

## **PART II – PREPARING THE PLAN**

### **Chapter 2 – Preparing the Ecological Profile and Constructing the Local Development Indicators Matrix**

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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 and/or the Ecological Profile of the city or municipality is the first step in profiling or characterizing a planning area – whether it is a province, city, municipality, barangay or any other geographical or political territory. This step is followed by:

1. Constructing the Local Development Indicator Matrix (LDI) or statistical compendium to link the profiling to the planning proper; and
2. Conducting a situational analysis to identify issues and problems that need to be addressed and the potentials that can be maximized.

This chapter pertains to data generation and ecological profiling, and the construction of the LDI Matrix.

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

The **Socio – Economic Profile** 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:

- a. 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.
- b. 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, but in most cases, at the regional level.
- c. 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** is an expansion of the SEP to give due recognition and proper space for the bio – physical or ecological dimensions of the planning area.

#### *3.2 Why is ecological profiling important?*

Ecological profiling is necessary in order to help the LGU determine the services needed by its constituents, the resources required and the environmental factors in which policy is expected to bring about changes.

It is also important in identifying and prioritizing problem situations affecting the target population or specific segments of the population.

### *3.3 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, however, shall harness the support of all LGU departments/ offices/ units, including national government agencies operating within the locality, and the 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).

### *3.4 What is the role of the province in ecological profiling and situational analysis of its component LGU?*

- a. The Province can provide common sources, methodology, format or templates for data gathering to facilitate comparative data analysis, interpretation & presentation.
- b. The Province could be the most effective channel for cascading information and technology from the region to all levels of local government.
- c. Provincial resources can be used to acquire modern technology, such as computer software which could be shared with component LGUs.

### *3.5 How can national government agencies be involved in ecological profiling and situational analysis of an LGU?*

National government agencies operating in the LGU can:

- a. Provide assistance/guidance in identifying data needs, concerns, and indicators, and in setting/using data gathering tools and techniques;
- b. Provide tools and analytical guides and techniques for gathering and analyzing data;
- c. Conduct training on the use of analytical tools, guides and techniques;
- d. Copy furnish LGUs with data/ maps generated by their field offices;
- e. Provide LGUs with the results of their routine as well as project monitoring and evaluation activities;
- f. Provide guides/tools in developing indicators specific to various development/ sectoral issues and concerns and updating/developing Local Development Indicators (LDIs);
- g. Provide guides/tools in developing indicators specific to various development/ sectoral issues and concerns;

- h. Provide assistance/guidance in assessing specific sectoral performance, issue/sector specific performance;
- i. Provide tools and conduct training on the review of programs and activities particularly their responsiveness to specific issues and concerns; and
- j. Assist in validating results of the vision-reality gap analysis.

### 3.6 *What are the minimum contents of an Ecological Profile?*

The Ecological profile should have, as its minimum content the five development sectors, namely:

- a. Population and Social Services (Social Sector),
- b. Local Economy (Economic Sector),
- c. Bio-Physical Base (Environment Sector),
- d. Infrastructure Sector and
- e. Institutional Capacity of the LGU (Institutional Sector)

3.6.1 Population and Social Services – These should depict the behavior of the population as a whole as well as that of its component part.

#### *a. Population size*

- i. Obtain the latest figure given by the National Statistics Office (NSO).
- ii. To draw a sharper picture of the population size, compare it to that of the larger areas of which the city/municipality is a part, like the district, province or region, it has to be compared.
- iii. Show also population size and relative share of each barangay to the total city/municipal population in table form.
- iv. Whenever available, show the urban and rural population shares to total city/municipal population.
- v. If estimates about the population in a particular year other than the census year are desired, use any suitable calculation methods.

*b. 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:

- i. Sex composition – Population breakdown by sex

$$\text{SEX RATIO} = \frac{\text{No. of Males}}{\text{No. of Females}} \times 100$$

- ii. **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:

$$\frac{\text{Population 5 – 9 years old}}{\text{Total city/ municipal population}} \times 100$$

- iii. **Age Dependency Ratio** – Age dependency ratios are expressed variously as:

Total Dependency Ratio	=	$\frac{\text{Population <15 years + Population 65 years \&gt;}}{\text{Population 15 – 64 years old}}$	X 100
Young Dependency Ratio	=	$\frac{\text{Population below 15 years}}{\text{Population 15 – 64 years}}$	X 100
Elderly Dependency Ratio	=	$\frac{\text{Population 65 years \& above}}{\text{Population 15 – 64 years old}}$	X 100

- c. **Household and Family** – The NSO differentiates a “household” from a family by the following definitions:

- i. **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:
- Nuclear family, with the following variations:
    - Father, mother or one spouse only
    - Father and mother
    - Father, mother and unmarried children
    - One spouse and unmarried children
  - Extended family, i.e. in addition to nuclear family
    - Horizontal (same generation, e.g., cousin, brother)
    - Vertical , e.g., father or mother of either spouse
    - Horizontal – vertical, e.g., father and brother of either spouse
- ii. **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:

- One-person household
- Nuclear family household
- Horizontally extended family household
- Vertically extended family household
- Horizontally and vertically extended household
- Household of related persons
- Household of unrelated persons

d. *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.

Migration is made up of in-migration and out-migration. The two bring about contrasting results.

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.

e. *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:

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

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

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”.

- ii. Extent of Urbanization – The National Statistics Office defines an urban area as follows:
- In its entirety, all cities and municipalities having a population density of at least 1,000 persons per square kilometer.
  - Poblaciones or central districts of municipalities or cities which have a population density of at least 500 persons per square kilometer.
  - Poblaciones or central districts (not included in i and ii above, regardless of their population size if they have the following:
    - Street pattern, i.e network of streets in either parallel or right angle orientation;
    - At least six (6) establishments such as commercial, manufacturing, recreation and/or personal services;

- At least three of the following:
  - Town hall, church or chapel with religious services at least once a month;
  - Public plaza, park or cemetery;
  - Market place or building where trading activities are carried on at least once a week;
  - A public building like school, hospital, puericulture and health center or library.
  
- Barangays having at least 1,000 inhabitants which meet the conditions above and where the occupation of inhabitants is predominantly non-agricultural.

<b>MEASURES OF POPULATION DISTRIBUTION &amp; URBANIZATION</b>	
<b>Level of urbanization (urbanity) in percent</b>	$= \frac{\text{Combined population of urban barangays}}{\text{Total city/municipal population}} \times 100$
<b>Tempo of urbanization in percentage points</b>	$= \frac{\text{Population growth rate (urban)} - \text{Population growth rate (rural)}}{\text{Total urban population}} \times \text{Total area of urban barangays}$

- f. *Population Projections* – Estimates of the size of the population is an essential information in the planning exercise because it indicates, among other things, the amount of goods and services that must be provided as well as the resources that will have to be utilized or maintained or reach a certain level of acceptable human well – being.

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

- i. Mathematical method which is done using formulae such as the geometric rate, exponential growth rate and the participation or proportion method; and
- ii. 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.
- iii. 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.

To simplify the population projection exercise, however, only the mathematical method will be used in this guide.

**Geometric rate:** The National Statistics Office (NSO) uses this method. This assumes that the population grows in a manner analogous to the growth of money deposited in the bank, where the annual interest on a principal is capable of yielding additional interest in the following year.

