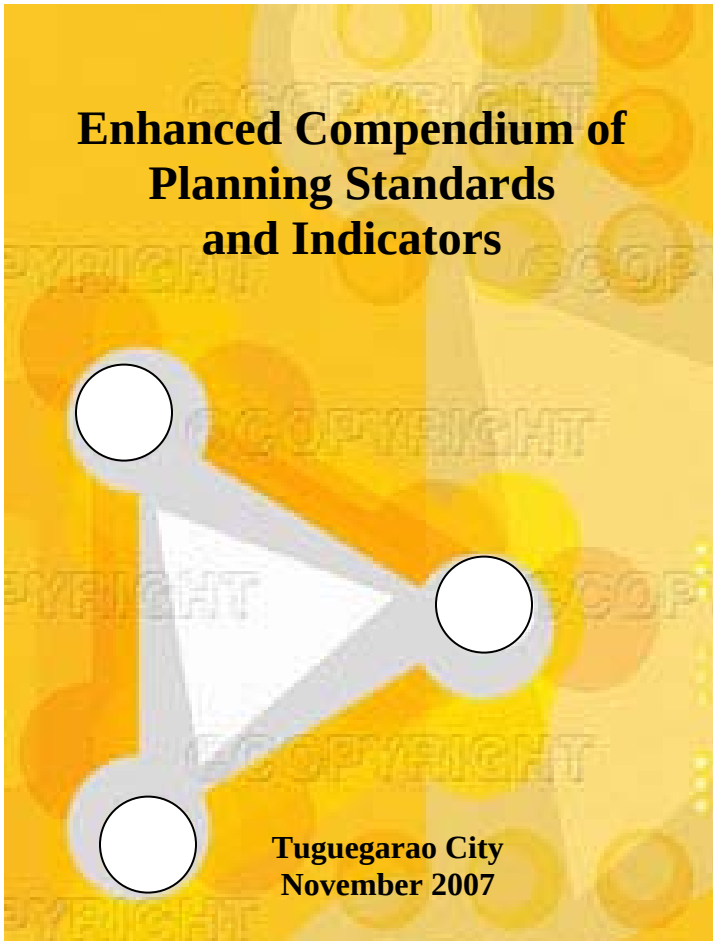
Compendium of Planning Standards and Indicators

Republic of the Philippines
Regional Development Council II
Regional Statistical Coordinating Committee

Enhanced Compendium of Planning Standards and Indicators



Tuguegarao City
November 2007

Rehiyon Dos Kumikilos…Ayos!

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FOREWORD

The Compendium of Planning Standards and Indicators was prepared by the members of the RDC2- Regional Statistical Coordination Committee (RDC2-RSCC) in August 2003. This document was the flagship project of the said committee in response to the call of local and regional planners to have a common reference for planning indicators and standards that will serve as guide in the formulation of development plans; preparation of development programs and project; evaluation of program/project proposals; and in the monitoring and evaluation of program/project implementation.

The maiden document prepared then by the committee was limited to some planning indicators and standards. Moreover, some of the planning standards need to be updated to respond to the changing requirements at the national and sub-national levels. Hence, it was decided by the RDC-02 RSCC to come up with this Enhanced Compendium of Planning Indicators and Standards as its flagship project for CY 2007.

The RDC 02-RSCC Secretariat hereby acknowledges with sincere appreciation the efforts of the Committee members and other national government agencies and local government units in the provision of the inputs necessary for the enhancement of this document.

This document is likewise useful for policymakers, academic researchers, the private sector and the general public in the conduct of any economic and social development activities that may contribute to the upliftment of the quality of life of the clients or beneficiaries they serve.

MILAGROS A. RIMANDO
NEDA 02 Regional Director, and
RSCC Chairperson

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CHAPTER I
INTRODUCTION

A. Background

Development Planning is essential in identifying the courses of action required by the government, non-government or the private sector in the development and utilization of limited resources to attain maximum benefits for all members of society. Development planning involves different processes such as: situational analysis and problem identification; vision, goal, objective and target setting; policy and strategy formulation; program and project identification; investment programming and budgeting; plan implementation; and monitoring and evaluation. In each process, statistics and other relevant information are necessary. These statistics become more meaningful when translated into indicators which describe the condition of people, places, events and changes taking place within a given period.

This Enhanced Compendium contains a compilation of planning indicators and standards which are clustered by sector namely: Macro-Economy, Economic Development, Social Development, Infrastructure Development and Governance and Institutional Development Sectors.

The RDC 02-RSCC endeavored in preparing this document for the primary purpose of providing a common reference for development planners and implementers at the regional and sub-regional levels in the formulation of sectoral and spatial development plans, program and projects preparation, implementation, and monitoring and evaluation.

B. Planning Indicator

Indicators are data that describe people, place or event, and the changes that take place in them. They show significant aspects of a given situation that can be used as reference for making appropriate decisions.

Indicators usually take the form of statistics, but they are more than mere statistics. They are intended to point out something else. For instance, the number of employed workers as an indicator points out something, an aspect of economic development.

Yet, indicators are not always quantifiable as there are qualitative indicators. Employment may be described in terms of the kind of jobs that are held by the working population in the area.

Indicators are very useful for the development of programs and projects:

1. They describe trends & compare trends.
2. They are used to diagnose development situations, and to compare these situations.
3. They are useful in analyzing interrelationships between variables.
4. They may be used for prediction.
5. They are used in planning of projects, programs, industries and geographic areas.

For planning programs, indicators are employed in measuring targets and objectives, and for evaluating programs as well as results.

C. Kinds of Indicators

Indicators are categorized according to the way of measurement and level.

1. By Way of Measurement

a. Direct indicators are straight-forward measures that describe a given situation of people, places or events. Examples: population growth rate, literacy rate, population density, Doctor to population ratio, etc..

b. Proxy or Indirect Indicators are resorted to in the absence of data or information on accepted planning indicators. This situation arises when local area disaggregation or sub-categories of data is not officially available. For example, data on macro-economic indicators such as Gross Regional Domestic Product (GRDP) and Gross Value Added (GVA) by industrial origin has no provincial and municipal disaggregation. Thus, proxy indicators are used such as data on investment trends, employment level in agriculture, industry, services, production in agriculture, fisheries, forestry and mining among others.

Moreover, if indicators on poverty such as food threshold are not available at the municipal level, proxy indicators such as prevalence of mild, moderate and severe malnutrition can be used.

2. By Level

a. **Input indicator** – indicator that measures resources such as goods, funds, services, manpower, technology, etc. which are necessary for the implementation of a project or activity. Example: For an irrigation project: no. of personnel for engineering & consultancy services; cost of labor, construction materials and equipments.

b. **Output Indicator** – indicator that measures the specific products or services which the project or activity is expected to produce from the inputs in order to achieve its objectives. Example: Irrigation system and canals established; area irrigated; and production level.

c. **Effect indicator** – indicator that measures the outcome of the project or activity. Example: Increase in yield per unit area; increase in cropping intensity.

d. **Impact indicator** – indicator that measures the outcome or the effects of a project or intervention. Example: Increase in farm incomes.

D. Planning Standards

While indicators can be measured to describe situations or trends, we have to know if these are "good" or "bad". A planning standard provides the basis or example with which these situations or trends are judged or assessed.

Planning Standards are prescribed or acceptable norms or conditions that are important in plan/program/project planning and evaluation. In situational analysis, planning standards serve as benchmark in comparing the set of indicators or measures to determine if the situation is better-off, at par or worse- off. In plan formulation, planning standards indicate the measure for determining performance, as against set goals, objectives and targets or the rule by which development plans and programs are being framed and evaluated. The planning standards are useful in the preparation of project proposals, and the feasibility of programs and projects to be pursued to positively impact on the achievements of the desired vision, goals and objectives of a plan for development. These standards become the benchmarks for development change.

CHAPTER 2
SECTORAL PLANNING STANDARDS AND INDICATORS

I. MACRO-ECONOMIC SECTOR

This section presents the planning standards and indicators for situational analysis and planning for the population who are considered as the direct beneficiaries of the fruits of development in a given area; the measures of the regional economy in terms of the value of goods and services; prices; income and measures of poverty.

A. Population

Population is defined as a collection of people or individuals living within a specific area or geographic location.

Population processes are described through indicators such as fertility, mortality and migration. The result of population processes are measured through the population outcomes such as population size, growth, composition, distribution and structure. Population indicators are important in the analysis of the past and current situation. Population level serves as the basis in determining the present requirements and gaps for the basic needs and services of people in order to live a decent life. Population projections are necessary in estimating the future needs and requirements of a locality for short, medium and long range planning.

A.1 Planning Standards:

1.1 Requirements for the classification of Urban Areas in the Philippines

> At least 5,000 population
> Has one medium or large establishment
> Has five or more small establishments and five or more facilities

Establishments are defined as those engaged in agriculture, hunting, forestry, and fishing with the following classifications: (a) small with 10-99 employees; (b) medium with 100-199 employees; and (c) large with 200-above employees.

Facilities include banking/financial institutions, commercial establishments, recreational establishments, personal service establishments, hotel/lodging establishments, landline telephone system, hospital, public market, colleges or universities

1.2 Density Classification for Urban or Built-Up Areas:

Low density- less than 150 persons per hectare of urban or built-up area.

Medium density- ranges from 151 to 250 persons per hectare of urban or build-up area.
High density- more than 250 persons per hectare of urban or built-up area.

A.2 Planning Indicators:

2.1 **Population Growth Rate-** the average annual rate of change of population size during a specified period. It measures how fast or how slow the size of the population is changing over a period.

Formula:

$$r = \left[\left(\frac{Pt}{Po} \right)^{1/t} - 1 \right] \times 100$$

Where: r = the average annual rate of growth
Pt = population size for the latter census
Po = population size for the earlier census
t = interval in years between the two census dates

Data Requirements: Population for two (2) censal years

Data Source: NSO Census of Population and Housing (CPH)

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.2. **Sex Ratio-** compares the number of males to the females in a given area at a certain time. A sex ratio of 100 means an equal number of males and females. A figure higher than 100 means that there are more males than females and a ratio lower than 100 means a preponderance of females.

Formula:

$$SR = \frac{M}{F} \times 100$$

Where: SR = Sex Ratio
M = total number of males in a given year
F = total number of females in the same year

Data Requirements: Male and Female population

Data Source: NSO Census of Population and Housing

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.3 **Growth Rate of Number of Households-** average annual rate of change in the number of households during a specified period.

Formula:

$$R_H = \left[\left(\frac{HHt}{HHo} \right)^{1/t} - 1 \right] \times 100$$

Where: R_H = the average annual rate of growth for households
HHt = the number of households for the later census years
HHo = the number of households for the previous census years
t = the interval in years between the two census years

Data Requirements: Number of households in year t
Number of households in year t + n

Data Source: NSO Census of Population and Housing

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.4 **Median Age of the Population-** the age which divides the population into two equal size groups, one which is younger and the other which is older relative to the median. It can be computed on time series data to show trends. If the median age is increasing over time, it means that the population is getting older.

Formula:

$$Md = L_{CB} + \left(\frac{\frac{N}{2} - F_B}{f_{Md}} \right) i$$

Where: L_{CB} = lower class boundary of the median class
N = total frequencies
F_B = cumulative frequency before the median class
F_{Md} = frequency of the median class
i = size of the class interval

Data Requirements: total population by age group

Data Source: NSO Census of Population and Housing (CPH)

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.5 **Urban-Rural Population Ratio-** refers to the number of persons in all urban area over the number of persons in all rural areas. It is a measure of population distribution.

Formula:

$$URPR = \frac{UP}{RP} \times 100$$

Where: URPR = Urban-Rural Population Ratio
UP = total population in urban areas
RP = total population in rural areas

Data Requirements: Total Urban Population
Total Rural Population

Data Source: NSO Census of Population and Housing (CPH)

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.5 **Migration Rate-** Refers to the number of people moving across a specified boundary divided by the mid-period population.

2.5.1 **In-migration rate-** measures the number of people moving in a specified boundary or clearly defined territory in a given period of time. Such territory may be a country, a region, province, municipality or Barangay. In-migration rate is

computed as the number of in-migrants between year t and year t+n divided by the population in year t+n times 1,000.

Formula:

$$\text{In-migration Rate} = \frac{I_{t-(t+n)}}{P_{(t+n)}} \times 1{,}000$$

Where: $I_{t-(t+n)}$ = number of in-migrants between year t and year t+n
$P_{(t+n)}$ = population in year t+n

Data Requirements: Number of in-migrants between year t and year t+n
Total population in year t+n

Data Source: NSO Census of Population and Housing (CPH)

Lowest Level of Disaggregation: Barangay
Frequency: Every 10 years

2.5.2 **Out-migration rate-** is the reverse of in-migration as it measures the number of people moving out a given area. Out-migration rate is computed as the number of out-migrants between year t and year t+n divided by population in year t+n less number of in-migrants between year t and t+n plus number of out-migrants between year t and year t+n times 1,000.

Formula:

$$\text{Out-migration Rate} = \frac{O_{t-(t+n)}}{P_{(t+n)} - I_{t-(t+n)} + O_{t-(t+n)}} \times 1{,}000$$

Where: $P_{(t+n)}$ = population in year t+n
$I_{t-(t+n)}$ = number of in-migrants between year t and t+n
$O_{t-(t+n)}$ = number of out-migrants between year t and year t+n

Data Requirements: Total population in year t+n
Number of in-migrants between year t and year t+n
Number of out-migrants between year t and t+n

Data Source: NSO Census of Population and Housing (CPH)

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.6 **Population Density-** it is the number of persons per unit of land area. It is expressed as the number of population per land area of the locality of interest.

Formula:

$$\text{Population Density} = \frac{\text{Pop}}{\text{LA}}$$

Where: Pop = the total number of population
LA = the total land area

Data Requirements: Total Population
Land area (in square kilometers or hectares)

Data Source: NSO Census of Population and Housing (CPH)

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.7 **Crude Birth Rate-** the number of live births per 1,000 population during a given period. It is a "crude" measure because births are divided over the entire population during the year.

Formula:

$$\text{CBR} = \frac{\text{B}}{\text{P}} \times 1{,}000$$

Where: B = number of live births in a specified year
P = midyear population

Data Requirements: Number of Live Births
Midyear Population

Data Source: Births – Vital Registration
Midyear Population – Censuses, Demographic Surveys, NSO

Lowest Level of Disaggregation: Municipal

Frequency: Every 10 years (Census of Population, NSO)
Annual (Vital Statistics Report)

Remarks: A total CBR greater than 50 is extremely high and should be reviewed for accuracy.

2.8 **Age Specific Fertility Rate –** denotes number of births occurring during a year per 1,000 women of reproductive age in a specified 5-year age group.

Formula:

$$\text{ASFR}_t = \frac{B_t}{W_t} \times 1{,}000$$

Where: B_t = number of live births occurring to women in age group in a given year
W_t = midyear population of women, irrespective of marital status in the age group
t = the age group; e.g. 15-19, 20-24, 25-29, etc.

Data Requirements: Number of Live Births occurring to woman per age group
Midyear Population of Women

Data Source: Vital Statistics Report, NSO
Census of Population, NSO

Lowest Level of Disaggregation: Provincial

Frequency: Annual (Vital Statistics Report, NSO)
Every 10 years (Census of Population, NSO)

Remarks: If the ASFR data are graphed, the curve would appear as an inverted "U", which means that fertility rates are lower at young ages, peak at ages 25-35 and then decline at around age 40.

2.9 **Total Fertility Rate (TFR)-** is the number of children that would be born alive to a woman during her lifetime if she were to pass through her child bearing years conforming to the age-specific fertility rates of a given period. Simply stated, it is the number of children a woman would have by the time she reached age 50 under a given fixed fertility schedule. The TFR is sometimes referred to as completed family size.

Formula: $TFR = 5\ ASFR_t$

Where: $ASFR_t = \frac{B_t}{W_t}$

B_t = number of live births occurring to women within an age group in a given year

W_t = midyear population of women, irrespective of marital status in the age group

Data Requirements: Number of births to women within an age group in a given year
Estimated midyear female population by 5-year age group for the same year

Data Source: Births-Vital Registration
Midyear Population-NSO Censuses Surveys

Lowest Level of Disaggregation: Provincial

Frequency: Annual (Vital Statistics Report, NSO)
Every 10 years (Census of Population, NSO)

2.10 **Percentage of Population by Five-Year Age Group and by Sex**- percentage distribution of the population classified by 5-year age group and by sex.

$$\text{Percentage of population} = \frac{\text{Population classified by Five-Year Age Group}}{\text{Total Population}}$$

Data Requirements: Population classified by 5-year age group and by sex
Total Population

Data Source: NSO Census of Population and Housing

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.11 **Percentage of Urban Population -** refers to the relative share of the urban population to the total population.

$$\text{Percentage of Urban Population by Sex} = \frac{\text{Total Urban Population by Sex}}{\text{Total Population}} \times 100$$

Data Requirements: Total Urban Population by Sex
Total Population

Data Source: Census of Population and Housing, NSO

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.12 **Built-up Density-** is defined as the contiguous grouping of ten (10) or more structures. It would indicate the concentration of population in identified built-up area. It is generally, a more realistic gauge of how dense certain built-up areas in the locality have become.

$$\text{Built-Up Density} = \frac{\text{Total Population in Built-Up Areas}}{\text{Total Built-Up Area in Sq. Kms.}}$$

Data Requirements: Total Population in built-up area
Total built-up area, in sq. kms.

Data Source: Total population in built-up area – obtained through consultation with Barangay Captain
Total built-up area – area delineation from the aerial photo; and the use of survey.

Lowest Level of Disaggregation: Municipality

Frequency: Annual

B. REGIONAL ECONOMY

The regional economy is a description of the level of development of economic activities in an area which greatly influence the lives of its people in terms of their occupation and employment; household income and expenditure; consumption of goods; and availment of services. The planning

standards and indicators for this section are necessary for planners to assess the economic condition of the area to serve as basis in the formulation of development plans and programs that would contribute to the improvement of the quality of life of the locality's constituents.

B.1 Planning Indicators

1. Gross Regional Domestic Product (GRDP) - measures the value of the final goods and services produced within the region for a particular year. It is the net value of goods and services produced in the economy after deducting the value of all goods and services in the production processes. It is the sum of the Gross Value Added (GVA) across all sectors of the economy.

Formula:
GRDP = GVA of Agricultural Sector + GVA of Industry Sector + GVA of Services Sector

Data Source: NSCB

Lowest Level of Disaggregation: Regional

Frequency: Annual

2. GRDP Annual Growth Rate- the average annual rate of change of the GRDP during a specified period. It measures how fast or how slow is the growth of the regional economy.

$$r = \frac{GRDPy1 - GRDy0}{GRDPy0} \times 100$$

Where:
r = annual growth rate
GRDPy1 = Gross Regional Domestic Product for the current year
GRDPy0 = Gross Regional Domestic Product for the previous year

3. Gross Value Added (GVA) – measures the value of final goods and services for a given sector. The major sectors include agriculture, industry and services.

4. Percent Distribution of the GRDP by Sector- it shows the share of the major sectors of the economy namely; Agriculture, Industry and Service sectors to the total GRDP.

$$\% \text{ Distribution of GRDP by sector} = \frac{\text{GVA sector}}{\text{GRDP}} \times 100$$

Where:
GVA sector = Gross Value by sector (Agriculture, Industry or services)
GRDP = Gross Regional Domestic Product

Statistics on GRDP and GVA are computed only by NSCB based on the data generated on surveys on income and expenditure of establishments by sector.

C. POVERTY

Poverty as defined is the continued inability of a household to meet its minimal set of capabilities for human, physical, intellectual and psychological functioning. Poverty statistics serve as important inputs in assessing the poverty situation of the population.

C. 1 Planning Standards:

1. **Poverty Threshold-** refers to the minimum yearly per capita income required or the expenditure necessary to meet the food requirements and other non-food basic needs per person.

   Poverty Threshold (in Pesos Per Capita Per Year)
   Region 02 Data: CY 1997 – P9,880.06
   CY 2000 – P11,128.00
   CY 2003 – P11,417.00

C.2 Planning Indicators

1. **Magnitude of the Poor-** number of families or population whose per capita income fall below the poverty threshold.
2. **Poverty Incidence-** defined as the proportion of families/population falling below the food threshold to the total number of families/population.

   Statistics on poverty are computed by the technical staff of the National Statistical Coordination Board (NSCB) based on the

methodology formulated by the Technical Working Group on Income and Poverty Statistics.

Lowest Level of Disaggregation: Provincial

Frequency: Every 3 Years

3. **Average Family Income-** refers to the total family income received in cash or in kind realized by all families in the area divided by the total number of families in the same area.

