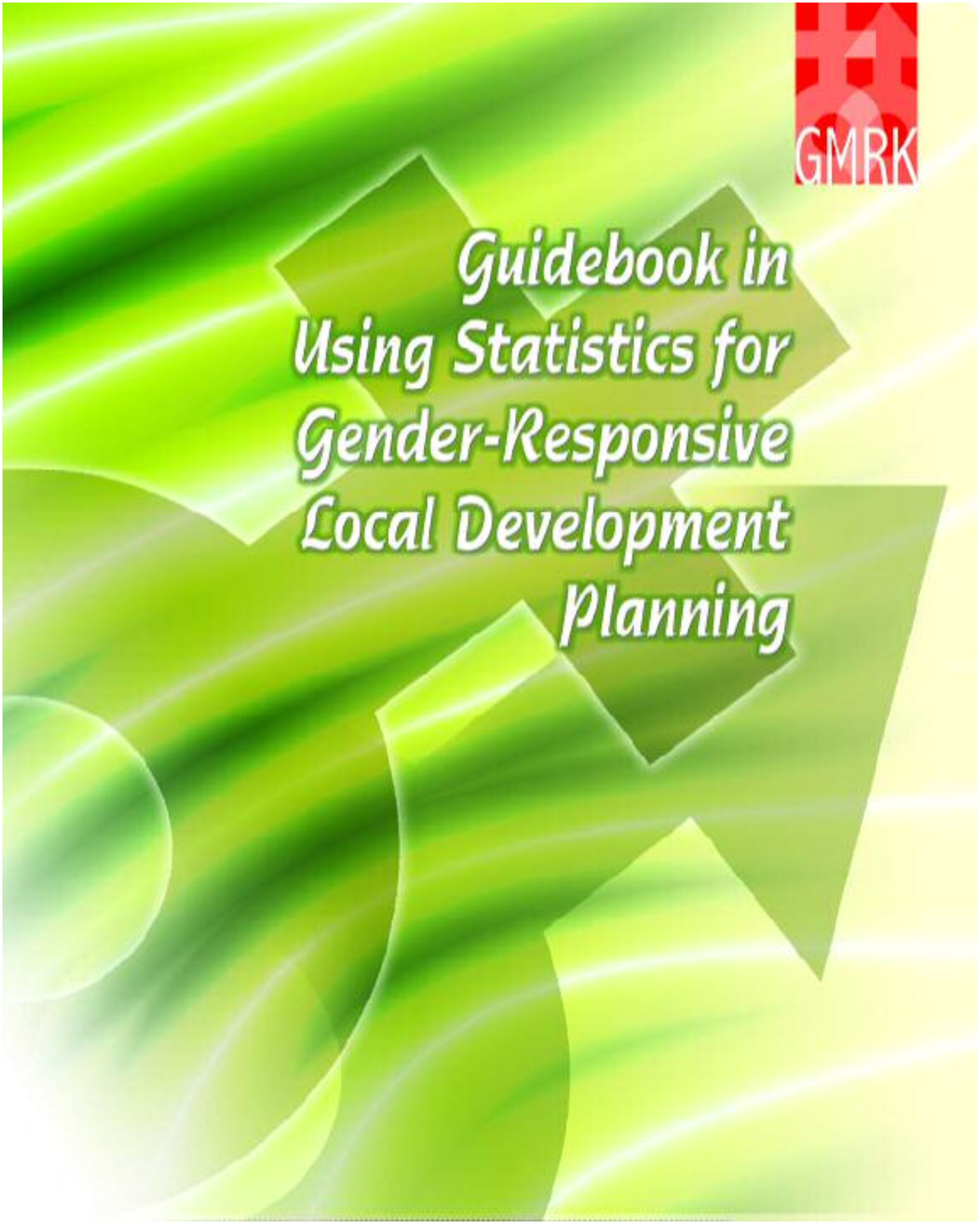
GMRK
Guidebook in Using Statistics for Gender-Responsive Local Development Planning

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Guidebook in Using Statistics for Gender-Responsive Local Development Planning

National Commission on the
Role of Filipino Women

Canadian International
Development Agency

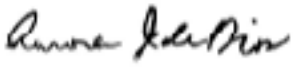
Message

The NCRFW, realizing that gender-responsive plans and programs can only be properly designed if they are based on complete and accurate gender statistics, has constantly undertaken steps to build and strengthen gender-responsive statistical systems at all levels of planning/policy-making. As such the NCRFW came up with this reference tool called "Guidebook in Using Statistics for Gender-Responsive Local Development Planning" (SGRLDP Guidebook) as it recognizes the need of local development planners to build and strengthen their capability for effective gender-responsive local development planning and programming.

This guidebook is aimed not only to contribute to the development and strengthening of gender-responsive databases at the local level but also to provide a guide for producing gender statistics necessary in formulating, implementing and monitoring a gender-responsive plan. It is designed mainly to benefit the LGUs, specifically the municipal and provincial planning development offices. The guidebook should also be useful for members of Regional Statistical Coordination Committees, reseachers in the field of GAD, statistician and academicians.