Mathematically, this is expressed as:

$$P_n = P_o (1 + r)^t$$

Where:

- $P_o$  = base population of the area
- $P_n$  = population of the area  $t$  years later
- $t$  = Length of time interval in calendar years, and fraction thereof, between  $P_o$  and  $P_n$
- $r$  = Rate of growth of the population per unit

To compute for  $r$  (rate of growth), rewrite the above formula using logarithm as follows:

$$r = \text{antilog} \left[ \frac{\log \frac{P_n}{P_o}}{t} \right] - 1$$

**For example:** Compute the population growth rate for Municipality A from 1990 to 1995:

**Given:**

- $P_n$  = 1995 Population = 211,879
- $P_o$  = 1990 Population = 184,970
- $t$  = 1995 – 1990 = 5 years

Using a scientific calculator, follow the steps below:

- i. Set calculator to “ÖN” then press ÄC (all clear) key to erase previous entries.
- ii. Enter  $P_n$  which is 211,879, then press / which is the division sign
- iii. Enter  $P_o$  which is 184,970, then press = which is the equals sign
- iv. Press **log** which is the natural logarithm key
- v. Press / again, then press “5” which is the equivalent of  $t$  or the number of years
- vi. Press =, then Press “INV” which is the inverse sign key
- vii. Press **log**, then press – which is the minus sign
- viii. Enter constant integer 1, then press =
- ix. Press **x** which is the multiplication sign, then enter 100
- x. Press = sign. The answer, which is the population growth rate over a 5-year period is **2.75%**

**Exponential Growth Rate:** This is similar to geometric growth rate, except that the interest or growth in population occurs continuously rather than annually. The exponential formula for the growth rate is expressed as follows:

$$P_n = P_o e^{rt}$$

Where:  $P_o$  = base population of the area  
 $P_n$  = population of the area + years later  
 $e$  = constant 2.7183, which is the base of natural log  
 $t$  = time interval in calendar years and a fraction thereof  
 between  $P_o$  and  $P_n$   
 $r$  = exponential growth rate

Given:

$P_n$  = 1995 population = 211,879  
 $P_o$  = 1990 population = 184,970  
 $t$  = 1995 – 1990 = 5 years

To compute for  $r$ , rewrite the formula using the logarithm as shown below:

$$r = \left( \frac{\ln \frac{P_n}{P_o}}{t} \right) \times 100$$

Using a scientific calculator, follow the steps below:

- i. Set calculator to “ÖN” then press ÄC (all clear) key to erase previous entries.
  - ii. Enter  $P_n$  or the 1995 population which is **211,879**, then press / which is the division sign.
  - iii. Enter  $P_o$  or the 1990 population which is **184,970**, then press =.
  - iv. Press **ln** key, then press / again.
  - v. Enter “**5**”, which represents  $t$  or the number of years between 1990 and 1995, then press =.
  - vi. Press **x**, which is the multiplication sign then enter **100**.
  - vii. Press = and the answer in percent, **2.72**, will be shown.
- g. 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:
- i. Household income – by this criterion, it is possible to delineate areas which can be roughly be designated as marginal, low, medium and high income; and
  - ii. Ethnicity, cultural or regional origins of the area’s inhabitants

#### *h. Status of Well-being of the Population*

- i. Inventory of the social support infrastructure, facilities and services.
  - o Number of hospitals
  - o Number of schools
  - o Number of hospital beds
- ii. Morbidity rates
- iii. Malnutrition rates
- iv. Maternal and infant mortality rates
- v. Literacy rates
- vi. Participation rates

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.

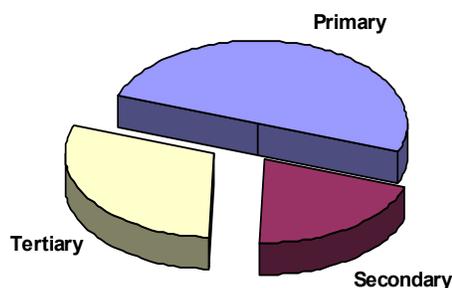
### **3.6.2 The Local Economy**

The government takes an active interest in the state of health of the economy because on its largely depends the level of income and employment and, hence, the level of well – being of the residents.

#### *a. The 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. It is illustrated as a pie divided into three parts in Figure 9 (Structure of the Local Economy).

**Figure 9 - Structure of the Local Economy**



The Philippine Standard Industry Classification lists the following activities under each sector.

- i. Primary Sector
  - Agriculture, livestock, fishery and forestry
- ii. Secondary Sector
  - Mining and quarrying
  - Manufacturing
  - Electricity, gas and water
  - Construction
- iii. Tertiary Sector
  - Wholesale and retail trade
  - Transportation, storage and communication,
  - Finance, insurance, real estate and business services
  - Community, social and personal services

### **3.6.3 The Physical and Spatial Base (Infrastructure Sector)**

#### *a. Inventory of Land and Land Use*

- i. Map Inventory – The proper start of physical / spatial analysis is an inventory of maps that are available or accessible. At the same time, a base map should be prepared at the appropriate scale (ranging from 1:10,000 to 1:50,000 depending on the size of the LGU). The base map should be reproduced in several copies. This base map should be used in the preparation of thematic maps to ensure consistency of map scale.

Shown in Table 7 are the key agencies and the type of maps available in their possession. However, there is a need to validate and reconcile all available maps because of differences in terms of the dates in which the data were captured, the scale of the maps, terminologies used, and delineation of boundaries, to name a few incongruities between and among agencies' data holdings.

#### *b. Preparation of Thematic Maps* – From the maps that can be obtained from the different agencies, the following city/municipal level thematic maps can be prepared:

- i. Political Boundaries – validation may be necessary due to possible recent changes. In case of doubt, seek clarification from the Land Management Bureau (LMB), DENR
- ii. Land Classification – while validation is no longer needed, map scales will have to be made uniform.
- iii. Slope – 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

iv. 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

**Table 7 - SELECTED MAPS HELD BY AGENCIES**

AGENCY	MAP TITLE AND SCALE	DATA/ INFORMATION OBTAINABLE
NAMRIA	Topographic Map (1:50,000; 1:250,000)	<ul style="list-style-type: none"> <li>• Point elevations</li> <li>• Major road network</li> <li>• Built-up areas</li> <li>• Water bodies</li> <li>• Other surface features</li> </ul>
	Land Classification Map (Varying scales)	<ul style="list-style-type: none"> <li>• Alienable and disposable lands</li> <li>• Timberlands</li> <li>• Unclassified public forests</li> </ul>
	Land Cover map	<ul style="list-style-type: none"> <li>• Extent of vegetative cover by type, other land uses (extensive and intensive)</li> </ul>
DENR	Legal Status Map (1:50,000; 1:250,000)	<ul style="list-style-type: none"> <li>• Reservations covered by proclamations, DENR projects, other protected areas</li> </ul>
BSWM	Slope Map (1:50,000)	<ul style="list-style-type: none"> <li>• Standardized slope categories and area in hectares covered by each slope category</li> </ul>
	Present Land Use and Vegetation Map (1:50,000; 1:250,000)	<ul style="list-style-type: none"> <li>• Land uses, mainly agricultural and forest, generalized built-up areas, major roads and stream networks</li> </ul>
	Protected Areas for Agriculture Map (1:50,000)	<ul style="list-style-type: none"> <li>• Highly restricted, moderately restricted, conditionally restricted areas from conversion, areas marginal to agriculture</li> </ul>
	Key Production Area Map (1:50,000; 1:250,000)	<ul style="list-style-type: none"> <li>• Areas suitable to agriculture and the recommended crops or activities for each area</li> </ul>
	Geographic Flow of Commodity Map (1:250,000)	<ul style="list-style-type: none"> <li>• Production and market areas for major agricultural crops</li> </ul>
DEO, DPWH	Road Network Map (1:10,000)	<ul style="list-style-type: none"> <li>• Existing and proposed road network by administrative responsibility and surface type</li> </ul>
MGB - DENR	Geological Map (1:250,000)	<ul style="list-style-type: none"> <li>• Sub-soil structure, fault lines, rock types</li> </ul>
PHILVOCS	Seismic Hazard Map (1:1,000,000 or smaller)	<ul style="list-style-type: none"> <li>• Areas prone to hazards associated with ground shaking (earthquake, volcanic eruptions, etc.), danger zones of varying degrees</li> </ul>

Table 7 - SELECTED MAPS HELD BY AGENCIES (Cont'd.)