Formula:

$$\text{Average Family Income} = \frac{\text{Total Family Income}}{\text{Total Number of Families}}$$

Data Requirements: Total Family Income received in cash or in kind in the area
Total Number of Families in the area

Data Source: Family Income and Expenditure Survey, NSO

Lowest Level of Disaggregation: Key Cities

Frequency: Every 3 Years

D. INFLATION

It is the persistent rise in the general price level as measured against a standard level of the purchasing power of the peso. It is a vital information for evaluating economic development and formulating welfare-oriented price policies. It is also useful in the analysis of the purchasing power of the households. While inflation is a term used to mean the general upward trend in prices, deflation refers to a situation where the general level of prices is falling. However, if the rate of inflation is declining (that is, the general level of prices is increasing but at a decreasing rate) we refer to this situation as dis-inflation.

D.1 Indicators

1. **Consumer Price Index (CPI)-** It is a measure of changes in the average wholesale or retail prices of a market basket or collection of goods and services commonly purchased by an average household. It shows how much prices, on the average, of consumer goods and

services have increased or decreased from a particular reference period known as the base year. The data on prices needed in the computation of the index are gathered through the monthly survey of prices of commodities conducted nationwide by the National Statistics Office (NSO) and Bureau of Agricultural Statistics.

Formula:

$$CPI = \frac{P_t Q_t}{P_o Q_o} \times 100$$

Where: CPI = the Consumer Price Index
P_o = the Price of Commodity in the Base Period
P_t = the Price of Commodity in the Current Period
Q_o = the Quantity of Commodities in the Base Period
Q_t = the Quantity of Commodities in the Current Period

Data Requirements: Price of Commodity in the Base Period
Price of Commodity in the Current Period
Quantity of Commodities in the Base Period
Quantity of Commodities in the Current Period

Data Source: Price Statistics of the NSO

Lowest Level of Disaggregation: Provincial

Frequency: Monthly

.1 **Retail Price Index (RPI)-** the changes of the prices at which retailers dispose of their goods to consumers and end-users. The index is regularly adjusted in a base year when prices are relatively stable. The price data used in RPI are the same as in CPI, and for the items not included in the CPI, a separate price survey is conducted every month.

.2 **Wholesale Price Index (WPI)-** measures the changes in the price level of commodities that flow into the wholesale trade intermediaries. These commodities are transacted in bulk for further resale or processing. At present, the WPI is based on 2000 prices. The prices of commodities included in the WPI are gathered through the monthly survey of wholesale prices conducted by the NSO and the BAS.

2. **Average Annual Inflation Rate-** rate of change between two periods (year-on-year or month-on-month) as measured by the Consumer Price Index (CPI). Year-on-year inflation rate refers to the percentage change in CPI from a particular month last year to same month in the current year.

Formula:
$$\text{Inflation Rate} = \frac{CPI_{(t)} - CPI_{(o)}}{CPI_{(o)}} \times 100$$

Where: $CPI_{(o)}$ = the consumer price index in the same month of the previous year

$CPI_{(t)}$ = the consumer price index in the same month of the current year

Data Requirements: CPI in month of current year
CPI in same month of previous year

Data Source: Price Statistics of the NSO

Lowest Level of Disaggregation: Provincial

``

Frequency: Monthly

3. **Purchasing Power of the Peso-** indicates the value of the peso dirung the period under review as compared to the peso in the base period. It is computed as the reciprocal of the CPI for the period under review multiplied by 100.

Formula:
$$PPP = \frac{1}{CPI_{\#}} \times 100$$

Where: $CPI_{\#}$ = is the CPI in the nth period

Example: How much is the peso in 1988 worth in 1990?

Solution: PPP_{90} = (1/128.30) x 100 = P0.78 (Base Year 1988)

Interpretation: In 1990 the purchasing power of the peso was P0.78 or one peso in 1988 is worth 78 centavos in 1990.

Hence the same amount of good and services can be bought for P1.78 in 1990 (1.78 x 100).

Data Requirements: CPI for the year under review

Data Source: Price Statistics of the NSO

Lowest Level of Disaggregation: Provincial

Frequency: Monthly

E. LABOR AND EMPLOYMENT

Labor is defined as productive activity for the purpose of acquiring economic gain by the working population aged 15 years and over, while employment is a contract between two parties, one being the employer and the other being the employee.

The indicators in this sector are essential in the appraisal of the employment situation that will serve as guide and basis in the formulation of human resource development plans that will match the appropriate manpower skills required in the employment sector. They also provide information on the potential size of the population that is capable of engaging in productive undertakings to earn income. Labor and employment planning standards serve as guide for stakeholders in ensuring that the rights of the workers are respected in a healthy and conducive work environment.

E.1 Planning Standards and Decent Work Dimensions

1.1 Minimum employable age

a. No child below fifteen (15) years of age shall be employed, except when he works directly under the sole responsibility of his parents or guardian and his employment does not in any way interfere with his schooling.
b. Any person between fifteen (15) and eighteen (18) years of age may be employed for such number of hours and such periods of the day as determined by the Secretary of Labor in appropriate regulations.
c. The foregoing provisions shall in no case allow the employment of a person below eighteen (18) years of age in an undertaking, which is hazardous or deleterious in nature as determined by the Secretary of Labor.

1.2 Employment of Women: No women regardless of age shall be employed or permitted or suffered to work with or without compensation:

a. In any industrial undertaking or branch thereof between ten o'clock at midnight and six o'clock in the morning of the following day, or
b. In any commercial or non-industrial undertaking or branch thereof, other than agricultural, between midnight and six

E.2 Planning Indicators:

2.1 **Labor Force Participation Rate (LFPR)-** percent of population 15 years old and over old who are employed or unemployed but looking for work. LFPRs are useful if one wants a more detailed picture of the extent to which specific sectors of the population are economically active.

Formula:

$$LFPR = \frac{LF}{\text{Population 15 years old and over}} \times 100$$

Where: LF = total number of employed and unemployed persons but looking for work

Population 15 years old and over = total population of persons aged 15 years old and over

Data Requirements: Total no. of persons aged 15-64 years old, disaggregated by age group and sex, who are employed or unemployed.

Total no. of participants aged 15-65 years old

Data Source: Labor Force Survey Conducted by the NSO

Lowest Level of Disaggregation: Key Cities

Frequency: Quarterly

Remarks: **Labor Force-** refers to population 15 years old and over who are either employed or unemployed in accordance with the definition described below:

a. **Employed-** includes all those who, during the reference week, are 15 years old and over as their last birthday and were reported as either:

a.1.1 At Work- those who do any work even for one hour during the reference period for pay or profit or work without pay on the farm or business enterprise operated by a member of the same household related by blood marriage or adoption, or

a.1.2 With a Job But Not at Work- those who have a job or business but are not at work because of temporary illness, vacation, strike or other reasons. Also included are persons who are supposed to start the operation of a farm or business enterprise within 2 weeks from the date of the interview.

b. **Unemployed-** includes all those who, during the reference week, are 15 years old and over as of their last birthday and are reported actively looking for work. The desire to work must be sincere and the person must be serious about working. Also included are persons reported as wanting full time/part time work but not looking for work because of the belief that no work is available or because of temporary illness, bad weather, waiting for rehire/job recall or other valid reasons.

Note: The LFPR of males is significantly higher than females. This may be explained by the fact that majority of women 15-64 are probably housewives. By definition, housewives are excluded from the labor force because their work at home is considered non-productive.

2.2 **Economic Dependency Ratio-** the ratio of the number of dependent population (0-14 years old and 65 years and over) per 100 persons in the working ages 15-64 years. There are two kinds of dependent ratio, the child dependency ratio and the old age dependency ratio.

a. **Child Dependency Ratio-** the number of economically dependent persons 0-14 years old per 100 persons in the working age (15-64 years). It denotes the child dependency burden and the number of young dependents that are being supported by 100 persons in the age group (15-64).

Formula:

$$\text{Child Dependency Ratio} = \frac{\text{Population}_{0\text{-}14}}{\text{Population}_{15\text{-}64}} \times 100$$

Data Requirements: Population of persons aged 0-14

Population of persons aged 15-64

b. **Old Age Dependency Ratio-** indicates the number of elderly persons in the ages 65 years and over per 100 persons in the working ages 15-64 years.

Formula:

$$\text{Child Dependency Ratio} = \frac{\text{Population}_{65\text{-}t}}{\text{Population}_{15\text{-}64}} \times 100$$

Data Requirements: Population of persons aged 65 and over
Population of persons aged 15-64

Data Source: NSO Census of Population and Housing

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 years

2.3 **Employment/Unemployment Rate-** number of employed/unemployed person per 100 persons in the labor force (ages 15 to 64 years old).

-Employed persons are those who are either at work or with a job but not at work.
-Unemployed persons are those who have no job/business and actively looking for work.

Formula:

$$\text{Employment Rate} = \frac{\text{No. of employed persons}}{\text{Total no. of persons in the Labor Force}} \times 100$$

Data Requirements: Total number of employed persons
Total number of unemployed persons
Total number of persons in the labor force

Data Source: Integrated Survey of Household Bulletin
Labor Force Survey conducted by NSO

Lowest Level of Disaggregation: Key Cities

Frequency: Quarterly

c. **Underemployment Rate-** number of underemployed persons per 100 persons in the labor force (ages 15 to 64 years old); refers to persons who are employed but wanting additional work.

Formula:

$$\text{Underemployment Rate} = \frac{\text{No. of Underemployed Persons}}{\text{Total no. of persons in the Labor Force}} \times 100$$

Data Requirements: Total Number of Underemployed Persons
Total Number of Persons in the Labor Force

Data Source: LFS conducted by the NSO

Lowest Level of Disaggregation: Key Cities

Frequency: Quarterly

II. ECONOMIC SECTOR

A. AGRICULTURE

This sector involves the economic activity along the production of plants and animals that are useful to man and for food and other uses of varying degrees. Agricultural products also serve as raw materials for further processing into finished products. This sector covers three major sub-sectors namely: crops; livestock and poultry; and fishery.

The agriculture sector continues to play a vital role in the growth and stability of the economy. Policies and decisions of government concerning the development of this sector are anchored on the availability of accurate and timely agricultural statistics. To meet the food requirement of the fast growing population, it has become imperative to use current statistics on agricultural production to obtain a precise picture of the country's food situation in terms of supply and demand. Moreover, the planning standards are useful for planners and agency implementers in the preparation of responsive crops, livestock and fishery programs and projects based on the locality's resources and potentials, which would allow farmers to attain greater productivity and income.

A.1 Planning Standards:

1. Conversion Ratios for Rice, Livestock and Poultry

Item	*Equivalent/Conversion*
Rice	Quantity of Palay X 0.654
Cattle	
Liveweight	Number Slaughtered X 400 kgs.
Dressweight	Total Liveweight X 0.50
Offals	Total Liveweight X 0.0861
Carabao	
Liveweight	Number Slaughtered X 370 kgs.
Dressweight	Total Liveweight X 0.50
Offals	Total Liveweight X 0.0861
Hog	
Liveweight	Number Slaughtered X 80 kgs.
Dressweight	Total Liveweight X 0.70
Offals	Total Liveweight X 0.1433
Goat	
Liveweight	Number Slaughtered X 30 kgs.
Dressweight	Total Liveweight X 0.44
Offals	Total Liveweight X 0.1433
Chicken	
Liveweight	Number Dressed X 1.45 kgs.
Dressweight	Total Liveweight X 0.77
Duck	
Liveweight	Number Dressed X 1.30 kgs.
Dressweight	Total Liveweight X 0.75
Eggs	
Chicken	Fresh eggs/21 pieces/kilograms
Chuck	Fresh eggs/15 pieces/kilograms

2. Per capita consumption of Region II based on food consumption survey of the NFA and BAS during the period May 1999 to February 2000.

Rice	-	115.75 kg.
Corn	-	9.67 kg.
Camote	-	6.29 kg.
Cassava	-	2.16 kg.
Gabi	-	3.85 kg.
Potato	-	1.04 kg.
Eggplant	-	7.33 kg.
Ampalaya	-	1.82 kg.
Carrots	-	0.52 kg.
Cabbage	-	2.86 kg.
Camote tops	-	1.14 kg.
Petchay	-	1.09 kg.
String beans	-	4.58 kg.
Tomato	-	5.98 kg.
Gourd	-	1.35 kg.
Squash fruit	-	3.64 kg.
Mongo	-	2.18 kg.
Peanut	-	0.73 kg.
Banana	-	14.30 kg.
Mango (ripe)	-	1.91 kg.
Pineapple	-	1.25 kg.
Papaya (ripe)	-	0.78 kg.
Calamansi	-	1.56 kg.
Watermelon	-	2.08 kg.
Duck Egg	-	4.37 kg.
Duck Meat	-	0.31 kg.
Root and Tuber Crops	-	7.19 kg.
Vegetable Crops	-	39.0 kg.
Fruit Crops	-	28.0 kg.
Chicken Egg	-	4.37 kg.
Chicken Meat	-	9.00 kg.
Beef	-	2.39 kg.
Carabeef	-	1.61 kg.
Pork	-	13.00 kg.
Goat Meat	-	0.05 kg.
Milk Fish	-	3.43 kg.
Other Fresh Fish	-	10.76 kg.
Crustaceans	-	0.94 kg.
Mollusks	-	1.09 kg.
Other Aquatic Products	-	0.52 kg.
Dried Fish	-	1.82 kg.

3. Recommended Dietary Allowance (RDA) set by the Food and Nutrition Research Institute (RDA/Capita/Year)

Cereals and Cereal Products	-	124 kg.
Sugar and Syrups	-	70 kg.
Starchy Roots and Tubers	-	60 kg.
Vegetables	-	39 kg.
Fruits	-	28 kg.
Dried Beans, Nuts and Seeds	-	4 kg.
Milk and Milk Products	-	16 kg.
Eggs	-	4 kg
Fish, Meat and Poultry	-	54 kg.
Miscellaneous	-	7 kg.

4. Production Support Services

4.1 Planting Materials:

Palay

a. Inbred

Seed Class

Breeder: 1 bag (20 kg.) good for 1.0 ha. can produce 60 bags @ 20 kg/bag foundation seeds

Foundation: 1 bag (20 kg.) good for 1.0 ha. can produce 80 bags @ 40 kg/bag registered seeds

Registered: 1 bag (40 kg.) good for 1.0 ha. can produce 100 bags @ 40 kg/bag certified seeds

Certified: 1 bag (40 kg.) good for 1.0 ha.; produce average yield of 5.0 mt/ha.

b. Hybrid Rice A X R

1 bag (20 kg.) A-line good for 1.0 ha. can produce 25 bags F1 @ 20 kg/bag in wet season and 50-75 bags F1 @ 20 kg/bag in dry season.

Hybrid (F1): 1 bag (20 kg.) good for 1.0 ha. produce average yield of 6.5-8.0 mt/ha.

Corn

a. Open Pollinated Variety (OPV)

Seed Class

Breeder: 1 bag (20 kg.) good for 1 ha. can produce 2,000 kgs. Foundation Seeds

Foundation: 1 bag (20 kg.) good for 1 ha. can produce 2,000 kgs. Registered Seeds

Registered: 1 bag (20 kg.) good for 1 ha. can produce 2,000 kgs. Certified Seeds.

Certified: 1 bag (20 kg.) good for 1 ha. can produce 2,000 kgs. good seeds or average yield of 4.0 mt/ha. commercial seeds..

b. Hybrid Corn

1 bag (18 kg.) good for 1.0 ha.; produce average yield of 5.0 mt/ha.

5. Large Scale Irrigation Project for Agricultural Farm:

5.1 Technical Aspect

Cropping Intensity (C.I.) is at least 130%, and 30% of the service area is irrigated during the dry season as per availability of water supply.

$$C.I. = \frac{\text{Irrig. Area Wet Season + Irrig. Area Dry Season}}{\text{Total Service Area}} \times 100$$

- Average slope of irrigable area is not more than 10%.
- No problem on salinity, mine tailings and construction of complex structures.
- No quarrying of river within 1 km. upstream and 1 km. downstream of the proposed diversion dam.
- Communal irrigation project is more than 30 has. but not less than 1,000 has. for regular and at least 50 has. for foreign assisted projects except when it is for vegetables.
- National irrigation project is more than 1,000 has.
- Intensity of main/lateral canal is 13 m/ha.
- Intensity of Main Farm Ditch is 20 m/ha.
- Intensity of Supplementary Farm Ditch is 50 m/ha.
- Drainage module is 5-6 Li./sec/ha., for rice field, and 7-8 Li./sec./ha. for hilly parts of catchment area.
- Intensity of Service/O&M Road is 20 m/ha. or 50 has/km.; 4.00 meter width for lateral canal and 6.00 meter width for main canal.
- Using trapezoidal earth canal for main and lateral canal with side slopes of 1.5:1.
- Using concrete-lined canals where the soil through the canal traverses is porous or pervious.

- Minimum water duty is 1.5 Li./sec./ha. for clay loam soil during crop maintenance. Figure varies depending on the type of soil and as per actual evapotranspiration, percolation, and conveyance losses.
- Provide vehicle/equipment crossing along main/lateral canal every 1 km. on non-residential area and every 500 meter on residential area.
- Design discharge for overflow dam is 50 year flood.
- Irrigation Service Fee:
  a) National Irrigation System:
     Dry Season = 3 cavans per hectare
     Wet Season = 2 cavans per hectare

  b) Pump System:
     Dry and Wet = Ave. 8.5 cavans per hectare (IAAPIS, MPIS, SPIS)

  c) Reservoir:
     Dry and Wet = 3 cavans per hectare (MRIIS)

5.2 Economic Aspect

- Internal Rate of Return (IRR) is not less than 15%
- Cost per hectare is based on the following:
  a) P100,000/ha. to P120,000/ha. for a new Communal Irrigation Projects with Intake Type of Diversion.
  b) P120,000/ha. to P150,000/ha. for a new Communal Irrigation Projects with Diversion Dam.
  c) P40,000/ha. for Rehabilitation Projects.
  d) P60,000/ha. for Restoration Projects.
     Note: These limits are revised when construction costs change.
- There should be no conversion of land use from productive permanent crops (coconut, orchards, etc.) to rice.

5.3 Institutional Aspect

- At least 60% of the farmers are willing to organize into an association and amortize project cost at 70-30 percent cost sharing: 70% is the share of the National Government and 30% is the share of LGU and Farmers Association which may be in the form of cash, labor, materials or equipment services.
- Irrigation Association is amortizing its loan; this is applicable when a proposed project is to rehabilitate an existing system with an outstanding loan.

- At least 60% of the irrigable area is not owned by only one landowner.
- Average size of landholding is 2 ha. or less.

6. Small Scale Irrigation Projects for Agricultural Farm:

   6.1 Shallow Tubewell and Low-lift Pumps:
   a. 7-12.5 hp diesel engine:
      - 3" diameter pump-discharge 8.14-13.31 Li./sec. Can irrigate 0.08/hour @ 5 cm irrigation depth.
      - 4" diameter pump- discharge 11.17-20 Li/sec. Can irrigate 0.11 ha/hour @ 5 cm irrigation depth.

   b. 14 hp diesel engine:
      - 6" diameter pump discharge 31.67-38.29 Li./sec. Can irrigate 0.25 ha/hour @ 5 cm irrigation depth.

   c. 3.5-5 hp engine:
      - 2" diameter pump discharge 3.66-5.80 Li./sec. Can irrigate 0.03 ha/hour @ 5 cm irrigation depth.

- 1 Small Farm Reservoir – can serve 1 ha.

- Small Scale Irrigation Project (Pump)

- Spring Development (Gravity)
  - Higher elevation to lower service area using pipelines 2.5" diameter pipes with maximum of 6 km. length service area-30-200 has.

