects wherein the housing package selling price is within the lowest interest rate under the Unified Home Lending Program (UHLP) or any equivalent housing program of the Government, the private sector or non-government organizations

Medium-rise Housing – This may either be public or private: medium-rise private housing means cost recoverable residential buildings in high density urban areas not less than three (3) storeys or the maximum limits for walk-up medium-rise housing buildings in accordance with the National Building Code, BP 20 and other pertinent laws, by the private sector in collaboration with the National Housing Authority (NHA) for disposition through direct sale or lease.

Public Medium-rise Housing are residential buildings in high density urban areas not less than three (3) storeys or the maximum limits for walk-up medium-rise housing buildings in accordance with the National Building Code, BP 20 and other pertinent laws, to be leased to low-income families and other beneficiaries under RA 7279 (Urban Development and Housing Act).[17]

Cooperative - A housing cooperative is a legal association formed, owned and controlled by cooperators to allow for the provision of housing to its members. [18]

Civic Organization Housing Project, e.g. Habitat for Humanity, Gawad Kalinga.

[16] *HLURB Guidelines for the Formulation/Revision of CLUP: Social Sector, Vol. II*
[17] *RA 8425 (An Act Institutionalizing the Social Reform and Poverty Alleviation Program, Creating for the Purpose the Nationa Anti-Poverty Commission, Defining its Powers and Functions, and for Other Purposes)*
[18] *National Confederation of Cooperatives: http://www.natcco.coop/*

Table 2.42: Inventory of Residential Subdivisions & Condominiums, By Barangay, Lot Area and No. of Units: Year ____

BARANGAY	NAME OF SUBDIVISION OR CONDOMINIUM	CLASSIFICATION	AREA (IN HAS.)	NO. OF LOTS/ UNITS
1.				
2.				
3.				
4.				
5.				
6.				
7.				
n...				

Source: _____

k. Inventory of Potential Lands for Housing

Table 2.43: Inventory of Potential Lands for Housing

BARANGAY	OWNER / TCT NO.	CLASSIFICATION / AREA (IN HAS.)						ACTUAL LAND USE	ASSESSED MARKET VALUE	ZONING	BASIC SERVICES				
		UD / VL	UR / AL	G	LOZ BUA	APD / ZIP / SIRP / IF	MAL				W	PWR	SW / WD	APR &T	OTHERS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
1.															
2.															
3.															
4.															
5.															
n...															
TOTAL															

Source: _____

Legend:

- Column 1 – Name of Barangay where Potential Land for Housing is Located
- Column 2 – Name of Owner of Land and Proof of Ownership, e.g. OCT/TCT
- Colum 3 - UD/VL – Undeveloped and Vacant Land
- Column 4 - UR/AL – Unregistered or abandoned Lands
- Column 5 - G – Government-owned
- Column 6 - LOZ BUA – Lands Outside Zoned Built-up Areas
- Column 7 - APR/ZIP/SIRP/IF – Area for Priority Development/ Slum Improvement & Resettlement Program/ Informal Settlement
- Column 8 - MAL – Marginal Agricultural Land
- Column 9 – May be one of the following based on ocular inspection:
  - R – Residential
  - C – Commercial
  - IND – Industrial
  - INS – Institutional
  - OS – Open Space
  - Agricultural
  - Forest
- Column 10 – May be obtained from the Local Assessor's Office
- Column 11 – May be obtained from the Local Zoning Office/ Zoning Ordinance
- Column 12 – W – Potable Water (Put a √ if available and **x** if not available)
- Column 13 – PWR – Power or Electricity (Put a √ if available and **x** if not available)
- Column 14 - SW/WD – Sewerage and Waste Disposal Facilities (Put a √ if available and **x** if not available)
- Column 15 - ARP&T – Access to Primary Roads and Transportation Facilities (Put a √ if available and **x** if not available)

2.7.5 Public Order and Safety

a. Crime Incidence - the number of crimes reported as to index or non-index crimes within a given period.

i. Index crimes - crimes which are sufficiently significant and which occur with sufficient regularity to be meaningful. Included in this category are the following crimes: murder, physical injury, robbery, theft and rape.

ii. Crimes, Non-Index **-** all types of crimes not considered as index crimes.

iii. Cases Decided/Settled/Terminated - cases which have been given decision based on merits, including also cases dismissed and cases withdrawn or amicably closed during the reference period.

iv. Cases Handled - the summation of the cases pending at the beginning of the period and new cases received during the reference period.

v. Cases Pending - cases which have not yet been disposed of at the beginning (or at the end) of the reference period.

Table 2.44: Crime Incidence per 100,000 population, Year ___ to Year ____

Year	Total	Index Crimes	Non-index Crimes
2000	104.7	48.4	55.7
2001	98.8	48.5	49.5
2002	106.9	54.6	52.4
2003	102.2	52.1	50.1
2004	92.5	51.1	41.4
2005	90.0	51.6	38.4
2006	81.9	47.8	34.1
2007	115.6	65.5	50.1

Source: Philippine National Police (PNP)

Table2.45: Number of Raids and Persons Arrested on Drug Incidents, Year ___ to Year ___

Year	Raids	Persons Arrested
2000	7,956	11,004
2001	16,991	18,367
2002	20,024	25,076
2003	23,305	33,150
2004	24,778	26,635
2005	10,720	16,158
2006	8,677	11,535
2007	8,627	10,710

Source: Dangerous Drugs Board

Table 2.46: Crime Incidence by Barangay, by Type by Sex of Offender for the Last Three Years
Year ___ to Year ___

BARANGAY	TYPE OF CRIMES	YEAR 1			YEAR 2			YEAR 3		
		Male	*Female*	*Total*	*Male*	*Female*	*Total*	*Male*	*Female*	*Total*
1.										
2.										
3.										
4.										
5.										
6.										

Source: _____

b. Policeman-to-Population Ratio - an indicator which measures the adequacy of the police force in its task of promoting peace and order and of providing security to the population and property. It is computed by dividing the total number of policemen to the total population.

c. Fire Incidence - refers to the volume of incidents caused by fire and the deaths, injuries and total value of property loss due to this incident. Total value lost offers more relevance to planners than average value lost, as the latter can be misleading since a single commercial establishment in urban areas can be of greater value than thousands of incidents put together.

Table 2.47: Fire Incidence for the Last Three Years, by Barangay, Year ___ to Year ___

BARANGAY	ORIGIN/ CAUSE	FREQUENCY OF OCCURENCE		
		Year 1	Year 2	Year 3
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
n...				

d. Fireman-to-Population Ratio - this indicates the adequacy of fire fighting manpower to safeguard people and property. This is the ratio of the total number of firemen to the total population.

e. Services, Facilities and Equipment

2.7.6 Sports and Recreation

a. Existing sports and recreation facilities, by barangay

i. Active Recreation – e.g., hiking, tennis, basketball, swimming, fencing, golf, horseback riding, jogging, sailing, etc.

Table 2.48: Protective Services by Facilities and Equipment, Year ___

Type of Facilities	Location	Area (In Sqm.)	Number of Personnel	Personnel-to-Population Ratio	No. of Facilities/ Equipment		Condition
					Vehicle	*Others*	
Police							
• Headquarters							
• Sub-station							
• Outpost							
• Traffic							
Fire Protection							
• Headquarters							
• Sub-station							
Jail Management							
• District Jail							
• City/Mun. Jail							
Others							

Source: _____

Table 2.49: Jail Facilities, by Location and Inmate Population, Year ____ to Year ___

Type of Jail Facility	Location	Lot Area (In Sqm.)	Inmate Population		
			Year 1	Year 2	Year 3
1. District Jail					
2. City/Municipal Jail					

Source: _____

Table 2.50: Barangay Tanod by Type of Service, Year ____

Type Of Services	No. of Volunteers/ Staff	Facilities / Equipment	Condition of Facilities/ Equipment
1.			
2.			
3.			
4.			
5.			

Source: _____

ii. Passive Recreation – e.g., strolling, walking/ strolling for pleasure, nature study, bird watching, playing board games, movie watching, etc.

iii. Parks and Playgrounds – type of centrepiece open space which may range from neighborhood to city/municipal parks; cater to the recreational needs of the residents of the community.

- City/municipal parks – developed to serve the population of a city or municipality.
- Neighborhood park – provided for each neighborhood, primarily made for passive recreation, usually with open lawn areas, plants and walks.

- Sports Complex – contains the basic features of a sports center, plus a gymnasium with ample space allotted to spectator's gallery. It must have training and housing facilities for athletes, such as dormitory, cafeteria, classrooms and administrative offices. All of these facilities must be located in one area, adjacent to one another, e.g., Rizal Memorial Sports Complex.

v. Sports Field – an open area devoted to sports activities.

vi. Stadium – a track oval the center of which may be used for baseball, softball, or soccer. It must have a complementary grandstand and spectators' gallery, e.g., Amoranto Stadium in Quezon City.

Table 2.51: Sports and Recreational Facilities, by Barangay, Year ____

Barangay	Recreational Facilities						Sports Facilities					
	Parks & Playgrounds		Active Recreation		Passive Recreation		*Sports Complex*		*Sports Field*		*Stadium*	
	Public	*Private*	*Public*	*Private*	*Public*	*Private*	*Public*	*Private*	*Public*	*Private*	*Public*	*Private*

- *Private Facilities refer to both commercial and institutional/organizational facilities which are operated and managed by entrepreneurs for economic gains.*
- *Public Facilities are those that are administered and funded solely by government. It is non-profit and use of facilities are free or fee is charged for cost of maintenance.*

D. THE LOCAL ECONOMY

1. The Primary Sector (Extractive)

1.1 Agriculture, Hunting and Forestry

1.1.1 Agricultural Production – the growing of field crops, fruits, nuts, seeds, tree nurseries (except those of forest trees), bulb vegetables and flowers, both in the open and under glass; and the production of coffee, tea, cocoa, rubber; and the production of livestock and livestock products, honey rabbits, fur-bearing animals, silkworm, cocoons, etc.

Forestry and fishery production carried on as an ancillary activity on an agricultural holding is also considered as agricultural production. *(Bureau of Agricultural Statistics)*

a. Agricultural Crops

i. Agricultural Croplands

ii. Crop Production

iii. Agricultural Occupations/Groups

Table 2.52: Agricultural Crops by Area, Production and Product Market, Year ___

Major Crops	Barangay	Area		Production		Product Market	
		No. of Hectares	% of Total	Volume	Value	Local	Export (within province/region, outside the Phil.)
1. Rice							
a. Irrigated							
b. Non-irrigated							
2. Corn							
3. Others							
TOTAL							

Source: _____

Table 2.53: Comparative Agricultural Crop Areas and Production, Year ___ to Year ___

Major Crops	Area (In Hectares)					Volume of Production				
	Year 1	Year 2	+/-	Year 3	+ / -	Year 1	Year 2	+ / -	Year 3	+ / -
1.										
2.										
3.										
4.										
5.										
6.										

Source: _____

Table 2.54: Agricultural Facilities and Other Related Services
Year _____

Agricultural Facilities and Other Related Services	Location	Responsible Agency
1. Breeding Stations		
2. Agricultural School		
3. Extension Services		
4. Loan/ Credit Facilities		
5. Technical Assistance		

Source: _____

b. Livestock and Poultry

Livestock refers to domesticated animals with four legs and with hoofs, i.e., carabaos, cattle, hogs, goats, horses, rabbits, etc.

Poultry refers to chickens whether native or hybrid, ducks, quails, geese, etc.)

i. Number and volume of production by type of livestock and poultry

Table 2.55: No. of Persons by Major and Minor Agricultural Occupations/Groups, Urban-Rural, Year ___

Occupation Groups	Location	Number of Workers		
		Urban	Rural	Total
1. Farmers				
2. Farm workers				
3. Fishermen				
4. Crop Farmers				
5. Orchard farmers				
6. Ornamental & other plant growers				
7. Livestock & dairy farmers				
8. Poultry farmers				
9. Other animal producers				
10. Aqua-farm cultivators				
11. Inland and coastal waters fishermen				
12. Deep sea fishermen				
13. Other farm workers not elsewhere classified				
TOTAL				

Table: 2.56: Livestock and Poultry Farms, Year ____

Type	Barangay	Area (In has.)	Classification		Production		Product Market	
			Back-yard	Comm-ercial	Volume	Value	Within City/ Mun.	Outside City/Mun./ Province/ Region Outside Phil.)
1. Livestock								
a. Piggery								
b. Cattle								
c. Carabao								
d. Horse								
e. Others								
2. Poultry								
a. Chicken								
b. Duck								
c. Ostrich								
d. Quails								
e. Others								

Source: _____

Table 2.57: Inventory of Livestock and Poultry Farms

Name of Farm	Location (Barangay)	Area (In Has.)	Employment Size			Production	
			Male	*Female*	*Total*	Volume	Value (In Pesos)

Source: _____

c. Fishing

i. Inland Fisheries

ii. Municipal Fishing – fishing activity utilizing fishing boats of three gross tons or less, or using gear not requiring the use of boats, in municipal waters.

iii. Commercial Fishing – fishing for commercial purposes in waters more than seven fathoms deep with the use of fishing boats or more than three gross tons.

Table 2.58: Fishing Grounds and Aquaculture Production, Year ____

Fishing Grounds	Barangay	Production		Product Market	
		Volume	Value	Local	Export
1. Marine					
a. Sea					
b. Bay					
c. Gulf					
2. Inland					
a. Rivers					
b. Lakes					
c. Marshes/ Swamps					
d. Fishponds/ cages					

Table 2.59: Area, Location and Production of Fishing Grounds

Fishponds/ Fishing Grounds/ Fish Cages/ Fishponds	Location (Barangay)	Area (In Has.)	Volume of Catch		
			Total	*Average*	*Value (In Pesos)*

Table 2.60: Occupation Groups, Year ____

Occupation Groups	Location	Number		
		Male	*Female*	*Total*
1. Farmers				
a. Crop				
b. Orchard				
c. Livestock and dairy				
d. Poultry				
2. Ornamental & Other Plant Growers				
3. Other Animal Producers				
4. Aqua-Farm Cultivators				
5. Other Farm Workers Not Elsewhere Classified				
6. Fishermen				
a. Inland Waters				
b. Coastal Waters				
c. Deep Sea				

Table 2.61: Comparative Utilization of Significant Agricultural Activities, Year ___

Activities	Year 1		Year 2		Year 3	
	Area	%	Area	%	Area	%
1. Crop production						
2. Livestock/ Poultry						
3. Fishing						
4. Forestry						

Source: _____

2. The Secondary Sector (Manufacturing and Industry)

2.1 Mining and Quarrying – identify areas with metallic and non-metallic mineral reserves of known commercial quantities.

Table 2.62: Type of Metallic and Non-Metallic Resources, Year _____

Type of Metallic and Non-Metallic Resources	Location (Barangay)	Volume of Production	Value of Production (In Pesos)

Source: _____

2.2 Forestry

2.2.1 Forest-based production activities
2.2.2 Type and volume of production

Table 2.63: Volume of Product by Forest Concessionaires, Year ____

Forest Concessionaire	Area Covered (In Has.)	Dominant Tree Specie/Other Derivatives	Production		Estimated No. of Workers		Reforestation Areas (In Has.)
			Volume	Value	Male	Female	

Source: _____

Table 2.64 Production Forest, Type, Volume and Value of Production of Forestry Products

Production Forest	Location	Area (In Has.)	Type of Forestry Products	Production	
				Volume	Value (In Pesos)

Source: _____

2.3 Manufacturing

2.3.1 Industrial Establishments

a. Inventory of Industrial Establishments by Manufacturing/ Industrial Process, Raw Material Input, Volume and Value of Production and Product Markets

b. Inventory of Industrial Establishments by Industry Classification

i. Micro Industries – those whose capitalization is below Three Million Pesos (Php 3,000,000.00) and employment size ranges from 1 – 9

ii. Small Industries – capitalization is above Three Million Pesos (Php 3,000,000.00) up to Fifteen Million Pesos (Php 15,000,000.00) and employment size is from 10 – 99.

i. Medium Industries – capitalization above Fifteen Million Pesos (Php 15,000,000.00) up to One Hundred Million Pesos (Php 100,000,000.00) and employment size is from 100 – 199.

ii. Large Scale Industries – capitalization is above One Hundred Million Pesos (Php 100,000,000.00) and employment size is above 200.