HLURB; LGU	Existing Land Use Map (1:10,000)	<ul style="list-style-type: none"> <li>• City or municipality-wide distribution of major categories of land uses</li> </ul>
	General Land Use Plan (1:10,000)	<ul style="list-style-type: none"> <li>• Proposed Land Uses for the entire city/municipality</li> </ul>
	Zoning Map (1:10,000 or larger)	<ul style="list-style-type: none"> <li>• Proposed land uses for the urban and potentially buildable areas</li> </ul>

- v. Physical Constraints – a composite of several environmental hazards derived from different map sources extrapolated to the extent relevant to the municipal level, such as:
- Flood prone areas – derived from topographic map
  - Areas vulnerable to tsunamis – NEDA Regional Office maps used in the Regional Physical Framework Plan (RFPF)
  - Severe erosion areas – BSWM
  - Areas threatened by ground shaking – PHILVOCS, MGB
  - Areas threatened by volcanic hazards – PHILVOCS
  - Areas threatened by saltwater intrusion – BSWM
- vi. Present Land Use – should be prepared at two levels: general land use for the entire city/municipal area and urban land use for the poblacion or urban area
- General Land Use – derived from BSWM, HLURB, DENR and NAMRIA maps; with reconciliation needed
  - Urban Land Use – generated by the LGU updating and validating through detailed foot survey or other suitable survey methods including aerial photo or satellite image interpretation.
- vii. Road network and Infrastructures – derived from the District Engineering Office, DPWH, BSWM and other utility agencies
- viii. Protected Areas for Agriculture - from BSWM
- ix. Protected Areas under the NIPAS – from PAWB, DENR
- c. *Inventory of Existing Infrastructure Support*
- i. Economic Support Infrastructure, such as
    - Irrigation systems
    - Power generation, e.g. mini-hydro
    - Roads, bridges, ports
    - Flood control and drainage
    - telecommunications
  - ii. Social Support Infrastructure, like
    - Schools, all levels
    - Hospitals, all types
    - Waterworks and sewerage
    - Public socialized housing

- Facilities for socially disadvantaged groups
  - Cultural and sports facilities
- iii. Public Administrative Support, such as
- Local government support, e.g., city/municipal/barangay halls
  - Facilities for justice administration
  - Facilities for public safety and protection, e.g. police stations and sub-stations, fire stations and sub-stations

### **3.6.4 Environment and Natural Resources**

LGUs are now empowered to share responsibility with the national government in the management of natural resources and maintenance of ecological balance within their territorial jurisdiction.

- a. Natural Resources Inventory
- i. Coordinate with the nearest offices of the DENR. Collect and collate data for such sectors as forests, lands, mines, protected areas and wildlife.
  - ii. Standard inventory data include existing / remaining stock in terms of commercial value/ volume by latest reckoning, the rate of flow or exploitation, the products and services derived from a particular source, and the protection and conservation measures that are in place.
  - iii. Sources of data include maps, aerial photographs and satellite images.
  - iv. The inventory should also include pertinent laws, administrative issuance and other relevant policies.
- b. Inventory of existing mitigation, rehabilitation, protection and conservation measures that to ensure the sustainable use and serviceability of the ecosystem.
- c. Human pressures, threats – human and natural, to the very survival of the ecosystem

### **3.6.5 Institutional Sector**

- a. Organizational Structure of the LGU
- b. Staffing of LGU Offices / Departments
- c. Fiscal Position of the LGU
- d. Inventory of Outputs of the Sanggunian (e.g., ordinances, resolutions), by Sector
- e. Local Special Bodies
- f. Civil society Participation
- g. National Government Agencies operating in the LGU

*What are the sources of data?*

**Table 8 - SUGGESTED SOURCES OF DATA**

SOURCE	TYPE OF DATA
Local Planning & Development Office (LPDO)	<ul style="list-style-type: none"> <li>• Practically all sorts of information about the city/ municipality</li> </ul>
Mayor's Permits and Licenses Office	<ul style="list-style-type: none"> <li>• Number of establishments operating in the city/ municipality</li> <li>• Amount of capitalization per establishment</li> <li>• Number of employees per business entity</li> <li>• Location of business, by barangay</li> </ul>
Assessor's Office	<ul style="list-style-type: none"> <li>• Real property tax</li> <li>• Physical profile of the city/municipality               <ul style="list-style-type: none"> <li>○ Area coverage of specific land uses and their boundaries</li> </ul> </li> <li>• Ownership of properties</li> <li>• Assessed and fair market values of specific parcels</li> </ul>
Treasurer's Office	<ul style="list-style-type: none"> <li>• Barangay and municipal/city level data               <ul style="list-style-type: none"> <li>○ Income, receipts and revenues</li> <li>○ Running summaries of collection and disbursement records</li> </ul> </li> </ul>
Rural Health Unit (RHU)	<ul style="list-style-type: none"> <li>• Data on the following, with barangay disaggregation               <ul style="list-style-type: none"> <li>○ Infant mortality rate</li> <li>○ Extent of malnutrition by age group</li> <li>○ Households with/without sanitary toilets</li> <li>○ Proportion of households served by safe drinking water</li> <li>○ Crude birth and death rates</li> </ul> </li> </ul>
Department of Education (District Supervisor)	<ul style="list-style-type: none"> <li>• School enrolment by place of residence of pupils</li> <li>• School participation rate by age groups</li> </ul>
City / Municipal Census Officer / Civil Registrar	<ul style="list-style-type: none"> <li>• Authoritative information on population such as demography and migration; registered births, deaths and marriages</li> <li>• Survey of establishments</li> </ul>
The City / Provincial Engineer	<ul style="list-style-type: none"> <li>• Inventory and condition of roads and bridges</li> <li>• Extent of service of potable water systems in rural areas</li> </ul>
Utility Companies	<ul style="list-style-type: none"> <li>• Extent of service of electric power supply</li> <li>• Extent of service of telecommunications systems</li> <li>• Extent of coverage of domestic water supply</li> </ul>
The Local Government Operations Officer, DILG	<ul style="list-style-type: none"> <li>• Information on barangay political activities</li> <li>• Monitoring of barangay projects</li> </ul>
Local Election Registrar	<ul style="list-style-type: none"> <li>• Precinct – level voting – age population</li> <li>• Registered voters by barangay (not only by precinct)</li> </ul>
Municipal/ City Accountant	<ul style="list-style-type: none"> <li>• Financial Statements</li> </ul>
Police Office	<ul style="list-style-type: none"> <li>• Incidences of various crimes</li> </ul>
Non – government Organizations	<ul style="list-style-type: none"> <li>• Micro – level information for a wide range of specific purposes</li> </ul>

### What are other sources of data?

- a. **The Community – based Monitoring System (CBMS)** 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 data / information as:

**Table 9 –Data / Information by Sector / Sub-sector**

SECTOR / SUB – SECTOR	DATA / INFORMATION
<p><b>POPULATION AND SOCIAL SERVICES</b></p>	<ul style="list-style-type: none"> <li>• Total population, by sex and sex ratio, by barangay</li> <li>• Total number of households, by barangay</li> <li>• Average household size, total municipality, by barangay</li> <li>• Number of households with income below the poverty threshold (municipal and provincial average)</li> <li>• Number of household below the food threshold (municipal and provincial average)</li> <li>• Number of households who experienced food shortage (municipal and provincial average)</li> <li>• Members of the labor force who are unemployed (municipal and provincial average)</li> <li>• Migration rate in purok, barangay, municipality/city and province.</li> <li>• Total population, by sex and sex ratio, by barangay</li> <li>• Total number of households, by barangay</li> <li>• Average household size, total municipality, by barangay</li> <li>• Number of households with income below the poverty threshold (municipal and provincial average)</li> <li>• Number of household below the food threshold (municipal and provincial average)</li> <li>• Number of households who experienced food shortage (municipal and provincial average)</li> <li>• Members of the labor force who are unemployed (municipal and provincial average)</li> <li>• Number of OFWs</li> </ul>
<p>a. Health</p>	<ul style="list-style-type: none"> <li>• Magnitude and proportion of malnourished children 0 – 5 years old vs. total children 0 – 5 years, by sex, by barangay</li> <li>• Number of malnourished children 0 – 5 years old (municipal and provincial average)</li> <li>• Magnitude and proportion of children 0 – 5 years old who died vs. total number of children 0 – 5 years, by sex, by barangay</li> <li>• Number of children 0 – 5 years old who died (municipal and provincial average)</li> <li>• Total number of child births (less than 1 year old)</li> <li>• Magnitude and proportion of women who died due to pregnancy related causes vs. total pregnant women</li> <li>• Number of women who died due to pregnancy related causes (municipal and provincial average)</li> <li>• Magnitude and proportion of households without access to safe drinking water vs. total number of households</li> <li>• Magnitude and proportion of households without access to safe water vs. total number of households</li> <li>• Number of households without access to safe water (municipal and provincial average)</li> <li>• Magnitude and proportion of households vs. total number of households, by source of drinking water</li> <li>• Magnitude and proportion of households with access to sanitary toilet facility vs. total number of households, by barangay</li> <li>• Magnitude and proportion of households, by type of toilet facility vs. total number of households</li> <li>• Number of households without access to sanitary toilet facilities (municipal and provincial average)</li> </ul>

**Table 9 –Data / Information by Sector / Sub-sector  
(Cont'd.)**

SECTOR / SUB – SECTOR	DATA / INFORMATION
a. Health (cont'd.)	<ul style="list-style-type: none"> <li>• Number and proportion of households that access health facilities, by type of health facilities</li> <li>• Number and proportion of couples that practice family planning methods, by type of family planning methods</li> <li>• Number and proportion of households with access to:               <ul style="list-style-type: none"> <li>○ Supplemental Feeding</li> <li>○ Health assistance program including Philhealth</li> </ul> </li> <li>• Number of persons who died, by sex, by cause of death</li> </ul>
b. Education	<ul style="list-style-type: none"> <li>• 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.</li> <li>• Number of children 6 – 12 years old not attending elementary school (municipal and provincial average)</li> <li>• 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</li> <li>• Number of children 13 – 16 years old not attending high school. (municipal and provincial average)</li> <li>• Number of households with access to Education /scholarship program</li> </ul>
c. Social Welfare and Development	<ul style="list-style-type: none"> <li>• Number of persons with disability, by type of disability</li> <li>• Number of senior citizens (60 years old and above), with and without identification cards</li> </ul>
d. Housing	<ul style="list-style-type: none"> <li>• Magnitude and proportion of households by tenure status vs. total number of households</li> <li>• Magnitude and proportion of households living in makeshift housing vs. total number of households, by barangay</li> <li>• Number of households living I makeshift housing (municipal and provincial average)</li> <li>• Magnitude and proportion of households who are informal settlers vs. total number of households, by barangay</li> <li>• Number of households who are informal settlers (municipal and provincial average)</li> <li>• Number of households with access to Housing program</li> <li>• Number of households with electrical connections</li> <li>• Average monthly electrical consumption</li> <li>• Types of materials used for walls and roofs dwelling units</li> </ul>
e. Public order and Safety	<ul style="list-style-type: none"> <li>• Magnitude and proportion of households with victims of crime, by sex, by barangay vs. total number of persons, by sex, by barangay</li> <li>• Number of persons victimized by crime (municipal and provincial average)</li> <li>• Number of persons victimized by crime by type of crime, by sex</li> </ul>
<b>ECONOMIC</b>	<ul style="list-style-type: none"> <li>• Number and proportion of households with access to programs               <ul style="list-style-type: none"> <li>○ Comprehensive Land Reform Program</li> <li>○ Skills or livelihood training program</li> <li>○ Credit program</li> </ul> </li> <li>• Number of persons employed by sector (primary, secondary, tertiary)Sources of income</li> <li>• Net household income from various sources</li> </ul>
<b>ENVIRONMENT</b>	<ul style="list-style-type: none"> <li>• Solid waste disposal system, by type (municipal/city garbage collection, composting, burning, waste segregation, etc.)</li> <li>• Frequency of garbage collection</li> </ul>

**Table 9 –Data / Information by Sector / Sub-sector  
(Cont'd.)**

SECTOR / SUB – SECTOR	DATA / INFORMATION
<p style="text-align: center;"><b>INSTITUTIONAL</b></p>	<ul style="list-style-type: none"> <li>• Number and proportion of persons with membership in community organization, by type of community organization</li> <li>• Number and proportion of registered voters vs. total population</li> <li>• Number and proportion of registered voters who voted in the last elections vs. total number of registered voters</li> </ul>

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:

- i. Type of person (doctor, nurse, midwife, *hilot*, friend/relative, others) who assisted in the delivery during childbirth
- ii. Place (home, public hospital, public health center, private hospital, private clinic, others) where pregnant women give birth
- iii. Perceptions regarding HIV/AIDS
- iv. Cases of domestic violence (insulting spouse/partner, slapping, beating kicking, punching spouse/partner, withholding financial support, forced sex)

***What other data should be generated for some specific purposes?***

To make planning truly comprehensive, the most extensive array of data should be generated to help in analyzing the LGU situation and in formulating appropriate goals and strategies, and developing suitable programs and projects to address all sectoral and cross – sectoral concerns.

Listed in the Table 10 are the data requirements for cross – sectoral and special concerns.

Table 10 - Data Requirements for Cross-Sectoral and Special Concerns

CROSS – SECTORAL CONCERNS	POSSIBLE HOST SECTOR	DATA REQUIREMENTS
<b>A. Disaster Risk Management</b>	Environment	<ul style="list-style-type: none"> <li>○ Hazard map</li> <li>○ Hazards or threats which may damage the locality or community</li> <li>○ Footprint map</li> <li>○ Disaster history , including causes of disaster incidents, areas affected by various disasters in the past</li> <li>○ 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)</li> <li>○ 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)</li> <li>○ Frequency of the occurrence of the hazard – seasonally, yearly, once in 10 years, once in a lifetime</li> <li>○ Particular time of the year when hazards occur – wet or dry season?</li> <li>○ Length of time the hazard is felt (e.g., days, weeks, months that an area is flooded etc.)</li> <li>○ Air, water, soil quality, forestry, erosion, waste management</li> </ul>
	Social	<ul style="list-style-type: none"> <li>○ Presence of armed conflict (war, terrorism)</li> <li>○ Length of period of military operations</li> <li>○ Proportion of households living in sub – standard housing</li> <li>○ Percentage of poor people having access to social protection and safety nets</li> </ul>
	Economic	<ul style="list-style-type: none"> <li>○ Financial sector involvement in insurance and other risk spreading instruments</li> </ul>
	Institutional	<ul style="list-style-type: none"> <li>○ Current measures being undertaken, if any, for various hazards</li> </ul>
	Infrastructure	<ul style="list-style-type: none"> <li>○ Percentage of construction or building projects in hazard prone areas</li> <li>○ Building classes by structural or construction type / wall material of building</li> <li>○ Lifelines (main roads network, bridges, tunnels, waterways and railways network, ports and airports, drinking water, electricity, telephone and data networks.</li> <li>○ Essential networks ( location of and number of hospitals, clinics, ambulance, fire brigade stations, police stations, government offices, schools, community centers, religious centers, covered courts, sports centers, sports fields, public green spaces, vacant lands, non – built up areas</li> </ul>

Table 10 - Data Requirements for Cross-Sectoral and Special Concerns (Cont'd.)