- Sprinkler: Vegetable – 1 ha. service area
  Watermelon – 1 ha service area
  Mango – 1 ha. service area

- Drip: Vegetable – 1 ha. service area

7. Post-Harvest Facilities:
   a. Multipurpose drying pavement per 420 sq.m. – 50 cavans/day (drying capacity)
   b. Farm level grain center (FLGC) (12m x 20m) – 9000 cavans capacity.
      Assumption: Distance from wall to pile- 1.0m

Distance from pile to pile- 1.0m
Allowable height of pile 5.0m
Center aisle- 1.0m

c. Mini-warehouse (10m x 12m) – 3,500 cavans capacity
Assumption: Distance from wall to pile- 1.0m
Distance from pile to pile- 1.0m
Allowable height of pile 5.0m
Center aisle- 1.0m

d. Mini-warehouse (8m x 12m) 3,000 cavans capacity
Assumption: Distance from wall to pile- 1.0m
Distance from pile to pile- 1.0m
Allowable height of pile 5.0m
Center aisle- 1.0m

e. Mini-warehouse (6m x 9m) 1,150 cavans capacity
Assumption: Distance from wall to pile- 1.0m
Distance from pile to pile- 1.0m
Allowable height of pile 5.0m
Center aisle- 1.0m

f. Recirculating mechanical dryer:
f.1 Padiscor (7-8 tons rice and corn) – 160 bags/batch at 6-8 hours/batch
f.2 Maruyama (6 tons rice)- 120 bags/batch at 8-10 hours/batch.
f.3 Megasun (6 tons rice)- 120 bags/batch at 8-10 hours/batch

g. Multipurpose thresher/sheller/husker:
g.1 10-12 hp diesel engine – 2 tons/hour
g.2 14-16 hp gasoline engine – 2tons/hour

h. Corn sheller- 10 hp engine- 2 tons/hour
i. Rice Thresher- 10 hp engine- 1.5 tons/hour
j. Production Equipment:
j.1 Rice hand tractor- 7-11 hp engine- 0.2 ha./hour
j.2 Rice reaper- 7 hp engine- 1 ha./hour
k. Four-wheeled tractor (86-90hp)
- minimum of 200 has/cropping
- 1 hour : 1 hectare

8. Manpower Support Services
Agricultural Extension
1 technician : 100 farmers

1 technician : 3 barangays

9. Space Requirement for Each Type of Livestock and Poultry:

a. Carabao:
- Native Pasture- 0.25 animal unit (au)/ha.
- Napier Pasture: Grazing- 5 au/ha; Cut and Carry- 8 to 10 au/ha.
- Mixed Pasture- 2.3 au/ha.

b. Cattle:
- Native Pasture- 0.33 animal unit au/ha.
- Napier Pasture: Grazing- 5 au/ha; Cut and Carry- 8 to 10 au/ha.
- Mixed Pasture- 2 au/ha.

9. Standards for slaughter house

a. Accessible from all directions and through all modes of transportation
b. Site located in urban area
c. Standard sections and facilities
- wet section
- Dry goods section
- Storage facilities
- Eateries
- Parking space
- Running water
- Proper lighting
- Proper ventilation
- Drainage
- Treatment pond or settling pond

Where: Adult cattle/carabao- 3 years old and above- 1.0 a.u.
Bull/Heifer/Steer- 1-3 years old- 0.5 a.u.
Calves- below 1 year old- 0.25 a.u.

c. Pig – 0.5 ha. per 2,300 heads
d. Goat – 1 ha. per 5 heads
e. Chicken – 1 ha. per 30,000 heads

10. Manpower Services for Fishery
a. Fishery Technician
1 technician : 75 fishpond operators
1 technician : 100 municipal fisherman

11. Standard Cost of Fish Cages: Bamboo : P20,000.00*
GI Frames: P40,000.00*

Note*: Minimum size of 5 x 5 square meters, inclusive of netting materials and exclusive of fish stocks.

12. Standard Cost per Unit of Modular Pond: P1 Million/ha.

Note*: Minimum area of 0.05 hectares; exclusive of fish stocks: Type of gate = PVC drain pipe. For concrete gates = 10,000 $m^{2.}$

13. Sea Cages (cost/unit) = P500/cu.m.*

Note*: Minimum size = 5 x 5 sqm; inclusive of netting materials; exclusive of fish stocks.

14. Standard Cost of Regional Fish Port: P100,000/sq.m.*

a. Minimum area = 1 hectare
b. Capacity for simultaneous boat landing = 20 boats with less than 3 gross tons; 10 small scale CFVs
c. With trading center (covered) = 200 sq.m.

15. Standard Cost of Municipal Fish Port: P25,000/sq.m.*
a. Capacity for simultaneous boat landing = 10 boats with less than 36 tons; 5 small scale CFVs
b. Trading center (shed type) = 100 sq.m.

16. Standard Cost of Fish Processing Plant: P100,000/sq.m.*
a. Capacity = 1 ton per day
b. Exclusive of manpower, salaries and wages
c. Inclusive of simple processing equipment and accessories
d. Minimum area = 100 sq.m.

17. Standard Cost of Seaweed mini-processing plant: P50,0000/sq.m.*
a. Capacity = 1 ton per day
b. Exclusive of manpower, salaries and wages
c. Inclusive of mechanical dryer and accessories
d. Minimum area = 50 sq.m.

18. Standard Cost of Small-scale fish processing plant: P10,0000/sq.m.*
a. Capacity = 100 kgs. fish per day

b. Exclusive of manpower, salaries and wages
c. Inclusive of simple processing tools
d. Minimum area = 10 sq.m.

19. Ice Plant: Cost = P20,000/sq.m.*

a. Capacity = 10 tons of ice per day
b. Exclusive of manpower, salaries and wages
c. Inclusive of freezing apparatus
d. Minimum area = 50sq.m.

Note*: cost is as of February 2003 prices

A.2 Planning Indicators:

2.1 Crops

1. Production level- refers to the weight or volume of production for each agricultural crop.
2. Annual Growth Rate of Production per Agricultural Crop
Formula:

$$R = \frac{P \text{ of x Crop } y1 - P \text{ of x Crop } y0}{P \text{ of x Crop } y0} \times 100$$

Where:
R = Annual Growth Rate
P of x Crop y1 = Production leel of a given crop for the current year
P of x Crop y0 = Production level of a given crop for the previous year

3. Crop Productivity- refers to average yield of a given crop per unit area of cultivated land e.g Metric tons per hectare.

Formula:

$$P = \frac{W}{Area}$$

Where :
P = Productivity
W = Weight of the agriculture crop (Usually in Metric tons)
A = Production Area (Usually in hectares or square kilometers)

4. Food Sufficiency – refers to the ability of an area (region, province, municipality) to meet the food requirements of its population through intensive food production in a sustainable manner, based on existing and potential resource endowment and related production advantages.

4.1 Rice Sufficiency Level

Formula:

a. Add the total production in metric tons (the total is assumed to be in palay form)
b. Multiply the total palay production by 72% to get the total available palay for milling) and then the result is multiplied by 0.654% (average milling recovery).
c. For the total consumption (in metric tons), multiply the total population by 118.21 (per capita rice consumption of Region 02. The result is divided by 1,000 to get the value in metric tons.
d. The result of the total production minus the total consumption is the surplus/deficit.

Data Requirements: Total rice production in metric tons (palay form)
Total population for the given year
Per capita rice consumption of Region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Municipal

Frequency: Annual

4.2 White Corn Sufficiency Level

Formula:

a. Add the total production of white corn in metric tons.
b. Multiply the total white corn production by 85% to get the total available white corn for consumption
c. For the total consumption (in metric tons), multiply the total population by 9.45 kg. (per capita corn consumption of Region II). The result is divided by 1,000 to get the value in metric tons.
d. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements: Total Production of White Corn in Metric Tons
Total Population in a given year
Per capita corn consumption in region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

4.3 Yellow Corn Sufficiency Level

Formula:

a. Add the total production of yellow corn in metric tons.
b. Multiply the total yellow corn production by 85% (for total available yellow corn).
c. All the yellow corn is assumed used for animal feeds and therefore no consumption rate is needed. This formula is used to estimate the available volume of yellow corn only.

Data Requirements: Total Production of Yellow Corn in Metric Tons

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

4.4 Root and Tuber Crops Sufficiency Level

Formula:

a. Multiply total Camote production by 95% to get the total available camote for consumption
b. Multiply total Cassava production by 10% (for total available Cassava for consumption).
c. Multiply total Other Root Crops production by 85% (for available root crops for consumption).

d. Add the result of the consumption in nos. 1, 2, and 3. The result is the total root crop production in metric tons.
e. For the total consumption (in metric tons), multiply the total population by 7.19 kg. (per capita consumption of Region II). The result is divided by 1,000 to get the metric tons.
f. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements: Total camote production in a given year
Total cassava production in a given year
Total other crops production in a given year
Total population in a given year
Per capita consumption in root crops in region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

4.5 Vegetable Crops Sufficiency Level

Formula:
a. Multiply the total leafy vegetable production by 92% (for total available for consumption).
b. Multiply the total yellow and fruit vegetable production multiplied by 85% (for total available for consumption).
c. Multiply the total beans and other vegetable crop production by 94% (for average crop for consumption).
d. Add the total production of number 1,2, and 3 of the vegetable crop production table in metric tons. The result is the total vegetable crop production.
e. For the total consumption (in metric tons), the total population is multiplied by 39.0 kg. (per capita consumption). The result is divided by 1,000 to get the value in metric tons.
f. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements:
Total green leafy vegetable production in a given year
Total yellow and fruit vegetable production in a given year

Total beans and other vegetable production in a given year
Total population in a given year
Per capita consumption in green, yellow and fruit vegetables in Region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

4.6 Fruit Crops Sufficiency Level

Formula:
The total Highly Commercial Fruits with High Processing Alternatives production, such as banana and pineapple multiplied by 45% (for total available for consumption).
a. Multiply the total Commercial Fruits production, such as mango and papaya, by 90% (for total available for consumption).
b. Multiply the total Other Fruit Crop production, such as calamansi, pomelo, jackfruit, durian, mandarin and others, by 94% (for average crop for consumption).
c. Add the total production of number 1-3 of the fruit crop production in metric tons.
d. For the total consumption in metric tons, multiply the total population by 28.0 kg. (per capita consumption). The result is divided by 1,000 to get the value in metric tons.
e. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements:
Total Highly Commercial fruits with High Processing Alternatives production in a given year
Total Commercial fruits production in a given year
Total Other Fruits Crop production in a given year
Total population in a given year
Per capita consumption for fruits in Region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

4.7 Egg Production Sufficiency Level

Formula:

a. The total number of eggs produced by both the layers and the backyard chicken, divided by 21 (to get the total egg in kg. Weight) The result is divided by 1,000 to get the metric tons produced.
b. For the total consumption in metric tons, total population is multiplied by 4.52 kg. (per capita consumption). The result is divided by 1,000 to get the metric tons.
c. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements: Total number of eggs produced by both the layers and the backyard chicken
Total population in a given year
Per capita consumption for eggs in Region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

4.8 Chicken Meat Production Sufficiency Level

Formula:

a. The total number of chicken meat produced by both the culls and the broiler, multiplied by 1.45 (to get the average live weight in kg.) and the result is multiplied by 0.77 (average meat recovery rate). The final result is divided by 1,000 to get the metric tons produced.
b. For the total consumption in metric tons, the municipal population is multiplied by 7.29 kg. (per capita consumption). The result is divided by 1,000 to get the metric tons.
c. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements: Total number of chicken meat produced by both the culls and broiler for a given year
Total population in a given year
Per capita consumption for chicken meat in Region 2

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

4.9 Beef Production Sufficiency Level

Formula:

a. The total number of beef produced shall be obtained from the slaughtered animals data, will be multiplied by 400.0 kg. (to get the average live weight in kg.) and the result is multiplied by 0.50 (average meat recovery rate). The final result is divided by 1,000 to get the metric tons produced.
b. For the total consumption in metric tons, the municipal population is multiplied by 1.85 kg. (per capita consumption). The result is divided by 1,000 to get the value in metric tons.
c. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements: Total number of beef produced in a given year
Total population in a given year
Per capita meat consumption in Region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

1.10 Carabeef Production Sufficiency Level

Formula:

a. The total number of carabeef produced shall be obtained from the slaughtered animals data, will be multiplied by 370.0 kg. (to get the average live weight in kg.) and the result is multiplied by 0.50 (average meat recovery rate). The final result is divided by 1,000 to get the metric tons produced.
b. For the total consumption in metric tons, the municipal population is multiplied by 1.05 kg. (per capita consumption). The result is divided by 1,000 to get the metric tons.
c. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements: Total number of carabeef produced in a given year
Total population in a given year
Per capita consumption in meat for Region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

4.11 Pork Production Sufficiency Level

Formula:

a. The total number of pork produced shall be obtained from the slaughtered animals data, will be multiplied by 80.0 kg. (to get the average live weight in kg.) and the result is multiplied by 0.70 (average meat recovery rate). The final result is divided by 1,000 to get the metric tons produced.
b. For the total consumption in metric tons, the municipal population is multiplied by 9.84 kg. (per capita consumption). The result is divided by 1,000 to get the value in metric tons.
c. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements: Total number of pork produced in a given year

Total population in a given year
Per capita consumption in pork in Region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

4.11 Fish Production Sufficiency Level

Formula:

a. Add the total fish production from the three sectors (aquaculture, municipal and commercial) for the total fish production.
b. For the total demand, the total population is multiplied by 36.0 kg. (per capita consumption). The result is divided by 1,000 to get the metric tons.
c. The result of the total fish production divided by the total demand is multiplied by 100 to get the percentage sufficiency level.
d. The result of the total production minus the total consumption shall be the surplus/deficit.

Data Requirements:
Total aquaculture production in a given year
Total municipal fish catch in a given year
Total commercial fish catch in a given year
The projected population in a given year
Per capita consumption in fish in Region 02

Data Source: Bureau of Agricultural Statistics
National Statistics Office
Food and Nutrition Research Institute

Lowest Level of Disaggregation: Provincial

Frequency: Annual

B. ENVIRONMENT AND NATURAL RESOURCES

A major planning concern is “sustainable development” or meeting the needs of the present generation without jeopardizing the needs of the

future generation. The Philippine Agenda 21 states that it is indeed imperative to conserve the country's natural resources. Indicators provide the necessary information on the current status of the environment as basis in the formulation of Local development plans that must embody among others the management, administration, regulation, utilization, protection and development of natural resources in the country.

This section presents the suitability criteria for different land uses. It likewise presents the standards for environmental protection and quality for land, water and air.

B.1 Planning Standards:

1. Suitability Criteria of Land Use for Residential Areas

a. Site should be fairly flat and not more than 5% in slope
b. Lands should be agriculturally marginal and not covered under NPAAAD (RA 8435) or any of the identified protected areas.
c. Soil and subsoil conditions should be suitable for building construction; shrink-swell clay type of soil should be avoided
d. Water table should be low enough for protection against basement flooding and interference with sewerage.
e. Site should be free from periodic flooding, landslides and other natural hazards.
f. Site should not sit within a faultline and should not be located within the perimeter of an active volcano.
g. Depth of water bearing aquifer with potable water is not more than 50 meters.
h. Site should be accessible by all-weather roads.

2. Suitability Criteria on Land Use for Industrial Commercial Areas

a. Site should be fairly flat with slope not exceeding 5%.
b. Land should be agriculturally marginal and not covered under NPAAAD (RA 8435) or any of the identified protected areas.
c. Site should be free from periodic flooding, landslides and other natural hazards.
d. Site should not sit within a fault line and should not be located within the perimeter of an active volcano.
e. Land should have a good external surface drainage and internal soil drainage and free from flooding hazard.
f. Site should be accessible by all-weather roads.

3. Suitability Criteria on Land Use for Agricultural Area:

a. For annual crops, slope should not exceed 8% while for perennial crops, it should not exceed 18% to avoid soil erosion.
b. Soil should not be rocky and stony which hamper tillage.
c. Soil depth, A and B horizons, should be at least 50 cm for viability of uses.
d. Soil pH should range from 5.5 to 7.9 depending on the crops to be planted.
e. Area should not be stocked with timber producing species.

4. Suitability Criteria on Land Use for Agro Forestry Area:

a. Slope should not exceed 50%.
b. There must be available continuous water supply throughout the year. Rainfall should not be less than 150mm per month but can tolerate dry periods of up to two months.
c. Soil pH must be 4.5 to 8 and soil depth must not less than 40 cm on the average.
d. The area should not have adequate commercial timber stockings and could not be developed as a productive forest plantation.
e. The area should be naturally drained or drainable with few drainage developments.
f. Elevation is from 1 meter to 2,000 meters above sea level.

5. Suitability Criteria on Land Use for Mineral Lands:

a. Areas covered by proclamation and mineral reservations.
b. Areas covered by mineral lease, contracts, permits or licenses.

6. Suitable Criteria on Land Use for Forest Land-Production Forest:

a. Adequately stocked logged-over areas and adequately stocked logged-over areas which can be productive by applying proper management techniques.
b. Brush lands and open lands where commercial forest originally occurred which could be economically developed into industrial tree plantations and tree farms.
c. Primary and/or secondary forest with abundant minor forest products that can be extracted commercially (these forest lands should not fall under the NIPAS category).

7. Suitability Criteria on Land Use for Forest Lands-Protection Forest:

a. All forest lands falling under the NIPAS category.
b. All forest lands with the following categories:
b.1 Areas with steep mountain terrain like mossy forest, with slope of 50% and above sea level.

b.2 Strips of land of not less than 20 meters in both sides of principal river systems, its tributaries and headwaters.
b.3 Mangrove forest which are vital for shoreline protection and breeding places of aquatic and terrestrial wildlife.
b.4 Remaining areas of forest, man-made or natural in the municipalities or cities of islands with very small forest areas and to be reserved for greenbelts.
b.5 Open and denuded areas which are very susceptible to erosion, and those covered by government reforestation projects and strips of land or slopes along sides of highways and roads.
b.6 Areas with at least 5% of the total land area covered by existing and/or to be approved timber concessions.

8. Suitability Criteria on Land Use for Grazing Lands:

a. At least 75% of the area must have a slope gradient of not more than 50%.
b. The area should be contiguous and not less than 1,000 hectares for economical management.
c. Soil should be stable and of medium to heavy texture. Erosion, if any, must be very moderate or slight and can easily be controlled.
d. There must be accessible, continuous and adequate supply of water.
e. There should not be any restriction in the form of cliffs, ravines, swamps, thick brushes and other similar barriers that could constrain the movement of person, livestock and equipment.
f. The area must be free of forest occupancy that may hinder range management.

9. **Suitability Criteria for Selecting Sanitary Landfill Sites**

a. The site should be accessible within 30 minutes travel time by truck.
b. Topography should be gently sloping (about 2-4%).
c. Groundwater's seasonally high table level (10 year high) must be at least 1.5 meters below the proposed base of the landfill.
d. The soils above the groundwater's seasonal high level must have a minimum depth of one meter of relatively impermeable clay or plastic liners are used.
e. The site should not be a part of the groundwater recharge area for existing domestic water supply systems.
f. No private or public drinking, irrigation, or livestock water supply well should be within 500 meters down gradient of the landfill boundaries.
g. No perennial stream should be within 300 meters down gradient of the proposed landfill site.

h. No environmentally significant wetlands of important biodiversity or reproductive value should be present within 500 meters of the landfill site boundaries.
i. No endangered or rare species' breeding areas or potential living areas should be present within the site boundaries.
j. No significant protected forest should be within 500 meters of the landfill area.
k. No open areas of high winds.
l. No major lines of electrical transmission, gas, sewer, water, etc. should cross the area.
m. The site should have no underlying limestone, carbonate, and fissured or other porous formations.
n. The site should have no underground mines.
o. No significant seismic risk; no fault lines within 500 meters of the perimeter of the proposed area.
p. No residential development within 250 meter from the perimeter of the proposed site.
q. Avoid siting within approximately 1 km. of socio-politically sensitive areas (memorial sites, churches, schools, tourism sites, etc.).
r. No siting within 3 km of a turbojet airport and 1.6 km of a piston type airport.
s. No siting within a floodplain subject to 10-year floods.

10. Location Criteria/Guidelines for Cemeteries:

a. At least twenty (20) meters distance from any dwelling unit, and no house shall be constructed within the same distance from any burial ground.
b. Fifty (50) meters distance from either side of the river or fifty (50) meters distance from any source of water supply.
c. No burial ground shall be located in an area with high water table, water recharged aquifers, water bearing rocks or where soil permeability is good.
d. Cemeteries are preferably designed in sparsely populated areas but not outside city/municipality limits or on the periphery of the town proper and away from the city/municipality water system.
e. Cemeteries are preferably located on grounds free from flood hazards.
f. A new cemetery should be located in an area that will not distract the opening of future streets and aerial grounds.
g. Cemeteries should be away from watershed of lakes or streams to maintain safe water supply.

11. Noise Standards in General Areas:

Category of Area	Day Time	Morning Time	Evening/Night Time
AA	50 db	45 db	40 db
A	55 db	50 db	45 db
B	65 db	60 db	55 db
C	70 db	65 db	60 db
D	75 db	70 db	65 db

Legend:
AA- a section or contiguous area which requires quietness, such as an area within 100 meters from school sites, nursery schools, hospitals and special homes for the aged;
A- a section or contiguous area which is primarily used for residential purposes;
B- a section or contiguous area which is primarily a commercial area;
C- a section primarily reserved as a light industrial area; and
D- a section which is primarily reserved as a heavy industrial area.