Table 2.65: Inventory of Industrial Establishments by Manufacturing/Industrial Process, Raw Material Input, Volume and Value of Production and Product Markets, Year ____

Name of Industrial Establishment	Location	Manufacturing/ Industrial Process	Raw Materials		Production			Product Market	
			Type	*Source*	*Product*	*Volume*	*Value (In Pesos)*	*Local*	*Export*

Process: e.g., Fabrication, dyeing, canning, molding with chemicals, food processing, etc.
Raw materials: e.g., wood, iron, flour, fish
Source: e.g., locally-produced, imported
Product: e.g., steel bars, canned fish, etc.
Volume: e.g., metric tons, cubic meters, etc.
Product Market – Export: Outside the city/municipality/ within the province/ outside the province but within the region/ other regions/ other countries
Source: _____

Table 2.66: Number of Industrial Establishments by Classification and Location, Year _____

Scale	Location	Total Number	Capitalization/ Assets (In Pesos)	Employment Size		
				Male	Female	Total
Micro						
Small						
Medium						
Large Scale						

Source: _____

Table 2.67: Inventory of Industrial Establishments by Employment Size and Capitalization, Year ___

Barangay	Name of Industrial Establishment	Land Area (In Has.)	Capitalization (In Pesos)	Employment Size		
				Male	Female	Total

Source: _____

2.4 Construction

2.5 Electricity, gas and Water

3. The Tertiary Sector (Service)

3.1 Wholesale and Retail Trade, Repair of Motor Vehicles, Motorcycles, Personal and Household Goods
3.2 Hotels and Restaurants
3.3 Transport, Storage and Communication
3.4 Financial Intermediation

3.4.1 Banking Institutions - corporations, companies or associations which are engaged in the lending of funds obtained from the public through the receipt of deposits and the sale of bonds, securities or obligations of any kind.
3.4.2 Non- Bank Financial Institutions – persons or entities whose principal functions include the lending, investing, or placement of funds or evidences of equity deposited with them, or otherwise coursed through them, either for their own account or for the account of others.
3.4.3 Financing Company – a corporation or partnership which is primarily organized for the purpose of extending credit facilities to consumers and to industrial or agricultural enterprises by discounting or factoring commercial papers or accounts receivables or buying and selling contracts, leases, chattel mortgages and other evidences of indebtedness or by leasing motor vehicles, heavy equipment and industrial machineries and equipment, appliances, etc.
3.4.4 Investment Company - an entity primarily engaged in investing, reinventing or trading in securities.
3.4.5 Investment House - an enterprise engaged in guaranteed underwriting of securities of another person or enterprise, including securities of government and its instrumentalities.
3.4.6 Lending Investor - a person who make a practice of lending money for themselves or others at interest and who are not organized under any specialized chartered law.

3.5 Real Estate, Renting and Business Activities
3.6 Public Administration and Defense; Compulsory Social Security

3.7 Education
3.8 Health and Social Work
3.9 Other Community, Social and Personal Service Activities
3.10 Private Households with Employed Persons
3.11 Extra-territorial Organizations and Bodies

Table 2.68: Tourist Establishments Facilities and Employment Size, Year ___

Name of Tourism Establish-ment	Location	No. Facilities							No. of Employees		
		Accommodation (Hotels, Resorts, picnic huts, etc.)	Banks, Money changers	Communi -cation	Medical	Dining	Shopping	Others (Travel agencies, tour operators	M	F	Total

Source: _____

Table 2.69: Tourist Attractions, by Barangay Year ____

Barangay	Tourist Attraction	Within Protected Area (In Hectares)	Outside Protected Area (In Hectares)

Table 2.70: Inventory of Commercial Establishments by Economic Activities, Year ___ to Year ___

Economic Activities	Year 1			Year 2			Year 3		
	No. of Establishments	*No. of Employees*		*No. of Establishments*	*No. of Employees*		*No. of Establishments*	*No. of Employees*	
		M	*F*		*M*	*F*		*M*	*F*
1. Wholesale & retail trade									
2. Hotels & restaurants, transport & storage									
3. Communications									
4. Financial Intermediation									
5. Real estate renting and business									
6. Public administration & defense									
7. Education									
8. Health & social work									
9. Other community, social and personal services									
10. Private household with employed persons									
11. Extra territorial organizations & bodies									
12. TOTAL									

Source: _____

Table 2.71: Employment Size by Type of Economic Activity
Year ___ to Year ___

Economic Activity	Employment Size					
	Year 1		Year 2		Year 2	
	Mun.	*Prov.*	*Mun.*	*Prov.*	*Mun.*	*Prov.*
1. Agriculture, Hunting & Forestry						
2. Fishing						
3. Mining & quarrying						
4. Manufacturing						
5. Electricity, gas & water supply						
6. Construction						
7. Wholesale & retail trade/ repair of motor vehicle/motorcycles, personal & household items						
8. Hotels & Restaurants						
9. Transport, Storage & Communications						
10. Financial Intermediation						
11. Real estate, renting & business activities						
12. Public administration & defense/ compulsory social security						
13. Education						
14. Health & social work						
15. Other community, social & personal services						
16. Private households with employed persons						
17. Extra-territorial organizations & bodies						

Source: _____

Table 2.72: Location Quotient

Economic Activity	Location Quotient		
	Year 1	Year 2	Year 2
1. Agriculture, Hunting & Forestry			
2. Fishing			
3. Mining & quarrying			
4. Manufacturing			
5. Electricity, gas & water supply			
6. Construction			
7. Wholesale & retail trade/ repair of motor vehicle/motorcycles, personal & household items			
8. Hotels & Restaurants			
9. Transport, Storage & Communications			
10. Financial Intermediation			
11. Real estate, renting & business activities			
12. Public administration & defense/ compulsory social security			
13. Education			
14. Health & social work			
15. Other community, social & personal services			
16. Private households with employed persons			
17. Extra-territorial organizations & bodies			

E. ENVIRONMENTAL MANAGEMENT

1. Natural Hazards/ Constraints – Prepare or obtain thematic maps from the Mines and Geosciences Bureau (MGB), PHIVOLCS, PAGASA, Manila Observatory and/or other sources that show areas prone or at risk from environmental hazards such as:

1.1 Flooding - areas where flooding usually occurs. It may be derived from topographic map

1.2 Erosion and Siltation/ Landslide Areas

1.3 Infiltration and Soil Drainage

1.4 Saltwater intrusion

1.5 Volcanoes

1.6 Fault Zones – areas where there is an observable amount of displacement below the earth's surface.[19]

1.7 Other Areas which pose risks to lives, crops, property and infrastructures

2. Identify and show in map areas covered by NIPAS[20] as listed below:

2.1 Strict nature reserve - an area possessing some outstanding ecosystem, features and/or species of flora and fauna of national scientific importance maintained to protect nature and maintain processes in an undisturbed state in order to have ecologically representative examples of the natural environment available for scientific study, environmental monitoring, education, and for the maintenance of genetic resources in a dynamic and evolutionary state.

2.2 Natural park - a relatively large area not materially altered by human activity where extractive resource uses are not allowed and maintained to protect outstanding natural and scenic areas of national or international significance for scientific, educational and recreational use.

2.3 Natural monument - a relatively small area focused on protection of small features to protect or preserve nationally significant natural features on account of their special interest or unique characteristics.

2.4 Wildlife sanctuary - an area which assures the natural conditions necessary to protect nationally significant species, groups of species, biotic communities or physical features of the environment where these may require specific human manipulation for the perpetuation.

2.5 Protected landscapes and seascapes - areas of national significance which are characterized by the harmonious interaction of man and land while providing opportunities for public enjoyment through recreation and tourism within the normal lifestyle and economic activity of these areas.

2.6 Resource reserve - an extensive and relatively isolated and uninhabited area normally with difficult access designated as such to protect natural resources of the area for future use and prevent or contain development activities that could affect the resource pending the establishment of objectives which are based upon appropriate knowledge and planning.

2.7 Natural biotic area - an area set aside to allow the way of life of societies living in harmony with the environment to adapt to modem technology at their pace.

[19] *HLURB Guidelines for the Formulation/Revision of CLUP: Vol. VII, 1997*
[20] *RA 7586*

2.8 Other categories established by law, conventions or international agreements which the Philippine Government is a signatory.

3. Conduct an inventory of Industrial Establishment by Degree of Hazard and Pollution

Table 2.73: Number and Type of Industrial Establishments by Degree of Hazard and Pollution, Year ___

Hazard and Pollution Potential	No. of Industrial Establishments		
	Light Industries	Medium-Industries	Heavy Industries
1. Non- pollutive/non-hazardous			
2. Pollutive/hazardous			
3. Pollutive/non-hazardous			
4. Highly pollutive/ non-hazardous			
5. Highly pollutive/hazardous			
6. Highly pollutive/extremely hazardous			
7. Pollutive/extremely hazardous			
8. Non-pollutive/extremely hazardous			

Source: _____

3. Conduct an Inventory of Surface Water by Class

3.1 Class AA (Public Water Supply Class I) – intended primarily for waters having watersheds which are uninhabited and otherwise protected and which require only approved disinfection in order to meet the National Standards for Drinking Water of the Philippines.

3.2 Class A (Public Water Supply Class II) – sources of water supply that will require complete treatment (coagulation, sedimentation, filtration and disinfection) in order to meet the National Standards for Drinking Water of the Philippines.

3.3 Class B (Recreation Water Class) – intended for primary contact recreation such as bathing, swimming, ski diving, etc., particularly those designated for tourism purposes.

3.4 Class C – fishery waters for the propagation and growth of fish and other fish and aquatic resources; Recreational Water Class II (boating, etc.); and Industrial Water Class I) for manufacturing process after treatment.

3.5 Class D – for agriculture, irrigation and livestock watering, etc.; Industrial Water Supply Class II, e.g., cooling, etc.; and other inland waters

Table 2.74: Surface Water by Type and Classification, Year ___

Type of Surface Water	Name	Location	Classification				
			AA	A	B	C	D
1. Lakes							
2. Rivers							
3. Water Impounding							
4. Others							

4. Solid Waste Management – means any resource recovery system or component thereof; any system, program, or facility for resource conservation; any facility for the collection, source separation, storage, transportation, transfer, processing, treatment, or disposal of solid waste.[21]

   4.1 Sources of Solid Wastes – solid wastes refer to all discarded household, commercial waste, non-hazardous institutional and industrial waste, street sweepings, construction debris, agricultural waste, and other non-hazardous/non-toxic solid waste

   4.2 Types of Wastes

   4.3 Volume Generated per Day

   4.4 Collection and Disposal Methods – Collection refers to acts of removing solid waste from the source or from a communal storage point; while disposal means the discharge, deposit, dumping, spilling, leaking or placing of any solid waste.

      4.4.1 Collection and Disposal methods may be any or a combination of the following:

         a. *Open Dump* – a disposal area wherein the solid wastes are indiscriminately thrown or disposed of without due planning and consideration for environmental and Health standards.

         b. *Controlled dump* – a disposal site at which solid waste is deposited in accordance with the minimum prescribed standards of site operation.

         c. *Sanitary landfill* - a waste disposal site designed, constructed, operated and maintained in a manner that exerts engineering control over significant potential environment impacts arising from the development and operation of the facility.

         d. *Composting* – a usual manner of household garbage disposal where garbage is allowed to decay under controlled conditions and the composted materials are collected later for use as soil conditioner or fertilizer.[22]

         e. *Recycling* – means the treating of used or waste materials through a process of making them suitable for beneficial use and for other purposes, and includes any process by which solid waste materials are transformed into new products in such a manner that the original product may lose their identity, and which may be used as raw materials for the production of other goods or services: *Provided*, That the collection, segregation and re-use of previously used packaging material shall be deemed recycling under RA 9003 or the Ecological Solid Waste Management Act.

         f. Not collected

            i. Burned

[21] *RA 9003*

[22] *HLURB Guide to Formulation/Revision of CLUP, Volume II, 1997*

ii. Dumped in individual open pits (not burned)

g. Others

4.4.2 Location of Disposal Site

Table 2.75: Solid Waste Generated & Collected by Source, Method of Collection and Disposal, Year ____

Source	Type	Volume		Collection System/ Method	Disposal System/ Method	Location of Disposal Site
		Generated	Collected			
1. Domestic						
2. Commercial						
3. Industrial						
4. Hospital						
5. Others						

5. Wastewater

Table 2.76: Wastewater Generation by source and Method/System of Disposal, Year ____

Source	Volume Generated per Day	No./ Percentage Connected to Centralized Sewerage System	Disposal Methods/ Treatment Facilities	Disposal Site
1. Domestic				
2. Commercial				
3. Industrial				
4. Hospital				
5. Others				

F. INFRASTRUCTURE

1. Mobility and Circulation Network

1.1 Inventory of roads and streets by classification (Barangay, City/ Municipal, Provincial and National), length and type of pavement (concrete, asphalt, gravel/macadam and earth)

Table 2.77: Inventory of Roads, by System Classification and Road Surface, Year ___

Administrative Classification	Length (In Kms.)	Width (In Meters) 0f Carriageway and Right of Way	Road Surface			
			Concrete	*Asphalt*	*Gravel/ Macadam*	*Earthfill*
National						
Provincial						
City/Municipality						
Barangay						
Alley						
Footpath						

Source: _____

Table 2.78: Inventory of Streets by Function, by Barangay

Barangay	Name of Street	Function				Length (In Kms.)	Width (In Meters)	Road Surface
		Arterial[23]	Collector[24]	Marginal Access[25]	Alleys[26]			
1.								
2.								
3.								
4.								
5.								
6.								

Source: _____

1.2 Inventory of Ancillary Road Facilities

Table 2.79: No. and Condition of Ancillary Road Facilities, Year ___

Type of Ancillary Road	Barangay	National		Provincial		City/Mun.		Barangay	
1. Pedestrian Crossing									
2. Sidewalk									
3. Overpass									
4. Waiting Sheds									
5. Street Lights									
6. Traffic Lights									
7. Road Signage									
8. Others									

Source: _____

1.3 Inventory of Bridges by classification (Barangay, City/ Municipal, Provincial and National), length, type of construction (RCDG, steel truss, wood/timber, others) and condition (passable, unpassable, needs repair, etc)

Table 2.80: Inventory of Bridges, by Barangay, by Type of Construction Materials and General Condition, Year ____

Barangay	Name of Bridge	Type of Construction Materials												General Condition		
		Concrete			*Steel*			*Wood*			*Others*			*Pass-able*	*Unpass-able*	*Needs Repair*
		L	W	L C	L	W	L C	L	W	L C	L	W	L C			
1.																
2.																
3.																
4.																
5.																
n...																
Legend: L – Length (in Meters) W – Width (In Meters) LC – Load Capacity (In Metric Tons)																

Source: _____

[23] *Arterial – used primarily for fast or heavy traffic. Right-of-way width is 25-40 meters.*
[24] *Collector – carry traffic from minor streets to the major system of arterial streets and highways, including the principal entrance streets for circulation within a development. Right-of-way width is 16-20 meters.*
[25] *Marginal access – minor streets which are parallel and adjacent to arterial streets and highways; provides access to abutting properties and protection from through traffic. Right-of-way width is 12 meters.*
[26] *Alleys – narrow streets which are used primarily for vehicular service and access to the rear or the side of abutting properties usually without sidewalks.*

Table2.81: Number and Length of Bridges by Barangay and Administrative Classification, Year _____

Administrative Classification	Barangay	Number	Total Length (In Meters)
National			
Provincial			
City/Municipal			
Barangay			
Total			

Source: _____

1.4 Transport Facilities

1.4.1 Modes of Transport and Facilities

Table 2.82: Modes of Transport and Facilities, Year ____

Modes of Transport	Facilities		Location	Condition	Frequency of Service / Trips
	Type	Capacity			
1. Rail					
2. Sea					
3. Air					

Types of Facilities may include passenger and cargo terminals, air and sea ports, warehousing, ticketing office, etc.

a. Airports

i. International Airport - an airport designated by the Philippine Government in whose territory it is situated as an airport of entry and departure for international air traffic, where the formalities incident to customs, immigration, public health, agricultural quarantine and similar procedures are carried out.

ii. National Airport - airport owned, operated and maintained by the National Government.

iii. Secondary Airport - any national airport that serves the principal towns and cities with regular traffic density.

iv. Airport, Feeder - any national airport that serves communities and towns with limited traffic.