CROSS – SECTORAL CONCERN	POSSIBLE HOST SECTOR	DATA REQUIREMENTS
<b>A. Disaster Risk Management</b>		
2. Capacity and Vulnerability Assessment <sup>1</sup>		
a. Physical / Material	Infrastructure	<ul style="list-style-type: none"> <li>○ Location and type of building materials</li> <li>○ Roads, transportation, communication</li> <li>○ Health facilities</li> </ul>
	Economic	<ul style="list-style-type: none"> <li>○ Economic activities</li> </ul>
b. Social / organizational	Population and Social Services	<ul style="list-style-type: none"> <li>○ Population in urban areas</li> <li>○ Population growth rates</li> <li>○ Poverty incidence</li> <li>○ Literacy rate</li> <li>○ Mortality rate</li> <li>○ Family structures</li> <li>○ Human capital : population, mortality, nutritional status, literacy, poverty levels</li> <li>○ Divisions and conflicts: ethnic, class, religion, ideology, language groups, isolation and connectedness</li> <li>○ Access to basic services: housing and land tenure distribution, proportion of slums, water, sanitation, electricity</li> <li>○ Number of persons per hospital bed</li> <li>○ Number of persons per health personnel</li> <li>○ Vulnerable groups and degree of vulnerability</li> </ul>
	Economic	<ul style="list-style-type: none"> <li>○ LGU product per capita</li> <li>○ GDP per capita</li> <li>○ Unemployment rate</li> <li>○ Informal employment rate</li> </ul>
	Institutional	<ul style="list-style-type: none"> <li>○ Structure of governance</li> <li>○ Legislations dealing with disaster management and risk reduction</li> <li>○ Proportion of local government budget allocated for disaster management and risk reduction activities</li> <li>○ Administrative structure and arrangements for disaster management</li> <li>○ Decision – making structures</li> <li>○ Participation levels</li> <li>○ Political groups and structures for mediating conflicts</li> <li>○ Degree of justice, equality and access to political process</li> <li>○ Community organizations: formal and informal; traditional, governmental, non – governmental</li> <li>○ Ratio of fire services per person</li> <li>○ Risk reduction strategies, if ny, for hazard prone areas</li> </ul>

<sup>1</sup> Vulnerability refers to the implications of the disasters on physical, environmental, social and economic aspcts. Disaster mitigation work focuses on reducing vulnerability.

Table 10 - Data Requirements for Cross-Sectoral and Special Concerns (Cont'd.)

CROSS – SECTORAL CONCERN	POSSIBLE HOST SECTOR	DATA REQUIREMENTS
<b>B. Poverty Reduction and Millennium Development Goals</b>	Environment	<ul style="list-style-type: none"> <li>○ Location of hazard prone urban areas.</li> </ul>
MDG No. 1 (Eradicate extreme poverty and hunger)	Social / Economic	<ul style="list-style-type: none"> <li>○ Proportion of households with income less than the poverty threshold</li> <li>○ Proportion of households with income less than the food threshold</li> <li>○ Proportion of persons aged 15 years old and above who are not working but are actively seeking work</li> <li>○ Proportion of children 0 – 5 years old who are moderately and severely underweight (below normal – low and below normal very – low)</li> <li>○ Proportion of households who eat less than three full meals a day</li> <li>○ Proportion of household members victimized by crime</li> </ul>
MDG No. 2 (Achieve universal primary education)	Social	<ul style="list-style-type: none"> <li>○ Proportion of children 6 – 12 years old who are not in elementary school</li> <li>○ Proportion of children 13 – 16 years old, male/female who are not in high school vs. total number of children 13 – 16 years old</li> </ul>
MDG No. 3 (Promote gender equality)		(May be derived from above)
MDG No. 4 (Reduce child mortality)	Social	<ul style="list-style-type: none"> <li>○ Proportion of children under five years of age who died</li> </ul>
MDG No. 5 (Improved Women's Reproductive health)	Social	<ul style="list-style-type: none"> <li>○ Maternal mortality rate</li> </ul>
MDG No. 6 (Combat HIV/AIDS, Malaria and Other Diseases)	Social	<ul style="list-style-type: none"> <li>○ Proportion of households without access to safe water</li> <li>○ Proportion of households without sanitary toilets</li> <li>○ Proportion of persons afflicted with HIV/AIDS, malaria and other diseases</li> </ul>
MDG No. 7 (Ensure environmental sustainability)	Environment	<ul style="list-style-type: none"> <li>○ Proportion of households with makeshift housing</li> </ul>

<b>C. Gender Responsiveness<sup>2</sup></b>	Population / Demographic Profile	<ul style="list-style-type: none"> <li>○ Population size, age – sex composition, spatial distribution (urban – rural)</li> <li>○ Population 15 years and over, by sex and educational attainment</li> <li>○ Percent of male/ female headed households by marital status</li> <li>○ Percentage of women in managerial/supervisory and technical positions</li> <li>○ Annual population growth rate</li> <li>○ Population distribution, by barangay, urban – rural, migrant and non – migrant classification</li> <li>○ Number, age – sex composition and highest educational attainment of working age population (15 – 64 years old)</li> <li>○ Number of employed persons by age, sex, spatial distribution and occupation</li> <li>○ Labor force participation rate or activity rate by age, sex, type of occupation and geographic location</li> <li>○ Average family income by sex of household head</li> <li>○ Number of households by income bracket</li> <li>○ Population size, age – sex composition and geographic location</li> <li>○ Number of persons entering the labor force (15 years old), by sex, highest educational attainment and geographical location</li> </ul>
		<ul style="list-style-type: none"> <li>○ Number of Overseas Filipino Workers by sex, age group, place of work and major occupational group</li> <li>○ Percent of elementary, secondary, college and higher education graduates by sex</li> <li>○ Share Employment, underemployment, unemployment rates, of women to total employment by major occupation group and class</li> <li>○ Sex – specific dependency burden</li> <li>○ Sex – specific in – and out – migration rates</li> </ul>
	Social	<ul style="list-style-type: none"> <li>○ Traditional beliefs and practices of the people pertinent to health</li> <li>○ Percent of infants with low birth weight by sex</li> <li>○ Nutritional status by sex and age group</li> <li>○ Nutritional status of pregnant women (incidence of malnutrition)</li> <li>○ Percent of population with iron, iodine and vitamin A deficiencies by sex and age group</li> </ul>

<sup>2</sup> As listed in Annex 1 - *Gender Responsive Population and Development Planning Guide*