We greatly appreciate the support of the Canadian International Development Agency in making this publication possible. We specially thank the Statistical Research and Training Center whose output in the project entitled Training Course on Statistics for Gender-Responsive Local Development Planning funded under CIDA-Institutional Strengthening Project II, served as the main reference document in the development of this Guidebook. Most of all we are grateful to Ms. Manuela Silva for her expertise in writing this Guidebook.

We hope that the use of this Guidebook be maximized by NCRFW partners/GAD mainstreaming agencies to ensure the integration of the gender perspective in all aspects of development planning especially at the local level.



Aurora Javate de Dios
Chairperson, NCRFW

Message

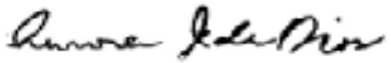
The silver anniversary at the advent of the millennium has been very symbolic for the National Commission on the Role of Filipino Women. It has a grand tradition of leadership as the first national machinery to be set up in Asia in 1975, continually striving to achieve its mission of making government work for women's empowerment and gender equality. It envisions a Philippine society where women and men equally contribute to and benefit from national development.

In this spirited effort, the NCRFW conceptualized the Gender Mainstreaming Resource Kit a year after its 25th anniversary. In the conception of the GMRK, the NCRFW brought together the most respected minds in Gender and Development to draft the eight tools in the kit.

Policies are not gender neutral. It affects men and women differently. Thus, the GMRK presents aids and guides to facilitate gender mainstreaming in agencies. With these tools, government agencies, academic and training institutions and civil society will be better equipped to build on their accomplishments. These can also address the gaps and confront the challenges that have faced them in their gender mainstreaming work.

I believe that the Commission is beaming with pride in this contribution. This is a big milestone and I am proud to be part of the experience in laying the foundation for women equality and empowerment. As an active participant in the conceptualization process of this Kit, I have continued to nurture its development. It is a great joy to see how each guidebook, sourcebook and manual in this kit has blossomed to formulate the women's agenda and integrate the Framework plan for Women (FPW). It will be most rewarding to see how each tool will bear fruits of gender-responsive policies and plans, programs and budgets and good governance.

With this, we are optimistic that the government shall realize empowerment and equality for Filipino women. Let us look forward to ensuring that the Gender and Development experience endures for equality and empowerment.



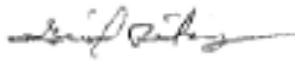
Amelou Benitez-Reyes, Ph.D
NCRFW Commissioner for Culture and Arts, 2002 to present
NCRFW Chairperson, 1998 to 2001

Message

The Canadian International Development Agency (CIDA) is honoured to have been a partner of the Government of the Philippines for many years in promoting Gender Equality. One decade-long of partnership with the National Commission on the Role of Filipino Women (NCRFW) through the ***Institutional Strengthening Project for Gender Mainstreaming*** has been highly successful in terms of increasing the capacity of government to implement laws and policies such as the Women in Development and Nation-Building Act (RA 7192). This same partnership has resulted in numerous innovative approaches to gender mainstreaming which have been catalysts for similar efforts in the neighbouring countries of the Asia-Pacific region.

It gives me great pleasure, on behalf of CIDA, to congratulate all those who have contributed to the long and challenging process of producing the "Gender Mainstreaming Resource Kit", a compilation of seven 'tools' in the form of source books, manuals, guides and training modules. I am certain that these will be applied towards a better quality of life for Filipino women through more effective government action in fostering gender equality.

As part of the seven tools included in the "Gender Mainstreaming Resource Kit" I am also certain that this Manual will be well-received and used towards a better quality of life for Filipino women through more effective governance that fosters gender equality.



Gérard Bélanger
Counsellor (Development) and Head of Aid
CIDA, Philippines

Foreword

Presenting and analyzing statistics with gender perspective are vital in making local development plans gender-responsive and effective in improving the well being of the intended final beneficiaries – the people. The Guidebook in Using Statistics for Gender-Responsive Local Development Planning will be an important tool for local level planning. There is an enormous requirement of indicators for effective gender-responsive planning at the local level but the suggested statistics in the guidebook are the most important indicators that the local government should not fail to generate, monitor and analyze.

The Statistical Research and Training Center (SRTC) would thus like to commend the National Commission on the Role of Filipino Women (NCRFW) for publishing this guidebook. The content of this guidebook evolved from the Training Manual on Statistics for Gender-Responsive Local Development Planning developed by the SRTC for NCRFW. The guidebook was prepared in collaboration with other agencies and individuals. The population and development framework approach to development planning and the identification of the indicators were offshoots of the project which the SRTC conducted with the Commission on Population (POPCOM) while the format of presentation of indicators was heavily drawn from the work of Dr. Eliseo de Guzman.

The publication of this guidebook is another significant step in gender mainstreaming efforts of the NCRFW down to where the plans and programs of the government are immediately felt by ordinary people – at the local government units. It is our hope that this guidebook will go a long way in contributing to more effective governance at the local level.