Table 2.83: Airport by Classification and Location, Year _____

Name of Airport	Classification	Location
1.		
2.		
3.		
4.		
5.		
6.		

Source: _____

b. Port – a sheltered harbour where marine terminal facilities are provided, consisting of piers or wharves at which ships berth/dock while loading or unloading cargo, transit sheds and other storage areas where ships may discharge incoming cargo, and warehouses where goods may be stored for longer periods while awaiting distribution or sailing.

   i. Private Commercial Port - ports which are owned and operated by private entities, constructed primarily to serve the needs of the owners.

   ii. Public Commercial Public Port - ports which are owned and operated by the government, constructed primarily to serve the needs of the general public, and generally cater to vessels of more than 30 tonnage.

   iii. Feeder Port - a port constructed primarily to provide linkages among neighboring small islands and nearby urban centers. This port generally caters to small passenger and fishing vessels.

   iv. Fishing Port - a port which primarily serves the fishing industry, either within the area, or may be regional in scope, servicing the main collection and distribution center for fish.

   v. Pier - a structure built into the sea but not parallel to the coastline and includes any stage, stair, landing space, landing stage, jetty, floating barge or pontoon and any bridge or other works connected therewith.

Table 2.84: Ports by Classification and Location, Year _____

Marine Transportation Facilities	Classification of Port	Location	Vessels at Port	Ports of Origin/ Destination
Domestic				
International				
Shipbuilding/Repair				
Base Ports				
Terminal Ports				

Source: _____

Table 2.85: Land Transportation Terminal and Parking Facilities, by Barangay, Year ____

Barangay	Facilities					
	Terminal Capacity (No. of Vehicles)			Parking Capacity (No. of Vehicles)		
	Bus	*Jeepney*	*Tricycle*	*Bus*	*Jeepney*	*Tricycle*
1.						
2.						
3.						
4.						
5.						
n…						

Source: _____

2. Communication Facilities

2.1 Inventory of Communication Service Facilities

Table 2.86: Type of Communication Facilities by Location and Ownership

Type	Location	No. by Ownership	
		Public	Private
1. Postal Services			
2. Internet Service Providers			
3. Telephone Service Providers			
4. Cell sites			
5. Public Calling stations			
6. Television Networks			
7. Cable Television Networks			
8. Radio Networks			
9. Others			

Table 2.87: Number, Location, Service Area of Telecommunication Facilities and Services, Year ___

Types of Communication Services and Facilities	Franchise Holder	Location (Barangay)	Service Area (Barangays)	No. of Subscribers/ Clientele
1. Telephone (Landline)				
2. Cellular Mobile Telephone				
3. Public Telephone				
4. Satellite Communications				
5. Postal/Courier Service				
6. Meteorological (Weather Tracking Stations, Radars,)				
7. Broadcast Media				
a. Radio				
b. Television				
c. Cable television				
8. Print				
a. Newspapers				
b. Publishing Houses				

Source: _____

3. Water Supply

Table 2.88: Waterworks System, by Source, Location and Number of Pumps and Service Area Year ____

Location of Water Source	Location of Pumps	No. of Pumps	Capacity (Liters per Day)	Service Area

Table 2.89: Number of Connections and Average Water Consumption, by Type of Consumer: Waterworks System, Year ____

Type of Consumer	No. of Connections	Average Water Consumption
1. Residential		
2. Commercial		
3. Industrial		
4. Others		
Total		

Source: _____

Table 2.90: Level II[27] Water System, Year ____

Location of Water Sources	No. of Pumps	Capacity (Liters per Second)	No. of Communal Faucets	Barangays Served	Household Population Served	Household Population Unserved

Table 2.91: Level 1[28] Water System, Year ___

Barangay	Shallow Well			Deep Well			Improved Spring		
	No.	Household Population Served		No.	Household Population Served		No.	Household Population Served	
		No.	%		No.	%		No.	%
1.									
2.									
3.									
4.									
5.									
n...									

Source: _____

Table 2.92: Other Sources of Water

Barangay	No. of Household Population Served, by Source of Water									
	Undeveloped Spring		Open Dug Wells		Rainwater		Water Peddlers		Bottled Water	
	No.	%	No.	%	No.	%	No.	%	No.	%
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
n...										

Source: _____

[27] *Level II – Communal faucet system, generally for rural areas where houses are densely clustered enough to justify a piped distribution system providing a number of households with faucets.*

[28] *Level I – Point sources, such as rain collector, wells and springs; generally for rural areas where houses are thinly scattered to justify a piped distribution sustem.*

4. Electric Power Supply

   4.1 Non-Conventional Energy - a form of energy that includes direct solar energy conversion, wind, biomass, tidal energy and ocean thermal energy.

Table 2.93: Inventory of Power Utilities, Year ____

Source of Power Supply	Franchise Holder	Location	No. of Facilities				Service Areas	
			Sub-station	Metering Station	Electric Posts	Street-lights	Barangays Served	Barangays Not served

Source: _____

Table 2.94: Number of Connections and Average Power Consumption, by Type of Users Year ____

Type of Users	No. of Connections	Average Consumption (KWH per Month)
1. Residential (Domestic)		
2. Industrial		
3. Commercial		
4. Public Buildings		
5. Public Streetlights		
6. Others		
Total		

Source: _____

5. Flood Control and Drainage Facilities, by location, type of facility (group rip-rapping, concrete lining, etc.), length, width, thickness - natural drainage pattern based on the topographic or slope map. Discuss the relative elevation of the various areas in the city/municipality.

6. Municipal/ City Cemetery

7. Slaughterhouse

8. Public Market

9. Social Service Support Infrastructure

   9.1. School level by type, facilities and condition

Table 2.95: Tertiary and Vocational / Technical Schools by Type and Enrollment

LOCATION (BARANGAY)	NAME OF SCHOOL	LOT AREA (IN HECTARES)	TYPE		TOTAL POPULATION		
			Public	*Private*	*Male*	*Female*	*Total*
1.							
2.							
3.							
4.							
5.							
n...							

Source: _____

Table 2.96: Schools by Level, Type, Facilities and Condition

Barangay	Name of School	Lot Area	Type		Condition of Facilities						
			Public	Private	Lab.	Shop	Library	Clinic	Toilets	Play-ground	Others (Spe-cify)
1.											
2.											
3.											
4.											
5. n...											

Source: _____

10. Economic Support Infrastructure

10.1 Agricultural Support Infrastructure

Table 2.97: Agricultural Support Facilities, Year ____

Post-harvest Facilities	Location	Number	Type/Capacity	% Utilization	Condition		
					Operational	*Needs Repair*	*Others*
1. Milling							
2. Cold storage							
3. Multi-purpose drying pavement							
4. Market centers							
5. Warehouse							
6. Others (e.g., fish storage, processing, fish landing ports, etc.							

Source: _____

10.1.1 Irrigation System

a. Communal - an irrigation system owned by the community, association, farmers' cooperative, etc.

b. Individual - an irrigation means provided personally be the operator for his holding's/farm's irrigation needs. It could be rented, borrowed, or owned by him or by any member of the household

c. National - a government owned irrigation system built or constructed to provide continuous supply of water for agricultural purposes to farmers in exchange for a fee.

Table 2.98: Classification of Irrigation Facilities, Year ____

Classification of Irrigation Facilities	Source of Water Supply		Area Covered (In Has.)	Location
	Capacity (Cubic Meters)	Location		

Source: _____

10.2 Availability and Accessibility of Tourism Support Facilities

Table 2.99: Availability and Accessibility of Tourism Support Facilities

Name of Tourism Support Facilities	Means of Transportation Available	Distance (In Kilometers)			Access Road		Accessibility
		From Nearest Airport	*From Nearest Seaport*	*From Nearest Highway*	Type of Surface	Condition	

Surface of Access Road *may be 1) Paved (cement, asphalt; 2) Unpaved (gravel, earth); or 3) No road access*
Condition of Road Surface *may be 1) good, 2) fair, or 3) poor.*
Accessibility *may be described as: 1) accessible all year round by ordinary vehicle; 2) accessible only during dry season by ordinary vehicle; 3) accessible all year round by 4-wheel drive only; 4) accessible during dry season by ordinary vehicle and by 4-wheel drive only during wet season; 5) accessible by walking/trekking/climbing only; 6) served by regular transport services, e.g., jeepneys, tricycle, bus; 7) served by regular boar service or by contracted boat service.*

11. Public Administrative Support, such as

11.1 Local government support, e.g., city/municipal/barangay halls

11.1.1 Facilities for justice administration

11.1.2 Facilities for public safety and protection, e.g. police stations and sub-stations, fire stations and sub-stations (Please refer back to the Social Sector)

G. LOCAL INSTITUTIONAL CAPABILITY

1. Organizational Structure of the LGU – This may include the following:

1.1 plantilla

1.2 duties and functions of personnel

1.3 distribution of personnel by office, educational attainment, civil service eligibility and tenure status

2. Staffing of LGU Offices / Departments

3. Local Special Bodies – List all local special bodies organized and active in the LGU, e.g., Local Finance Committee, Local School Board, Small and Medium Enterprises Development Council, Local Disaster Coordinating Council, etc. If possible, indicate the number of members disaggregated by sex.

4. National Government Agencies operating in the LGU – List all NGAs operating in the LGU.

Table 2.100: Local Special Bodies, Year ___ to Year ____

	Name of Local Special Bodies	Composition[1]	Number of Members								
			Year 1			*Year 2*			*Year 3*		
			Total	M	F	Total	M	F	Total	M	F
1.	Expanded Local Finance Committee	Treasurer, Budget Officer, Accountant, Planning and Development Officer	4	3	1	4	3	1	4	2	2
2.											
3.											
4.											
5.											
6.											
7.											
8.											
9.											
10.											

[1] *Indicate the office/group represented, not the name of member*

Table 2:101: National Government Agencies in the City/Municipality

	National Government Agency	Contact Address and Numbers
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

5. Fiscal Position of the LGU

5.1 Collect data on revenue items for the past 3 – 5 years such as the following:

5.1.1 Property Tax Revenues - taxes imposed on the ownership of wealth or immovable properties and on the transfer of real or personal properties, both tangible and intangible.

Table 2:102: Total Number of Employees by Office, Educational Attainment, Civil Service Eligibility and Tenure Status: Year _____

LGU OFFICE/ DEPARTMENT	TOTAL NUMBER OF EMPLOYEES									
	Educational Attainment				Civil Service Eligibility Status (Grade)			Tenure Status		
	College	High School	Elemen-tary	Technical/ Vocational	1st	2nd	3rd	Perm.t	Temp.	Casual/ Contractual

Table 2:103: Time Series Record of Property Tax Revenue

TIME SERIES RECORD OF PROPERTY TAX REVENUE										
YEAR	(1) ASSESSED VALUATION		(2) TAX RATE			(3) TAX LEVY		(4) COLLECTION AS % OF LEVY	(5) TOTAL REVENUE FROM PROPERTY TAXATION	
	(a) Amount	*(b) % Change*	*(a) General*	*(b) SEF*	*(c) Total*	*(a) Amount*	*(b) % Change*		*(a) Amount*	*(b) % Change*
1										
2										
3										
4										
5										

Source: _____

5.1.2 Non-Tax Revenue - revenue collected from sources other than compulsory tax levies. Includes those collected in exchange for direct services rendered by government agencies to the public, or those arising from the government's regulatory and investment activities.

a. Business Fees and Licenses Other taxes
b. Service and Operations Income
c. Internal Revenue Allotment

5.1.3 Collect data on other non-recurring revenue items for the past 3 – 5 years such as the following:

a. Grants – in – aid from local and foreign sources
b. Special appropriations or transfers from Congress or other units of government
c. Inter – fund transfers
d. Inter – local government transfers

5.2 Collect appropriate operating expenditure data including existing debt service and determine historical trends.

Table 2:104: Time Series Record of Revenue Other than Property Tax

FORM 6: TIME SERIES RECORD OF REVENUE OTHER THAN PROPERTY TAX														
YEAR	(1) BUSINESS FEES & LICENSES		(2) OTHER TAXES		(3) SERVICES & OPERATIONS		(4) TOTAL LOCAL REVENUE		(5) INTERNAL REVENUE ALLOTMENT		(6) ALL OTHERS		(7) GRAND TOTAL	
1	(a) Amount	(b) % Change	(a) Amount	(b) % Change	(a) Amount	(b) % Change	(a) Amount	(b) % Change	(a) Amount	(b) % Change	(a) Amount	(b) % Change	(a) Amount	(b) % Change
2														
3														
4														
5														

(Note: The exercise will require 3 – 5 years of historical data to be used as the basis for a 3 – year projection.)

INSTRUCTIONS:

1. Enter the amount of revenue from each source in the appropriate column.
   a. Operating and service income covers public markets, slaughterhouses and other LGU economic enterprises.
   b. IRA refers to the Internal Revenue Allotment.
   c. All others include Other Grants, and inter-government and inter-fund transfers.
2. Compute the % change over the preceding year and enter the results in the appropriate columns.

Source: _____

5.2.1 Operating expenditures include the following:

i. Personal Services, including social charges (PS)
ii. Maintenance and other operating expenses (MOOE), such as office supplies, utilities (power, water, telecommunications), office equipment and miscellaneous expenses

5.2.2 Historical analyses need to be done on the following expenditure items using the suggested form.

i. General Public Services
ii. Social Services
iii. Economic Services
iv. All Others

5.2.3 The amount of debt service payments for existing and other anticipated LGU obligations must also be shown. The template shown in Table ___ may be used for this purpose.

5.2.4 Actual Expenditures by General Account

a. Personal Services - provisions for the payment of salaries, wages and other compensation (e.g., merit, salary increase, cost of living allowances, honoraria and commutable allowances) of permanent, temporary, contractual and casual employees of the government.

Table 2:105: Time Series Record of LGU Operating Expenditure

TIME SERIES RECORD OF LGU OPERATING EXPENDITURE										
YEAR	(1) GENERAL PUBLIC SERVICES		(2) SOCIAL SERVICES		(3) ECONOMIC SERVICES		(4) ALL OTHERS		(7) GRAND TOTAL	
	(a) Amount	(b) % Change	(a) Amount	(b) % Change	(a) Amount	(b) % Change	(a) Amount	(b) % Change	(a) Amount	(b) % Change
1										
2										
3										
4										
5										

(Note: The exercise will require 3 – 5 years of historical data to be used as the basis for a 3 – year projection.)
INSTRUCTIONS:

For each year:

1) Enter the amount of operating expenditure in the appropriate column.
Note that debt and capital expenditures are excluded.
2) Column headings should reflect the major operating expenditure categories in the LGU.
Note: General public services include LGU administration, peace and order, etc.
a. Social services include education, health, welfare, etc.
3) Compute the % change over the preceding year and enter the results in the appropriate columns.
4) The exercise will require 3 to 5 years of historical data to be used as the basis for a 3-year projection.