Day Time- 9:00 am to 6:00 pm
Morning- 5:00 am to 9:00 am
Evening- 6:00 pm to 10:00 pm
Night Time- 10:00 pm to 5:00 am

Db- decibel (unit of measurement of sound)

Note: The standards are applied to the arithmetic median of at least seven (7) readings at the point of maximum noise level.

Source: Rules and Regulations of the National Pollution Control Commssion (1978), Section 78, Table 1
Environmental Quality Standards for Noise in General Area

12. Maximum Noise Standards for Construction and Allowable Working Hours Per Area

Class of Areas Activity	Maximum Noise Level	Allowable Working Hours
-Class 1	90 dBA	7:00 am-7:00 pm AA,A,B
-Class 2	85 dBA	7:00 am-7:00 pm AA,A,B
-Class 3-4	75 dBA	7:00 am-9:00 pm AA,A,B

Legend:
Class 1- work which requires pile drivers (excluding manual type pile extractors, riveting hammers or combination thereof). This classification does not include work in which pile drivers are used in combination with earth augers.
Class 2- work which requires rock drills or similar equipment like jack hammers or pavement breakers.
Class 3- work which requires air compressor (limited to those compressor which use power other than electric motors with a rated output of 15 KW or more and excludes air compressors powering rock drills, jack hammers and pavement breakers).
Class 4- operation involving batching plant (limited to those with mixer capacity of 0.5 or more cubic meters) and/or asphalt plants (limited to those with mixer capacity of 200 KG or more). Batching plants for the making or mortar are excluded.

13. Air Quality Indices:

a. Total Suspended Particulars (24 hour average)
- Good – 0 to 80 ug/Ncm
- Fair – 81 to 230 ag/Ncm
- Poor – 231 to 350 ug/Ncm
- Very unhealthful (Alert Level) – 350 ug/Ncm
- Hazardous (Warning Level) – 600 ug/Ncm
- Extremely Hazardous (Emergency Level) – 900 ug/Ncm

b. Sulfur Dioxide (24 hour average)
- Good – 0 to 80 ug/Ncm
- Fair – 81 to 180 ag/Ncm
- Poor – 181 to 650 ug/Ncm
- Very unhealthful (Alert Level) – 650 ug/Ncm (0.25 ppm)
- Hazardous (Warning Level) – 1,570 ug/Ncm (0.60 ppm)
- Extremely Hazardous (Emergency Level) – 2,360 ug/Ncm (90.90 ppm)

c. Photochemical Oxidants or Ozone – 1 hour
-Good – 0 to 80 ug/Ncm
- Fair – 81 to 160 ag/Ncm
- Poor – 161 to 350 ug/Ncm
- Very unhealthful (Alert Level) – 350 ug/Ncm (0.18 ppm)
- Hazardous (Warning Level) – 780 ug/Ncm (0.40 ppm)
- Extremely Hazardous (Emergency Level) – 1,180 ug/Ncm (0.60 ppm)

d. Carbon Monoxide (8 hours average)
- Good – 0 to 5 mg/Ncm
- Fair – 5.1 to 10 mg/Ncm
- Poor – 10.1 to 17 mg/Ncm
- Very unhealthful (Alert Level) – 17 mg/Ncm (15 ppm)
- Hazardous (Warning Level) – 34 mg/Ncm (30 ppm)
- Extremely Hazardous (Emergency Level) – 46 mg/Ncm (40 ppm)

Note: Normal Cubic Meter (Ncm) means the volume of dry gas which occupies a cubic meter measured at twenty five degrees Celsius (25^{o}C) and at an absolute pressure equivalent to seven hundred sixty (760) mm Hg.

B.2 Planning Indicators:

1. Percentage of Forest to Total Land Area- forestlands are those lands of the public domain which have been classified as such and declared as needed for forestry purposes. Forestlands are areas which inherently produce more benefits and give better service than when converted to agricultural land or other uses, such that those lands are not to be titled.

Formula:
$$\% \text{ of Forestlands} = \frac{\text{Total Area Devoted to Forestry}}{\text{Total Land Area}} \times 100$$

Data Requirements: Area Devoted to Forestry
Total Land Area

Data Source: DENR

Lowest Level of Disaggregation: Municipal

Frequency: Annual

2. Percentage of Denuded Forest Area to Total Forest Area- Denuded forest area is the size of forest area stripped or divested of free crown cover.

Formula:
$$\text{Denuded Area} = \frac{\text{Denuded Forest Area}}{\text{Total Forest Area}} \times 100$$

Data Requirements: Denuded Forest Area
Total Forest Area

Data Source: Forest and Management, DENR

Lowest Level of Disaggregation: Provincial

Frequency: Annual

3. Percentage of Public Lands Classified as Alienable and Disposable (A & D) – determines the percentage of total land classified as A & D to total land area of public lands.

A & D Lands- are those lands of the public domain which are classified and determined not to be needed for forest purposes and are available for disposition under Commonwealth Act No. 141, as amended by the Public Land Act. It also specifies that no land of the public domain 18% in slope or over which have already been declared as A & D shall be reverted to the classification of forestlands to form part of the forest reserves. A & D lands which can be titled.

Formula:
$$\text{\% of Pub. Lands Classified as A \& D} = \frac{\text{Total Land Area of A \& D (has)}}{\text{Total Land Area of Public Lands (has)}} \times 100$$

Data Requirements: Total Land Area of A & D
Total Land Area of Public Lands

Data Source: DENR

Lowest Level of Disaggregation: Municipality

4. Percentage of Forestlands Classified as Production Forests- production forests are forestlands managed primarily for the production of timber and other three products.

Formula: Area of Production Forests (has.)
% of Forestlands Classified = ---------- x 100
as Production Forest Total Area of Forestlands (has.)

Data Requirements: Total Area of Production Forests
Total Area of Forestlands

Data Source: DENR

Lowest Level of Disaggregation: Municipality

5. Percentage of Forestlands Classified as Protection Forests- protection forests are forestlands maintained primarily for their beneficial effects on soil and water and in the environment in general. They are preserved and/or protected whereby the remaining forest of the country and those that will be developed in the future are no longer subject to conversion into other land uses, or into excessive and illegal cutting, as well as to various forms of exploitation not within a prescribed management plan.

Formula: Total Area of Protection Forests (has.)
% of Forestlands Classified = ---------- x 100
as Protected Forest Total Area of Forestlands

Data Requirements: Total Area of Protection Forests
Total Area of Forestlands

5.

Data Source: DENR

Lowest Level of Disaggregation: Municipality

6. Water Pollution Index- measure the extent of contamination of water bodies and surface water. It is very essential to know the indexes of water pollution in order to draw up and establish a proper set of anti-pollution measure.

Data Requirements: Water Pollution Index Readings

Data Source: DENR

Lowest Level of Disaggregation: Cities

Frequency: Quarterly

7. Air Pollution Index- measure of toxic air contaminants emissions. It is very essential to know the indexes of air pollution in order to draw up and establish a proper set of anti-air pollution measure.

Data Requirements: Air Pollution Index Readings

Data Source: DENR

Lowest Level of Disaggregation: Cities

Frequency: Quarterly

C. INDUSTRY

Data on the industry sector are very essential as these provide information on the extent to which an economy has attained progress in its industrial development program.

This section covers planning standards for industry classification and employment size. Indicators on the other hand provide information on the level of registered business enterprises; the level of investment or capital and sales generated.

C.1 Planning Standards:

1. Industry Classification According to Capitalization:
   a. Micro Industry: Asset size- up to P3,000,000
   b. Small Scale Industry: Asset size- P3,000,001 to P15,000,000
   c. Medium Scale Industry: Asset size- More than P15,000,001 to P100,000,000
   d. Large Scale Industry: Asset size- Starting from P100,000,001.00

2. Industry Classification According to Employment Size:
   a. Micro Industry: no specific
   b. Small Scale Industry: 10 to 99 employees
   c. Medium Scale Industry: 100 to 199 employees
   d. Large Scale Industry: 200 or more employees

C.2 Planning Indicators:

1. Number of Firms Registered thru Business Name Registration (BNR)- refers to the total number of firms registered thru BNR.

Data Requirements: Number of Firms Registered thru BNR

Data Source: DTI

Lowest Level of Disaggregation: Provincial

Frequency: Quarterly

2. Number of Firms Registered thru Board of Investment (BOI) Registration

Data Requirements: Number of Firms Registered thru BOI

Data Source: DTI

Lowest Level of Disaggregation: Provincial

Frequency: Semi-Annual

3. Value of Investment Generated- refers to the total amount of investment generated for a given period. Investments is defined as the amount of money or other resources measured in terms of money placed on activities or other forms of assets for the purpose of earning profits.

Data Requirements: Value of Investments Generated by Type of Industry Registered Thru BNR/BOI.

Data Source: DTI

Lowest Level of Disaggregation: Provincial

Frequency: Quarterly

4. Investments Generated Thru Loan Availments for Micro, Small and Medium Enterprises (MSMEs)

Source: LBP, DBP, SB Corporation, Rural Banks and Other Financing Institutions

Lowest Level of Disaggregation: Provincial

Frequency: Semi-Annual

5. Domestic Sales- refers to total amount of domestic sales generated.

Data Requirements: Amount of Domestic Sales Generated

Data Source: DTI

Lowest Level of Disaggregation: Provincial

Frequency: Quarterly

D. COOPERATIVE DEVELOPMENT

Cooperatives are duly registered association of at least (15) persons with a common bond of interest who voluntarily join together to achieve a lawful common social and economic end. Planning standards in this sector will serve as guide for implementing agencies in the provision of technical guidance, assessment and evaluation of cooperatives that may be organized based on membership, financial capability and services extended. On the other hand, planning indicators are useful in assessing the existing number of cooperatives in the locality and their level of development in terms of their capital build-up to sustain their operations, so that appropriate policies may be formulated to strengthen the cooperatives.

D.1 Planning Standards:

1. Classification of Cooperatives

a. **Consumer's Cooperative**- the primary purpose is to produce and distribute commodities to members and non-members.
b. **Cooperative Bank**- organized by the majority shares of which is owned and controlled by cooperatives primarily to provide financial and credit services to cooperatives.
c. **Cooperative Foundation**- an organization of primary and/or secondary cooperatives with a single line or multi-purpose business activities.
d. **Cooperative Union**- an organization of cooperatives and federations at appropriate levels to represent the interest and welfare of all types of cooperatives at the provincial, city, regional and national level.
e. **Credit Cooperative**- promotes thrifts and savings among its members and creates funds in order to grant loans for productive and provident purposes.

f. **Laboratory Cooperative**- a cooperative formed and managed principally by minors and which is affiliated with registered cooperative.
g. **Marketing Cooperative**- engages in the supply of production inputs to members, and market their products.
h. **Multi-purpose Cooperative**- engages in two or more types of business activities.
i. **Producer's Cooperative**- undertakes joint production whether agricultural or industrial.
j. **Service Cooperative**- engages in medical and dental care, hospitalization, transportation, insurance, housing, labor, electric, light and power, communication and other services.

2. Standard requirements for a cooperative to be registered to the Cooperative Development Authority (CDA):

a. Minimum incorporators should be at least 15 members
b. Minimum total paid up capital of P2,000.00
c. Certification that a pre-membership seminars has been conducted
d. Certification that the basic accounting system and internal control has been installed
e. The presence of the core management team (manager, bookkeeper, treasurer and other staff)
f. A 3 year business proposal with the corresponding capitalization requirement

D.2 Planning Indicators

1. Number of Registered Cooperatives, by Type- refers to total number of cooperatives registered at Cooperative Development Authority.

Data Requirements: Total Number of Cooperatives Registered by Type

Data Source: Cooperative Development Authority

Lowest Level of Disaggregation: Municipality

Frequency: Annual

2. Total capital build-up of Registered Cooperatives, by type of Cooperative

Data Requirements: Total No. of cooperatives by type capital build –up

Data Source: Cooperative Development Authority

Lowest Level of Disaggregation: Municipality

Frequency: Annual

E. TOURISM

The development of a tourism sector is a major economic objective for it transcends beyond the scope or mere traveling. Tourism is defined as travel for predominantly recreational or leisure purposes thus, the provision of services to support this leisure travel is essential in development planning. As an economic industry, it has linkages with such activities like manufacturing, food processing, environment and agriculture among others. The planning standards will serve a good reference for physical planning and as guide in the evaluation of proposed amenities required in tourism destination areas.

E.1 Planning Standards

1. Guidelines for density requirements on tourist village

a. The ideal density for each designated tourist village is 19 single units (5mX5m) per hectare; 11 duplex units per hectare; and 6 larger (4 to 5 bedrooms) units per hectare.
b. The construction of cottages or any structure on slopes greater than 18% shall be limited and strictly regulated.

c. Cottages and other structure shall only be allowed along the foot or lower slopes with the distance between them at least three times the length of the space each occupies.
d. No cottage or structure shall be allowed on the top of ridges or hills.
e. Density requirement for other designated areas shall be subjected to approval by the Resort State Management.

2. Guidelines for site selection

a. The guidelines for site selection will have to be specific to the type of land use planned for the site.
b. For construction of cottages in the tourist villages, there shall be no site chosen where the drainage is impeded. These are sites that are flooded during rains.
c. As a general guide for site assessment for various land uses, the reader is referred to Soil Classification for Engineering Projects.

d. For making decisions on whether certain slopes are stable or land slide prone, refer to Angles of Repose for Various Types of Slope Materials.

3. Guidelines for setback and buffer zones

a. A shoreline setback will be established to extend from high water mark to 30 meters inland.
b. Cottages and other structures should be at least 15 meters from the highest water level mark of lagoons and their channels, swamps and mangrove areas.
c. Cottages and other structure should be at least 10 meters from the foot of steep hills.
d. No activities such as clearing, grading, dredging or mining shall be allowed in these setbacks and buffer zones without species and prior approval from the Resort Estate Management.

4. Guidelines for trail construction

a. Access footpaths shall be at least 0.90 meters to a maximum of 1.8 meters in width.
b. The vegetation that will be removed shall only be those that must be sacrificed for the minimum recommended trail width. Among the sides of steep and rocky seacost promontories, trails should have a vetative buffer zone at least 2 meters along the edge towards the sea.
c. Trails should have proper provisions for drainage.
d. Trails and access ways shall be well defined through the use of natural barriers such as planting and ground cover.

e. Trails should connect all necessary points in the simplest and most direct manner, consistent with good alignment, grades and natural relationships.

3. Criteria for rural roads-development plans in the tourist zones include the construction or improvement of rural roads

a. Design speed: 25 kph in mountainous areas and 60 kph in flat areas.
b. Minimum radius of curvature: 30 meters in mountainous areas and 100 meters in flat areas.
c. Maximum gradient: 15 percent
d. Road Surface: 4-5 meters wide with slopes of 2-4 percent slopes towards the drain.
e. Width of Shoulder: 1.5-2.5 meters with slopes of 3-5 percent towards the drain.

6. Guidelines on Sewage Disposal

a. Sewage disposal system should be at least 25 meters away from shallow wells and 15 meters from deep wells.

7. Guidelines for Garbage Disposal

a. Construction of compost pits for the disposal of organic wastes shall be encouraged. For this purpose there shall be reserved 400 sq.m. (for single units and duplexes) and 600 sq.m. (for large units) of open space per hectare.

8. Standard Requirements for accreditation of De Luxe Class Hotel

a. All single and double rooms shall have a floor area of not less than 25 sq.m., inclusive of bathrooms.
b. There shall be one suite per 30 guest rooms.
c. All rooms must have bathrooms which shall be equipped with fittings of the highest quality befitting a luxury hotel with 24-hour service of hot and cold running water.
d. All guest rooms shall have adequate furniture of the highest standard and elegant design, floors shall have superior quality wall-to-wall carpeting, walls shall be well furnished with well-tailored draperies of rich materials.

9. Standard requirements for accreditation of First Class Hotel

a. All single and double rooms shall have a floor area of not less than 25 sq.m., inclusive of bathrooms.
b. There shall be one suite per 40 guest rooms.

c. All rooms must have bathrooms which shall be equipped with fittings of the highest quality befitting a first class hotel with 24-hour service of hot and cold running water.
d. All guest rooms shall have adequate furniture of very high standard and very good design, floors shall have superior quality wall-to-wall carpeting, or if the flooring is of high (marble, mosaic, etc.) carpets shall be provided and shall be of a size proportionate to the size of the room; walls shall be well furnished with well-tailored draperies of very high quality materials.

10. Standard requirements for accreditation of Standard Class Hotel

a. All single and double rooms shall have a floor area of not less than 18 sq.m., inclusive of bathrooms.

b. All rooms must have bathrooms which shall be equipped with shower and fittings of good standard with cold running water on a 24-hour basis and hot running water at selected hours.
c. All guest rooms shall have very good standard and design, floors shall have good quality carpet, walls shall be well furnished with well-tailored draperies of good quality materials.

11. Standard requirements for accreditation of Economy Class Hotel

a. All single and double rooms shall have a floor area of not less than 18 sq.m., inclusive of bathrooms.
b. All rooms must have bathrooms which shall be equipped with shower and basic fittings of good standard with cold running water on a 24-hour basis and hot running water at selected hours.
c. All guest rooms shall have basic furniture of good standard and design, floors shall be well finished.

12. Standard requirements for accreditation of Apartels

a. The apartel shall have at least a minimum of 25 lettable apartments.
b. Each apartment of the apartel shall be provided with living and dining areas, kitchen and bedroom with attached toilet and bath.
c. Elevators shall be provided for a building of more than three storeys whenever possible.

13. Standard requirements for accreditation of Motels

a. The motel shall be located along or close to the highways or major transportation routes. It shall have at least 10 units.

b. The motel shall have an individual garage or a common parking space for the vehicle of its guests.

14. Standard requirements for accreditation of Pensions

a. A pension shall have at least 5 lettable rooms.
b. The establishment shall provide a toilet and bathrooms to be used in common by the guests. There shall be at least one toilet and one bathroom/shower for every five guests.

15. Standard requirements for accreditation for tourist land transport vehicles

a. Units must be covered by its franchise from the LTFRB
b. In cases of bus or coaster, it shall not be more than 10 years, nor more than 5 years for a tourist car reckoned from the year of manufacture.
c. Every tourist transport shall be provided with a left-hand drive.

d. Every tourist transport shall be equipped with adequate air-conditioning units.
e. A tourist transport shall be provided or installed with at least one portable fire extinguisher for the protection of its passenger.
f. The company's name and logo shall be imprinted at the rear and sides, respectively of the tourist transport units.
g. A public address system shall be installed for tourist buses or coasters.
h. Every tourist transport shall be provided with a first aid kit and an adequate supply of emergency medicines.
i. Every tourist transport shall have clean and comfortable seats.
j. A tourist transport shall have enough leg room and sufficient storage space.
k. Every tourist transport shall provide an adequate garage and repair shop for the maintenance of its equipment as well as a parking space sufficient to accommodate all its registered units.

16. Standard requirement for accreditation for tourist water transport vessels

a. There shall be at least one restroom each with toilet and washing facilities for male and female located at the passenger accommodation area. In addition, there shall be a common toilet and bath at the cabin area for long haul trip. Tissue papers, soap and hand/paper towel shall also be provided.
b. A receptionist shall be available to usher in guests.

c. There shall be a refresher area which shall be well stocked at all times. In case of long trips, one-fourth of the total passengers at one serving shall be provided with appropriate and well-maintained furniture.
d. There shall be a promenade or airing space at the upper deck for the exclusive use of passengers.
e. There shall be a baggage area provided with racks or similar convenient and safe storage in the passenger accommodation areas.
f. Adequate life-saving device shall be provided in accordance with the Philippine Merchant Marine Rules and Regulations.
g. Adequate communication equipment shall be provided in accordance with the Philippine Merchant Marine Rules and Regulations.

17. Standard requirements for accreditation of tourist air transport

a. Adequate life-saving device shall be provided in accordance with the requirements prescribed by the Air Transportation Office.
b. Adequate communication equipment shall be provided in accordance with the requirements prescribed by the Air Transportation Office.

E.2 Planning Indicators

1. Number of Tourist Arrivals by Place of Origin and Place of Destination- refers to total number of visitors/tourist arrivals. This is tangible yardstick of the tourist industry performance.

Tourist- is defined as any person visiting a country/region other than his usual environment (usual place of residence) for purposes of pleasure or culture (Webster's Dictionary).

Data Requirements: Total Number of Visitors/Tourist Arrival by place of origin

Data Source: DOT

Lowest Level of Disaggregation: Regional

Frequency: Quarterly

2. % Share of tourist arrivals by place of origin- tourists may be classified in terms of area of origin, and for this purpose are classified as local and foreign tourists.