Gervacio G. Selda, Jr.
Executive Director
Statistical Research and Training Center

Acknowledgements

Production of this Guidebook would not have been possible without the guidance and support of people who believe in the importance of this tool to NCRFW's pursuit of its mission of making government work for gender equality.

We wish to express our gratitude to the supervision and direction rendered by the GMRK advisors, OIC-Executive Director Emmeline Verzosa and former NCRFW-CIDA Project Manager and now CIDA Gender Equity Adviser Myrna Jarillas.

We acknowledge the Resource Kit Management Team composed of Rina Jimenez-David, Veronica Villavicencio and Luz Lopez-Rodriguez. Their substantive inputs have been instrumental in the review of the manuscript and further development of the tool. We also wish to thank Estrella Maniquis for her endearing commitment as Resource Kit Editor.

Very special thanks to Ermelita Valdeavilla, Sarah Umandal and former Chairperson Amelou Benitez-Reyes who initiated the project and provided guidance in the production of this Resource Kit. Ms. Umandal was then Project Manager of the Institutional Strengthening Project, Phase II (ISP II) and it was during Executive Director Valdeavilla's and Chairperson Reyes' term that the GMRK reached fruition.

We thank Arnel Orea, Virginia Policarpio, Nigel De Leon and Alfredo Baldemor Jr. for their effort in the Design and Layout of the tool.

Finally, we want to thank Chairperson Aurora Javate- de Dios who came at midpoint but gave solely unrelenting support to the GMRK project.

Most of all, gratitude is due to the many nameless women and men who have given their time and energy to the realization of this project. This has been a most rewarding experience.

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The GMRK

The ***Guidebook in Using Statistics for Gender-Responsive Local Development Planning*** is one of the eight tools chosen for the compendium, Gender Mainstreaming Resource Kit (GMRK). The GMRK is a project initiative of the Institutional Strengthening Project-Phase II (ISP II), collaboration between the Canadian International Development Agency (CIDA) and the National Commission on the Role of Filipino Women (NCRFW). It aims to produce relevant and tested tools that will aid the mainstreaming of gender and development perspectives in development work.

The GMRK is a compendium of tools for gender mainstreaming which can be used by partners and other agencies as a guide in their efforts even beyond the project life. The NCRFW, in consultation with partners and other agencies, went through a thorough process of selecting the tools to be included in the kit. The tool kit therefore includes a range of methods, techniques, know-how, practices and other ways through which gender mainstreaming can be integrated in development efforts. The tool kit is addressed to GAD focal teams, trainers, advocates and champions in various government agencies, academic and training institutions and civil society organizations who engage government institutions in making their operations gender-responsive. This serves as training and reference guide for their various advocacy and training activities and other gender mainstreaming strategies.

Eight (8) tools were chosen for this compendium and are clustered into six (6) categories. The first three (3) categories illustrate the stages of the development planning cycle except for the implementation phase. The rest of the categories relate to essential components of the gender mainstreaming strategy which catalyze the integration of gender perspectives in the development planning process.

- The first category is about **Gender-Responsive Planning.** This cluster consists of three titles that tackle mainstreaming gender in the planning process at different levels. The first book is a **"Manual for Mainstreaming Gender in Development Planning: Framework and Guidelines"** that describes how the integration of gender perspectives can enhance macro development planning particularly at the National Economic and Development Authority, the central planning agency of government. It focuses on the application of the tool in reviewing and drafting the Medium Term Philippine Development Plan (MTPDP). It develops a set of guidelines in the analyses, formulation, implementation, monitoring and evaluation of policies, programs and projects to promote gender equality. The second is on **"Gender Responsive Strategic Planning in National Government Agencies"** that tackles how GAD can be woven into the strategic planning process of national government agencies as they translate the MTPDP into their specific agency mandates. The third discusses **"Mainstreaming GAD in Regional and Local Development Planning"** and focuses on GAD mainstreaming cascades at the planning processes of sub-national agencies at the regions and with local government units.

- The second category is on **Gender-Responsive Programming and Budgeting.** This features one volume on **"Integrating GAD in the Planning and Budgeting Processes of National Government Agencies"**. It clarifies the GAD Budget policy mandates, outlines specific steps and illustrates how GAD planning and budgeting can be undertaken to respond to GAD issues and make other areas of priority programs gender-responsive as well.

- The third category is in **Gender-Responsive Monitoring and Evaluation** which features the tool, **"A Guide on Gender Mainstreaming: How Far Have We Gone"?** This guidebook aims to track programs and provide GAD practitioners with a holistic view of the gender mainstreaming process. It provides a framework for goals, objectives and strategies for systematic gender mainstreaming; and cases of effective application of strategies at the various stages of gender mainstreaming in national agencies.

- The fourth category is on **GAD Advocacy and Training** which features the **"Handbook on GAD Training for Government Agencies"**, a tool to help GAD trainers in government agencies formulate their GAD training design and conduct their GAD training sessions. This tool includes as one of its parts, the Gender 101 or GAD Dictionary that defines basic concepts and terms in the source book and in most gender and development literature. It also contains a GAD Planning and Budgeting training module that will orient agencies on the drafting of a GAD plan and the utilization of a GAD budget to ensure that the effects will be most beneficial to women.