Table 2:106: Obligated Debt Service Expenditure

OBLIGATED DEBT SERVICE EXPENDITURE			
YEAR	(1) PRINCIPAL	(2) INTEREST	(3) TOTAL (1+2)
1			
2			
3			
4			
5			

(NOTE: *This exhibit presents current debt service requirements and, therefore, involves no projections.)*

INSTRUCTIONS:

1. Simply compile the total debt service requirements for local general debt obligation for each of the 3 – year projection period for all LGU obligations from existing accounting records.
2. Enter these amounts in the appropriate columns.

Table 2:107: List of Business Permits Issued by Type, Year ___ to Year ___

Type of Business Permit Issues	Year 1	Year 2	% Increase/ Decrease	Year 3	% Increase/ Decrease

Source: _____

b. Current Operating Expenses - amount budgeted for the purchase of goods and services for the conduct of normal government operations within the budget year. It includes goods and services that will be used or consumed during the budget year

c. Capital Expenditures/Outlays - expenditures for the acquisition of fixed assets and other goods and services the productive benefits of which extend beyond the fiscal year. These include investments in the capital stock of Government Owned or Controlled Corporations and their subsidiaries and investments in public utilities and loans outlays.

6. Development Legislation

6.1 Inventory of resolutions passed/ ordinances enacted, by sector, by year

6.2 Inventory of Outputs of the Sanggunian (e.g., ordinances, resolutions), by Sector or Classification for the last three (3) years. Table ___ shows a sample presentation of ordinances enacted and resolutions passed by classification.

Table 2:108: Ordinances Enacted and Resolutions Passes, by Classification, Year ___ to Year ___
(*Classification adapted from Quezon City Sangguniang Panlungsod*)

SECTOR/CLASSIFICATION	TITLE OF ORDINANCE/RESOLUTION	DATE APPROVED
City Properties & General Services, Local Governance & Administration		
Taxation, Assessment, Budgeting & Property Valuation		
Education, Science & Technology, Culture, Tourism & International Relations		
Peace & order, Public Safety, Transportation & Traffic Management		
SECTOR/CLASSIFICATION	**TITLE OF ORDINANCE/RESOLUTION**	**DATE APPROVED**
Public Works & Infrastructure, Building, Zoning, Subdivision & Housing		
Public Health & Social Welfare Services, Senior Citizens, Handicapped People, Women, Family & Domestic Relations, Civil Registration		
Legal Affairs, Justice & Human Rights, Public Information & Assistance and People's Participation		
Commerce & Industry, Market & Slaughterhouses, Economic Enterprises, Livelihood & Employment		

SECTOR/CLASSIFICATION	TITLE OF ORDINANCE/RESOLUTION	DATE APPROVED
Youth Welfare, Sports, Amusements/ Entertainment, games & Drugs		
Barangay Affairs, Urban Poor, & Human Settlements		
Parks, Environment and Garbage		
Energy & Water Resources, Public Services & Utilities & Telecommunications		

7. LGU – CSO – Private Sector Linkages

8. Civil Society Participation – List all civil society/ non-government/ people's organizations, civic groups, etc. present or operating in the locality. (See Table ___)

Table 2:109: Civil Society/Non-Government/People's/Community and Civic Organizations

Name of Organization	Advocacy/ Services Offered	Contact Address & Numbers
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

PART III: SELECTED TOOLS AND METHODOLOGIES FOR DETERMINING INPUTS TO ECOLOGICAL PROFILE

Population and Social Services

A. Population and Demography

1. *Historical Growth of the Population* – This may obtained from the National Statistics Office.

2. *Population size* – The population size at any given time ($\mathbf{P_t}$) is the net effect of births, deaths, in-migration and out-migration added to the base population.

   Population size is expressed as follows:

   $$P_t = P_0 + B - D + IM - OM$$

   Where:

P_t	=	population at any given time
P_0	=	population at the base year (base population)
B	=	number of births
D	=	number of deaths
IM	=	in-migration
OM	=	out-migration

   a. Obtain the latest figure given by the National Statistics Office (NSO).

   b. To draw a sharper picture of the population size, compare it to those of the larger areas of which the city/municipality is a part, like the district, province or region.

   c. Show also population size and relative share of each barangay to the total city/municipal population in table form.

   d. Whenever available, show the urban and rural population shares to total city/ municipal population.

      i. *Urban population* refers to the population residing in the urban barangays as classified by the NSO.

      ii. *Rural population* refers to population residing in rural barangays as classified by the NSO.

      If estimates about the population in a particular year other than the census year are desired, use any suitable calculation methods.

2.1 Crude Birth Rate (CBR) is the simplest and most commonly used index of fertility. The formula for computing for CBR is shown below:

$$\text{Crude Birth Rate (CBR)} = \frac{\text{No. of births in a given year}}{\text{Total Mid-year Population of the same year}} \times 1{,}000$$

For example:

- Number of Livebirths in 1995 = 22,000
- Total Mid-Year Population in 1995 = 300,000

$$\text{Crude Birth Rate (CBR)} = \frac{22{,}000}{300{,}000} \times 1{,}000$$

$$\text{Crude Birth Rate (CBR)} = 0.07333 \times 1{,}000$$

$$\text{Crude Birth Rate (CBR)} = 73.33$$

This means that there are 73.33 livebirths per 1,000 population in the planning area in 1995.

2.2 Crude Death Rate refers to the number of deaths per 1,000 population. It is a rough measure of mortality. It is crude because it masks the effect of mortality on the population at different ages. It may be computed using the following formula:

$$\text{Crude Death Rate (CDR)} = \frac{\text{No. of deaths in a given year}}{\text{Total Mid-year Population of the same year}} \times 1{,}000$$

For example:

- **Number of deaths in a given year = 426,581**
- **Total mid-year population in the same year = 60,940,207**

$$\text{Crude Death Rate (CDR)} = \frac{426{,}581}{60{,}940{,}207} \times 1{,}000$$

$$\text{Crude Death Rate (CDR)} = 7.0$$

This means that there are 7 deaths per 1,000 population in a given year.

2.3 Migration rate means the ratio of migrants to the total mid-year population during a given period expressed per 1,000 population.

A simple way of determining the rate of migration is to assume that the difference between the actual growth rate in the local area for a particular time period and the national growth rate for the same period is due to migration alone.

2.3.1 In-migration rate is the ratio of in-migration in given period, normally a calendar year, to the total mid-year population expressed per thousand.

$$\text{In-migration rate} = \frac{\text{Number of in-migrants to Area "A" for specified time period}}{\text{Population of Area "A" at the beginning of the time period}} \times 1{,}000$$

2.3.2 Out-migration rate is the ratio of out-migration in a given period, normally a calendar year, to the total mid-year population expressed per thousand.

$$\text{Out-migration rate} = \frac{\text{Number of out-migrants to Area "A" for specified time period}}{\text{Population of Area "A" at the beginning of the time period}} \times 1{,}000$$

2.3.3 *Net migration Rate* - the ratio of the difference between the in-migrants and out-migrants in a population to the mid-year population during the same period.

2.3.4 *Migration pattern* – The data on present residence vis-a-vis residence five (5) years ago indicates the migration pattern in a locality. To determine the in-migration pattern, compute for the percentage of household population five (5) years old and over by place of residence five (5) years ago to the total city/ municipal household population five (5) years old and over and rank it by place of residence. The table below may be used for this purpose.

Table ___: Migration Pattern

Sex	Household Population 5 years and Over	Place of Residence									
		Same City/ Municipality	%	Other City/ Municipality; Same Province	%	Other Province	%	Foreign Country	%	Unknown	%
Male											
Female											
Both Sexes											

Source: _____

3. Total Household Population – Obtain the latest figure given by the National Statistics Office (NSO) or CBMS.

   3.1. Household population 10 Years Old and over by Age Group, Sex and Marital Status - Obtain the latest figure given by the National Statistics Office (NSO) or CBMS.

4. *Population growth* – this is the change in the population size between two points in time. It is the effect of events that tend to add, or take away members from the population such as births, deaths and migration.

   Two factors that can affect the growth of population are fertility and mortality.

   Fertility refers to the actual reproductive performance of an individual, a couple, a group, or population;[1] while m*ortality* refers to the occurrence of death in a population.

   While fertility represents additions to the population and results in the restoration of the population, mortality represents an attrition or reduction in numbers.

   4.1 Age-Specific Fertility Rate (ASFR) is the number of births to women of a given age group per 1,000 women in that age group. It is calculated using the following formula:

[1] Philippine Statistical Yearbook. Manila: NSCB, 1996, 1997, 1998, 1999

$$\text{ASFR} = \frac{\text{No. of births born to women of a particular age group}}{\text{Female population in that age group}}$$

For example:

- Number of live births to women in age group 15-19 = 166,743
- Number of women in age group 15 – 19 years old = 3,334, 851

$$\text{ASFR} = \frac{166743}{3{,}334{,}851} \times 1{,}000$$

$$\text{ASFR} = 50$$

4.2 Total Fertility Rate (TFR) - means the number of livebirths per 1,000 female population in child-bearing ages 15-44 years. It is the average number of children that would be born alive to a woman (or group of women) during her lifetime if she were to pass through her child-bearing years conforming to the age-specific fertility rates of a given year.

TFR is calculated using the following formula:

$$\text{TFR} = 5 \sum \text{ASFR}_i$$

Where:

ASFR = ASFR for age group i 15-49
5 = age group interval

For example:

ASFR for 2003 is as follows:

AGE GROUP	ASFR
15-19	.053
20-24	.178
25-29	.191
20-34	.142
35-39	.095
40-44	.043
45-49	.005
Total	**.707**

TFR = 5 Σ ASFR i

= 5 (.707)
= 3.5

This means that a woman would bear an average of 3.5 children by the end of her child-bearing years if she were to pass through those years bearing children at currently observed age-specific fertility rate.

5. Population Growth Rate indicates how fast a population increases or decreases as a result of the interplay of births, deaths, and migration during a given period of time. Where the population is closed, meaning no migration, the population growth rate is the same as the rate of natural increase, i.e., the difference between the number of births and the number of deaths during a specified period of time.

This may be computed using the following formula:

5.1 Geometric Method

The geometric growth rate is applicable to compound growth over discrete periods. It does not take into account intermediate values of the series. The average growth rate over *n* periods using the geometric method is calculated as follows:

$$r = \text{Antilog}\frac{\text{Log}\frac{Pn}{Po}}{t} - 1 \times 100$$

The above equation can be computed by using a scientific calculator following these steps:

i. Set the calculator to "ON" then press "AC" (all clear) key to erase previous entries.
ii. Enter Pn (population of later year)
iii. Press / or ÷ (division sign)
iv. Enter Po (population of earlier year)
v. Press = (equals sign)
vi. Press log (natural logarithm) key
vii. Press / or ÷ (division sign)
viii. Enter t (number of years)
ix. Press = (equals sign)
x. Press INV (inverse sign)
xi. Press log (natural logarithm) key
xii. Press – (minus sign)
xiii. Enter constant integer 1
xiv. Press = (equals sign)
xv. Press x (multiplication sign)
xvi. Enter 100
xvii. Press = (equals sign)
xviii. Read dial for the answer in percent

To compute for the annual growth rate in your laptop or desktop computer using the geometric method in MS Excel format, follow the steps below: [2]

Formula: =POWER(10,LOG(Pn/Po)/t)-1

1. First compute for LOG(Pn/Po)/t)-1 following the steps below:

    a. Press = [equal sign)
    b. Press ([open parenthesis]
    c. Type log10
    d. Press ([open parenthesis]
    e. Type the figure representing Pn
    f. Press / [division sign]
    g. Type the figure representing Po
    h. Press)) [close parenthesis pressed twice)
    i. Press / [division sign]
    j. Type the number corresponding to **t** which is the number of years between Po and Pn
    i. Press enter

2. Then, proceed to compute for population growth rate (PGR) by following the steps below:

    a. Press = [equals sign]
    b. Press (([open parenthesis pressed twice)
    c. Type POWER
    d. Press ([open parenthesis]

[2] *Instructions modified by Ms. Corazon Jose based on steps provided by: Juanito D. Olave, Jr., LGOO V, Region IV-B*

e. Type 10
f. Press , [comma]
g. Type the figure as a result of Steps a – i under No. 1 above, or the figure shown after pressing "Enter" in Step i above.
h. Press)) [close parenthesis pressed twice]
i. Press – [minus sign]
j. Press 1
k. Press) [close parenthesis]
l. Press * [multiplication sign]
m. Type 100
n. Press enter

5.2 Exponential Method

The annual growth rate between two points in time using the exponential method is calculated from the following equation.

$$r = \frac{1}{T} \text{ IN } \frac{Pn}{Po} \text{ X } 100$$

Using a scientific calculator, the above formula is computed following these steps:

i. Set the calculator to "ON" then press "AC" (All clear)
ii. Enter Pn (population of later year)
iii. Press / or ÷ (division sign)
iv. Enter Po (population of earlier year)
v. Press = (equals sign)
vi. Press "ln" key
vii. Press / or ÷ (division sign)
viii. Enter t (number of years)
ix. Press x (multiplication sign)
x. Enter 100
xi. Press = (equals sign)
xii. Read dial for the answer in percent

Using MS Excel in a desktop or laptop computer, follow the steps below:[3]

Formula: =1/txLN(Pn/Po)x100

i. Press = [or the equal sign]
ii. Press ([open parenthesis]
iii. Type LN
iv. Press ([open parenthesis]
v. Type the figure representing Pn
vi. Press / [division sign]
vii. Type the figure representing Po
viii. Press)) [close parenthesis pressed twice]
ix. Press * [multiplication sign]
x. Type 100
xi. Press / [division sign]
xii. Press the number corresponding to **t** which is the number of years between Po and Pn
xiii. Press enter

[3] S*teps provided by: Juanito D. Olave, Jr., LGOO V, Region IV-B*

6. Population Projection is the computation of future changes in population numbers, given certain assumptions about future trends in the rates of fertility, mortality and migration.

   There are three basic methods for projecting the future level of population:

   6.1 Mathematical method which is done using formulae such as the geometric rate, exponential growth rate and the participation or proportion method; and

   To simplify the population projection exercise, however, only the two of the three (2) mathematical methods will be used in this guide – the geometric and the exponential methods.

   6.1.1 Geometric Method – This method assumes that the population grows in a manner analogous to the growth of money deposited in the bank, i.e. the annual interest (or net additions) on a principal (or base population) is capable of yielding additional interest in the following year. This is mathematically expressed as follows:

$$Pn = Po\,(1 + r)^t$$

Where:

Pn	**=**	population of the area t years later
Po	**=**	base population of the area
r	**=**	Annual growth rate of population
t	**=**	No. of years between P_n and P_o

To project the population using the geometric method and using a scientific calculator, follow the steps below:

i. Set calculator to "ON" then press "AC" (all clear) key to erase previous entries.
ii. Enter Po (population of base year)
iii. Press X (multiplication sign)
iv. Press open quantity [( ]
v. Enter the integer 1
vi. Press + (plus sign)
vii. Enter value of **r** (in decimal)
viii. Press close quantity [ )]
ix. Press x^y key (after pressing "SHIFT", "INV", OR "2nd F")
x. Enter value of **t**
xi. Press equals sign (=)
xii. Read the dial for answer. Round off as desired.

Using MS Excel in a personal computer, follow the steps shown in the box below: (*Steps provided by: Juanito D. Olave, Jr., LGOO V, Region IV-B)*

Formula: = POWER (1+r, t) x Po

i. Press equal sign [=]
ii. Press POWER
iii. Press open quantity [(]
iv. Press 1
v. Press plus sign (+)
vi. Type r (value of r or the cell #)
vii. Press comma (,)

viii. Type t (value of time)
ix. Press close quantity [)]
x. Press [*]
xi. Type Po (value of Po or the cell #)
xii. Press enter to get the answer

6.1.2 *Exponential Method* – this method is similar to the geometric method, except that the interest or growth in population occurs continuously rather than annually. The exponential formula for the growth rate is expressed as follows:

$$\mathbf{Pn = Po\ e^{rn}}$$

To project population by exponential method using a scientific calculator, follow the steps below:

i. Set calculator to "ON" then press "AC" (all Clear)
ii. Enter Po (population base year)
iii. Press x (multiplication sign)
iv. Press ([open quantity]
v. Enter the value of r in decimal
vi. Press x (multiplication sign)
vii. Enter the value of n
viii. Press) [close quantity]
ix. Press 2nd F; SHIFT; or INV key
x. Press ln key
xi. Press = (equals sign)
xii. Read dial for the answer. Round off decimals as desired.