<b>C. Gender Responsiveness<sup>3</sup></b>	<b>a. Health</b>	<ul style="list-style-type: none"> <li>○ Sex – specific mortality rate by age group and leading causes</li> <li>○ Sex – specific morbidity rate by age group and leading causes</li> <li>○ Sex – specific crude birth rate</li> <li>○ Sex – specific crude death rate</li> <li>○ Total fertility rate</li> <li>○ Maternal mortality rate</li> <li>○ Life expectancy by sex</li> <li>○ Contraceptive prevalence rate by type of contraceptive method used</li> <li>○ Incidence of teenage pregnancy</li> <li>○ Number of health facilities, urban – rural</li> <li>○ Hospital bed – population ratio</li> <li>○ Number of health personnel by sex</li> <li>○ Doctor – population ratio</li> <li>○ Health facilities – population ratio, by type</li> <li>○ Percentage of births attended by health personnel by type of health personnel</li> </ul>
	<b>b. Education</b>	<ul style="list-style-type: none"> <li>○ School – age population, age – sex composition by geographic area</li> <li>○ School – age participation rates by sex</li> <li>○ Enrolment rates, drop – out rates by sex</li> <li>○ Elementary and secondary completion rates by sex</li> <li>○ Simple and functional literacy rates by sex</li> <li>○ Number of schools by level (elementary, high school, etc.), type (public or private), location</li> <li>○ Classroom – pupil ratio</li> <li>○ Teacher – pupil ratio</li> <li>○ Elementary and secondary cohort survival rates</li> </ul>
	<b>c. Social Welfare and Development</b>	<ul style="list-style-type: none"> <li>○ Number of differently-abled persons by sex and type of disability</li> <li>○ Percentage distribution of social welfare development clientele served by type and sex</li> </ul>
	<b>d. Public Order and Safety</b>	<ul style="list-style-type: none"> <li>○ Crime rates by type and sex and age group of victim</li> <li>○ Percentage of abusers of minors by sex of abuser</li> <li>○ Population – firefighter ratio</li> <li>○ Incidence of human rights violations</li> </ul>
<b>C. Gender Responsiveness</b>	<b>e. Housing</b>	<ul style="list-style-type: none"> <li>○ Percent distribution of households by type of housing unit occupied and sex of household head</li> <li>○ Percent distribution of households by main source of water supply and sex of household head</li> <li>○ Percent distribution of households by type of toilet facilities used and sex of household head</li> <li>○ Percent distribution of households by type of garbage disposal and sex of household head</li> <li>○ Characteristics of existing housing units by sex of household head (construction materials used; house and lot tenure)</li> <li>○ Number of households without own housing units by sex of household head</li> </ul>

<sup>3</sup> As listed in Annex 1 - *Gender Responsive Population and Development Planning Guide*

	Economic	<ul style="list-style-type: none"> <li>○ Level of investments, by sector and geographic location (e.g., urban – rural)</li> <li>○ Jobs generated by investments classified whether technology used is labor – intensive or capital – intensive</li> <li>○ Wage rates by sex</li> <li>○ Average time spent doing household chores and unpaid work by employed men and women</li> <li>○ Level and type of investment in education</li> <li>○ Prices of food products</li> <li>○ Volume of agricultural products by type of product</li> <li>○ Volume and value of food imports</li> <li>○ Average household expenditure on food</li> <li>○ Number of households by income bracket and sex of household head</li> <li>○ Average family income by sex of household head</li> <li>○ Prices of environmental products</li> </ul>
	Infrastructure	
	a. Social Services Support	<ul style="list-style-type: none"> <li>○ Average distance of health facilities to population centers</li> </ul>
	b. Transportation & Circulation Network	<ul style="list-style-type: none"> <li>○ Existing modes of transportation and transportation facilities</li> <li>○ Length of local government roads by surface type</li> </ul>
	Environment	<ul style="list-style-type: none"> <li>○ Percentage of forest cover</li> <li>○ Rate of deforestation / reforestation</li> <li>○ Attitude of people towards environmental protection and conservation</li> <li>○ Consumption patterns of population (e.g., high use of disposable products like Styrofoam, plastics, disposable diapers, etc. that are usually thrown in the environment)</li> <li>○ Availability of technology that are environment - friendly</li> </ul>
	Institutional	<ul style="list-style-type: none"> <li>○ Public policies affecting education</li> <li>○ Prices of land/ real estate in a given area</li> <li>○ Level of government investments in the area like infrastructure (e.g., roads, bridges, government facilities, water supply, etc.)</li> <li>○ Level of knowledge of population on environmental issues</li> <li>○ Percentage of women candidates and share in local elective positions</li> <li>○ Leadership / membership in labor unions, cooperatives and peasant organizations by sex</li> <li>○ Percentage distribution of local government expenditures by specific activities</li> <li>○</li> </ul>

## The Local Development Indicators

The Ecological Profile (EP), for all its usefulness as a general reference material on practically every aspect of local development, is not readily usable for planning purposes. Being a snapshot of the conditions of the locality at a particular point in time, the EP hardly indicates change over time. To indicate change, two or more editions of the EP are needed. This implies that the EP should be consistently maintained and regularly updated using the same sectoral headings and capturing the same data sets in every edition.

For purposes of building a database for planning, an intermediate analytical tool is needed. It is called the Local Development Indicators System (LDIS).

### ***What is the Local Development Indicator System (LDIS)?***

The Local Development Indicator System (LDIS) is a table that portrays information in three (3) dimensions: sectoral, temporal and geographical or spatial. It is an attempt to consolidate the various indicators that are relevant to local planning but it is by no means exhaustive. In fact the different indicators which national government agencies are requiring LGUs to consider through the various programs such as the core local poverty indicators of the National Anti-Poverty Commission (NAPC), the Millennium Development Goals (MDGs), or the localization of Philippine Agenda 21, can be entered completely into this LDI matrix.

The LDIS has three dimensions:

1. **Sectoral** dimension – This presents the database according to the five identified sectors and their respective sub – sectors namely: Social, Economic, Environment, Physical/ Infrastructure, and Institutional.
2. **Temporal** dimension – This shows the comparison between the latest and earlier data to describe the change over time. Analysis can be done by looking into the growth trend for a number of years and the average rate of change for a specific period of time.
3. **Spatial** dimension - This seeks to compare one LGU with higher – level LGUs in the same region on one hand, and with lower – level units such as barangays on the other.

Interconnection among and between issues and concerns may be presented using different models (e.g., streams analysis, problem tree, etc.) and matrices (problem-solution finding matrix, technical findings, issues-opportunities-implication-policy option matrix, etc.).

### ***What are the uses of the LDIS?***

1. For cognition – to know what the situation is
2. For analysis – to understand the factors determining the situation
3. For policy making – to design interventions
4. For M & E – to assess the effectiveness of policy interventions & whether the situation is changing

### ***What is the difference between ecological profile and the LDIS?***

The **LDIS goes beyond profiling**. It means that the sectoral-temporal presentation of data allows an in-depth characterization of the planning area by enabling the analyst to appreciate changes in certain attributes over time. The sectoral-spatial data display moreover, allows the analyst to appreciate the differences between with respect to a given set of characteristics: on one hand, between the planning area and larger areas within which it is nested, and between smaller component parts and the planning are, on the other. Also, the portrayal of data in three dimensions enables the analyst to make more meaningful observations and thereby identify problem situations more systematically and formulate solutions which are place or area specific.

The LDI format generally adopts the same thematic or sectoral headings used in the SEP or the Ecological Profile. These headings include the following:

1. Population and Social Services,
2. Local Economy,
3. Environment and Natural resources,
4. Physical Infrastructures and
5. Local Institutional Capabilities.

- **SECTORAL – TEMPORAL** presentation of data allows an in – depth characterization of the planning area that shows changes in certain attributes over time.
- **SECTORAL – SPATIAL** presentation of data allows an appreciation of the differences between the planning area and larger area within which it is nested, e.g. city/municipality and the province; and between the planning area, e.g. city/ municipality and its smaller component parts, e.g., barangays

### **Processing of Data Entries**

The most readily available source of data is the Ecological Profile. But to generate entries in the LDI Table in accordance with the suggested format, some amount of processing of raw data will have to be done. This is needed to transform raw data into standardized measures or indicators such as ratio, proportion, percentage, average, per capita share and the like, to ensure compatibility across time and across space.