Formula:

$$\% \text{ Share} = \frac{\text{No. of Tourist Arrivals by Place of Origin}}{\text{Total No. of Tourist Arrivals}} \times 100$$

Disaggregation : Regional
Source : DOT
Frequency : Annually

3. Annual Rate of Change of Tourist Arrivals - refers to the percent increase or decrease in the number of tourist arrivals.

Formula:

$$r = \frac{\text{No. of Tourist y1} - \text{No. of Tourist y0}}{\text{No. of Tourist y0}} \times 100$$

Where :
r = Annual Rate of Change
No. of Tourist of y1 = No. of tourist for the current year
No. Tourist y0 = No. of tourist for the previous year

Disaggregation : Regional
Source : DOT
Frequency : Annually

4. Tourists Receipts- the receipts of the country come in the form of consumption expenditures or payments for goods and services made by foreign visitors out of foreign currency resources. This is computed to determine the contribution and economic significance of the tourism industry to the Philippine economy.

Data Requirements: Total Amount of Visitors/Tourist Receipts

Data Source: DOT

Lowest Level of Disaggregation: Regional

Frequency: Quarterly

F. AGRARIAN REFORM

Agrarian reform involves the redistribution of lands, regardless of crops or fruit produced by farmers and regular farm workers who are landless, irrespective of tenurial arrangement. This government program likewise includes support services and capability building designed to lift the economic status of the beneficiaries.

The planning standards define the area or parcel of land to be redistributed to the qualified beneficiaries. The indicators include the total area of carp lands distributed and the number of beneficiaries and the percentage of land parcels by tenurial status. These indicators are useful in determining to what extent the program is being accessed by the targeted agrarian reform beneficiaries.

F.1 Planning Standards

1. CARPable Area/Land. This refers to the parcel of land to be transferred to the tenant workers. The tenant-farmer on private agricultural lands primarily devoted to rice and corn under a system of share crop or lease tenancy whether classified as landed estate or not shall be deemed owner of a portion constituting a family size farm of 5 hectares if not irrigated and 3 hectares if irrigated. In all cases, the landowner is cultivating such area or will now cultivate it. (Labor Code of the Phil. Chapter II, Art. 8)

F.2 Planning Indicators:

1. Area, Number and Location of CARPable Areas- determines the CARPable land in the locality, total area covered and the actual number of farmer beneficiaries.
(Please remove no. 53)
Data Requirements: Total Area of CARPable Lands
Location of CARPable Lands
Number of Beneficiaries of CARPable Lands

Data Source: Municipal Agrarian Reform Office, DAR
Provincial Agrarian Reform Office, DAR

Lowest Level of Disaggregation: Municipal

Frequency: Annual

2. Percentage of Land Parcels by Tenure Status

A land parcel is one contiguous piece of land under one form of tenure without regard to land use. Tenure means the right under which the parcel is held or operated. Tenure status classification of land parcels are fully owned; held under Certificate of Land Transfer, owner like possession other than CLT; tenanted; rent free; others.

Formula:

$$\% \text{ of Land Parcels} = \frac{\text{Number of Land Parcels by Tenure}}{\text{Total Number of Land Parcels}} \times 100$$

Data Requirements: Number of Land Parcels by Tenure
Total Number of Land Parcels

Data Source: Census of Agriculture and Fisheries, NSO

Lowest Level of Disaggregation: Provincial

Frequency: Every 10 years

III. SOCIAL DEVELOPMENT SECTOR

This sector covers the human aspect of development such as health, nutrition and family planning; education; social welfare services; and housing. Social development contributes to the improvement of the quality of life of the population.

A. HEALTH, NUTRITION AND FAMILY PLANNING

Health and nutritional situation affects the fertility, morbidity and mortality as well as the overall well-being of the population, including the present and future quality of its labor force. Good health for the entire population is also one of the main objectives of development. Planning standards in the health sector serve as guide for planners in determining the sufficiency or gaps in the delivery of physical health infrastructures, health facilities and manpower requirements. These are also necessary in estimating the projected requirements for health manpower services and facilities to address the health needs of the population. Standards are also provided as guides in determining the location and the construction of appropriate health infrastructures. The indicators are useful in assessing the health status of the population so that the priority health interventions shall be determined when and where necessary.

A.1 Planning Standards:

1. Guidelines in the Planning and Design of a Hospital and Other Health Facilities
   a. **Environment:** a hospital and other health facilities shall be so located that it is readily accessible to the community and reasonable free from undue noise, smoke, dust, foul odor, flood, and shall not be located adjacent to railroads, freight yards, children's playgrounds, airports, industrial plants and disposal plants.

b. **Occupancy:** A building designed for other purpose shall not be converted into a hospital. The location of a hospital shall comply with all local zoning ordinances.

c. **Safety:** A hospital and other health facilities shall provide and maintain a safe environment for patients, personnel and public. The building shall be of such construction so that no hazard to the life and safety of patients, personnel and public exist. It shall be capable of withstanding weight and elements to which they may be subjected.

c.1 Exits shall be restricted to the following types: door leading directly outside the building, interior stair, ramp, and exterior stair.

c.2 A minimum of two (2) exits, remote from each other, shall be provided for each floor of the building.

c.3 Exits shall terminate directly at an open space to the outside of the building.

d. **Security:** A hospital and other health facilities shall ensure the security of person and property within the facility.

e. **Patient Movement:** Spaces shall be wide enough for free movement of patients, whether they are on beds, stretchers, or wheelchairs. Circulation routes for transferring patients from one area to another shall be available and free at all times.

e.1 Corridors for access by patient and equipment shall have a minimum width of 2.44 meters.

e.2 Corridors in areas not commonly used for bed, stretchers and equipment transport may be reduced in width to 1.83 meters.

e.3 A ramp or elevator shall be provided for ancillary, clinical and nursing areas located on the upper floor.

e.4. A ramp shall be provided as access to the entrance of the hospital not on the same level of the site.

f. **Lighting:** All areas in the hospital and other health facilities shall be provided with sufficient illumination to promote comfort, healing and recovery of patients and to enable personnel in the performance of work.

g. **Ventilation:** Adequate ventilation shall be provided to ensure comfort of patients, personnel and public.

h. **Auditory and Visual Privacy:** A hospital and other health facilities shall observe acceptable sound level and adequate visual seclusion to achieve the acoustical and privacy requirements in designated areas allowing the unhampered conduct of activities.

i. **Water Supply:** A hospital and other health facilities shall use an approved public water supply system whenever available. The water supply shall be potable, safe for drinking and adequate, and shall be brought into the building free of cross connections.

j. **Waste Disposal:** Liquid waste shall be discharged into an approved public sewerage system whenever available, and solid waste shall be collected, treated and disposed of in accordance with applicable laws, codes or ordinances.

k. **Sanitation:** Utilities for the maintenance of sanitary system, including approved water supply and sewerage system, shall be provided through the building and premises to ensure a clean and healthy environment.

l. **Maintenance:** There shall be an effective building maintenance program in place. The buildings and equipments shall be kept in a state of good repair. Proper maintenance shall be provided to prevent untimely breakdown of buildings and equipment.

m. **Material Specification:** Floors, walls and ceilings shall be of sturdy materials that shall allow durability ease of cleaning and fire resistance.

n. **Segregation:** Wards shall observe segregation of sexes. Separate toilet shall be maintained for patients and personnel, male and female, with a ratio of 1 toilet for every 8 patients or personnel.

o. **Fire Protection:** There shall be measures for detecting fire such as fire alarms in walls, peepholes in doors or smoke detectors in ceilings. There shall be devices for quenching fire such as fire extinguisher or fire hoses that are easily visible and accessible in strategic areas.

p. **Signage:** There shall be an effective graphic system composed of a number of individual visual aids and devices arranged to provide information, orientation, direction, identification, prohibition, warning and official notice considered essential to the optimum operation of a hospital and other health facilities.

q. **Parking:** A hospital and other health facilities shall provide a minimum of 1 parking space for every twenty-five (25) beds.

r. **Zoning:** The different areas of a hospital shall be grouped according to zones as follows:

r.1 Outer Zone: areas that are immediately accessible to the public such as emergency service, outpatient service and administrative service. They shall be located near the entrance of the hospital.

r.2 Second Zone: Areas that receive workload from the outer zone such as laboratory, pharmacy and radiology. They shall be located near the outer zone.

r.3 Inner Zone: areas that provide nursing care and management of patients, which is for nursing service. They shall be located in private areas but accessible to guests.

r.4 Deep Zone: areas that require asepsis to perform the prescribed services such as surgical service, delivery service, nursery, and intensive care. They shall be segregated from the public areas but accessible to the outer, second and inner zones.

r.5 Service Zone: areas that provide support to hospital activities such as dietary service, housekeeping service, maintenance and motorpool service, and mortuary service. They shall be located in areas away from the normal traffic.

s. **Space:** adequate area shall be provided for the people, activity, furniture, equipment and utility as prescribed below:

Space/Area	*Area in Sq.m.*
Administrative Service	
Lobby	
Waiting area	0.65/person
Information and Receiving area	5.02/staff
Toilet	1.67
Business Office	5.02/staff
Medical Records	
Work area	5.02/staff
Storage/Supply area	4.65
Housekeeping/Maintenance area	5.02/staff
Laundry and Linen area	5.02/staff
Garage	9.29
Waste Holding room	4.65
Pharmacy	15.00
Dietary	
Food preparation/storage/washing area	4.65
Garbage Disposal area	1.67
Dining Room	1.40/person
Social Service area	5.02/staff
Cadaver Holding room	7.43/bed
Clinical Service	
Emergency Room	
Waiting area	0.65/person
Nurse Station	5.02/staff
Examination/Treatment area	7.43/bed
Observation area	7.43/bed
Equipment and Storage area	4.65
Wheeled Stretcher area	1.08/strchr

Outpatient Department	
Waiting area	0.65/person
Toilet	1.67
Admitting and Records area	5.02/staff
Consultation area	5.02/staff
Examination/Treatment area	7.43/bed
Dental Clinic	8.36/chair
Surgical and Obstetrical Service	
Major Operating Room	33.45
Recovery Room	9.29
Delivery Room	33.45
Labor Room with Toilet	9.29
Sub-Sterilizing Room	4.65
Sterile Instrument/Supply and Storage area	4.65
Clean-Up area	4.65
Male/Female dressing room	2.32
Nurse Station	5.02/staff
Wheeled Stretcher area	1.08/strchr
Janitor's Closet	3.90
Nursery	
Pathologic Room	3.72/bssinet
Premature Room	3.72/bssnet
Work Area with Sink	4.65
Viewing area	3.90
Breastfeeding area	3.72/bssnet
Nursing Unit	
Private Room with Toilet	9.29
Semi-Private Room with Toilet	7.43/bed
Male/Female Ward with Toilet	7.43/bed
Isolation Room with Toilet	9.29
Nurse Station area	5.02/staff
Treatment area with Sink	7.43/bed
Central Sterilizing and Supply Room	
Receiving and Releasing area	5.02/staff
Work area	5.02/staff
Sterilizing Room/Storage area	4.65
Ancillary Service	

Laboratory	
Toilet	1.67
Clinical Work area with Sink	10.00
Pathologist area	5.02/staff
Radiology Service	
Waiting Area	0.65/person
Dressing Area/Toilet	1.67
X-Ray Room with Control Booth	14.00
Dark Room	4.65
Film File and Storage area	4.65
Radiologist area	5.02/staff
Pharmacy	15.00

Note: - 0.65/person- unit area per person occupying the space at one time.
- 5.02/staff- work area per staff that includes space for one desk and one chair, space for occasional visitor, and space for aisle.
- 1.40/person- unit area per person occupying the space at one time.
- 7.43/bed- clear floor area per bed that include space for occasional visitor, and space for passage of equipment.
- 1.08/stretcher- clear floor area per stretcher that includes space for one stretcher.
- 8.36/dental chair- clear floor area per dental chair that includes space for one dental chair, space for movement of person, and space for passage of equipment.
- 3.72/bassinet- clear floor area per bassinet that includes space for one bassinet, space for movement of person, and space for passage of equipment.

2. Health Personnel:

a. 1 physician : 20,000 population
b. 1 dentist : 20,000 population
c. 1 sanitary inspector : 20,000 population
d. 1 nurse : 10,000 population
e. 1 midwife : 5,000 population (accessible area)
f. 1 midwife : 3,000 population (hard to reach area)
g. 1 barangay health worker : 20 households

3. Other Health Facilities:

a. 1 rural health unit : 20,000 population
b. 1 municipal health center : 1 municipality or 20, 000 people
c. 1 barangay health station : 3-4 barangays of 2,500 population
d. 1 clinic/10,000 married couples of reproductive age (MCRA)

4. Criteria for Establishing a New General Hospital

a. All of the following criteria must be satisfied before a Certificate of Need can be issued to the proponent of a new general hospital.
b. Bed-Population Ratio:
b.1 The bed-to-population ratio must not be more than one (1) bed per 1,000 population (1:1,000)
b.2 In a province or region where the bed-to-population ratio is already more than 1:1,000, additional beds may be put up if the average occupancy rate for all hospitals for the past 2 years is more than 85%.
c. Travel Time- The proposed hospital shall be at least 1 hour away by the usual means of transportation during most part of the year from the nearest existing hospital.
d. Accessibility: The proposed hospital site must be accessible to patients and clients by usual means of land or sea transportation during most part of the year. If the proposed site is in an island municipality, the proposed hospital must be strategically located.
e. Integration with local hospital development plan: If there is an existing local hospital developmental plan that has been approved by DOH, the proposed hospital must be integrated with this existing plan. The proponent should show proof that it was checked with the local government for any relevant local hospital development plan.
f. Track Record: If the proponent is currently operating a hospital, the existing hospital must have an acceptable track record in terms of good compliance with licensing requirements and a consistent history of few verified complaints.

Note: For specialty hospitals/clinics, Permit to Construct is required.

5. Standard Lot Area per Hospital/Clinic:

a. Municipal Hospital 1.5 has.
b. Provicnial Hospital 1.5 has.
c. Regional Hospital 2.5 has.

d. Medical Center 3.5 has.

6. Nutrition/Ideal Body Weights (pre-school age)

	BOYS	GIRLS
1 yr.	8.1 – 12.4 kg.	7.4 – 11.6 kg.
2 yrs.	10.1 – 15.7 kg.	9.4 – 14.6 kg.
3 yrs.	11.4 – 18.3 kg.	11.2 – 18.0 kg.
4 yrs.	12.9 – 20.8 kg.	12.6 – 20.7 kg.
5 yrs.	14.4 – 23.5 kg.	13.8 – 23.2 kg.
6 yrs.	16.0 – 26.6 kg.	15.0 – 26.2 kg.

- If the weight of the child falls within the range, it is assumed that the child is within the acceptable limits of normality.
- If the weight of the child falls below the range, the child is below normal for his age.
- If the weight of the child falls beyond the range, the child is above normal for his age.

Source: DOH; AO No. 2005-0029 s. 2004

A.2 Planning Indicators

1. Crude Birth Rate (CBR)- the number of registered livebirths during a given period per 1,000 population. It is a measure of one characteristic of the natural increase or growth of the population.

Formula:

$$CBR = \frac{\text{Number of births for a particular year}}{\text{Midyear Population}} \times 1{,}000$$

Data Requirements: Number of births for a particular year
Midyear Population

Data Source: NSO Vital Statistical Report

Lowest Level of Disaggregation: Barangay

Frequency: Annual (Vital Statistical Report, NSO)
Every 10 Years (Population Projections, NSO)

2. Crude Death Rate (CDR)- the number of deaths per 1,000 population during a given period. It is considered as one of the determinants in the population development process of decrease in population through deaths. It is presumed that the total population was exposed to the risk of the occurrence of the event. To check the accuracy of the data, CDR should not be 20, otherwise there is a reason to doubt about its accuracy. The lower the value of CDR, the better is the health situation in an area.

Formula:

$$CDR = \frac{\text{Number of deaths for a particular year}}{\text{Midyear Population}} \times 1{,}000$$

Data Requirements: Number of deaths for a particular year
Midyear Population

Data Source: NSO Vital Statistical Report

Lowest Level of Disaggregation: Barangay

Frequency: Annual (Vital Statistical Report, NSO)
Every 10 Years (Population Projections, NSO)

3. Infant Mortality Rate (IMR)- is the number of deaths among children below one year of age in a calendar year per 1,000 live births. It measures the risk of dying during the 1st year of life. It is a good index of the general health condition of a community.

Formula:

$$IMR = \frac{\text{Death of Children below age 1 in a given year}}{\text{Live Births in a given year}} \times 1{,}000$$

Data Requirements: Death of Children below age 1 in a given year
Total live births in a given year

Data Source: TWG on Maternal and Child Mortality of the NSCB
Philippine Statistical Yearbook

Lowest Level of Disaggregation: Municipal

Frequency: Annual

4. Child Mortality Rate (CMR)- is the number of deaths among children 1-5 years old per 1,000 children of the same age group. Children in this age group are vulnerable to certain immunizable diseases like measles, typhoid and diphtheria.

Formula: No. of deaths among children 1-5 yrs. old
CMR = ---------- x 1,000
No. of children aged 1-5 yrs. old

Data Requirements: No. of deaths among children 1-5 yrs. old
No. of children aged 1-5 yrs. Old

Data Source: TWG on Maternal and Child Mortality of the NSCB

Lowest Level of Disaggregation: Municipal

Frequency: Annual

5. Maternal Mortality Rate (MMR)- measures the number of deaths among 15-49 years old women due to diseases directly related to pregnancy, childbirth and puerperium per 1,000 livebirths. It is an index of the obstetrical care needed and received by the women in the community. An increasing rate is an indication of low access of women of reproductive age on maternal health services.

Formula: Number of Maternal Deaths
MMR = ---------- x 100,000
Total live births

Data Requirements: No. of deaths among women caused by child bearing in a given year
No. of live births in a given year

Data Source: TWG on Maternal and Child Mortality of the NSCB

Lowest Level of Disaggregation: Municipal

Frequency: Annual

6. Morbidity Rates- measures the occurrence of illnesses from all causes or conditions in a community per 100,000 population. A decreasing trend indicates an improvement at controlling the cause of disease while an increasing trend tells of a worsening situation.

Formula: Diseases from a specific causes x 100,000
Morbidity Rate = ----------
Total population

Data Requirements: Diseases from specific causes
Total Population

Data Source: DOH, Philippine Health Statistics

Lowest Level of Disaggregation: City

Frequency: Annual

Remarks: Life expectancy is the number of years a person expects to live under certain age-specific mortality rates of a given period. This indicator is associated with improvements in the socio-economic and health conditions of the population. Women generally live longer than men.

7. Percentage of Malnourished 7-10 Year Old Children- the number of 7-10 year old children who are moderately and severely underweight by comparing a child's weight to the weight-for-age standard, expressed as a percentage of total population of children 7-10 years old.

Formula:

% of children who are malnourished 7-10 yrs. old = Total no. of children who are malnourished 7-10 years old / Total no. of children 7-10 yrs. old examined

Data Requirements: Weight of 7-10 years old child
Standard weight-for-age

Data Source: Updating of the Nutritional Status of Filipino Children at the Provincial Level, FNRI

Lowest Level of Disaggregation: Key Cities

Frequency: Annual
Note: School children care of DepEd

8. Percentage of Infants with Low Birth Weight- the number of infants with birth weight of less than 2.5 kgs. over the total number of infants within a given year. This indicator reflects the health condition of the mother during pregnancy.

Formula:
$$\text{\% of Infants with Low Bith Weights} = \frac{\text{Total no. of infants with Birth Weight of less than 2.5 kg.}}{\text{Total no. of infants}}$$

Data Requirements: Total number of infants with Birth Weight of less than 2.5 kg.
Total number of infants

Data Source: National Demographic Health Survey conducted by the National Statistics Office

Lowest Level of Disaggregation: City

Frequency: Every 5 Years

9. Health Manpower Resources

9.1 Midwife-Population Ratio- the number of population served by one midwife in the locality.

Formula:
$$\text{Midwife-Population Ratio} = \frac{\text{Population}}{\text{Total No. of Midwife}}$$

Data Requirements: Number of Midwives
Population

Data Source: DOH

Lowest Level of Disaggregation: Municipal

Frequency: Annual

9.2 Nurse-Population Ratio- the number of population served by one nurse.

Formula:
$$\text{Nurse-Population Ratio} = \frac{\text{Population}}{\text{Total No. of Nurse}}$$

Data Requirements: Number of Nurses
Population

Data Source: DOH

Lowest Level of Disaggregation: Municipal

Frequency: Annual

9.3 Doctor-Population Ratio- the number of people served by one doctor in a locality.

Formula:
$$\text{Doctor-Population Ratio} = \frac{\text{Population}}{\text{Total No. of Doctors}}$$

Data Requirements: Total Number of Doctors
Total Population

Data Source: DOH

Lowest Level of Disaggregation: Municipal

Frequency: Annual

Note: The above indicators measure the availability of health manpower to serve the population. The computed value should be compared with the standard ratio to determine the adequacy of health manpower whin a defined area..