Using MS Excel in a personal computer population projection may be undertaken using the formula and following the steps below:

Formula In MS Excel: = EXP (rxt) x Po[4]

i. Type equal sign [=]
ii. Type EXP
iii. Type [(]
iv. Type r (value of r or the cell #)
v. Type [*]
vi. Type t (value of time or the cell #)
vii. Type [)]
viii. Type [*]
ix. Type Po (value of Po or the cell #)
x. Press enter

6.2 *Economic method* which considers the relationship between the changing economic circumstances and population growth. This method depends on projections on future employment opportunities or job-population ratios in the future.

6.3 *Component or cohort-survival method*, which projects the future population by various demographic components such as age and sex, using information on births, deaths and migration.

[4] *Steps provided by: Juanito D. Olave, Jr., LGOO V, Region IV-B*

7. *Age – Sex distribution* – This population characteristic is very important especially in the planning of specific social services and facilities.

   Other variables related to the age – sex structure of the population are as follows:

   7.1 Sex ratio - The ratio of males to females in the following may be computed using the following formula:

$$\text{Sex Ratio} = \frac{\text{No. of Males}}{\text{No. of females}} \times 100$$

   For example:

   Total number of females = 250
   Total number of males = 235

$$\text{Sex Ratio} = \frac{235}{250} \times 100$$

$$\text{Sex Ratio} = .094 \times 100$$

$$\text{Sex Ratio} = 94$$

   This means that there are 94 males for every 100 females.

   7.2 Age Composition – Age distribution is usually depicted in a table that groups the population into clusters of 5 – year intervals. For example, the percentage share of those who belong to the 5 – 9 year old bracket is computed as follows:

$$\frac{\text{Population 5 – 9 years old}}{\text{Total city population}} \quad X \ 100$$

   For example:

   Total city population = 22,368
   Population 5 – 9 years old = 493

$$\frac{493}{22{,}368} \quad X \ 100$$

$$0.022 \quad X \ 100$$

$$2.20\%$$

   This means 2.20% of the total city population is composed of population 5 – 9 years old.

   7.3 Age Dependency Ratio – This indicates the extent to which those who are too young or too old to earn a living depend for support on those who are able to work.

   Age dependency ratios are expressed variously as:

$$\text{Total Dependency Ratio} = \frac{\text{Population <15 years + Population 65 years \& >}}{\text{Population 15 – 64 years old}} \times 100$$

$$\text{Young Dependency Ratio} = \frac{\text{Population below 15 years}}{\text{Population 15 – 64 years}} \times 100$$

$$\text{Elderly Dependency Ratio} = \frac{\text{Population 65 years \& above}}{\text{Population 15 – 64 years old}} \times 100$$

8. *Population Doubling Time* is a concept used to explain the implications of population growth rate is the time required for the population size to double itself, given a fixed growth rate. The formula:

$$\text{Doubling time (dt)} = \frac{0.69}{r}$$

This indicates that it would take the population of an area sixty-nine (69) years to double itself if it grows at a constant rate of 1.0 percent. The doubling time is less than 69 years if the growth rate is greater than 1.0 percent.

For example: Given: r = 2.5

$$\text{Doubling time (dt)} = \frac{0.69}{2.5}$$

$$= 28 \text{ years}$$

This means that given a growth rate of 2.5%, it will take 28 years.

The doubling time is longer if the growth rate is less than 1.0 percent.

For example:

Given: R = 0.90

$$\text{Doubling time (dt)} = \frac{0.69}{.90}$$

$$= 77 \text{ years}$$

9. *Population Distribution and Urbanization* – The pattern of population distribution over the city/municipal territory has great implications on planning. Indicators of population distribution are as follows:

9.1 Population density - This is the term that describes the number of individuals occupying an area in relation to the size of that area. It indicates the pattern of population distribution over space. It can serve as an indicator of urbanization.

9.1.1 *Gross Population density* is expressed as the number of persons per unit of land area, usually in hectares or square kilometers.

$$\text{Gross Population Density} = \frac{\text{Number of persons}}{\text{Unit of land area (hectares or square kilometers)}} \times 100$$

Determining gross population density may not be very meaningful because there are portions of the LGU territory which are not habitable.

9.1.2 The *net population density* is the ratio of population to the total area of arable land. An arable land, for convenience, is defined as the total land area of lands classified as "alienable and disposable".

$$\text{Net Population Density} = \frac{\text{Number of persons}}{\text{Alienable \& disposable land area (hectares or square kilometers)}} \times 100$$

9.2 Extent of Urbanization

Urbanization is defined as growth in the population living in urban areas. Extent of urbanization of a locality at a certain point in time is indicative of the progress or development taking place.

Some measures of urbanization and population distribution are as follows:

9.2.1 Urbanization level – This is the percentage of urban population to the total population in the area. It is expressed as follows:

$$\text{Level of urbanization (urbanity) in percent} = \frac{\text{Combined population of urban barangays}}{\text{Total city/municipal population}} \times 100$$

The National Statistical Coordination Board recently approved a new definition of urban areas for adoption by all concerned.[5] The new definition is as follows:

a. If a barangay has a population size of 5,000 or more, then a barangay is considered urban, or

b. If a barangay has at least one establishment with a minimum of 100 employees, a barangay is considered urban, or

c. If a barangay has 5 or more establishments with a minimum of 10 employees, and 5 or more facilities within the two-kilometer radius from the barangay hall, then a barangay is considered urban.

[5] *The NSCB Executive Board approved the definition on 13 October 2003 through NSCB Board Resolution No. 9, s 2003.*

d. All barangays in the National Capital Region are automatically classified as urban and all highly urbanized cities would be subjected to the urban-rural criteria in order to determine its urban-rural classification. All other barangays are therefore classified as rural.

9.2.2 Tempo of urbanization may be determined using the following formula:

Tempo of urbanization (in percent points) = Urban population growth rate less Rural population growth rate

9.2.3 Built-up density – This is a more realistic gauge or indicator of population concentration. A built-up area is one with contiguous grouping of ten (10) or more structures on it. It is not a defined political administrative area but a delineated built-up area usually derived from an aerial photo and/or land use survey.

9.2.4 Urban population density – This indicates the concentration of the total urban population over the total urban barangays.

$$\text{Urban Population Density} = \frac{\text{Total urban population}}{\text{Total area of urban barangays}} \times 100$$

B. Social Services

The social services sector is concerned with changes in the area or community relative to the following:

1. *Social characteristics of the area population* – This refers to any or all of the following aspects of an area's population:

   1.1 Demographic structure, e.g., population size, density, growth rate, age-sex structure, etc.
   1.2 Ethno-linguistic characteristics (population grouping according to race, tribe, clan or language)
   1.3 Inheritance system, including land tenure status
   1.4 Religious beliefs and practices
   1.5 Other cultural practices (customs, ceremonies, taboos, prejudices)

2. *Social Clustering of Population* – This is the way special groups cluster themselves into more or less homogeneous areas. Some of the bases for social clustering are as follows:

   2.1. Household income – by this criterion, it is possible to delineate areas which can be roughly designated as marginal, low, medium and high income; and

   2.2. Ethnicity, cultural or regional origins of the area's inhabitants.

2.3. Mother Tongue – This refers to the first language or dialect spoken by a person in his/her earliest childhood or the language/dialect that the person learned to speak. Present the percentage distribution of the various dialects spoken in the community.

3. *Overall quality of life* – This term is synonymous with status of well-being and general welfare. But these concepts cannot be measured directly. In measuring the quality of life, the usual practice is to use a composite of indicators covering specific sectors or dimensions of welfare which more easily lend themselves to measurement.

The average household income is a good catch – all or proxy indicator of well – being because its shows whether or not a family can afford the goods and services that the members need.

One way of determining the welfare status of the population is through the following:

3.1 *Take an inventory of the social support infrastructure, facilities and services*. It is suggested that the following data/information be obtained or generated and presented in the tabular form. (Please refer back to tables in Chapter II)

3.2 *Use output or outcome indicators, such as morbidity rates, malnutrition rates* rather than input indicators such as number of hospitals, number of schools in the area. This is due to the fact that mere presence or absence of a service is not a reliable indicator of the state of well-being of the people in the area.

3.3 *Availability and access to social services* - The physical availability of social services does not automatically mean that the citizens are well served. Some social services are not for free and therefore access is determined by affordability. It is the concern of the social sector to guarantee access to social services by the target population either by providing adequate social services or by removing the different types of barriers to access to these facilities and services.

It is therefore important to determine whether or not social welfare services and facilities are physically available and are located not too far away from the target clientele. And if they physically exist, ascertain if they tend to discriminate wittingly or unwittingly against certain groups on account of their social status or affiliations.

3.4 *Income / Poverty Line as a Measure of Well-being*

One may also use individual and family income as a welfare indicator although normally it is treated as an economic indicator. It is because income determines the ability of the individual or the family to procure the goods and services he/she/they need that are available in the market. This is also the reason behind the use of the poverty line (a concept that has a very strong income connotation) as a benchmark for measuring the level of well-being.

3.4.1 *Poverty Threshold*

In order to estimate the total poverty threshold (food plus non-food basic needs), the food threshold is divided by the proportion of the food expenditures (FE) to total basic expenditures (TBE) derived from the latest FIES using the FE/TBE's of families within the +/- 10 percentile of the food threshold.

TBE is the aggregate of expenditures on food; clothing and footwear; fuel, light and water; housing maintenance and other minor repairs; rental or occupied dwelling units; medical care; education; transportation and communications; non-durable furnishings; household operations and personal care and effects.

The proportion used is derived from patterns of expenditures of families/individuals whose annual per capita income falls below the annual per capita food threshold.

Poverty thresholds are computed for each region, on an urban/rural basis. The poverty threshold for the region is the weighted average of urban/rural thresholds. Threshold for areas outside NCR is the weighted average of thresholds of all regions outside NCR, on an urban/rural basis.

The threshold for the national level is estimated as the weighted average of the NCR and areas outside NCR, disaggregated by urbanity. The weights used are based on the population size in each survey round, i.e., 1985 to 1997 rounds, of the FIES

3.4.2 *Poverty Incidence*

The incidence of poverty (head count index) is computed by getting the percentage of the number of families below the poverty threshold to the total number of families.

3.4.3 *Computation of Food Threshold*

The per capita per day food cost is multiplied by 30.4 (approximate number of days per month) to get the monthly food threshold or by 365 days (30.4 days/month x 12 months) to get the annual food threshold.

The monthly/annual food threshold derived is thus interpreted as the subsistence threshold - the monthly/annual income necessary to meet nutritional requirements.

3.4.4 *Per Capita Food Supply*

Annual Per Capita Food Supply (in kilograms) - The annual per capita food supply in kilograms is estimated by dividing the net available food supply by the estimated mid-year population multiplied by 1,000.

Daily Per Capita Food Supply (in grams) - The daily per capita food supply in grams is estimated by dividing the annual per capita food supply by 365 days multiplied by 1,000.

4. ***Education***

4.1 *Total School-going age population* – Since the age groupings of the National Statistics Office (e.g., 5 – 9, 10 – 14, 15 – 19, 20 – 24) do not match the brackets for school-age population (e.g., 6 – 10 for primary; 11 – 12, intermediate; 13 – 16, secondary or high school; and 17 – 21 for tertiary or

collegiate level), the latter can be determined by utilizing at least two method of disaggregating an age bracket:

4.1.1 Sprague Multiplier.

Table ___ - Sprague Multipliers

	Age 0-4	**Age 5-9**	**Age 10-14**	**Age 15-19**
Age 0	0.3616	-0.2768	0.1488	-0.0336
Age 1	0.2640	-0.0960	0.0400	-0.0080
Age 2	0.1840	0.0400	-0.0320	0.0080
Age 3	0.1200	0.1360	-0.0720	0.0160
Age 4	0.0704	0.1968	-0.0848	0.0176
Age 5	0.0336	0.2272	-0.0752	0.0144
Age 6	0.0080	0.2320	-0.0480	0.0080
Age 7	-0.0080	0.2160	-0.0080	0.0000
Age 8	-0.0160	0.1840	0.0400	-0.0080
Age 9	-0.0176	0.1408	0.0912	-0.0144

	Age 0-4	**Age 5-9**	**Age 10-14**	**Age 15-19**	**Age 20-24**
Age 10	-0.0128	0.0848	0.1504	-0.0240	0.0016
Age 11	-0.0016	0.0144	0.2224	-0.0416	0.0064
Age 12	0.0064	-0.0336	0.2544	-0.0336	0.0064
Age 13	0.0064	-0.0416	0.2224	0.0144	-0.0016
Age 14	0.0016	-0.0240	0.1504	0.0848	-0.0128
	Age 5-9	**Age 10-14**	**Age 15-19**	**Age 20-24**	**Age 25-29**
Age 15	-0.0128	0.0848	0.1504	-0.0240	0.0016
Age 16	-0.0016	0.0144	0.2224	-0.0416	0.0064
Age 17	0.0064	-0.0336	0.2544	-0.0336	0.0064
Age 18	0.0064	-0.0416	0.2224	0.0144	-0.0016
Age 19	0.0016	-0.0240	0.1504	0.0848	-0.0128
	Age 10-14	**Age 15-19**	**Age 20-24**	**Age 25-29**	**Age 30-34**
Age 20	-0.0128	0.0848	0.1504	-0.0240	0.0016
Age 21	-0.0016	0.0144	0.2224	-0.0416	0.0064
Age 22	0.0064	-0.0336	0.2544	-0.0336	0.0064
Age 23	0.0064	-0.0416	0.2224	0.0144	-0.0016
Age 24	0.0016	-0.0240	0.1504	0.0848	-0.0128

and so on … … … … … until the age group 60-64.

	Age 55-59	**Age 60-64**	**Age 65-69**	**Age 70-74**
Age 65	-0.0144	0.0912	0.1408	-0.0176
Age 66	-0.0080	0.0400	0.1840	-0.0160
Age 67	0.0000	-0.0080	0.2160	-0.0080
Age 68	0.0080	-0.0480	0.2320	0.0080
Age 69	0.0144	-0.0752	0.2272	0.0336

	Age 55-59	Age 60-64	Age 65-69	Age 70-74
Age 70	0.0176	-0.0848	0.1968	0.0704
Age 71	0.0160	-0.0720	0.1360	0.1200
Age 72	0.0080	-0.0320	0.0400	0.1840
Age 73	-0.0080	0.0400	-0.0960	0.2640
Age 74	-0.0336	0.1488	-0.2768	0.3616

a. To <u>compute for the primary school-going (6 – 10 years old)</u> based on the given population by age bracket shown in the table below, follow the steps listed beneath the table:

AGE BRACKET	POPULATION (BOTH SEXES)
0 – 4	2,926
5 – 9	3,438
10 - 14	3,198
15 - 19	2,856
20 – 24	2,580
25 - 29	1,871
30 - 34	1,599

First compute for the single age population of 6 – 10 years old, i.e., 6 years old, 7 years old, 8 years old, 9 years old and 10 years old, following the steps below:

i. To get the number of the 6-year old population:

- Multiply the given population 0 - 4 with the multiplier across Age 6 under 0 – 4 column of the Sprague Multiplier Table.
  2,926 x 0.0080 = 23.408

- Then, multiply the given population 5 – 9 with the multiplier across Age 6 under the 5- 9 column of the Sprague Multiplier Table.
  3,438 x 0.2320 = 797.616

ii. Then, multiply the given population 10 – 14 with the multiplier across Age 6 under the 10 – 14 column of the Sprague Multiplier Table.
  3,198 x -0.0480 = -153.504

iii. Then, multiply the given population 15 – 19 with the multiplier across Age 6 under the 15 – 19 column of the Sprague Multiplier Table.
  2,856 x 0.0080 = 22.848

iv. Then add all the products of the computations above.

```
    23.408
+  797.616
+ -153.504
+   22.848
-------------
```

690.368 or 690 = Total number of 6-year old children

ii. To get the number of the 7-year old population:

i. Multiply the given population 0 - 4 with the multiplier across Age 7 under 0 – 4 column of the Sprague Multiplier Table.