The indicators that will be generated will show, among other things, the following:

- a. level of development or underdevelopment of the area;
- b. potential and problems of each sector or sub-sector
- c. success indicators for each descriptor of the different elements of the vision statement; and the
- d. indicators that national agencies are pushing.

Table 11 - LOCAL DEVELOPMENT INDICATORS, BY TYPE, SECTOR, SUB-SECTOR, AND CORE CONCERNS

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
SOCIAL	Demography	Population Size								
		Population Growth Rate			Growth rate, urban and rural, short-term, medium-term, long-term (if with intervention)					
		Population Distribution			Gross population density, 2 reference years (if with intervention)					
		Population Distribution			Net population density, 2 reference years (if with intervention)					
		Population Distribution			Percent of urban population, 2 reference years (if with intervention)					
		Population Distribution			Urban population density, 2 reference years					
	Education	Access to Education			Proportion of 6-12 year old children who are not in elementary school, by sex, latest					
		Access to Education			Proportion of 13-16 year old who are not in secondary school, by sex					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
	Education	Social Justice (Gender Equality)			Ratio of girls to boys in elementary, secondary and tertiary school, latest					
<b>SOCIAL</b>	Health	Access to Health Services			Percent of households without sanitary toilets, latest					
		Access to Health Services			Proportion of children 0-5 years old who are below normal weight for their age					
		Access to Health Services			Proportion of children under 5 years old who died of illness, 2 reference years					
		Access to Health Services			Proportion of women who died due to pregnancy, 2 reference years					
		Access to Health Services			Proportion of births attended by skilled health personnel, latest Prevalence rates of HIV/AIDS, malaria, tuberculosis, and other diseases, latest					
		Access to Health Services			Death rates of HIV/AIDS, malaria, tuberculosis, and other diseases, latest					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
SOCIAL	Shelter	Social Justice Security			Proportion of households who are informal settlers, 2 reference years					
	Shelter	Social Justice (Security)			Proportion of households with dwelling structures unable to protect them from the elements, 2 reference years					
ECONOMIC		Social Justice: (Poverty)			Proportion of households whose members eat less than 3 full meals a day, 2 reference years					
		Social Justice Poverty			Proportion of population with incomes below poverty line					
		Social Justice Gender Equality			Share of women in non-agricultural wage employment					
	Labor & Employment				Percent of labor force employed, by sex, 2 reference years					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
	Labor & Employment				Dependency ratio, 2 reference years					
ECONOMIC	Labor & Employment				Proportion of persons 15 years old and above who are not working but actively seeking work					
					Proportion of children below 15 years old who are employed to the total members of employed persons					
	Agriculture	Agricultural Land Utilization			Ratio of area of land in agricultural establishment, in EEU, 2 reference years					
		Agricultural Land Utilization			Volume/value or agricultural crop production by major crop, 2 reference years					
		Agricultural Land Utilization			Volume/value of fish production inland & marine, 2 reference years					
		Food Self-sufficiency			Food self-sufficiency index by food groups, latest					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
		Forestry			Per capita value of production					
	Labor & Employment: Agriculture	Forestry			Employment contribution in percent of total employment					
<b>ECONOMIC</b>	Agriculture	Fishery			Per capita fish consumption (m.t./year)					
		Fishery			Ratio of commercial fishing production versus municipal fishing production					
				Fishing HH/Total HH						
	Industry				Ratio of electrical energy consumption in industry & commerce to total consumption					
					Rate of change in industrial land use (ha/year)					
					Volume/value or mining/quarrying production, 2 reference years					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
	Services				Percentage of households with one main source of income only to total number of households					
					Percentage of households with secondary/tertiary source of income					
<b>ECONOMIC</b>	Services		Total number of commercial establishments, in Establishment Equivalent Unit, 2 reference years							
					Ratio of residential electrical energy consumption or average household consumption of electrical energy					
				Tourism receipts per year						
<b>ENVIRONMENT &amp; NATURAL RESOURCES</b>	Forest Ecosystem	Resource Base & Land Use			Change in stock of forestry resources: dipterocarp, tree plantation, mangroves, pine, rattan (ha/year)					
		Resource Base & Land Use			Soil erosion in upland areas (mm/year)					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
		Resource Base & Land Use	Forest land classification ratios (in %)							
		Resource Base & Land Use			Ratio of forest cover to timberland population (in %)					
<b>ENVIRONMENT &amp; NATURAL RESOURCES</b>	Forest Ecosystem	Resource Base & Land Use			Ratio of population to certified A&D areas (in persons/hectare)					
		Resource Base & Land Use		Percentage of timberland proclaimed as forest reserve or protection forest						
		Tenure Management		Area covered by leases and permits per lessee/permittee						
		Tenure Management		Area covered by CBFMA as percent of total forest area						
		Tenure Management		Area covered by community forest stewardship agreements as percent of total forest area						

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
		Tenure Management		Ratio of families benefiting from community-based projects to total number of families						
		Tenure Management			Growth rate of upland population (per annum)					
	Lowland/ Agricultural Ecosystem	Land Use and Land Productivity	Extent of area devoted to agriculture in percent of A&D							
<b>ENVIRONMENT &amp; NATURAL RESOURCES</b>	Lowland/ Agricultural Ecosystem	Land Use and Land Productivity			Land use changes (ha/year)					
		Land Use and Land Productivity			Land productivity (m.t./ha) per crop					
		Land Use and Land Productivity			Ratio of upland devoted to agriculture over total upland area (in percent)					
		Land Use and Land Productivity	Areas under Integrated Pest Mgt. relative to total cropland (in percent)							