9.4 Hospital Bed-Population Ratio- the number of population per hospital bed. This is another measure of the adequacy of health facilities.

Formula:
$$\text{Pop-hospital bed ratio} = \frac{\text{Population}}{\text{Hospital Beds}}$$

Data Requirements: Total No. of Hospital Beds, Total Population
Data Source: DOH

Lowest Level of Disaggregation: City

Frequency: Annual

10. Percentage of Births Attended by Health Personnel- the number of births attended by health personnel expressed as a percentage of the total number of births in a given period.

Health personnel- refers to doctors, nurses, midwives, and trained/certified hilots. Trained hilots can be attested by midwives. This is a factor that contributes to the level of maternal mortality as well as infant mortality and is an indicator of broader health conditions.

Formula:

$$\text{\% of Births attended by Health Personnel} = \frac{\text{No. of births attended by health personnel}}{\text{Total number of births in a given period}} \times 100$$

Data Requirements: No. of births attended by health personnel
Total number of births in a given period

Data Source: Civil Registration System, NSO
Vital Statistical Report, NSO

Lowest Level of Disaggregation: Municipal

Frequency: Annual

11. Contraceptive Prevalence Rate (For any Method, By Method Used)- percentage of women currently using a family planning method among currently married women in the reproductive ages 15-49. Modern methods are pills, IUD, condom, female sterilization, male sterilization. Traditional methods are natural and withdrawal.

Formula:

$$\text{Contraceptive Prevalence Rate} = \frac{\text{No. of married women using Family planning method}}{\text{No. of married women aged 15-49 yrs. old}} \times 100$$

Data Requirements: Number of married women using Family planning method
Number of women aged 15-49 years old

Data Source: National Demographic and Health Survey (NDHS), NSO

Lowest Level of Disaggregation: Regional

Frequency: Every 5 Years

12. Percentage of Households with Access to potable Water- the number of households with access to potable water.

Formula:

$$\text{\% of HHs with Access to Potable Water} = \frac{\text{No. of HHs with Access to Potable Water}}{\text{Number of Households}} \times 100$$

Data Requirements: No. of HHs with access to potable water
Total number of Households

Data Source: DOH, Field Health Service Information System (FHSIS)

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 Years

13. Percentage of Households with Sanitary Toilet Facilities- the number of households by type of toilet facilities being used which include: 1) water-sealed, sewer, septic tank, used exclusively by the household; 2) water-sealed, sewer, septic tank, share with other household; 3) water-sealed, other depository, used exclusively by the household; 4) water-sealed, other depository, share with other household; 5) closed pit; 6) open pit; and 7) others, expressed as a percentage of the total number of households.

Formula:

$$\text{\% of HHs with sanitary type of toilet facilities} = \frac{\text{No. of HHs with sanitary type of toilet facilities}}{\text{Number of Households}} \times 100$$

Data Requirements: No. of HHs with sanitary type of toilet facilities
Total number of Households

Data Source: Census of Population and Housing conducted by the NSO

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 Years

14. Percentage of Households with Sanitary Garbage Disposal- the number of households by type of garbage disposal which include: 1) picked by garbage truck; 2) burning; 3) composting; and 4) burying, expressed as a percentage of the total number of households.

Formula:

$$\text{\% Distribution of HHs by type of Garbage Disposal} = \frac{\text{No. of HHs by type of garbage disposal}}{\text{Number of Households}} \times 100$$

Data Requirements: No. of households with sanitary type of garbage disposal
Total number of households

Data Source: Census of Population and Housing conducted by the NSO

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 Years

Remarks: Households is defined as a person or group of persons who sleep under the same roof and usually have common arrangements for the preparation and consumption of food.

B. EDUCATION AND MANPOWER DEVELOPMENT

This section presents the planning standards that serve as basis in estimating the gaps and future requirements and needs for manpower, classroom and other facilities in the elementary, secondary and tertiary levels of education. The indicators on the other hand provide information on the extent to which the school-age population access to education services. Moreover, the indicators provide information on the results or outcomes of the education services of education.

B.1Planning Standards:

1. Basic Education

1.1 Class Size Ratio

a. 1 classroom : 45 pupils/students
b. standard classroom size : 7 m. wide x 9 m. long
c. class: a group of between 15 and 45 pupils, all of the same grade level
d. multi-grade classes: less than 15 pupils at each grade level

1.2 Teacher - Pupil/Student Ratio

e. 1 teacher : 1 class (Primary level)
f. 3 teachers : 2 classes (intermediate level)
g. 1.5 teacher : 1 class (secondary level)

1.3 Textbook – Pupil Ratio

h. textbook: 1 book per pupil/student for every subject area

1.4 Student/Pupil – Chair/desk Ratio

i. desk: 1 desk for every two (2) pupils (grades 1-4)
j. armchairs: 1 armchair for every pupil (grades 5-6)
k. 1 armchair for every student (secondary)
l. tables and chairs- 1 set for every two (2) pupils/students

2. Tertiary Education:

a. 1 teacher : 50 students (lecture session)
b. 1 teacher : 30 students (laboratory class)
c. 1 classroom : 50 students

B.1.1 Standards for Sizes of School Sites:

1. Pre-School (Kindergarten Level):

a. School site must have a minimum lot area of 500 square meters. The area may be divided into a minimum of 140 square meters for the classroom and 360 square meters for the playground. This area is only good for not more than 4 classes.
b. Space for playground must be provided, otherwise, easy and safe access to the nearest park of open space not more than 200 meters walking distance from school site may be presented as an alternative.
c. Classroom size should be 1 ½ square meter per child.

2. Elementary:

> 1 or 2 classes and no grade above Gr. IV (non-central school) = 0.5 ha.
> 6 classes (for central school) or 3 to 4 classes (non-central school) = 1.0 has.

> 7 to 9 classes = 2.0 has.
> 10 to 12 classes = 3.0 has.
> more than 12 classes = 4.0 has.

In special cases where there is difficulty in meeting the above standards, the following may be allowed:

For Rural Areas:

> 6 classes (central school) and = 0.5 ha.
3. 3 to 4 classes (non-central school)
> 7 to 10 classes = 1.5 has.
> more than 10 classes = 2.0 has.

For urban areas:

> 6 classes (central school) and = 0.5 ha.
6 to 10 classes (non-central school)
> 11 to 20 classes = 0.75 ha.
> more than 20 classes = 1.0 ha.

3. Secondary Schools:

For Urban:

- 500 students or less = 0.5 ha.
- 501 to 1,000 students = 1.0 ha.
- 1,001 to 2,000 students = 2.0 has.
- 2,001 to 3,000 students = 3.0 has.

For Rural:

- General/Vocational = 4.0 has.
- Agricultural* = 5.0 has.
- Fishery, add for project = 2.0 has. fresh water

*Agri. Campus: 2.0 has. for freshwater fishponds and/or 2.0 has. for brackish water fishpond.

4. Colleges and Universities:

The area of school site as a general rule is as follows:

- 500 or less students = 0.5 ha.
- 501 to 1,000 = 1.0 ha.
- 1,001 to 2,000 = 2.0 has.
- 2,001 to 3,000 = 3.0 has.

As a general rule, the same ratio should be maintained for enrollment in excess of 3,000.

For larger colleges and universities, the campus should be at least 7.0 has. on the minimum number of students which is 10,000. (In using the 7.0 has., the regular open space minimum dimensional standard needed for any activity of the school is determined by multiplying a constant of 2.50 sq.m./student. On the other hand, the minimum standard for indoor facility is multiplied by a constant of 0.90 sq.m. to the total number of students.)

Manpower Development:

- 1 training program : 25 trainees
- 1 trainor : 1 training program

B.2 Planning Indicators

1. Gross Enrolment Ratio (GER) in Early Childhood Development Programs (ECDP) - total number of children enrolled in early childhood development programs, regardless of age, expressed as a percentage of the population in the relevant official age-group. This indicator measures the general level of participation of young children in early childhood development programs. It also indicates the capacity of the education system to prepare young children for elementary education.

Formula:

$$\text{GER in ECDP} = \frac{\text{Enrolment}_{\text{Pre-school, SY N}}}{\text{Population}_{\text{Age 4-5, SY N}}} \times 100$$

Where: $\text{Enrolment}_{\text{Pre-school, SY N}}$ = total Pre-school Enrolment
$\text{Population}_{\text{Age 4-5, SY N}}$ = Projected Population from NSO

Data Requirements:

Number of Enrolment in Pre-school in SY N
Projected Population in Year N

Data Source: Basic Education Information System (BEIS)

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

2. Percentage of Grade 1 Pupils with Early Childhood Development Programs- number of new entrants to primary grade who have attended

some form of organized early childhood development program. This indicator measures the level of participation of grade 1 pupils in ECD programs.

Formula:

$$\% \text{ of Grade 1 with ECDP} = \frac{\text{Enrolment with ECD}_{\text{Gr.1, SY N}}}{\text{Enrolment}_{\text{Gr.1 , SY N}}} \times 100$$

Where: Enrolment with ECD $_{\text{Gr.1, SY N}}$ = total Grade 1 Enrolment with ECD
Enrolment $_{\text{Gr.1, SY N}}$ = Total Grade 1 Enrolment

Data Requirements:
Grade 1 Enrolment with ECD
Enrolment of Grade 1 Pupils

Data Source: Basic Education Information System (BEIS)
National Statistics Office

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

3. Apparent/Gross Intake Rate (AIR)- total number of new entrants in the first grade of primary education, regardless of age, expressed as a percentage of the population at the official primary school-entrance age. It reflects the general level of access to primary education. It also indicates the capacity of the education system to provide access to grade 1 for the official school-entrance age population. It is used as a substitute for Net Intake Rate in the absence of data on new entrants by single-year age group.

Formula:

$$\text{AIR} = \frac{\text{Enrolment}_{\text{Gr.1, SY N}}}{\text{Population}_{\text{Age 6, SY N}}} \times 100$$

Where: Enrolment $_{\text{Gr.1, SY N}}$ = total Grade 1 Enrolment
Population $_{\text{Age 6, SY N}}$ = Projected Population (Age 6) from NSO

Data Requirements:
Number of Enrolment in Grade 1 Pupils (all ages)
Projected Population (age 6) in Year N

Data Source: Basic Education Information System (BEIS)
National Statistics Office

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

4. Net Intake Rate (NIR)- new entrants in the first grade or primary education who are of the official primary school-entrance age, expressed as a percentage of the population of the same age. This indicator gives a more precise measurement of access to primary education of the eligible, primary school-entrance age population than the Apparent Intake Rate.

Formula:

$$\text{NIR} = \frac{\text{Enrolment}_{\text{Gr.1 Age 6, SY N}}}{\text{Population}_{\text{Age 6, SY N}}} \times 100$$

Where: Enrolment $_{\text{Gr.1, Age 6 SY N}}$ = total Grade 1 Age 6 Enrolment
Population $_{\text{Age 6, SY N}}$ = Projected Population (Age 6) from NSO

Data Requirements:
Number of Enrolment in Grade 1 Age 6 Pupils
Projected Population (age 6) in Year N

Data Source: Basic Education Information System (BEIS)
National Statistics Office

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

5. Cohort Survival Rate in the Elementary Level- the number of enrollees in the beginning grade who reached the final grade at the end of required number of years expressed as a percentage of enrollees in the beginning grade.

Formula:

$$\text{CSRe} = \frac{\text{Grade VI Enrolment SY}_{\text{N}}}{\text{Grade I Enrolment SY}_{\text{N-5}}} \times 100$$

Where: Grade VI Enrolment SY_N = number of pupils enrolled in Grade VI in year N
Grade I Enrolment SY_{N-5} = number of pupils enrolled in Grade I in year N-5

Data Requirements:
Total number of pupils enrolled in Grade VI in year N
Total number of pupils enrolled in Grade I in year N-5

Data Source: Basic Education Information System (BEIS)

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

6. Cohort Survival Rate in Secondary Level- the number of enrollees in the fourth year high school divided by the number of students in the original group that enrolled in first year high school three years ago times 100.

$$CSRs = \frac{\text{Fourth Year Enrolment } SY_N}{\text{First Year Enrolment } SY_{N-3}} \times 100$$

Where: Fourth Year Enrolment SY_N = number of students enrolled in Fourth Year in year N
First Year Enrolment SY_{N-3} = number of students enrolled in First Year in year N-5

Data Requirements:
Total number of students enrolled in Fourth Year in year N
Total number of students enrolled in First Year in year N-3

Data Source: Basic Education Information System (BEIS)

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

7. Elementary School Participation Rate (All Grades, By Grade Level)- the proportion of the enrolment in the school-age range to the total population of that same age range.

Formula:

$$PRe = \frac{\text{Enrolment (school-going age)}}{\text{Population (school-going age)}} \times 100$$

Data Requirements: Number of pupils enrolled in elementary school by age and by grade level
Total population of school-going age

Data Source: DepEd, School Records

Lowest Level of Disaggregation: Provincial

Frequency: Every School Year

8. Secondary School Participation Rate (All Years, By Year Level)- number of students enrolled in public and private high schools in the school age range divided by the population aged 13-16 years times 100.

Formula:

$$PRs = \frac{\text{Enrolment (school-going age)}}{\text{Population (school-going age)}} \times 100$$

Data Requirements: Number of pupils enrolled in secondary level by age
Total population of school-going age (aged 13-16 years old)

Data Source: DepEd, School Records

Lowest Level of Disaggregation: Provincial

Frequency: Every School Year

9. Elementary Retention Rate (ERR)- measures the number of pupils in a set of cohorts in the last year reaching the next grade level in the current year. This refers to the proportion of elementary enrollment in any school year with those who continue to be in school the following year.

Formula:

$$ERR = \frac{\text{Enrolment (Grades II-VI) } SY_N}{\text{Enrolment (Grades I-V) } SY_{N-1}} \times 100$$

Data Requirements:

Number of pupils enrolled in Grade II-VI in school year N
Number of pupils enrolled in Grade I-V in school year N-1

Data Source: DepEd

Lowest Level of Disaggregation: Provincial

Frequency: Every School Year

10. Secondary Retention Rate (SRR)- the proportion of the enrolment in secondary in any school year with those who continue to be in school the following year.

Formula:

$$SRR = \frac{\text{Enrolment Years II-IV } SY_N}{\text{Enrolment Years I-III } SY_{N-1}} \times 100$$

Data Requirements:
Number of students enrolled in Years II-IV in school year N
Number of students enrolled in Years I-III in school year N-1

Data Source: DepEd

Lowest Level of Disaggregation: Provincial

Frequency: Every School Year

11. Drop-Out Rate (or School Leavers Rate)- the proportion of pupils/students who leave school during the year as well as those who completed the grade/year level but fail to enroll in the next grade/year level the following school year to the total number of pupils/students enrolled during the previous school year.

- Percentage of pupils who left school during the school year to total enrollment during the school year.

Formula:

$$DR\ Gr./Yr.X = \frac{Gr._{(x-1)}\ \text{enroll. } SY_{N-1} - (Gr._x\ \text{enroll.} - Gr._x\ \text{Repeaters})\ SY_N}{Gr._{(x-1)}\ \text{enrolment } SY_{N-1}} \times 100$$

Where: DR Gr./Yr.X = is the total Drop Out Rate on School Year X
$Gr._{(x-1)}$ enrolment SY_{N-1} = number of enrolled in grade X at the end of the school year N

Gr.x enroll = number of enrolled in grade X at the end of the school year N.
Gr.x repeaters = number of enrolled in grade X at the end of school year N who are repeaters

Data Requirements:
Total number of enrolled in grade X at the school year N-1
Total number of enrolled in grade X at the end of the school year N.
Total number of enrolled in grade X at the end of school year N who are repeaters

Data Source: DepEd

Lowest Level of Disaggregation: Provincial

Frequency: Every School Year

12. Enrolment Rate (or Gross Enrolment Ratio)- the total enrolment in a given level of education as a percentage of the population which according to national regulation should be enrolled in this level.

Formula:

$$GERe = \frac{\text{Total Elementary Enrolment}}{\text{Population (School-going age)}} \times 100$$

Where: GERe = Gross enrolment ratio for elementary

$$GERs = \frac{\text{Total Secondary Enrolment}}{\text{Population (School-going age)}} \times 100$$

Where: GERs = Gross enrolment ratio for secondary

Data Requirements: Total Elementary Enrolment
Total Pop. For school-going age for elementary
Total Secondary Enrolment
Total Pop. For school-going age for secondary

Data Source: DepEd

Lowest Level of Disaggregation: Provincial

Frequency: Every School Year

13. Transition Rate (from primary to intermediate; from elementary to secondary level)- the percentage of pupils who graduated from one level of education and moved on the next higher level.

Formula:

$$TRe = \frac{\text{Enrolment Grade V } SY_{N}}{\text{Enrolment Grade IV } SY_{N-1}} \times 100$$

Data Requirements:
Number of pupils enrolled per grade level per school year
Number of students enrolled per year level per school year

Data Source: DepEd

Lowest Level of Disaggregation: Provincial

Frequency: Every School Year

14. Promotion Rate (PrR)- the proportion of pupils/students who completed the grade/year levels at the end of school year to the number of pupils/students enrolled during the same school year. This indicator assesses the extent of pupils/students who are promoted to the next grade/year level.

Formula:

$$PrR = \frac{\text{Number of Promotion } SY_{N-1}}{\text{Total Enrolment } SY_{N-1}} \times 100$$

Data Requirements: No. of pupils/students promoted in the SY N-1
No. of pupils/students enrolled in the SY N-1

Data Source: Basic Education Information System (BEIS)

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

15. Graduation Rate- the proportion of pupils/students who finished Grade VI or Fourth Year in the present year to the number of pupils/students enrolled in Grade VI/Fourth Year in the present year.

Formula:

$$GRe = \frac{\text{No. of Elementary Graduates } SY_{N-1}}{\text{Enrolment Grade VI } SY_{N-1}} \times 100$$

$$GRs = \frac{\text{No. of Secondary Graduates } SY_{N-1}}{\text{Enrolment Fourth Year } SY_{N-1}} \times 100$$

Where: GRe = graduation rate for the elementary level
GRs = graduation rate for the secondary level

Data Requirements: No. of elementary graduates for the SY N-1
No. of enrolment in Grade VI for the SY N-1
No. of secondary graduates for the SY N-1
No. of enrolment in Fourth Year for the SY N-1

Data Source: Basic Education Information System (BEIS)

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

16. Repetition Rate (RR)- the proportion of pupil/ students who enrolled in the same grade year level more than once to the total number of pupils/students enrolled in that grade/year level during the previous year.

Formula:

$$RR = \frac{\text{Number of Repeaters } SY_{N}}{\text{Total Enrolment } SY_{N-1}} \times 100$$

Data Requirements:
No. of repeaters in that grade/year level for the SY N
Total no. of enrolment in that grade/year level for the SY N-1

Data Source: Basic Education Information System (BEIS)

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

17. Completion Rate- the percentage of grade I/First Year entrants in a cycle of education completing the end of the cycle.

Formula:

$$CRe = \frac{\text{Grade VI Graduates } SY_N}{\text{Grade I Enrolment } SY_{N-5}} \times 100$$

$$CRs = \frac{\text{Fourth Year Graduates } SY_N}{\text{First Year Enrolment } SY_{N-3}} \times 100$$

Where: CRe = completion rate for the elementary level
CRs = completion rate for the secondary level

Data Requirements:
- No. of Grade VI graduates for the SY N
- Total no. of Grade I enrolment for the SY N-5
- No. of Fourth Year Graduates for the SY N
- Total no. of First Year enrolment for the SY N-3

Data Source: Basic Education Information System (BEIS)

Lowest Level of Disaggregation: School Division

Frequency: Every School Year

18. Elementary School Pupil-Teacher Ratio
Secondary Students-Teacher Ratio- refers to the number of pupils/students that a teacher will handle in a class.

Formula:

$$\text{Elem. Sch. Pupil-Teacher Ratio} = \frac{\text{No. of Elem. School Pupils}}{\text{No. of Elem. School Teachers}}$$

$$\text{Secondary Sch. Stud.-Teacher Ratio} = \frac{\text{No. of Secondary Sch. Students}}{\text{No. of Secondary Sch. Teachers}}$$

Data Requirements:
- No. of Elementary School Pupils
- No. of Elementary School Teachers

- No. of Secondary School Students
- No. of Secondary School Teachers

Data Source: DepEd

Lowest Level of Disaggregation: Municipal

Frequency: Annual

19. Elementary School Pupil-Textbook Ratio
Secondary Students-Textbook Ratio

-The number of elementary school pupils divided by the number of textbooks.
-The number of secondary school students divided by the number of textbooks.