2,926 x -0.0080 = -23.408

ii. Then, multiply the given population 5 – 9 with the multiplier across Age 7 under the 5- 9 column of the Sprague Multiplier Table.

3,438 x 0.2160 = 742.608

iii. Then, multiply the given population 10 – 14 with the multiplier across Age 7 under the 10 – 14 column of the Sprague Multiplier Table.

3,198 x -0.0080 = -25.584

iv. Then, multiply the given population 15 – 19 with the multiplier across Age 7 under the 15 – 19 column of the Sprague Multiplier Table.

2,856 x 0.0000 = 0

v. Then add all the products of the computations above.

-23.408
\+ 742.608
\+ -25.584
\+ 0
693.616 or 694 = Total number of 7-year old children

iii. To get the single-age population of 8-, 9-, and 10- year old children, as well as single-age population of those in the intermediate level (11- 12 years old), secondary (13 – 16 years old), and tertiary (17 – 21 years old) follow the same steps shown above, carefully noting the multipliers across the specific single age being computed.

4.1.2 Another method of disaggregating the NSO age group by total population per educational level is through the interpolation technique. This technique assumes that each of the age brackets contributes equally to the total population of a specific age bracket.

This is illustrated in the example below:

AGE BRACKET	POPULATION (BOTH SEXES)
All ages	58,274
5 – 9	8,359
10 – 14	7,399
15 – 19	6,751
19 - 24	6,254

a. To obtain the primary school-going age population(6 – 10 years old):

   i. Get 4/5 of age group 5- 9 years old and multiply by the total population of age group 5 – 9 years

      4/5 X 8,359 = 6,687

   ii. Get 1/5 of age group 10 – 14 and multiply by the total population of age group 10 – 14 years

      1/5 X 7,399 = 1,480

   iii. Add the results of (a) and (b).

      6,687 + 1,480 = 8,167

   iv. The sum of 8, 167 is the primary school-going age population (6 – 10 years old)

b. To obtain the school-going population for the intermediate level (11 – 12 years old):

   i. Get 2/5 of the age group 10 – 14 years old and multiply by the total population of the same age group.

      2/5 X 7,399 = 2,960

   ii. The product, i.e., 2,960 is the total population for the intermediate level.

c. To arrive at the school-going population for the secondary level:

   i. Get 2/5 of age group 10 – 14 and multiply by the total population of the same age group

      2/5 X 7,399 = 2,960

   ii. Get 2/5 of age group 15 – 19 and multiply by the total population of the same age group.

      2/5 X 6,751 = 2,700

   iii. Add the results of (i) and (ii).

      2,960 + 2,700 = 5,660

   iv. The sum is the total population for secondary level age group (13 – 16 years old)

d. To get the school-going age population for the tertiary level:

i. Get 3/5 of age group 15 – 19 and multiply by the total population of the same age group.

3/5 X 6,751 = 4,051

ii. Get 2/5 of age group 20 – 24 and multiply by the total population of the same age group.

2/5 X 6,254 = 2,502

iii. Add the results of (i) and (ii).

4,051 + 2,502 = 6,553

iv. The sum is the total population for the tertiary level (age group 17 – 21)

4.2 Enrolment Participation Ratio (EPR) refers to the ratio between the enrolment in the school-age range to the total population of that age range. The enrolment participation ratio is arrived at using the following formula:

$$\text{EPR} = \frac{\text{Number of enrolees by school level}}{\text{School-going age population of Age level}} \times 100$$

Example:

School-going age population in the primary level (6 – 10 years old) = 8,167

Number of enrolees in the primary level = 1,240

$$\text{EPR} = \frac{1{,}240}{8{,}167} \times 100$$

$$= 15.18\%$$

This means that for every 100 children aged 6 – 10 years, only 15 are enrolled. The remaining 85 do not go to school or are enrolled in schools located outside the boundary of the municipality or city.

4.3 Drop – out rate (DOR) is the proportion of pupils/students who leave school during the year as well as those who complete the grade/year level but fail to enrol in the next grade/year level the following school year to the total number of pupils/students enrolled during the previous school year.

$$\text{DOR} = \frac{\text{Number of pupils who left school during the school year or number of pupils who completed the grade/year level but fail to enrol in the next grade/ year level}}{\text{Total number of children enrolled during the school year}} \times 100$$

4.4 Student - teacher ratio is obtained by dividing the total number of enrolees by the total number of teachers involved in teaching academic courses.

Example:

Number of pupils in the primary level = 1,250
Number of primary school teachers = 25

$$\textbf{Student – Teacher Ratio} = \frac{\textbf{Number of pupils in the primary level}}{\textbf{Number of primary school teachers}}$$

$$= \frac{1,250}{25}$$

$$= \textbf{50: 1}$$

The result shows that there is one primary school teacher for every 50 pupils in the primary level.

4.5 Student - Classroom Ratio is computed by dividing the total number of students by the total number of classrooms.

$$\textbf{Classroom - Student Ratio} = \frac{\textbf{Number of students}}{\textbf{Number of classrooms}}$$

$$= \frac{1,240}{30}$$

$$= \textbf{41: 1}$$

4.6 Determining additional classroom requirement – The current classroom requirement may be computed using the following formula:

$$\text{Current classroom requirement} = \left[\begin{array}{l}\text{Current enrolment X}\\ \text{Standard classroom – student ratio}\end{array}\right] - \left[\begin{array}{l}\text{Current number of classrooms less}\\ \text{dilapidated / damage classrooms}\end{array}\right]$$

Example:

Current enrolment	**=**	**1,400**
Standard classroom-student ratio	**=**	**1:50**
Current number of classrooms in good condition	**=**	**25**
Number of dilapidated classrooms	**=**	**1**

$$\text{Current classroom requirement} = \left[1,400 \text{ X } \frac{1}{50}\right] - \left[25 - 1\right]$$

$$= 28 - 24$$

$$= 4 \text{ classrooms}$$

$$\text{Current teacher requirement} = \left[\begin{array}{l}\text{Current enrolment X}\\ \text{Student – Teacher Ratio}\end{array}\right] \left[\begin{array}{c}\text{Current}\\ \text{number of}\\ \text{teachers}\end{array}\right]$$

4.7 Determining additional teacher requirement – The current teacher requirement can be determined by using the following formula:

$$\textbf{Current teacher requirement} = \left[\begin{array}{l}\textbf{Current enrolment X}\\ \textbf{Teacher – Student ratio}\end{array}\right] - \left[\begin{array}{l}\textbf{Current number of}\\ \textbf{teachers}\end{array}\right]$$

The DepEd standard on teacher - student ratio is shown in the table below:

Level	Ratio (Teacher per Student)
Kindergarten	1:30
Elementary	
• *Public*	1:50
• *Private*	1:52
Secondary	1:50
Tertiary	1:50

Example:

Current primary school enrolment = 1,400
Standard teacher-student ratio = 1:52
Current number of teachers = 25

$$\text{Current teacher requirement} = \left[1.400 \text{ X} = 1/52\right] - \left[25\right]$$

$$= 27 - 25$$

$$= 2 \text{ Teachers}$$

4.8 Projecting Enrolment – In projecting enrolment, use the enrolment projections prepared by Department of Education.

5. Housing:

5.1 Estimating current housing demand – total current housing demand may be computed based on the following formula:

$$\text{Current housing demand} = \left[\text{Total Number of households} - \text{Total Number Housing Units}\right] + \left[\text{Total Number of Families} - \text{Total Number of Households}\right] + \left[\text{Total Unacceptable Housing Units} + \text{Barong-barong}\right]$$

Unacceptable housing units may be assumed as a certain percentage of housing units made of mixed materials. Or it could be determined by actual survey.

For example:

Given:
Number of households = 8,333
Total number of families = 8,500
Total number of housing units = 8,200
Housing made of mixed and light materials = 500 units
Barong- barong = 200 units

Current Housing Demand = (8,333 – 8,200) + (8,500 – 8, 333) + (500 X 0.05) + 200

= 133 + 167 + 25 + 200

= 525 housing units

5.2 Determining the number of new units to cover the housing backlog –This is derived by adding up the requirements for doubled-up households, displaced units and homeless households.

5.2.1 *Doubled up households* exist when one dwelling unit is shared by two or more households. This is mathematically expressed as follows:

DHHT = HHT – DUT

Where:
DHHT = Doubled up Household in time t
HHT = Total number of household in time t
DUT = Total dwelling units in time t

For example:

DUT = 156,540
HHT = 159,976
DHHT = 3,436

The household - dwelling unit ratio is 1.02. This means that about 2% of households are sharing a unit with another household.

5.2.2 *Displaced units* (Relocation needs) – To determine the number of displaced units, simply total the number of housing units in danger zones or uninhabitable areas, those affected by major government infrastructure projects, and those which are subject of a court order for eviction or demolition. An estimate of displacement due to natural disasters can also be added to the total.

For example:

Housing units in danger zones (HUDZ) = 150
Housing units in uninhabitable areas (HUUA) = 25
Housing units affected by infrastructure projects (HUIP) = 75
Housing units subject for demolition (HUSD) = 20
Displaced Units (DU) = HUDZ + HUUA + HUIP + HUSD = 150 + 25 + 75 + + 20
= 270 housing units

5.2.3 Homeless

a. If it is assumed that homeless population consist mainly of families, divide the number of homeless persons by the average household size. This will result in the number of homeless households.

b. If the homeless population consists of distinct individuals, each of these individuals is considered as a separate household. Therefore, the number of homeless persons equals the number of homeless households. This, however, may be addressed by improved institutional care.

To compute for homeless households and total needs of homeless, the following formula may be used:

$$\text{Homeless Households (HH)} = \frac{\text{Total homeless population (HP)} - \text{Homeless individuals (HI)*}}{\text{Average household size}} + \text{Homeless individuals}$$

* ***Not member of any household***

For example:

No. of Homeless based on actual survey = 300 persons
No. of Homeless who are not part of any HH = 28 persons
Average household size = 5 persons

$$\text{Homeless Households (HH)} = \frac{300 \text{ persons} - 28 \text{ persons}}{5} + 28$$

$$= \frac{272}{5} + 28$$

$$= 54 + 28$$

$$= 82$$

5.3 New number of the housing units needed to meet the requirements of the projected number of population – Future housing needs can be estimated for projected years by adopting the following formula:

Future housing demand = $X e^{rt}$
Where:

X = No. of housing units at latest census
e = 2.71828 (constant)
r = rate of increase of housing units between two (2) censal years
t = time interval between latest housing censal year and projected planning years

Example:

Given:

No. of housing units in 1995 = 16,482
No. of housing units in 1990 = 8,200
t = 5

$$r = \frac{\ln\left[\frac{\text{HU 1995}}{\text{HU 1990}}\right]}{t}$$

$$r = \frac{\ln\left[\frac{16,482}{8,200}\right]}{5}$$

$$r = \frac{0.698}{5}$$

r = 0.1396 or 13.96%
t = 1998 (projected year) – 1995 (census year)
t = 3 years

Therefore:

Future housing demand (1998) = Xe^{rt}

= 16,482 X 2.71828 $^{(0.1396)\,(3)}$
= 16,482 X 2.71828 $^{(0.4188)}$
= 16,482 X 1.52
= 25,055 housing units

5.4 Determining upgrading need – This can be best determined through actual survey. To avoid double counting, displaced units must be excluded because these are included in the calculation of new housing units needed due to relocation needs.

Upgrading need may take the form of one or a combination of the following:

5.4.1 Improving land tenure status, e.g., from provision of minimum security of tenure as in a written contract to awarding a title of land – Land requirements will be estimated on the basis of present design standards and number of different housing options. The total area of land needed has to be determined and matched with available and suitable land for housing development.

5.4.2 Access to basic services, e.g., dirt road to macadam road;

5.4.3 House condition, e.g., from semi – permanent to permanent structure

The LGU has to determine the criteria to be used for upgrading.

6. Health and Nutrition

Morbidity rates, malnutrition rates, maternal mortality rates and the like are better indicators of health status rather than the number of hospital beds; literacy rates, educational attainment, participation rate, rather than the number of school houses, etc. are more meaningful measures of well – being.

Morbidity rates refer to the frequency of disease and illness, injuries, and disabilities in a population.

6.1 Mortality

6.1.1 *Infant Mortality Rate* means the number of deaths of infants under one year old per 1,000 live births. It is computed as follows:

$$\textbf{Infant mortality rate} = \frac{\textbf{Number of infant deaths}}{\textbf{Number of live births}} \times 1{,}000$$

6.1.2 *Child Mortality Rate* is the number of deaths among children below 5 years of age per 1,000 children 1 -4 years old.

$$\textbf{Child mortality rate} = \frac{\textbf{No. of deaths among children 1-4 years old}}{\textbf{Total number of children 1-4 years old}} \times 1{,}000$$

6.1.3 *Maternal Mortality Ratio* is the ratio between the number of women who died (for reasons of pregnancy, childbirth and puerperium) to the number of reported livebirths in a given year, expressed as the number of maternal deaths per 100,000 live births.

$$\textbf{Maternal mortality rate} = \frac{\textbf{Number of maternal deaths in a given period}}{\textbf{Total number of livebirths in a given period}} \times 100{,}000$$

6.2 Morbidity – The Philippine Health Development Plan uses the following assumptions in computing for morbidity:

42% of the population will get sick

- 80% of the 42% usually go to government hospitals
- 20% of the 42% usually go to private hospitals
- 10%of the 80% who go to government hospitals will be confined (hospitalized)
    - 50% of the 10% will go to primary hospitals
    - 30% of the 10% will go to secondary hospitals
    - 20% of the 10% will go to tertiary hospitals

The assumptions above are illustrated below:

Total population = 600,000

- 600,000 x 42% = 252,000 will get sick
- 252,000 x 80% = 201,600 sick people will go to government hospitals
- 252,000 x 20% = 50,400 sick people will go to private hospitals
- 201,600 x 10 = 20,160 will be confined/hospitalized
- 20,160 x 50% = 10,080 will go to primary hospitals
- 20,160 x 30% = 60,480 will go to secondary hospitals
- 201,600 x 2% = 40, 320 will go to tertiary hospitals

6.3 Manpower requirements for health services correlate with the adequacy and inadequacy of health service rendered based on health status.