- The fifth category is on **Gender-Responsive Organization** with a single volume on **"Ways to Gender-Responsive Organization"**. This guidebook gleans from the experience of agencies that sought to transform themselves into more gender-responsive organizations through a review of their mandate, structure, leadership, culture, resources and other elements.

- The sixth category features **Gender and Statistics** with a solo title on **"Guidebook on Statistics for Gender-Responsive Local Development Planning"**. This guidebook clarifies

gender statistics amidst other statistics as well as explains the importance and uses of sex-disaggregated data in the various aspects of planning and program development, implementation, monitoring and evaluation. It guides researchers, planners and program implementers to a gender indicator system that will be useful to gender-responsive development planning;

These harvests of materials are works in progress. It is best to apply them and monitor closely how they work. Further validation in various situations will be most helpful to refine its substance and form. Feedback and suggestions from readers, GAD advocates and practitioners are most welcome to improve the substance and flow of these materials. Please accomplish the feedback slip inserted in each packet for this purpose.

We hope that these materials will fast track the process of gender mainstreaming in Philippine governance and development. In the end, we hope that these tools will catalyze transformation of individuals and institutions of governance as well as much-awaited improvements in the lives of women and communities.

Acronyms

Agencies/Organizations

BAS	Bureau of Agricultural Statistics
BLES	Bureau of Labor and Employment Statistics
CDC	City Development Council
CIDA	Canadian International Development Agency
DA	Department of Agriculture
DepEd	Department of Education
DILG	Department of the Interior and Local Government
DOH	Department of Health
DOLE	Department of Labor and Employment
DSWD	Department of Social Welfare and Development
FNRI	Food and Nutrition Research Institute
GSIS	Government Service Insurance System
MDC	Municipal Development Council
NCRFW	National Commission on the Role of Filipino Women
NEDA	National Economic and Development Authority
NROs	NEDA Regional Offices
NSCB	National Statistical Coordination Board
NSO	National Statistics Office
PDC	Provincial Development Council
PhilHealth	Philippine Health Insurance Corporation
POPCOM	Population Commission
RDC	Regional Development Council
SRTC	Statistical Research and Training Center
SSS	Social Security System
UNFPA	United Nations Population Fund

Others

ASDR	Age-Specific Death Rate
ASFR	Age-Specific Fertility Rate
CBR	Crude Birth Rate
CDR	Crude Death Rate
CMR	Child Mortality Rate
DR	Dependency Ratio
FIES	Family Income and Expenditure Survey
FLEMMS	Functional Literacy, Education and Mass Media Survey
FPS	Family Planning Survey
GAA	General Appropriations Act
GAD	Gender and Development
GRPDIS	Gender-Responsive Population and Development Indicators System
IMR	Infant Mortality Rate
LFPR	Labor Force Participation Rate
LFS	Labor Force Survey
LGU	Local Government Unit
MBN	Minimum Basic Needs
MMR	Maternal Mortality Rate
MNDS	Minimum National Data Set
NDS	National Demographic Survey
NEAT	National Elementary Achievement Test
NNS	National Nutrition Survey
NSAT	National Secondary Achievement Test
PGR	Population Growth Rate
POPDEV	Population and Development
PPGD	Philippine Plan for Gender-Responsive Development
RA	Republic Act
RTI	Reproductive Tract Infections
SEP	Socioeconomic Profile
SR	Sex Ratio
STD	Sexually Transmitted Diseases
TFR	Total Fertility Rate

Contents

Part 3

A Gender-Responsive Population and Development Indicator System

Bibliography

Annexes

Overview

Development planning at all levels is one of the most basic and most important activities of government. The object of development is to enable everyone to attain a better quality of life. Better quality of life means that women and men have the "capacity to do" (to be able to enjoy satisfying and productive work, live in a clean and wholesome environment, and pursue one's interests, for example), and the "capacity to be" (to be well-nourished, knowledgeable and skilled, confident of one's abilities and accomplishments, among others).

Development is planned to ensure that the needs of the targets of development are met, that is, to more equally and equitably distribute the fruits of development so that those who have the greatest needs or those with the most serious problems receive greater or more immediate attention.

Another dimension of responsiveness in development planning has been added in the past two decades - that of gender. Although the unequal relations and treatment of the sexes is a situation that has existed for centuries, its recognition as a development concern is fairly recent. As a strategy to correct this inequality, gender-responsive planning recognizes the differing concerns of the sexes, and seeks to ensure that women's needs are not subsumed to those of men but are determined separately and addressed accordingly. It also takes the extra step of providing women the means to break free of marginal roles so they can live more fulfilling lives.

This document emphasizes the importance of gender, or sex-disaggregated, statistics in the task. Effective gender-responsive development requires a scientific basis for problem analysis, setting of priorities, and formulation of interventions. This requires statistics and indicators that give not just the general picture, but the particular situation of women and of men in the various sectors of planning, namely health, economic, education, and so on.