Formula:

$$\text{Elem. School-Textbook Ratio} = \frac{\text{No. of Elem. School Pupils}}{\text{No. of Textbooks}}$$

$$\text{Secondary Sch. Stud.-Textbook Ratio} = \frac{\text{No. of Secondary Sch. Students}}{\text{No. of Textbooks}}$$

Data Requirements:
- No. of Elementary School Pupils
- No. of Elementary School Textbooks
- No. of Secondary School Students
- No. of Secondary School Textbooks

Data Source: DepEd

Lowest Level of Disaggregation: Municipal

Frequency: Annual

20. Classroom-Pupil/Student Ratio- the ratio of classroom to pupils/students is computed by dividing the latter by the former. The result may simply be interpreted as the average size of a class per classroom. It implies whether there is a necessity to construct more classroom due to increasing enrollment.

Formula: No. of classrooms
Classroom-Pupil/Student Ratio = ----------
No. of pupils

Data Requirements: Number of available classrooms
Total number of pupils/students

Data Source: DepEd

Lowest Level of Disaggregation: Municipal

Frequency: Annual

21. Simple Literacy Rate (SLR)- percentage of the population aged 10 years and over who can read and write a simple message in any language or dialect.

Formula: Population Aged 10 Years Old
and Over who are simple literate
SLR = ----------
Population Aged 10 years Old and Over

Data Requirements:
No. of population aged 10 years old and over who are simple literate
Population aged 10 years old and over

Data Source:
Functional Literacy, Education and Mass Media Survey, NSO
Census of Population and Housing, NSO

Lowest Level of Disaggregation: Provincial

Frequency: Every 10 years (CPH, NSO)
Every 5 years (FLEMMS, NSO)

22. Manpower Trained Placement Ratio- indicates the absorption of trained individuals into various industries.

Formula: No. of apprentice/learners who
Found employment
Manpower trained = ----------
Placement Ratio Total Graduates of Manpower Training

Data Requirements: No. of apprentices/learners who found employment

Total graduates of manpower training

Data Source: TESDA

Lowest Level of Disaggregation: Provincial

Frequency: Annual

C. SOCIAL WELFARE AND DEVELOPMENT SERVICES

Social welfare and development sector covers the services to address the special needs of the disadvantaged and underserved persons and families.

This section provides the planning standards as basis for determining the gaps and future requirements for manpower and facilities for day care services and social welfare services to the families with special needs. It also presents the definition on children, youth and senior citizens based on age according to international standards.

The indicators describe the magnitude and location of target beneficiaries who are disadvantaged in terms of physical, mental and social welfare, so that plans and programs can be formulated to address their specific needs to provide them access to basic social welfare services that would help them live a decent and dignified life.

1.1 Planning Standards

1. Social Services and Welfare

a. 1 day care center/barangay of at least 100 families
b. 1 day care worker : 30 day care children
c. Senior citizen age: 60 year old and above
d. Youth age: 18 plus 1 day to 31 years old (single)
e. Children age: 0 to 18 years old
f. Social Worker Per Family
> Generalist Approach (Applying Casework. Group work and CO/CD at the same time): one (1) Registered Social Worker (RSW) shall manage simultaneously at most 60 individuals at a time for casework, at most 3 groups at a time for group work, at most 5 families at a time either for casework of group work and one community at a time.
> Specialist Approach- one (1) RSW shall manage simultaneously at most 20 individual cases: persons in crisis, youth offenders, abused children and women, and other similar

cases that require intensive casework at a time and at most two groups at a time.

C. 2 Planning Indicators

1. Percent of Clientele Provided with Direct Services to Community-Based and Center-Based Clients:

1.1 Children in Need of Special Protection
- > Abandoned
- > Neglected
- > Voluntary Surrendered
- > Sexually Abused
- > Sexually Exploited
- > Physically Abused/Maltreated/Battered
- > Children In Situation of Armed Conflicts
- > Victim of Child Labor
- > Victim of Child Trafficking/Illegal Recruitment
- > HIV Victims
- > Children in Conflict with Law

1.2 Number of Youth Served With:
- > Counseling
- > Livelihood
- > Educational Assistance

1.3 Women
- > Sexually Abused
- > Physically Abused/Maltreated/Battered
- > Victims of Illegal Recruitment
- > Victims of Involuntary Prostitution
- > Victims of Armed Conflicts
- > Victims of Trafficking

1.4 Families
- > Foster Family
- > Adoptive Family
- > Victims of Disasters Internally Displace Families
- > Solo Parent

Formula:
$$\% \text{ of Clienteles} = \frac{\text{No. of Clienteles served by DSWD}}{\text{Total Number of Clienteles served by DSWD}} \times 100$$

Data Requirements: No. of clienteles served by the DSWD
No. of female clienteles served by DSWD

Data Source: DSWD

Lowest Level of Disaggregation: Provincial

Frequency: Annual

Note: The higher the percentage of clienteles, is an indication of an alarming situation of disadvantaged, abused individuals and families.

2. Percentage of Perpetuators of Children in Need of Special Protection (CEDC) and Women in Especially Difficult Circumstances (WEDC).

Formula:
$$\text{CEDC/WEDC} = \frac{\text{CEDC/WEDC Served}}{\text{Total No. of CEDC/WEDC}} \times 100$$

Data Requirements: Children in Need of Special Protection
Women in Especially Difficult Circumstances

Data Source: UP Center for Women Studies Foundation

Lowest Level of Disaggregation: Provincial

Frequency: Annual

3. Percentage Cases of Women/Children in Especially Difficult Circumstances (WEDC/CEDC by Sex)

Formula:
$$\%\ \text{Cases of CEDC/WEDC}_{\text{Sex}} = \frac{\text{Number of CEDC/WEDC Cases by Sex}}{\text{Total Number of Cases}}$$

Data Requirements: Number of Female Victims
Number of Male Victims
Number of Recorded Cases

Data Source: Philippine National Police

Lowest Level of Disaggregation: Provincial

Frequency: Annual

Note: An increasing Percentage of CEDC/WEDC is an indication that the rights of women and children for protection are violated. It also indicates that the affected individuals are aware of their rights, hence are able to report their situation to appropriate authorities for appropriate action.

D. HOUSING

Shelter planning is an important aspect of social development since housing is one of the basic needs of man. The mandate to implement programs and projects in housing and other mass dwelling units specially for the underprivileged and homeless is the primary responsibility of the local government units. The planning standards are useful in determining the sufficiency or gaps in the housing requirements of the households. These are useful in estimating the housing requirements of households in a locality for the short and long term planning.

D.1 Planning Standards

1. **Housing**- Every household should have a dwelling unit

2. **Residential Subdivision Project**- shall mean a tract of parcel of land registered under ACT No. 696 which is partitioned primarily for residential purposes into individual lot with or without improvements thereon, and offered to the public for sale, in cash or in installment terms.

3. **Open Market Housing**- housing constructed and financed by the private sector as a business venture and sold at prevailing market prices and interest rates if these are housing loans.

3.1 Project Location: within suitable sites for housing and outside potential hazard prone and protection areas.

3.2 Land Allocation for Subdivision Project: 1 hectare and above (PD 957 Open Market Housing)

3.3 For open market and medium cost subdivision projects with an area on one (1) hectare or more, the percentage allocation of land shall be as follows:

a. Saleable Area	70% maximum
b. Non-Saleable	30% minimum

3.4 Area allocated for parks and playgrounds for projects: 1 hectare and above (PD 957 Open Market Housing):

3.5 Mandatory allocation for parks and playgrounds per tabulation below:

Density (No. of lots or dwelling unit/ha.)	Percentage of Gross Area Allocated for Parks/Playgrounds
20 & below	3.5 %
21-25	4.0%
26-35	5.0%
35-50	6.0%
51-65	7.0%
Above 65	9.0%

In no case shall an area allocated for parks and playgrounds be less than 100 sq.m. and the same shall be strategically located within the subdivision.

3.6 Area allocated for the community facilities (PD 957 Open Market Housing):

> Mandatory provision of areas for community facilities such as neighborhood multi-purpose center for housing projects with area 1 hectare and above. These areas are non-saleable. However, the developer may provide areas for community facilities such as schools and commercial centers in excess of the mandatory requirement set forth in this rule, which shall be deemed saleable.

3.7 Minimum Lot Areas (PD 957 Open Marker Housing)

	Open Market Housing	Medium Cost Housing
Single Detached	120 sq.m.	100 sq.m.
Duplex/Single	96 sq.m.	80 sq.m.
Rowhouse	60 sq.m.	50 sq.m.

3.8 Price of saleable lots intended for single detached units shall not exceed 40% of the maximum selling price of house and lot packages.

3.9 Minimum Lot Frontage (PD 957 Open Marker Housing)

Single Detached

> Corner Lot	12 m.
> Regular Lot	10 m.
> Irregular Lot	6 m.
> Interior Lot	3 m.
> Single Attached/Duplex	8 m.
> Row house	4 m.

3.10 Length of Block (PD 957 Open Marker Housing)

> Maximum length of block is 400 meters, however, blocks exceeding 250 meters shall be provided with an alley approximately at mid-length.

3.11 Water Supply (PD 957 Open Marker Housing)

> Mandatory connection to appropriate public water system; centralized water supply system.

> Each subdivision shall have at least an operational deep-well and pump sets with sufficient capacity to provide Average Daily Demand (ADD) to all homeowners.

> Minimum Water Supply Requirement – 150 liters per capita per day for household connection.

3.12 Electrical Power Supply (PD 957 Open Marker Housing)

> Mandatory individual household connection to primary and alternate source of power if services are available in the locality.

> Mandatory provision of street lighting per pole if 50-meter in distance; at every other pole, if less than 50-meters in distance.

3.13 Drainage System (PD 957 Open Marker Housing)

> For open market and medium cost subdivision projects underground drainage system shall be properly engineered and environmentally sound, and shall be provided with adequate Reinforced Concrete Pipes (RCP), catch-basins, manholes/inlets and cross drain for efficient maintenance Minimum drainage pipe diameter shall be 30 centimeters.

3.14 Shelter Component (PD 957 Open Marker Housing)

> Minimum Floor Area:

	Open Market Housing	Medium Cost
Single Detached	42 sq.m.	30 sq.m.
Duplex	42 sq.m.	30 sq.m.
Row House	42 sq.m.	30 sq.m.

In no case shall the number of row houses exceed 20 units per block/cluster and/or beyond 100 meters in length.

3.15 Residential Condominium Project- shall mean the entire parcel of real property divided or to be divided primarily for residential purposes into condominium unit including all structures thereon.

Floor Area Requirements:

> Single-Occupancy Unit- shall have a minimum floor area of 18 square meters, however, a net floor area of 12 sq.m. may be allowed provided that these are intended for students/employees/workers and provided further that the condominium project to which these will be integrated within highly urbanized areas.

> Family Dwelling Unit- the minimum floor area of family condominium units shall be 36 sq.m. and 24 sq.m. for open market and medium cost condominium project respectively.

D.2 Planning Indicators

1. Percentage of Household who Owned/Rented or shared House and/or Lot- this refers to secure tenure status of households and not to illegal occupancy of house and/or lot.

$$\text{\% of HHs who owned, rented or shared house and/or lot} = \frac{\text{House and/or Lot}}{\text{Number of Households}} \times 100$$

Data Requirements:

Number of households with owned/rented or share house and/or lot
Number of Households

Data Source: Family Income and Expenditure Survey, NSO
Minimum Basic Needs Survey

Lowest Level of Disaggregation: Municipal

Frequency: Every 3 Years

2. Percentage of Households Occupying Danger Areas- this refers to households whose structures are in areas not suitable for housing along esteros and railroad tracks, garbage dumps, riverbanks, shorelines, and other public places such as sidewalks, roads, parks and playgrounds.

$$\text{\% of HHs occupying danger areas} = \frac{\text{No. of HHs occupying danger areas}}{\text{Number of Households}} \times 100$$

Data Requirements:

No. of HHs occupying danger areas

Total number of Households

Data Source: Family Income and Expenditure Survey, NSO
Minimum Basic Needs Survey

Lowest Level of Disaggregation: Municipal

Frequency: Every 3 Years

3. Percentage Distribution of Households by Type of Housing Unit Occupied- the number of households by type of housing unit occupied which include: 1) single house; 2)duplex; 3) apartment accessoria/condominium; 4) improvise barong-barong; 5) commercial/inductrial/agriculture/etc.; and 6) other housing units, expressed as a percentage of the total number of households.

Formula:

$$\text{\% Distribution of HHs by type of housing units occupied} = \frac{\text{No. of HHs by Type of Housing unit Occupied}}{\text{Total Number of Households}} \times 100$$

Data Requirements:
Number of Households by Type of Housing Unit Occupied
Total Number of Households

Data Source: Census of Population and Housing, NSO

Lowest Level of Disaggregation: Barangay

Frequency: Every 10 Years

4. Present Housing Needs: New Unit Due to Backlog

Housing backlog is the number of dwelling units needed at the beginning of the planning period due to doubled-up households, displaced units, and homeless households.

The total new units needed due to backlog is derived by adding up the requirements for doubled-up households, displaced units, and homeless.

5. Doubled-Up Households

- Doubled-up households exists when one dwelling unit is shared by two or more households.
- The number of households per dwelling unit is used to define double-occupancy or as defined by NSO is the ratio of households to occupied housing units.

Formula: $DHHt = HHt - DUt$

Where: DHHt = doubled-up households in time t
HHt = total number of households in time t
DUt = total dwelling units in time t

Data Requirements:
Total number of doubled up households in time t
Total number of households in time t
Total dwelling units in time t

Data Requirements:
Number of Households by Type of Housing Unit Occupied
Total Number of Households

Data Source: Census of Population and Housing (CPH), NSO

Lowest Level of Disaggregation: Municipal

Frequency: Every 10 Years (CPH)

6. Displaced Units (Relocation Need)

These are new housing units to replace those occupied by households located in danger and uninhabitable areas or those living on land which is needed by the government for major infrastructure project or in areas where there is a court order for eviction and demolition. Section 29 of RA 7279 mandates LGUs to relocate and provide resettlement areas for affected households.

Formula: $DU = HUDZ - HHUA + HUIP - HUSDD$

Where:
DU = Displaced Units
HUDZ = Housing Units in Danger Zones
HUUA = Housing Units Affected by Infrastructure Projects
HUSD = Housing Units Subject for Demolition

Data Requirements:
- Total Number of Housing Units in Danger Zones
- Total Number of Housing Units Affected by Infrastructure Projects
- Total Number of Housing Units Subject for Demolition

Data Source: Census of Population and Housing (CPH), NSO

Lowest Level of Disaggregation: Municipal (NSO Data)

Frequency: Every 10 Years (CPH)

7. Magnitude of Homeless- this reflects the number of individuals or households living in parks, along sidewalks, and all those without any form of shelter.

If it is assumed that homeless population consists mainly of families; then dividing the number of homeless persons by the average households size will give the number of homeless households. On the other hand, if homeless population consists of distinct individuals, each of these individuals is considered as separate households. Thus, the number of homeless persons is the same as the number of homeless households and this need may be better met through improved institutional care.

Formula:

$$\text{Homeless Household} = \frac{\text{Total Homeless Population} - \text{Homeless Individuals (HI) not a member of any household} - \text{Homeless individuals}}{\text{Average Household Size (AHS)}}$$

Data Requirements:
- Total Homeless Population
- Total Homeless Individuals not a member of any Household
- Total homeless individuals

Data Source: Census of Population and Housing (CPH), NSO

Lowest Level of Disaggregation: Municipal (NSO Data)

Frequency: Every 10 Years (CPH)

8. Future Housing Needs due to Population Growth

- The number of new housing units that will be required for the future depends largely on the projected size of the population increase and the subsequent formation of new households. Houses will also be needed to replace those that will be destroyed beyond repair by natural and man-made calamities.

Formula: Future Housing Demand = $X e^{r t}$

Where: X = housing units at latest census
e = 2.71828 (constant)
r = rate on increase of housing units between two censal years
t = time interval between latest housing censal year and projected planning years

Data Requirements:
- Total housing units at latest census
- The rate on increase of housing units between two censal years
- The time interval between latest housing censal year and projected planning years

Data Source: Census of Population and Housing (CPH), NSO

Lowest Level of Disaggregation: Municipal (NSO Data)

Frequency: Every 10 Years (CPH)

IV. INFRASTRUCTURE DEVELOPMENT SECTOR

This sector covers the infrastructure support to economic activities and the development of the social sector, such as power, transport, communication, irrigation and water facilities.

A. POWER

The indicators for the power sector are useful in assessing the demand and supply of energy for the household, industrial and commercial activities. The planning standards on the other hand are useful in assessing

the sufficiency or gaps in the power supply and demand so that appropriate policies, programs and projects can be formulated To address these concerns.

A.1 Planning Standards

1. Power Demand/Supply Standards:

User	Voltage Req't.	Average Daily Demand	Average Daily Consumption/Connection
Residential	230 volts	1.2 kw	8.46 kwh
Commercial	230 volts	1.5 kw	18.0 kwh
Industrial	230 volts	30+ kw	576+ kwh
Institutional	230 volts	2.5 kw	264 kwh for hospital 63 kwh for schools 2 kwh for street lighting

A.2 Planning Indicators

1. Percentage of Household with Electricity Connection- households with electricity connection are those with power line for their houses.

$$\text{\% of HHs with Electricity Connection} = \frac{\text{No. of HHs with Electricity Connection}}{\text{Number of Households}} \times 100$$

Data Requirements:
No. of HHs with Electricity Connection
Number of Households

Data Source: Family Income and Expenditure Survey and the Census of Population and Housing conducted by NSO

Lowest Level of Disaggregation: Municipal

Frequency: Every 3 Years

2. Energy Consumption per Capita- Energy refers to various forms such as electricity, gasoline, and kerosene, expressed in barrels of fuel oil equivalent, consumed by residential, industrial and other users.

$$\text{Energy Consumption Per Capita} = \frac{\text{Total Energy Consumption}}{\text{Total Number of Consumers}}$$

Data Requirements: Total Number of Energy Consumption
Total Number of Energy Consumers

Data Source: Administrative Data System, Dep't. of Energy (DOE)

Lowest Level of Disaggregation: Municipal

Frequency: Annual

B. COMMUNICATION

The planning indicators and standards for communication are essential in planning and programming of services that are responsive to the rapid development of information technology. This communication sector provides the population the easy access to information that would help promote the integration of the population into the mainstream of social and political activities in a developing society.

B.1 Planning Standards

1. Manpower and Physical facilities to Population Ratio

a. 1 public calling station : municipality
b. 1 letter carrier : 5,000 population
c. 1 telephone booth : 1,500 employees (industrial)
d. 1 post office : 6,000 population
e. For municipalities without post office, 1 postal circuit for every Barangay/Sitio
f. 1 telegraphic transfer service per municipality

B.2 Planning Indicators

1. Post Offices/Stations to Population Ratio - Number of population served by post offices/postal stations

$$\text{Ratio} = \frac{\text{Population}}{\text{No. of post Office/postal station}}$$

Data Requirements: No. of Postal Offices and Postal Stations
Populations

Data Source: Philippine Postal Corporation

Lowest Level of Disaggregation: Municipal

Frequency: Annual

2. Telephone Density- number of telephone units for residents and business establishments divided by the population.

Formula:

$$\text{Telephone Density} = \frac{\text{Number of Telephone Units}}{\text{Population}}$$

Data Requirements: Number of Telephone Units
Population

Data Source: National Telecommunications Office (NTC)

Lowest Level of Disaggregation: Provincial

Frequency: Annual

3. Total Population Demand- determines the current demand/requirement for a certain communication facility of a given locality.

Formula:

Total Pop. Demand = Total population x Std. Req't. (of a certain communication facility)

Ex: Total population demand for a letter carrier

Computation:

$$\text{Total Pop. Demand} = 65{,}000 \times \frac{\text{1 letter carrier}}{\text{5,000 population}}$$

Total Population Demand = 10 letter carriers

Data Requirements:

Total Number of Population

Standards Requirement of Communication Facility to Population

Data Source: NSO, LGU

Lowest Level of Disaggregation: Municipal

Frequency: Annual

C. TRANSPORTATION

The role of transportation on the development of a society cannot be over emphasized since the transportation system provides the means for the movement of people, goods and services within and beyond the planning area, as a means to revitalizing the area's economy and socio-cultural life. The planning standards are useful guides in assessing the sufficiency or gaps in the transport services so that appropriate policies, programs and projects can be formulated.