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
		Other Agricultural Areas	Cropland per agricultural worker (ha)							
		Other Agricultural Areas	Agricultural workers per tractor (in %)							
		Other Agricultural Areas	Agricultural workers per harvester/ thresher (in percent)							
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
<b>ENVIRONMENT &amp; NATURAL RESOURCES</b>	Lowland/ Agricultural Ecosystem	Other Agricultural Areas			Percentage of irrigable, irrigated, rainfed, non-irrigated and prime lands converted to non-agricultural uses					
		Soil Degradation			Extent of problem soils (hectarage) as percent of total land area					
		Soil Degradation			Erosion rates by land use (mm/year)					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
		Soil Degradation			Area distribution of erosion/degradation classes as percent of total land area					
		Soil Degradation			Extent of soil conservation (area coverage) as percent of eroded/degraded soils					
		Fertilizer and Pesticides Use	Nitrogen use per unit of agricultural output (kg/m.t.)							
		Fertilizer and Pesticides Use	Pesticide use per unit of agricultural output (kg/m.t.)							
<b>ENVIRONMENT &amp; NATURAL RESOURCES</b>	Lowland/ Agricultural Ecosystem	Fertilizer and Pesticides Use	Inorganic fertilizer used per unit area (kg/ha)							
		Fertilizer and Pesticides Use	Organic fertilizer used per unit area (kg/ha)							
		Fertilizer and Pesticides Use			Ratio of organic to inorganic fertilizer used					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
ENVIRONMENT & NATURAL RESOURCES		Tenure	Area by tenure of farm per household (in has.)		Area by tenure of farm per household (if with intervention)					
	Urban Ecosystem	Air Quality			Concentration of air pollutants at selected sites: number of violations of standards in a year per site					
		Air Quality		Emission levels of different pollutants per source, latest generated						
		Solid Waste Mgt.		Solid waste per capita in m.t. or cu.m.						
	Urban Ecosystem	Solid Waste Mgt.		Non-biodegradable waste per capita (m.t. or cu.m.)						
		Water Quality		Waste generated per capita per year (in m.t. or cu.m.)						
		Water Quality		Effluents by source (various units)						
		Water Quality			Concentration of water pollutants selected water (various units)					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
ENVIRONMENT & NATURAL RESOURCES		Land Use			Informal settler density (squatter population/total population)					
		Land Use			% of total land area occupied by squatters					
	Coastal Marine Ecosystem	Resource Base			Mangrove area: annual rate of depletion (ha/year)					
		Resource Base	Seagrass beds: number of species							
		Resource Base			Seagrass beds: status or condition					
	Coastal Marine Ecosystem	Resource Base			Coral reef and coral cover: percent of live coral/hectare					
		Resource Base			Marine protected areas as percent of total area of municipal waters					
		Threats			Concentration of key pollutants in selected sites					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
ENVIRONMENT & NATURAL RESOURCES		Threats			Concentration of coliform in selected beaches					
		Threats		Oil spills: number and magnitude						
		Threats			Rate of sedimentation on selected bays					
	Fresh -water Ecosystem	Surface and Ground Water Quality			Physical quality indicators (results of lab tests)					
	Fresh -water Ecosystem	Surface and Ground Water Quality			Chemical quality indicators (results of lab tests)					
	Fresh -water Ecosystem	Surface and Ground Water Quality			Biological quality indicators (results of lab tests)					
	Fresh -water Ecosystem	Surface and Ground Water Quality			Nitrate content of selected rivers					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
		Quality of Major Freshwater Bodies			Rating of the general condition of freshwater body, latest					
		Quality of Major Freshwater Bodies			Number of times standards are exceeded					
		Quality of Major Freshwater Bodies	Number of licensed abstractors and volume of abstraction in mcm per annum							
		Quality of Major Freshwater Bodies	Area of fishpens as percent of area of freshwater bodies							
			Ratio of mining claims to total land area							
	Critical Resources Minerals and Mines			Incidence of illness due to mining operations						

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
ENVIRONMENT & NATURAL RESOURCES	Critical Resources Minerals and Mines			Hectarage disturbed by mining						
		Ecosystem Diversity			Proportion of ecosystem area highly threatened due to existing infrastructure					
		Species Diversity	Number of threatened species over total number of known species		Number of threatened species over total number of known species (if with intervention)					
		Species Diversity	Number of sites identified for migratory birds per 100 hectares							
		Species Diversity		Number of exotic species introduced over total number of species						
		Conservation Efforts			Proportion of protected areas with illegal settlements to total protected areas					
		Conservation Efforts	Critical habitat/areas restored in ha/year							
		Conservation Efforts	Number of conservation programs implemented per five year							

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
<b>ENVIRONMENT &amp; NATURAL RESOURCES</b>	Critical Resources Bio-diversity	Conservation Efforts		Habitat size restored/rehabilitated per year						
	Critical Resources Bio-diversity	Conservation Efforts		Number of visitors in protected areas per hectare						
	Critical Resources Bio-diversity	Conservation Efforts		Percent of protected areas converted to other uses						
	Critical Resources Bio-diversity	Conservation Efforts			Share of Number of household/family over protected area (in hectare /HH)					
<b>PHYSICAL/ INFRA-STRUCTURE</b>	Power	Utilities			Percent of HH served by electric power					
	Utilities: Water:				Ratio of HH served by piped water supply to total urban HH					
	Facilities	Social Support:: Health Facilities	No. of hospital beds per 1000 population							
		Education	Classroom-to-pupil ratio in elementary schools; in secondary schools		Classroom-to-pupil ratio in elementary schools; in secondary schools (re-planning stage)					

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
PHYSICAL / INFRA-STRUCTURE	Utilities: Communications		No. of land-based telephones/1000 urban HH		No. of telephones/1000 urban HH (if with intervention)					
			Private messengerial/ forwarding companies operating							
	Circulation Network			Road density (area covered by roads to total land area)						
	Utilities: Communications		Ratio of postal employees to total HH population							
	Circulation Network			Total length of roads in km/total land area of A&D land						
	Circulation Network				Kilometer of road per 1000 population					
	Circulation Network			Density of farm to market roads (km/100 ha of farmlands)						
	Circulation Network			Percent of permanent bridges						
	Administrative Support			Total office floor per municipal employee						

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS				
			INPUT	OUTPUT	OUTCOME		1	2	3	... n	
PHYSICAL / INFRA- STRUCTURE	Administrative Support	Public Safety	No. of fire trucks per capita								
	Administrative Support		No. of police outposts/1000 population								
	Administrative Support		No. of prisoners/detention cell/ 1,000 population								
INSTITUTIONAL	Municipal Enterprise				Percent occupancy of municipal cemetery						
	Open Space	Open Space		Total area of public open space per 1000 inhabitants							
		Open Space		Ratio of covered courts/number of barangays							
				Presence of a comprehensive revenue generation plan							
		Local Fiscal Management	Revenue Performance		Total revenue per capita, 2 reference years	Cost collection ratio					
	Local Fiscal Management	Revenue Performance			Self-reliance index, 2 reference years (average last 3 years)						

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
INSTITUTIONAL	Local Fiscal Management	Revenue Performance			Proportion of delinquencies to total RPT collected, 2 reference years					
		Revenue Performance		Ratio of proceeds from special levies to total revenues, 2 reference years in previous and present administrations						
		Revenue Performance		Ratio of financial grants or donations to total LGU income, 2 reference years in previous and present administrations						
				Proportion of delinquent RPT payers to total listed taxpayers						
		Expenditure		Total public expenditure on capital outlay per capita, 2 reference years						
		Expenditure	Ratio of municipal government employees to total no. of local taxpayers							
		Real Property Tax	No. of big taxpayers who account for 80% of tax revenues							

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
INSTITUTIONAL		Real Property Tax			Total revenue collected as percent of annual collection target, 2 reference years					
		Real Property Tax		Percent RPT collected to total potentially collectible						
		Real Property Tax		Amount of tax arrears recovered over total tax arrears at the beginning of budget year						
		Municipal Enterprise		Proportion of receipts from municipal enterprises to total local revenues						
	Organization and Management		Proportion of vacancies to total plantilla positions, previous and present administrations							
	Organization and Management		Ratio of casual employees, previous and present administrations							
	Organization and Management		Ratio of employees to total no. of personnel by type, 2 reference years <ul style="list-style-type: none"> <li>○ Managerial</li> <li>○ Technical</li> <li>○ Administrative</li> </ul>							

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
INSTITUTIONAL	Organization and Management		Ratio of confidential positions to total plantilla positions, previous and present administrations							
	Participation		Ratio of LDC-member NGOs and Pos per capita, past and present administrations							
			Ration of non-LDC member NGOs and POs to total CSOs operating in the locality							
			Presence of local govt assigned desks or other support mechanism for CSO, NGO or PO or PS concerned							
			Presence of feedback mechanism to generate citizens' views on the reach & quality of services & devt thrusts							
		Transparency		Presence of a public info office or desk						

SECTOR	SUB-SECTOR	CORE CONCERNS	TYPE OF INDICATORS			LARGER SPATIAL UNIT	SMALLER SPATIAL UNITS			
			INPUT	OUTPUT	OUTCOME		1	2	3	... n
	Development Orientation	Legislative Output		Proportion of "development" legislation to total sanggunian output, last and current administrations						
INSTITUTIONAL		Credit Financing	Total public debt incurred by the LGU per capita, past and present administrations							