Gender statistics are also a must in the effort to change traditional concepts about the roles of the sexes and give full recognition to the contributions of women in society. Their regular use is vital to the development strategy called gender mainstreaming, which aims to ensure that the concerns of women and men are given equal consideration in policy making, legislation and other development processes.

However, while gender-responsive development planning is increasingly being practiced at the national level, many local government units (LGUs) have yet to fully understand and apply gender mainstreaming principles at their level. And while the use of scientific and current data is now routine in development planning, LGUs still have to familiarize themselves with sex-disaggregated data and to regard them as essential.

The Guidebook provides a reference for provincial, city, municipal or barangay development planners, local development workers, researchers and statisticians to:

- strengthen their capability to identify and use gender statistics and indicators for the effective formulation, implementation and evaluation of local development plans; and

- enable them to better understand and apply the principles and mechanisms of gender -responsive development planning.

It consists of three parts:

Part I introduces the concept of gender-responsive development as a means to ensure that women and men equally participate in and benefit from development. Supported by a legal mandate, gender-responsive development seeks to correct imbalances in the socio-economic, political and cultural aspects of life

resulting from deep-seated gender biases and stereotypes about women and men. To help the planners in their task, basic concepts about sex and gender are introduced, and in particular, the significance of gender statistics in planning is underscored.

Part I also briefly discusses the mechanism for local development planning and traces the development planning cycle, giving recommendations for making each planning stage gender-responsive. The population and development (POPDEV) framework is presented as a planning approach toward the end of the chapter. This framework is based on the Integrated Population and Development Planning Project of the National Economic and Development Authority (NEDA) and has been used by the Statistical Research and Training Center (SRTC) in its training programs on the gathering and use of statistics for gender-responsive local development planning. The framework argues that population and development are interrelated and that changes in one will cause changes in the other. For planning to be more accurate and effective, this interaction must always be taken into account.

Part II is the meat of the Guidebook. It presents the different categories and forms of indicators, and what the characteristics of good indicators are. It also includes a brief background on the POPDEV indicator system. This part outlines salient population and development factors that have pronounced gender differentiation, their implications in planning, and the indicators that are useful in tracking progress. Indicators in planning for fertility and population, health and nutrition, economic and social welfare, and education are described and their formula, data requirements, data sources and examples of computation are presented.

There is also a brief discussion on the core indicators for gender and development particularly on issues of data availability and data collection methodology. The last topics focus on data types and sources and suggestions for addressing data gaps at the local level.

Part III presents the gender-responsive population and development indicator system as a computer-assisted data base system to support local development planning. This was developed by SRTC as part of a project on population and development planning at the local level.

It should be pointed out that gathering gender-specific data need not cost LGUs much time, effort or expense. Existing data sources such as census and survey data, vital registration, and school, hospital, police, and social welfare records, among others, offer a wealth of information basic to development planning. Information may also be obtained from target beneficiaries through meetings, focused group discussions, surveys and other data-gathering activities.

In preparing this Guidebook, the author drew extensively from the Training Manual on Statistics for Gender-Responsive Local Development Planning prepared by SRTC. The manual was submitted to the National Commission on the Role of Filipino Women (NCRFW) as part of the effort to involve oversight and statistical agencies in strengthening government capability in gender-responsive development planning across sectors and at all levels. Preparation of the SRTC manual was funded under the NCRFW's Institutional Strengthening Project Phase II assisted by the Canadian International Development Agency (CIDA).

Although a few LGUs have already been asked to comment on the draft, users are urged to submit additional comments on any aspect of the manuscript. This will greatly help the NCRFW to refine the tool and enhance its relevance. The NCRFW effort is in accordance with its objective of providing continuing support to local government units towards the formulation and implementation of gender-responsive local development plans.

PART 1

Gender-Responsive Development Planning

Gender-Responsive Development

The meaning of development

Development is defined as the "sustained capacity to achieve a better life". Sustained capacity means that the consumption of resources for and ways to achieve development are planned and managed towards long-term sustainability. Better life includes not only good health and a long life, but also quality living in which one has the "capacity to do" certain things and the "capacity to be" what one wants to or could become. To do productive work at home or outside, have control over one's income, live in a clean and wholesome environment, travel in search of opportunities, bear children and rear them - all these involve a person's capacity or ability to do things. (Herrin, 1983)

To possess knowledge and skills, to be well-nourished, to be confident of one's abilities, achievements, independence and power, and to bring to fruition one's potentials or talents are some of the attributes of a satisfying life.

Put another way, development aims at the fulfillment of three basic human needs: the ability to provide for basic necessities; the ability to become persons with identity, dignity and self-esteem; and the exercise of freedom and responsibility. Development should thus

- increase the availability and widen the distribution of basic life-sustaining goods such as food, shelter and medical care;
- raise levels of living not only in terms of increased income but also better education and greater attention to humanistic and cultural values that enhance self-esteem; and
- expand the range of social and economic choices of individuals by freeing them from servitude and dependence not only in relation to other people but also from the forces of ignorance and human misery.