6.3.1 *For out – patient care* – This may be computed as follows:

$$\textbf{No. of manpower} = \frac{\textbf{No. of man-hours required for out-patients}}{\textbf{Available professional time in hours}}$$

$$\textbf{Man-hour required for out-patient} = \frac{\textbf{(No. of cases) x (Frequency of visit) x duration in minutes}}{\textbf{60 minutes per hour}}$$

$$\textbf{Professional time} = \textbf{(272 days) x (No. of available professional time)}$$

Where professional time available for:

- Municipal/ City Health Officer = 4 hours for direct patient care and 4 hours for administrative / auxiliary time
- Public Health Nurse = 5 hours for direct patient care and 3 hours for administrative/ auxiliary time
- Rural Health Midwife = 6 hours for direct patient care and 2 hours for administrative / auxiliary time
- Rural Sanitary Inspector = 6 hours for direct patient care and 2 hours for administrative / auxiliary time
- Vaccinator = 7 hours for direct patient care and 1 hour For administrative / auxiliary time
- Dentist = 5 hours for direct patient care and 3 hours for administrative /auxiliary time
- Assumed frequency of clinic Consultation = 2.88 times
- Duration of each visit or consultation = < / > 15 minutes depending on type of illness/ disease

Sample computation for determining manpower requirements for out-patient care is shown hereunder:

Given:

Cases of gastroenteritis	**=**	**100,000**
Frequency of consultation by patient	**=**	**2 times**
Physician's time (duration in minutes)	**=**	**15 minutes**
Physician's productive time	**=**	**4 hours**
Working days in one year	**=**	**272 days**

Therefore:

$$\text{Man-hour required for out-patient} = \frac{\text{(No. of cases) x (Frequency of visit) x duration in minutes}}{\text{60 minutes per hour}}$$

$$= \frac{\text{100,000 x 2 x 15}}{\text{60}}$$

$$= \text{50,000 man-hours required for out-patient}$$

$$\text{Professional time} = \text{(workings days /year) x (Physician's productive time)}$$

$$= \text{272 x 4}$$

$$= \text{1,088 hours}$$

$$\text{No. of manpower} = \frac{\text{No. of man-hours required for out-patients}}{\text{Available professional time in hours}}$$

$$= \frac{\text{50,000}}{\text{1,088}}$$

$$= \text{i. unicipal Health Officers}$$

6.3.2 *For Rural Health Units (RHU)* – The required manpower is computed based on the staffing pattern required by law. The standards in RHU personnel population are as follows:

a. One (1) Municipal Health Officer per 20,000 population
b. One (1) Public Health Nurse per 20,000 population
c. One (1) Rural Sanitary Inspector per 20,000 population
d. One (1) Rural Health Midwife per 5,000 population

6.4 *Hospital bed requirements* may be computed using two methods: the expected patient – load approach and the normative approach.

6.4.1 The expected patient – load approach converts the required bed days based on the assumption that patients suffering from acute communicable diseases would need an average of seven (7) days of confinement or hospitalization; while those with chronic degenerative

diseases would need an average of fifteen days of confinement. The required bed-days are converted into bed requirements.

6.4.2 The normative approach uses the bed population ratio of 1:2,000 to determine the total bed requirements.

The available beds of existing hospitals are then subtracted from the required number of beds to get the number of additional beds needed.

The suggested bed requirements by type of facility are as follows:

- Municipal Hospital = 6 – 24 beds
- Provincial Hospital = 100 – 199 beds
- Regional Hospital = 200 – 299 beds
- Medical Centers = minimum of 300 beds

6.5 *Hospital Bed-Population Ratio* refers to the ratio of hospital beds to the population, usually expressed as the number of available hospital beds for every 1,000 population.

$$\textbf{Hospital bed – population ratio} = \frac{\textbf{No. of hospital beds available}}{\textbf{Total population}} \times \textbf{1,000}$$

6.6 *Hospital Bed Occupancy Rate* refers to the number of in-patient hospital beds occupied divided by the average number of hospital beds, expressed in percent.

$$\textbf{Hospital bed occupancy rate} = \frac{\textbf{No. of in-patient hospital beds occupied}}{\textbf{Average number of hospital beds}} \times \textbf{100}$$

7. **Social Welfare and Development**

7.1 The projected social welfare clientele may be determined using the participation rate method:

For example:

Projected Population below poverty line = 154,000
Current clientele based on Actual LSWDO Survey = 1,500
Current population below poverty line = 13,030

$$\textbf{Projected clientele} = \textbf{Population below poverty line} \times \frac{\textbf{Current clientele}}{\textbf{Current population below poverty line}}$$

$$= \textbf{15,500} \times \frac{\textbf{1,500}}{\textbf{13,030}}$$

$$= \textbf{15,400 x 0.115}$$

$$= \textbf{1,773}$$

7.2 Requirements for day care centers – day care service is the provision of supplemental parental care to children 0 – 6 years old who may be neglected, abused, exploited or abandoned during part of the day when parents cannot attend to their needs. According to the Department of Social Welfare and Development, the requirements for the establishment of day care centers in a community are as follows:

One (1) day care center for every 500 families where:

a. majority of parents are both working
b. parents are emotionally unprepared
c. there is no form of socialization (no social activities)
d. there is plenty of street children aged 3 to 6 years old
e. the community is willing to put up a day care center

8. Public Order and Safety

8.1 In computing the *ratio of police force to the total population*, the following formula can be used:

$$\text{Police force - population ratio} = \frac{\text{Size of police force}}{\text{Total population}}$$

According to the Philippine National Police the manning levels of the police force in the country shall be within the following standards:

a) ideal police-to-population ratio is 1:500 persons;
b) minimum standard police-to-population ratio is 1:1,000 persons

The actual strength, however, shall depend on the peace and order situation, population density and actual demand of police services in a given locality. Generally, urban areas have higher minimum police-to-population ratio.

8.2 In computing for the *total population demand for policemen*, the following formula can be used:

Given:

Population = 600,000
Minimum standard police-population ration = 1:1,000

$$\text{Total population demand for policemen} = \text{Population x standard ratio}$$

$$= 600{,}000 \times \frac{1}{1{,}000}$$

$$= 600 \text{ policemen}$$

The above procedure can be used to compute for the population demand for firemen.

8.3 To compute for the *current police force requirement*, simply subtract the actual size of the police force or firemen from the total population demand for policemen or firemen.

For example:

Current police requirement = Total demand for policemen / firemen – Actual number of policemen/ firemen

Given:

Actual number of policemen/ firemen = 20
Total demand for policemen/ firemen = 120

Therefore:

Current police requirement = 120 – 20

= 100 licemen/ firemen

8.4 To determine the *projected police force requirements*, use the following formula:

Projected police force = Projected population x Standard Police force-to-population ratio

For example:

Given:

Projected population for 1998 = 65,000
Projected population for 2000 = 70,000
Police force-to-population ratio = 1:500

Therefore:

$$\text{Projected police force for 1998} = 65{,}000 \times \frac{1}{500}$$

= 130 policemen

$$\text{Projected police force for 2000} = 70{,}000 \times \frac{1}{500}$$

= 140 licemen

8.5 Crime Rate - number of crimes committed per 100,000 population. *(Philippine National Police)*

C. Economic Sector

1. *Concerns of the economic sector* – The economic sector is concerned with the enhancement of economic prosperity, promotion of full employment and food sufficiency.

1.1 Enhancement of economic prosperity - Examine if:

1.1.1 the benefits of prosperity are not concentrated in the hands of the few privileged sectors of society;

1.1.2 there are programs, projects and legislative measures that seek to promote full employment as the principal redistributive mechanism;

1.1.3 there are mechanisms available for direct transfer payments such as unemployment insurance or substantial non-wage benefits like subsidized health, education, housing and other social services;

1.1.4 there are opportunities for other types of employment such as public sector jobs, self-employment, or overseas placement.

1.2 *Promotion of full employment*

1.2.1 Assess the desirability of the LGU as a good place to do business in. Is the climate in the LGU hospitable to private investments? If not, why?

1.2.2 Determine if there are measures to indirectly create jobs by making the locality an attractive place for private investments.

1.2.3 Determine if there are incentives to private investors in the form of fiscal measures such as tax breaks and exemptions from certain fees and charges.

1.2.4 Find out if there are opportunities for other types of employment such as public sector jobs, self-employment or overseas placement.

1.3 *Food sufficiency* – Projecting dietary / food requirements – The standards recommended by the Food and Nutrition Resource Institute of the Department of Science and Technology can be used.

ANNUAL FOOD REQUIREMENT PER CAPITA

COMMODITY	PER CAPITA / YEAR REQUIREMENT (In Metric Tons)
Grains (rice and corn)	0.11434
Sugar	0.02100
Assorted vegetables and legumes	0.01265
Root crops	0.00730
Fish	0.03065
Meat & eggs	0.03313

1.3.1 Multiply the per capita per year requirement of each commodity by the total number of population.

1.3.2 Determine the volume of production of each of these commodities versus the total requirements to determine sufficiency or insufficiency.

2. *Structure of the Local Economy* - The local economy consists of three sectors: primary, secondary and tertiary. The size of each sector represents the relative share of that sector to the total economic structure.

   The relative size of each sector can be determined by using some of the measuring units as follows:
   a. Number of persons employed (or engaged)
   b. Volume or value of output
   c. Total amount of investment
   d. Number of establishments
   e. Gross value added

3. *Determining the structural shift in the local economy* - Structural shift in the local economy is shown by changes in the relative share of each sector to the total economy over time.

   For example: The increasing share of secondary and/or tertiary sectors and a corresponding decrease in the share of the primary sector indicate a trend towards urbanization.

   This concept is illustrated in the table below:

SECTOR	EMPLOYMENT SHARE				SHIFT % POINTS
	1980	*% Share*	*1990*	*% Share*	
Primary	40	53.3	33	41.25	-12.05
Secondary	16	21.3	22	27.5	+6.20
Tertiary	19	25.3	25	31.25	+5.95
All Sectors	75	99.9	80	100.00	

4. *Determining the LGU's specialization using location quotient*

   A simple measure of an area's specialization is the *location quotient (LQ).* The LQ is an indicator of the relative importance of an area in terms of selected industry types or sectors. Any measurement unit or variable can be used as the specialization variable and the reference variable.

   For the purpose of the LQ analysis, the comparison must be shown between a smaller area and a bigger area to which the smaller unit is a component pert, e.g. a town and its mother province of which it is a part. The formula for determining LQ is as follows:

$$\text{Location Quotient} = \frac{\dfrac{\text{Area specialization variable}}{\text{Area reference variable}}}{\dfrac{\text{Larger area specialization variable}}{\text{Larger area reference variable}}}$$

Note: The LQ is a ratio of ratios so the answer is an absolute number

For example:

- Measuring unit is “employment”
- Areas being compared are Town A and its mother province, Province A.
- The LQ for a particular sector (or activity), say, agriculture is computed as follows:

$$\text{Location Quotient} = \frac{\dfrac{\text{No. of persons engaged in agriculture in Town A}}{\text{No. of persons engaged in all sectors in Town A}}}{\dfrac{\text{No. of persons engaged in agriculture in Province A}}{\text{No. of persons engaged in all sectors in Province A}}}$$

$$\text{Location Quotient} = \frac{\dfrac{10,0000}{25,0000}}{\dfrac{65,000}{128,000}}$$

$$\text{Location Quotient} = \frac{0.40}{0.51}$$

$$= 0.79$$

The same computation may be repeated for each sector or activity and interpret the results as follows:

- If the LQ is greater than 1.0, the town is more specialized than the province as a whole in that type of economic activity.
- If the LQ is less than 1.0, the town is less specialized in that activity or sector than the province as a whole.
- If the LQ is equal to 1.0, the activity is equally important in both the town and the province.

In the case of the above example, it means that the town is less specialized in agriculture than the province as a whole.

5. *Determining volume of agricultural crop production* – volume of production can be expressed as follows:

Volume of Production = Area planted x yield per hectare

While the above formula can be used to project the volume of production, it is important to coordinate with the Local Agriculturist to determine the projected area planted to a specific crop as programmed by his/her office and by the Department of Agriculture.

6. *Projecting Demand for Agricultural Product*s – In order to determine a locality's annual demand, simply multiply per capita consumption with projected population. This is illustrated below:

Actual Demand/ Required Food	**=**	**Per capita consumption / Intake of food stuff**	**x**	**Projected population in a given year**

It must be noted however, that actual demand is not the same as Required Food Intake as used by the Nutrition Council. Actual demand refers to the amount of food that an individual can consume/ afford considering income and preferences.

7. *Determining industry classification* – According to the Department of Trade and Industry and the National Economic and Development Authority, industry types may be classified according to the following categories:

SCALE	CAPITALIZATION / ASSETS	NO. OF EMPLOYEES
Micro	Up to Php 3M	1 - 9
Small	Php 3,000,0001 – Php 15M	10 - 99
Medium	Php 15,000,001 – Php 100M	100 - 199
Large-scale industries	Above Php 100M	200 or more

Source: SMED Council Resolution No. 01 series of 2003 dated January 16, 2003

8. *Identifying linked activities* - The common types of economic linkages are as follows:

8.1 Backward – an activity or industry that provides input materials and services to, say, agriculture, e.g., farm implements, fertilizers, pesticides, certified seeds.

8.2 Forward – an activity that uses the output of a particular activity, say, sugar milling, e.g., candies, soft drinks, confectionery, is linked in a forward manner.

8.3 Vertical – where two or more firms produce components of a final output, e.g. parts of a car

8.4 Horizontal – where two or more firms produce complete products that are complementary in use, e.g. several furniture shops each specializing in one type of furniture like chairs, tables, cabinets, etc.

8.5 Diagonal – where a service cuts across different types of firms, e.g. security services, insurance, messengerial or forwarding services.

8.6 Residentiary – where services to the employees or managerial staff are provided by the firm or households, e.g. housing, recreation, food catering

Backward and forward linkages are known as *production linkages*. The others may be referred to as *distribution* or as *trade and services linkages*.

Information gathered about production linkages may be used as basis for a more detailed investigation into the feasibility of attracting new firms that have either a backward or a forward linkage with the local industry to locate in the area.

9. *Tracking money flows* - Another way of understanding the local economy is to assume the following:

   9.1 the geographical / territorial unit is a closed spatial system similar to a water tank that has an inlet pipe and an outlet pipe;

   9.2 both inlet and outlet valves are open at the same time.

   The amount of water that is stored in the tank at any time is the net of the inflow and outflow.

   Examples of inflow transactions are the following:

   - IRA
   - Salaries of NGA personnel in the locality
   - OFW remittances
   - Export sales of local products
   - Receipts from tourism services
   - Inbound investments

   Examples of outflow transactions are the following:

   - Municipal share to province
   - Outside purchased of households and local government
   - School expenses of locals studying elsewhere
   - Profits of investors remitted elsewhere
   - Imports of local business
   - Salaries of workers in the locality who live elsewhere

   Calculate the magnitude of each flow on a yearly basis and determine whether there is net storage of money in the local area. At least one of **two scenarios will emerge**:

   - Scenario 1: There is hardly any storage
   - Scenario 2: Storage is sizeable

   Under Scenario 1, the direct implication is that there is no possibility for the economy to grow. The intervention can be any one or a combination of the following policies:

   1. Increase the rate and magnitude of inflow;
   2. Decrease the magnitude and rate of outflow; or
   3. Adopt both measures at the same time.

   Under Scenario 2, a sizeable storage of money in the area is not a guarantee that the local economy will grow. Money that is simply “stored” does not grow. For it to grow, it must circulate. Money acquires added value every time it changes hands.

INFRASTRUCTURE

1. Analytical framework for determining adequacy of infrastructures:

$$Adequacy = \frac{Supply}{Demand} \times 100\%$$

Where: Supply is the quantity (corrected for quality) of available stock

Demand is a function of the population (household) size in the case of services directly consumed by people (e.g. transport, water, solid waste, communications, power, social services), or a function of the area of developed land (built-up area) in the case of infrastructures to service sites (e.g. roads, water, sewerage, drainage, telecommunications, power)

Therefore:	100%	=	adequate
	>100%	=	adequate, with some slack capacity
	<100%	=	inadequate, with backlog

2. Assessment of demand for water supply

2.1 determine the following:

2.1.1 current and projected population
2.1.2 number of connections served by the water system by type of consumer
2.1.3 number of households served by type of water supply (other than the Level III water system)

a. Level I – point source – convert to Level II if possible; no possibility of treatment
b. Level II – communal source – convert to Level III if possible; may be treated (impounding)
c. Level III – individual household served

In terms of safety, Levels II & III are safer than Level I

2.1.4 total water consumption by type of consumer

2.2 Compare with LWUA standard requirements

2.2.1	Residential	–	50 to 200 lcpd (rural); 107 to 250 lcpd (urban)
2.2.2	Commercial	–	1.00 to 130 cumd/connection
2.2.3	Industrial	–	85 to 260 cumd/hectare of industrial floor space
2.2.4	Institutional	–	3 to 4.50 cumd/connection - per unit of space

3. Assessment of water supply

3.1 Describe water system in terms of the following:

3.1.1 Source of water (rain, surface, ground)
3.1.2 Capacity of source (liters per second)

3.1.3 Kind, size and length, condition of pipes
3.1.4 Existing distribution systems and network (show in map location of main, reservoir, pumping station, treatment facilities, tanks, other hydraulic structures) – these are classified information
3.1.5 Minimum/ maximum daily capacity of pumping stations
3.1.6 Existing and proposed water rates - this has to do with access/affordability
3.1.7 Other potential sources
3.1.8 Location and description of untapped potential water sources (groundwater, lakes and swamps, reservoirs)

4. Assessment of existing infrastructures may be done using the following criteria:

4.1 Appropriateness – This can be determined by matching the type of infrastructure available with the level of settlement in which it is located and with the service area and population the facility is intended to serve.