C.1 Planning Standards:

1. Road requirements in terms of road right-of-way:
   a. National Roads : minimum right-of-way is 20 meters
   b. Provincial Roads : minimum right-of-way is 15 meters
   c. Municipal Roads : shall have a right of way of no less than10m.
   d. Barangay Roads : minimum right-of-way of 10 meters
   e. Road requirements in terms of length:
      > 2.4 kilometers per 1,000 urban population
      > 1.5 kilometers per 100 hectare of rural area
   f. Road Density and Distance to Roads:

Density (Km/sq.km.)	Ave. Distance to Road (km)	Maximum Distance to Road (km)
1.000	0.25	0.50
0.500	0.50	1.00
0.200	1.25	2.50
0.100	2.50	5.00
0.050	5.00	10.00
0.025	10.00	20.00

2. DPWH Design Standards: Roads

AADT	Carriageway Width (m)	Shoulder 2 x (m)	Pavement type
<201	6.0	-	GR
201-350	6.0	1.0	GR
351-550	6.1	2.0	LA
551-750	6.1	2.0	AC

751-1500	6.7	2.5	AC
1501-7000	7.0	2.5	AC/PCC
>7000	2 x 7.0	2.5	AC/PCC

3. Bridges:

> Reinforced Concrete Deck Girder (RCDG)- length per span is 8-21 meters; roadway width – 7.32 meters; sidewalk width – 0.76 meter; loading capacity – MS 18.

> Pre-Stressed Concrete Girder (PSCR)- length per span is 15-40 meters; roadway width – 7.32 meters; sidewalk width – 0.76 meter; loading capacity – MS 18.

> Reinforced Concrete Overflow Bridge- length per span is 10-15 meters; roadway width – 4.0 meters; curb – 0.20 meter.

4. Ports

• Traffic Type	Required Bething Facilities
General Cargo	150 mt/yr/meter of berthing
Bulk Cargo	225 mt/yr/meter of berthing
Liquid Cargo	450 mt/yr/meter of berthing
Vehicles Cargo	4500 mt/yr/meter of berthing
Passenger	100 passengers = 1 metric ton; 15,000 passengers/yr/meter berth

C. 2 Planning Indicators:

1. Length of Local Government Roads by Surface Type- the length of local government roads (in Kilometers) by surface type such as: earth, gravel, asphalt and concrete.

Data Requirements:
Length of Local Government Roads by Surface Type

Data Source: DPWH

Lowest Level of Disaggregation: Municipal

Frequency: Annual

2. Percentage of Paved Roads (National, Local)- length of paved roads by the total length of roads times 100.
National roads are classified into provincial, city, municipality and barangay. Paved roads are either of Portland cement concrete or asphalt concrete standards.

Formula:

$$\%\ \text{of Paved Roads}_{\text{national}} = \frac{\text{Length of Paved Roads}_{\text{national}}}{\text{Total Length of Roads}_{\text{national}}} \times 100$$

Data Requirements: Number of national paved roads
Number of national roads
Number of local paved roads
Number of local roads

Data Source: DPWH

Lowest Level of Disaggregation: Municipality

Frequency: Annual

3. Urban Road Requirements- it is an estimation of required road length for an urban locality.

Formula:

$$\text{Current Urban Road Req't.} = \left[\text{Urban Population} \times \text{Std. Road to Pop. Ratio}\right] - \text{Existing Rd Length}$$

Data Requirement:
Total Urban Population
Existing Urban Road Length
The Standard Urban Road to Population Ratio

Data Source: NSO, LGUs, DPWH

Lowest Level of Disaggregation: City

Frequency: Annual

4. Rural Road Requirement- it is an estimation of required road length for a rural area.

Formula:

$$\text{Current Rural Road Req't.} = \left[\text{Arable Land Area} \times \text{Std. Road to Area Ratio}\right] - \text{Existing Rural Road Length}$$

Data Requirements:
Total Arable/Rural Land Area
Existing Rural Road Length
Standard Rural Road to Arable/Rural Area

Data Source: LGUs, DPWH

Lowest Level of Disaggregation: Municipality

Frequency: Annually

D. WATER SUPPLY

It is a major economic concern of the government since it plays an important role in the development process. While water is naturally abundant in the country, it has now become a scarce commodity in some areas, hence a development program on water resources should be established based on accurate data. The information on the planning standards will serve as basis in determining present and future water requirements of the population, and establishments and other economic activities.

D.1 Planning Standards

1. Water Supply System Coverage:

> Level I – 1 : 250 population or 25 households
> Level II – 1 faucet : 5 household
> Level III – 1 system : 3,510 households

2. DPWH design Standards: Water Supply

> Level I- point source: a well or a spring serving 15-50 HHs, generally for rural areas where houses are scattered too thinly to justify a distribution system.
> Level II- communal faucets: a system composed of Level I, plus a limited piped distribution network with faucets serving 4-6 HHs each and an average total coverage of 100 HHs per system, generally for rural areas and urban fringes where houses are clustered densely enough to justify a distribution system.
> Level III- individual connections: a system composed of Level I plus a piped distribution network and at least one faucets per HH, generally for urban areas.

3. Water Consumption Standards by Type of Consumer

> Residential- 5 to 200 liters per capita per day

> Commercial- 1 to 1.3 cubic meters per day per commercial establishment
> Institutional- 3 to 4.5 cubic meters per day per connection
> Industrial- 1 to 3 liters per second per hectare or 85 to 260 cubic meters per day per hectare

4. NWRB Standard Criterion or Procedure for Water Rights Grant:

> Water Use Sector Standard Criterion or Procedure for Water Rights Grant

> Domestic	-0.0029 liters per second (lps) per capita
Commercial	-application shall be examined and approved by NRWD while WD issues clearance for processing water permit.
> Industrial	-application shall be examined and approved by NRWD while DENR issues clearance for processing water permit.
> Irrigation	-1.5 lbs per ha. for paddy field (other crops and plants have different standard values)
> Livestock	-0.00024 lbs per head for Cattle and Swine, 0.0000146 lbs per head for poultry.
> Recreation	-0.6 lbs per ha. for the planned golf course area
> Fishery	-3.15 and 6.30 lbs per ha. for prawns in freshwater and brackish water, respectively, 0.9259 lbs per ha. for others.
> Hydropower	-application shall be examined and approved by NRWB, while NPC issues Clearance for Processing Water Permit.

5. Types of Irrigation Projects:

a. New Projects- those proposed for areas without any, or comparatively little irrigated area such that the irrigation facilities that may be constructed will be mostly, if not all, new constructions.
b. Rehabilitation Projects- those only to restore damaged or deteriorated facilities of existing irrigation systems to their original condition without any provision for additional new works that will increase the service area of the systems.
c. Improvement Projects- those for the purpose of adding new works or activities for enlarging the service area or raising the performance of existing irrigation systems.

D.2 Planning Indicators

1. Number of Connections and Average Water Consumption by Type of Consumer- describes the area coverage of a water system in terms of the number of connections by type of consumers and the monthly expenses incurred for water.

Data Requirements:
Total number of connections by type of consumer
Average water consumption by type of coverage

Data Source: Local Water Districts

Lowest Level of Disaggregation: Barangay

Frequency: Annual

2. Percentage Distribution of Households by Main Source of Water Supply- the number of household by main source of water supply which include: 1) tap (inside house); 2) public well; 3) public faucet; 4) improved spring; 5) improved dug-well; and 6) private deep well, expressed as a percentage of the total number of households.

Formula:

$$\text{\% of HHs with Main Source of Water Supply} = \frac{\text{No. of HHs with Main Source of Water Supply}}{\text{Number of Households}} \times 100$$

Data Requirements:
Number of households with main source of water supply
Number of households

Data Source: Census of Population and Housing, NSO

Lowest Level of Disaggregation: Barangay
Frequency: Every 10 Years

3. Percentage of Irrigated Area to Total Potential Irrigable Area- number of irrigated area, expressed as percentage to the total potential irrigable area.

Formula:

$$\text{\% of Irrigable Area to total potential irrigable area} = \frac{\text{Total Irrigated Area}}{\text{Potential Irrigable Area}} \times 100$$

Data Requirements: Total Irrigated Area
Total Potential Irrigable Area

Data Source: National Irrigation Administration

Lowest Level of Disaggregation: Provincial

Frequency: Annual

V. GOVERNANCE AND INSTITUTIONS DEVELOPMENT

A. LOCAL GOVERNMENT FINANCE

The sub-sector covers the financial aspect of local governance. It focuses on the resources, revenues, expenditure, debts, and securities operations of the government. It also includes the sub-sector on peace and security. The planning standards cover guides for financial and fiscal administration; and standards for the classification of municipalities, cities and provinces.The indicators provide information on the capacity of LGUs to generate revenues to serve as their guide in planning for the expenditures for development programs that would respond to the locality's development needs.

A.1 Planning Standards

1. Financial and Fiscal Administration

2. Effective Tax Rate (ETR) or the ratio of actual tax revenue to total tax base should equal the statutory rate of:

a. 2% for Real Property Tax
b. 0.90% for Local Service Tax
c. 0.10% for Residence Tax

3. Classification of municipalities based on income brackets:

a. First – P50M or more
b. Second – P40M or more but less than P50M
c. Third – P30M or more but less than P40M

d. Fourth – P20M or more but less than P30M
e. Fifth – P10M or more but less than P20M
f. Sixth – Below P10M

4. Classification of Cities based on income brackets:

a. First – P300M or more
b. Second – P240M or more but less than P300M
c. Third – P180M or more but less than P240M
d. Fourth – P120M or more but less than P180M
e. Fifth – P60M or more but less than P120M
f. Sixth – Below P60M

5. Classification of provinces based on income brackets:

a. First – P350M or more
b. Second – P280M or more but less than P350M
c. Third – P120M or more but less than P170M
d. Fourth – P140M or more but less than P210M
e. Fifth – P70M or more but less than P140M
f. Sixth – Below P70M

Note: Income Class (Per DOF Order No. 20-05 dated July 29, 2007)
Average Income (FY 2000-2003)

A.2 Planning Indicators

1. Percentage Distribution of Local Government Expenditure by Specific Activities- percentage distribution of local government expenditure by specific activities such as: 1) social improvement; 2) adjudication; 3) protective services; 4) general administration; 5) government finance; 6) equipment; 7) economic development; 8) real property; 9) inter government aid, loans/advance/transfers; and 10) others.

$$\%\ \text{Distribution of Local Government Expenditures by Specific Activities} = \frac{\text{Local Government Expenditure By Specific Activities}}{\text{Total Local Government Expenditure}} \times 100$$

Data Requirements:
Local Government Expenditures by Specific Activities
Total Government Expenditure
Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

2. Revenue Target Accomplishment Rate (RTAR)- measures the extent by which LGUs are able to meet the collection target they have imposed on themselves for the year. It measures the efficiency of overall revenue mobilization of an LGU.

$$\text{RTAR (\%)} = \frac{\text{Actual Revenue Collection}}{\text{Estimated Revenues or Collectibles}} \times 100$$

Data Requirements: Actual Revenue Collection for the year
Estimated Revenues or Collectibles for the year
Data Source: BLGF

Lowest Level of Disaggregation: Municipality

Frequency: Annual

3. Real Property Tax Accomplishment Rate (RPTAR)- this is similar to the RTAR except that revenues are confined to real property tax collections. A separate indicator for real property tax is proper considering that this tax is the largest and most stable source of locally generated resources.

$$\text{RPTAR (\%)} = \frac{\text{Actual Collection from Real Property Taxes}}{\text{Estimated Collection from Real Property Taxes}} \times 100$$

Data Requirements:
Actual Collection from Real Property Taxes
Estimated Collection from Real Property Taxes

Data Source: BLGF

Lowest Level of Disaggregation: Municipality

Frequency: Annual

4. Cost to Collection Ratio (CCR)- this measures how much every peso spent in the assessment and collection effort by the LGU gains in terms of actual collections. The cost of assessment and collection consists of the entire cost of the assessor's office plus the direct cost of collection under the treasurer's office.

Formula: $$CCR = \frac{\text{Actual Cost or Expenditure of Assessment and Collection}}{\text{Actual Internally Generated Revenues}}$$

Data Requirements:
Actual Cost or Expenditure of Assessment and Collection
Actual Internally Generated Revenues

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

5. Revenue per Capita- a common indicator of the population's overall tax consciousness and payment capability, revenue per capita measures the average revenue contribution of the population to the LGU's coffers. This indicator is also a good basis for ranking LGUs in terms of revenue earning capacity.

Formula: $$RC\ (Peso\ Account) = \frac{\text{Actual Revenue Collection}}{\text{LGU Population}}$$

Data Requirements: Actual Revenue Collection
LGU Population

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

6. Expenditure Rate (ER)- this is a simple measure of the degree by which budgeted expenditures are actually obligated or incurred. Under existing laws, no money may be disbursed out of the local treasury unless authorized

by an appropriate ordinance. When an LGU, therefore, budgets a certain sum, the assumption is that the sum is a priority undertaking duly authorized by the local authorities. The expenditure rate will therefore give an indication of the success (or failure) of the LGU in adhering to its budget.

Formula: $$ER\ (\%) = \frac{\text{Actual Expenditure}}{\text{Budget Estimate}} \times 100$$

Data Requirements: Actual Expenditure
Budget Estimate

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

7. Social Expenditure Rate (SER)- measures the percentage of total expenditure devoted to socially oriented programs and projects. It also measures the extent to which the LGUs support government initiatives on poverty alleviation and social empowerment.

Formula: $$SER\ (\%) = \frac{\text{Actual Expenditure for Social Services}}{\text{Total Actual Expenditure}} \times 100$$

Data Requirements: Actual Expenditure for Social Services
Total Actual Expenditure

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

8. Economic Expenditure Rate (EER)- measures the percentage of total expenditure focused on economic services. Economic service expenditures refer to those involving infrastructures, agriculture, the environment and related sectors. It likewise includes expenditures for business like enterprises such as markets, bus or jeep terminals/depots, slaughterhouse and similar undertakings.

Formula: Actual Expenditure for Economic Services
EER (%) = ---------- x 100
Total Actual Expenditure

Data Requirements: Actual Expenditure for Economic Services
Total Actual Expenditure

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

9. Personal Services Expenditure Ratio (PSER)- this indicator measures the share of total personnel cost to expenditures. It also ensures that the restriction mandated by the Local Government Code which pertains to the requirement that total personal services cost of LGU must not exceed 55% of the total expenditures to those that belong to the third or upper income classes, and 45% for those that belong to the fourth or lower classes.

Formula: Actual Expenditure for Personnel Services
PSER (%) = ---------- x 100
Total Actual Expenditure

Data Requirements: Actual Expenditure for Personnel Services
Total Actual Expenditure

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

10. Internal Financing Ratio (IFR)- It measures the relative independence of LGUs from National Government financial support.

Formula: Actual Internally Generated Income
IFR = ----------
Actual Expenditure

Data Requirements: Actual Internally Generated Income
Total Actual Expenditure
Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

11. Expenditure per Capita (EC)- it reflects the money value of all services rendered by the LGU to its constituents on a per person basis. It provides a relevant guide to the level of commitments of LGUs to its constituents, particularly in times of financial difficulties.

Formula: Actual Expenditure
EC (peso amount) = ----------
LGU Population

Data Requirements: Total Actual Expenditure
Total LGU Population

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

12. Debt Servicing Ratio (DSR)- this is a standard indicator on the capability of LGU to service its debt obligations. It relates actual debt service payments to LGU regular income.

Formula:
Actual Debt Service Payments
DSR = ----------
Actual Regular Income

Data Requirements:
Actual Debt Service Payments
Actual Regular Income

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

13. Cash Target Accomplishment Rate (CTAR)- this reveals how much of the estimated cash targets has been actually generated. This indicator is critical in determining the actual amount of resources readily available for contingencies. It demonstrates how well LGUs manage their cash resources to provide for a "buffer fund" to cover urgent expenditure needs in the future.

Formula:

$$CTAR = \frac{\text{Actual Cash Position}}{\text{Budgeted Cash Position}}$$

Data Requirements:
- Actual Cash Position
- Budgeted Cash Position

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

14. Savings or Dis-saving Rate (SR/DSR)- a corollary measure to the CTAR, the SR/DSR demonstrated the build-up, or the fall, as the case maybe, in the level of financial reserves of LGUs within a given period. This is based on the amount of excess deficiency in income and expenditures as reported in the Statement of Income and Expenditures (SIE).

Formula:

$$SR\ (\%) = \frac{\text{Excess of Income over Expenditures}}{\text{Actual Income}} \times 100$$

If actual income is less than actual expenditures:

$$DSR\ (\%) = \frac{\text{Excess of Expenditures over Income}}{\text{Actual Expenditures}} \times 100$$

Data Requirements:
- Excess of Income over Expenditures
- Excess of Expenditures over Income
- Total Actual Income

- Total Actual Expenditures

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

15. Enterprise Profitability Rate (EPR)- is a guage of how well LGUs manage businesslike undertakings under their jurisdiction. This indicator is equivalent to the standard net income (or loss) ratio common among private companies. Under the Local Government Code, LGU may establish and operate such enterprises to augment their income and expand services.

Formula:

$$EPR\ (\%) = \frac{\text{Actual Income or Loss on Economic Enterprises}}{\text{Actual Gross Income of Economic Enterprises}} \times 100$$

Data Requirements:
- Actual Income or Loss on Economic Enterprises
- Actual Gross Income of Economic Enterprises

Data Source: Bureau of Local Government Finance (BLGF)

Lowest Level of Disaggregation: Municipality

Frequency: Annual

B. PEACE AND SECURITY

This sector deals on law enforcement and corrections as well as fire fighter resources of a locality. The planning standards are necessary in estimating the projected requirements for manpower and facilities for the effective and efficient delivery of peace and order and security services in a locality. The indicators are useful in assessing the sufficiency or gaps in the manpower and facilities and serve as basis in estimating the future requirements based on the projected population.

B.1 Planning Standards

1. Public Order and Safety:

a. 1 policeman : 300 population for highly congested area

b. 1 policeman : 500 population for semi-urbanized areas
c. 1 policeman : 1,000 population for rural areas
d. 1 firefighter : 1,000 population served in the municipality
e. 2 firefighters : 1,000 population served in the urban or metropolitan area
f. Jail Size : at least 1 X 2 meters per inmate
g. Bed Capacity - 1 inmate : 1 bed
h. Jail guard ratio:
> custodial- 1 jail guard : 7 inmates
> escorting- 2 jail guards : 1 inmate
> escorting for maximum security-
> 2 jail guards + 1 (optional) : 1 inmate
i. soner subsistence- P20.00/day (legislated)

B.2 Planning Indicators

1. Population-Policeman Ratio- number of population divided by number of policeman.

Formula:

$$\text{Pop-Police Ratio} = \frac{\text{Population}}{\text{Total Number of Policemen}}$$

Data Requirements: Total number of policemen
Total number of population

Data Sources: National Police Commission
National Statistics Office

Lowest Level of Disaggregation: Provincial

Frequency: Annual

2. Population-Fireman Ratio- population divided by the number of firemen or fire fighting force.

Formula:

$$\text{Pop-Fireman Ratio} = \frac{\text{Population}}{\text{Total Number of Firemen}}$$

Data Requirements: Total number of firemen or fire fighting force

Total number of population

Data Sources: Bureau of Fire, NSO
Lowest Level of Disaggregation: Provincial

Frequency: Annual

3. Crime Rate by Type- number of crimes reported per 100,000 population by type.

Formula:

$$\text{Crime Rate by Type} = \frac{\text{Number of Crimes by Type}}{\text{100,000 population}}$$

Data Requirements:
Number of Crimes by Type

Data Source: National Police Commission

Lowest Level of Disaggregation: Provincial

Frequency: Annual

LIST OF DATA SOURCES

Bureau of Local Government Finance
Bureau of Jail Management and Penology
Bureau of Agricultural Statistics
Commission on Higher Education
Commission Higher Education
Commission on Population
Department of Education
Department of Health
Department of Environment and Natural Resources
Department of Social Welfare and Development
Department of Public Works and Highways
Department of Trade and Industry
Department of Agriculture
Department of Tourism
Department of Labor
Housing and Land Use Regulatory Board

ACKNOWLEDGEMENT

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Regional Statistical Coordination Committee
Officers and Members

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NSO-RO2	Matilde L. Alejandro (Co-Chair)	Reyma C. Tobalno
CSU	Roger P. Perez (Vice-Chair)	Jose D. Guzman
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Compendium of Planning Standards and Indicators