Development also involves the consumption of basic goods and services, the generation of more productive employment, and the reduction of inequalities in incomes and access to resources, in order to increase the opportunities for women and men to improve their health, obtain good jobs and live in a good environment. Development aims to completely eradicate poverty and change social structures, institutions, traditional beliefs, values and attitudes that run counter to its objective of improving the quality of life for all.

fulfillment of three basic human needs

- **the ability to provide for basic necessities**
- **the ability to become persons with identity, dignity and self-esteem**
- **the exercise of freedom and responsibility**

Gender is a logical and useful dimension of development. It draws attention to the finer distinctions of the targets of development (needs of women as different from the needs of men) that in turn affect the outcome of development (more equitable distribution of resources). Gender-responsive development means that both women and men are given equal opportunity to do and to be, and to enjoy a satisfying and productive life.

The basis for considering the needs and contributions of women and men in development is found in the Constitution (Article II, Sec. 14) and in recent laws. For example, Republic Act (RA) 7192 (Women in Development and Nation Building Act) specifies that a budget for gender-responsive programs and projects be allocated from official development assistance funds. At the same time, the annual General Appropriations Act (GAA) requires government agencies and LGUs to reserve at least 5 percent of their total appropriations for the same purpose. The Philippine Plan for Gender-Responsive Development: 1995-2025 (PPGD) approved by Executive Order 273 (1995) provides the direction for women's advancement by identifying policies, strategies and programs to address gender inequality in the next 30 years.

> *"All government departments (and LGUs) shall ensure that women benefit equally and participate directly in development programs and projects...to ensure the full participation of women in the development processes..." (Sec. 2(2), RA 7192)*

Gender-responsive development planning

Development planning is one of the most basic functions of government. It helps ensure that the objectives of development are achieved in the most efficient and equitable manner possible.

Planning makes use of statistics and indicators to analyze the local situation and identify problems that need to be addressed. Such data are also essential in prioritizing the use of resources, to meet the needs of the most disadvantaged groups or sectors and minimize inequalities and imbalances in society.

Gender planning is the practical application of the skills that have been acquired through gender studies and gender training. It recognizes that women and men play different roles in society and often have different needs. **Gender-responsive planning,** also known as **gender-responsive development planning,** is the integration of gender concerns into the entire development planning cycle. It rests on the premise that introducing gender considerations makes development planning and programming more people-oriented and people-focused.

Gender-responsive local development planning observes this principle at the local level. It means that local planning gives equal consideration to the needs of both women and men in the identification of problems, in the formulation of objectives, programs and projects, and in the implementation of the same including the evaluation of project impact.

The integration of gender concerns into national and local development planning uses the strategy called **gender mainstreaming**. This is a holistic view of development that presupposes the existence of a "mainstream" where major decisions on policies, priorities and resource allocation affecting the economic, social and political options of a large number of people, are made. Gender mainstreaming seeks to make the mainstream receptive to gender issues and to ensure that mechanisms and structures are put in place to address said issues. It aims at integrating gender equality goals into the development agenda of government agencies and LGUs, particularly in the plotting of direction, policies, programs and services. A specific objective of the gender mainstreaming strategy is to improve women's access to and control of resources by removing the impediments to the equal participation of the sexes as development agents and beneficiaries.

"All government departments and agencies shall review and revise all their regulations, circulars, issuances and procedures to remove gender biases therein." (Sec. 2 (3), RA 7192)

The concern for gender in development planning also springs from the demands of equity and fairness as a basic principle. Gender-related expectations, stereotypes and biases severely limit the roles women and men can perform despite their being equipped with the physical and mental capacity to do the same task. The inequality in opportunities arising from this situation cannot always be overcome by individual action because the biases are created and reinforced by society. Hence, there is a need for collective action, of which government development planning is a major component.

Basic concepts about sex and gender

Below are some concepts about sex and gender to orient the development planner and assist her/him in the preparation of a gender-responsive local development plan.

Distinction between sex and gender

Sex (being female or male) is a biological attribute that is determined at birth and does not change through time except through a sex change operation. Boys and girls have distinct primary and secondary sex characteristics. Only females have the capacity to bear children.

As girls and boys grow up, they are taught appropriate behavior, attitudes, roles and activities and how they should relate with other people. Their learned behavior is their gender identity (feminine or masculine), which determines their gender roles. For example, since women are the ones who bear children, they are trained in housework and child care. In the past, they were even discouraged from going to school because they were not expected to have any use for education. On the other hand, men were steered toward outdoor pursuits and rough games, and were sent to school or trained in trades and crafts.

As adults, women and men live according to how they were prepared – women for the home and men for work and for the outdoors. This is what the women's movement calls the productive (masculine) and reproductive (feminine) divide or the gender division of labor. Gender division of labor is the assigning of different roles and responsibilities to women and men according to what is considered socially and culturally appropriate. Thus, men go into politics and make the major decisions at home and in the community. Women, on the other hand, are assigned reproductive roles such as care of family members and home maintenance. When they go into the productive sphere, women tend to assume secondary roles or those that are an extension of their reproductive functions.