4.2 Adequacy – This has to do with the capacity and quality of the infrastructure in relation to demand for its use.

4.3 Level of utility – This refers to the extent to which the facility is put to use.

4.4 Accessibility **–** This may be understood in either of these:

4.4.1 Physical terms – This refers to either distance or travel time, including travel cost from the user's point of origin

4.4.2 Design and quality of construction of the facility – Flashy and stylish designs and sophisticated equipment are normally associated with high income and high social class clientele and may screen off the low income groups from availing of such services and amenities.

4.5 Determining adequacy/appropriateness for:

4.5.1 Supporting the desired spatial strategy and achieving the chosen urban form. Determine if:

a. the roads and circulation networks are properly designed, i.e. the functional hierarchy is reflected in varying design standards.

b. there are land development or redevelopment schemes.

c. the proper infrastructure support facilities are in place.

d. the infrastructure development is consistent with the preferred urban form in terms of type and location.

e. the infrastructure development used to influence the location of future population and economic activities is in the desired locations.

4.5.2 Supporting projected levels of food self-sufficiency and production targets.

a. Based on the analysis of self-sufficiency level by food commodity, identify production support infrastructures such as irrigation systems and farm to market roads, as well as post production support facilities like grain

drying, cold storage, and public market facilities to help attain economic objectives.

4.5.3 Eliminating current backlogs in the provision of and access to social services.

a. Applying known service standards, determine shortfalls in the existing school, health, welfare, police and fire protection, recreation, and housing stocks against present demand.

4.5.4 Upgrading the quality of services and facilities to desired standards. Determine if:

- existing roads are adequate in terms of total length in relation to the total land area.
- existing roads passable during the rainy season.

4.5.5 Reducing vulnerability of the local population to environmental risks and disasters. Determine if structural measures are in place to reduce vulnerability of the population to environmental risks.

4.5.6 Maintaining the integrity of the environment. Determine if:

- civil works are properly designed and located to minimize the adverse impact and degradation and to help preserve the integrity of the environment.

- There are water impoundments, river bank stabilization and similar structures to help modulate the fury of nature and protect it from itself.

ENVIRONMENT

1. *Natural Resources Inventory* - Sources of data include maps, aerial photographs and satellite images.

1.1. Coordinate with the nearest offices of the DENR. Collect and collate data for such sectors as:

1.1.1. forests
1.1.2. lands
1.1.3. mines
1.1.4. protected areas
1.1.5. wildlife

1.2. Conduct an inventory of the following:

1.2.1. existing/ remaining stock in terms of commercial value/ volume by latest reckoning,
1.2.2. rate of flow or exploitation,
1.2.3. products and services derived from a particular source
1.2.4. protection and conservation measures that are in place
1.2.5. pertinent laws
1.2.6. administrative issuance other relevant policies
1.2.7. existing mitigation, rehabilitation, protection and conservation measures that ensure the sustainable use and serviceability of the ecosystem

1.2.8. Human pressures, threats – human and natural, to the very survival of the ecosystem (Please see Table ____)

2. *Degree of industrial hazard and pollution* – This can serve as a decision criterion for choosing specific types of industry that the LGU will allow to operate within its territory.

TYPE	DESCRIPTION
Hazardous	**Fire and health hazards; wastes have large amounts of combustible and toxic materials**
Pollutive	**Discharge large amounts of air, water and solid pollutants**
• **Non-pollutive/ non-hazardous; non-pollutive/ hazardous**	**Light industries**
• **Pollutive/ non-hazardous; pollutive/ hazardous**	**Medium industries**
• **Highly pollutive/non-hazardous; highly pollutive/hazardous; highly pollutive/extremely hazardous; pollutive/extremely hazardous; non-pollutive/extremely hazardous**	**Heavy industries**

Table _____- SAMPLE MATRIX OF SUSTAINABLE DEVELOPMENT INDICATORS FOLLOWING THE PSR FRAMEWORK

ECOSYSTEM / RESOURCE/ ISSUES	CONCERN	PRESURE	STATE	RESPONSE
ECOSYSTEMS				
1. Forest / Upland	• Optimal use and development of forest resources as indicated by commercial production, delivery of their ecological functions and recreational and aesthetic services	• Land use changes • Clearing of forests • Extent of timber production • Forest destruction by cause (kaingin, forest fire, illegal logging, pest and diseases, etc.) • Gross erosion • Average erosion rates for various land use • Water Use • Physical accounts for forestry depletion	• Area degradation forest • Forest use/ sustainability growth ratio • Area, volume, distribution of forest • Number and areas of ancient, semi-natural woodland remaining • Contribution of forestry sector to gross domestic product • Number of families whose main source of income is forestry • Quantity of roundwood production • Quantity of production of logs, lumber, plywood veneer, and other processed wood products • Non-timber forest products harvested • Forest charges on non-timber forest products • Areas extended for agriculture and non-agricultural uses in the various watersheds: extent of degradation by major island and by slope • State of watersheds • Clearing of forest • Comparative statistics for large establishments of manufacture of wood and cork products, except furniture, and manufacture and repair of furniture and fixtures except primarily of metal in terms of employees, compensation, value of output and census value added	• Protected area forest (national parks, watershed reservations, game refuge and bird sanctuaries) • Protected forest area as a percentage of total forest area • Number of area forested annually by government and private sectors • Timber licenses: number, area and annual allowable cut • Government income from royalty payments • Tenurial arrangements

ECOSYSTEM / RESOURCE/ ISSUES	CONCERN	PRESURE	STATE	RESPONSE
Forest / Upland (Cont'd.)			• Ratio of export to import of processed wood products' • Ratio of forest cover to population	
2. Agricultural / Lowland	• Efficient food production accompanied by minimal environmental damage for long-run sustainability	• Lowland use changes • Value added/ gross output • Human-induced soil degradation • Excessive use of pesticides • Land covered by urban development (also state indicator) • Presence of roads by type • Number of vehicles • Abstraction for spray irrigation • Nitrogen usage o Nitrogen inputs to agricultural soil o Nitrogen inputs to agricultural soil relative to protein production or ratio of inputs of nitrogen to agricultural soils over outputs in terms of protein • Pesticide usage • Gross erosion • Average erosion rates for various land use • Extent of problem soils	• Top soil loss • Climatic classes and soil constraints • Number of breeding bird species increasing and declining in population size and geographical distribution by broad habitat type • Plant diversity in semi-improved grassland – arable and pastural landscapes • Area of chalk grassland • Plant diversity in hedgerows, verges, stream-banks • Habitat fragmentation • Hedgerow length • Number of lakes and ponds • Distribution of static water bodies • Plant diversity in streamsides/ streambanks • Rural land cover o Arable cover o Improved grassland cover o Extent of agricultural land o Crop types o Area of heath and moorland in lowland landscapes o Other semi-natural land in lowland landscapes	• Rehabilitation / protection of land • Rural/ urban terms of trade • Agri-environment land management schemes • Government income from royalty payments • Tenurial arrangements

ECOSYSTEM / RESOURCE/ ISSUES	CONCERN	PRESURE	STATE	RESPONSE
Agricultural / Lowland (Cont'd.)			• Extent of designated protected areas o National parks o Watershed reservations o Game refuge and bird sanctuaries	
			• Agricultural productivity o Number of people employed in agriculture o Agricultural land production o Agricultural inputs o Agricultural outputs • Length of landscape – linear features • Concentration of heavy metals in agricultural topsoils o Metal-based industries o Fossil fuel burning o Waste incineration o Chemical industries o Use of leaded petrol o Spreading of industrial wastes o Sewage sludge o River dredgings on agricultural land o Very high applications of inorganic fertilizers and animal manures • Agricultural area by kind of crop • Agricultural production by kind of crop • Agricultural value by kind of crop • Crops shares in total area • Crop shares in total value	

ECOSYSTEM / RESOURCE/ ISSUES	CONCERN	PRESURE	STATE	RESPONSE
Agricultural / Lowland (Cont'd.)			• Crop prices • Land productivity, by kind of crop • Areas extended for agriculture and non-agricultural uses in the various watershed: extent of degradation by major island and by slope • Asset value and depreciation of agricultural lands • Irrigated areas • Land capability classes • Ratio of annual harvest to annual growth • Agricultural land and national land classification statistics • Ratio of export to import of agricultural products • Cropland – man ratio • Man – tractor ratio • Man – harvester / thresher ratio • Consumption of fertilizer – nitrogen to value of agricultural products ratio • Number and area by tenure of farm/ farm parcels	
3. Urban	• Provision of adequate and quality basic services; maintaining clean air; balance between competing use of land and sufficient employment	• Urban poor (informal settlers) population • Population increase o Illegal water connections; leaking pipes o Bad roads	• Insufficient housing • Inadequate services o Potable water o Electricity & telephone o Public transportation o Waste disposal	o Construction of low-cost housing; o Relocation of urban poor with livelihood opportunities nearby o Repair of leaks; prosecution of illegal connections o Prosecution of illegal connections o

ECOSYSTEM / RESOURCE/ ISSUES	CONCERN	PRESURE	STATE	RESPONSE
3. Urban (Cont'd.)		o Undisciplined population; influx or hazardous waste		o Road repair; new transport system o Awareness of public good; ban on importation of hazardous wastes; regular garbage collection
		o Epidemics o Migration of health workers • Pollution from vehicles and industries • Vagrants, informal settlers, increased cost of land o Corruption in acquisition of local permits • Budget constraints; poor teacher training	o Health service • Poor air quality • Poor land use o Insufficient parks o Absence of zoning • Insufficient and low quality of public education	o Public health campaigns; increased budget for health; emphasis on primary health care • Anti-pollution drive; lead-free gasoline; strict enforcement of emission laws; lower energy use by improving efficiency o Provision of parks and open spaces in residential designs o Relocation of informal settlers; amendment of zoning laws; anti-corruption measures • Education reforms: establishment of good schools in the provinces • Development of new industries outside Metro Manila; more vocational / technical courses

ECOSYSTEM / RESOURCE/ ISSUES	CONCERN	PRESURE	STATE	RESPONSE
3. Urban (Cont'd.)		• Migration to cities of unskilled labor; mismatch between graduates of the educational system and job opportunities	• Lack of employment	
4. Coastal/ Marine	• The optimal use and development of coastal resources as indicated by commercial production, delivery of their ecological functions and recreational and aesthetic services	• Oil spills • Contaminants – inputs of mercury, lead, cadmium, copper and orthophosphate • Quantity and volume of fish production by type of production	• Water quality – presence of nitrate • Stock of marine species • Contaminant concentrations in water and in fish • Bathing water quality	• Coastal zone management • Percentage coverage of international protocols • Coral reefs rehabilitation • Mangrove rehabilitation • Seagrass
		• Oil spills and operational discharges of oil o Accidental or illegal spillage from ships and spills from offshore installations o Number of ships exploring and producing oil in coastal waters • Physical accounts for fisheries depletion • Total family expenditures for fish and marine products • Number of families whose main source of income is from fishing activities	o Discharges from sewage treatment works and storm overflows and also by rivers o Concentration of total and fecal coliforms in samples of bathing waters • Export and import of fishery products	• Swampland rehabilitation

ECOSYSTEM / RESOURCE/ ISSUES	CONCERN	PRESURE	STATE	RESPONSE
5. Freshwater	• Maintenance and/ or improvement of water quality (surface and underground)	• Municipal wastes: effluents from factories and commercial centers; soil erosion • Saltwater intrusion into some areas; potential leaching of pesticides and fertilizers; dirty water from land fills	• Foul rivers and lakes around urban areas; poor support for aquatic life • Heavy use of underground water	• Enforcement of anti-pollution laws; water treatment plants; relocation of population away from rivers, reforestation • Watershed management
CRITICAL RESOURCES				
1. Minerals/ Mines	• Non-renewability of minerals and fossil fuels; hence the concern for minimal damage to the environment while optimizing its use	• Dislocation of indigenous communities; respect for ancestral domain • Environmental impact and accident profile	• Estimates of reserves and sites of important minerals, energy, limestone and aggregate • Poor mining practices, given disasters around the mining areas	• Legislation to settle ancestral domain; employment for indigenous peoples • Stronger agencies in charge of mining sector; institutionalization of not only EIS but also ERA; rehabilitation of mined areas
		• Increasing use of substitutes such as silica glass in communication	• Fluctuating prices of basic metal which are (sometimes) unprofitable	• R & D to find niche application of metals and better, more efficient and more productive mining processes
OTHER ISSUES				
1. Manufacturing	• Efficient and productive use of resources; environmental mitigation	• Capital-intensive industries; high interest rates • Increasing cost of technology; techno-liberal attitude of local business	• Absence of basic industries • Heavy dependence on foreign technologies	• BOT and joint venture agreements • Technological capability building

ECOSYSTEM / RESOURCE/ ISSUES	CONCERN	PRESURE	STATE	RESPONSE
1. Manufacturing (Cont'd.)		• Emerging global free trade and regional economic blocs • Demand-pull strategy of government	• Need for protection of local manufacturers in order to survive • Absence of capability in high technology areas	• Competitiveness program before full implementation of free trade • Supply-push strategy and incentives for high technology areas
2. Energy	• Efficient and productive use of non-renewables; greater use of renewable; mitigation of environmental consequences of such use	• Increased energy use due to economic growth o Increasing price of oil o Rising cost of electricity o Inefficient energy use • High cost o Reliability issues o Capacity problems o Power losses; securing of grids	• Present pattern of energy consumption: o By use of primary fuel o By use of electricity o By economic sector • Existing installed structures o Power plants o Refineries o Distribution system	• Aiming for efficient energy use o Use of geothermal energy o Use of energy efficient devices o Use of recycled materials to lower energy use • BOT schemes and joint ventures o More base-loading plants to replace old ones; installation of gas turbines o New refineries o Upgrading of grids to high voltage
3. Science and Technology	• Development of capability to enable society to efficiently use resources, respond to problems and, in general, provide a better future for its children	• Increasing need for scientists and engineers by multinational firms • Rapid development of similar institutions in neighboring countries • Pressure of eventual adoption of free trade on local firms to build up their R & D • International adoption of Agenda 21 goals and resulting requirement of capability in environmental areas	• Low number of R & D personnel • Inability of tertiary and R & D institutions to compete at the international level • Near absence of R & D in private sector • Near absence of capability in environmental areas	• Special programs such as ESEP and scientific career system • More government support for R & D in terms of funding and policy • Setting up of R & D units in local firms • Emphasis on environmental applications in basic and applied science courses and institution of environmental degree programs

	ECOSYSTEM / RESOURCE/ ISSUES	**CONCERN**	**PRESURE**	**STATE**	
GLOBAL CLIMATE CHANGE	• Averting and mitigation of damages due to climate change	• Atmospheric concentration of greenhouse gases (GHGs) resulting from human activities: o Carbon dioxide (CO2) (through fossil fuels, fossil-fuelled power stations) o Methane (CH4) (through livestock and rice cultivation) o Nitrous oxide (N2O) o Chlorofluorocarbons (CFCs) • Emission of sulphur oxides • Emission of nitrogen oxides	• Temperature change	• Industrial pollution control facilities • Control of emission of greenhouse gases • Development of substitution for harmful chemical compounds/ products • Command and control regulation • Institution of market-based policy instrument	