However, gender-related roles and expectations change over time. They also differ from society to society. Many women now work outside the home and some earn as much as if not more than men. Many are highly educated and demonstrate strong abilities and self-confidence. But gender expectations and stereotypes still persist and continue to limit women's capacity to do and to be. Thus, even when both spouses are employed, the wife is still expected to continue being responsible for the house. Men have yet to fully appreciate women's double burden and to take equal responsibility for parental duties and housework.

Gender and development

Gender and development (GAD) is a perspective of development that is not concerned with women per se but with the assignment of gender roles, responsibilities and expectations. It analyzes the nature of women's contribution within the context of work done both inside and outside the household. It also focuses on the social, economic, political and cultural forces that determine how women and men participate in, control the resources of, and benefit from development.

Related to the concept of gender and development are the concepts *gender equality* and *gender equity*. *Gender equality* means that there is no sex-based discrimination in the allocation of resources and benefits or access to services, and that both women and men have equal opportunity to realize their full potential to contribute to and benefit from development. Gender equality is achieved through *gender equity*, in which certain interventions are employed to compensate for the historical and social disadvantages suffered by women, thereby levelling the playing field for the sexes. Gender equity calls for women to have a fair share of the benefits of development as well as substantive responsibilities in society. It guarantees their equal treatment before the law, equal access to social services including education and health, and equal pay for work of equal value. Equity leads to equality.

Gender analysis is a tool to identify the status, roles and responsibilities of women and men in society as well as their access to and control of resources, benefits and opportunities. It compares the relative advantages and disadvantages faced by women and men in the various spheres of life, such as the family, the workplace, the community and the political system. It is also a set of standards used to determine the gender impact of programs and policies. Through gender analysis, one can see clearly

- whether women and men have equal or equitable access to, control over and utilization of resources.
- the nature and extent of the gender division of labor, the position of women and men in society, and the conditions that placed them there.
- the participation of women and men in decision making at all levels and across all development aspects affecting their lives (economic, socio-cultural, political, environmental).

Practical and strategic needs

In addressing gender concerns in development planning, the planner should consider women's practical and strategic needs as these affect women's performance of their multiple roles at home and in the economic sphere.

Practical needs refer to what people need to perform their current roles more easily, effectively and efficiently. These include basic daily needs such as food, housing, safe water, facilities for children's health, and education. Other examples are programs to make reproduction more efficient (such as greater access to medical care) and actions to increase income opportunities for women as secondary earners (training in livelihood skills). These actions are the same as those actions designed to achieve general development without reference to gender. They do not challenge unequal gender relations, the division of labor between the sexes, or the fact that men have traditionally enjoyed more power and authority than women.

Strategic needs refer to what people need to be freed from traditional gender roles and to prepare them for the widest range of possible roles. Actions required to meet these needs challenge or seek to change existing gender roles. Such actions have been made in the field of education and socialization regarding expectations and roles, in the field of ownership and control of assets, and in the field of leadership and management. Since these actions require transforming society itself, they require collective effort and cannot be left to individuals alone.

Women's multiple roles

Practical needs may be addressed by short-term programs but strategic needs take longer and more deliberate programming. Responding to both their practical and strategic needs will help women to perform the following roles more effectively:

As producers, women need access to productive inputs and technology and to a wider range of industries than the traditional areas of trade and services.

As suppliers of labor, women need equal access to education and training that will give them more than the traditional skills that they get from the kind of training programs currently available to them.

As consumers, women need equal access to education, health and nutrition services (e.g., maternal and child care, micro-nutrient supplementation during pregnancy and lactation).

As the ones who bear children and care for them, women need greater access to maternal and child health and family planning information and services, and to support systems that facilitate the combining of child care and market work. Extensive promotion of shared parenting is highly encouraged.

Using Gender Statistics and Indicators in Local Development Planning

At this point, attention is called to the importance of gender statistics and indicators in local development planning. Gender statistics are data which are collected and computed for women and for men, and which facilitate gender-based analysis of problems and decision making in planning. They include concepts and methods in data collection that allow data on the sexes to be compared. Decisions concerning economic and social policies are made on the basis of economic statistics and national accounts data. Policies on the socio-demographic situation are formulated using household data from surveys and censuses. Health and social services are designed according to health and demographic statistics. Physical infrastructures are planned considering data on existing and projected needs of the population. Gender statistics provide a concrete basis for determining interventions that most appropriately satisfy women's and men's needs in these areas, making them a vital component of more effective development planning.

Gender statistics reflect the roles and positions women and men occupy in the socio-economic life of the population. These data also serve as an instrument to change or to overcome traditional biases against women. For example, household headship and primary income earning are often attributed to men. So are farm work and certain types of technical work like welding and drafting. Sex-disaggregated data will show that there are in fact women-headed households, women who are the primary or sole income earners, women farmers and women who have succeeded in traditionally male-dominated occupations such as engineering, welding and drafting. If these facts are recognized by planners and considered in their planning, it would mean for example that extension programs for farmers would be redesigned to suit the needs of women farmers.

The traditional way of presenting data as men/women or male/female gives an impression that men predominate, that they are more important than women, or that they are the standard by which everyone else is measured. This is not fair to men because society tends to heap very high expectations on them, causing them undue burden and pressure. A fairer or more equal presentation of data is advantageous to both because it helps to liberate women and men from the myths, traditional biases and unreasonable expectations of society. This liberation empowers them to realize their potentials.

Statistics and indicators are thus critical in each stage of the planning process. *In plan formulation,* indicators are needed to describe the situation of a locality and its people to see what the past or the current situation is. Indicators are also used to set priorities according to the urgency of the problem; to state goals, objectives and targets for improving the situation; and to identify the target population or intended beneficiaries of any program or project.

In plan implementation, monitoring and evaluation, indicators are used to determine whether and to what extent set goals, objectives and targets are accomplished, given the constraint of resources. Indicators also pinpoint deviations or failures of the program, such as when the beneficiaries are not being reached as intended. *In plan evaluation,* indicators determine how well the objectives were realized, including the intended and unintended impact of the intervention.

For plan monitoring and evaluation, indicators are used to measure

- *efficiency* – whether the output of programs were attained with the least inputs;
- *effectiveness* – whether the objectives were achieved and there is impact on direct beneficiaries; and
- *relevance* – whether the goals of the program were achieved.

The emphasis on sex-based statistics is a call to concerned agencies and institutions to collect data in disaggregated form whenever possible, to generate and process these data, and to consistently highlight sex distinctions in data presentations and analysis. It is also a call to development planners to demand that these data be available for their use in planning so that these can be considered in the regular data collection activities of government, and the resources for them can be appropriated accordingly.

Revisiting the Mechanism for Local Development Planning

LGUs consider development planning as a critical instrument in initiating and effecting change at the local level. The 2000 Annual Investment Plan of a municipality in Laguna appropriately states that:

"(The) Annual Investment Plan (AIP) is a set of yearly related programs and projects to bring about needed changes. Coordination, cooperation, imagination, initiative and sensitivity to factual data are the basis for the needed change in a given situation, but more importantly, in the organization (LGU) which has an important role in development."

"The Annual Investment Plan provides guidance in the implementation of prioritized projects ... for the specified budget year duly approved by the Sangguniang Bayan. It also provides an effective system for the generation, equitable allocation and utilization of local resources and especially as the basis for the preparation of the annual budget. Aside from being informative, it suggests ways and means to attain social, economic and political development. It translates policies and development goals and objectives into working activities which directly impact on change..."

LGUs undertake development planning to set their annual as well as medium-term or long-term goals and objectives. Their plans form part of regional and national development plans which in turn become the basis for prioritizing projects and allocating resources for national and local government units.

The legal mandate for LGUs to prepare their annual and long-term plans comes from Section 106 of RA 7160 (Local Government Code of 1991) which states:

"Each local government unit shall have a comprehensive multi-sectoral development plan to be initiated by its development council and approved by its sanggunian...."

The preparation of an annual investment and development plan is directed by Section 287 of the Code which provides that each local development unit *"shall appropriate in its annual budget no less than 20% of its internal revenue allotment for development projects,"* and to furnish the Department of the Interior and Local Government

(DILG) copies of these plans. Executive Order 189 issued in December 1999 specifies that the 20 percent set aside for development projects be used for sectoral programs, projects and activities in furtherance of the development agenda of government, such as the following:

- solid waste management;
- purchase of lots, construction and maintenance of health facilities;
- purchase of lots for the resettlement of squatters;
- activities in support of the Food Security Program and Livestock Dispersal, Fisheries Development and Fish Culture Farming programs;
- cooperative development activities;
- construction, maintenance and repair of agricultural production systems such as post-harvest facilities and irrigation;
- construction, maintenance and repair of local roads and bridges;
- construction, maintenance and repair of water and sewerage systems as well as power and communication facilities; and
- construction, maintenance and repair of public buildings.

Guidelines for local planning emanating from the DILG and the NEDA are coursed through the Regional Development Councils (RDCs) and NEDA Regional Offices (NROs). Briefly, the mechanism is as follows:

1) Following guidelines issued by NEDA and DILG Central Office, the RDCs and NROs issue the local planning guidelines which reflect the region's goals, priorities, regional targets, and sectoral targets, including investment and expenditure ceilings. This information is gathered from the regional planning conferences initiated by the RDC.

2) In accordance with the guidelines, LGUs draft their plans in a bottom-up process, i.e.,

a. Barangay development plans are prepared by the Barangay Development Council and submitted to the Municipal Development Council (MDC) for consolidation with the municipal development plan.

> ***Sec. 109 (b):*** *"The barangay development council shall exercise the following functions: 1) mobilize people's participation in local development efforts; 2) prepare barangay development plans based on local requirements; 3) monitor and evaluate the implementation of national or local programs and projects..."*

b. Municipal development plans and annual investment and fiscal plans are prepared (incorporating barangay development plans) by the MDC and submitted to the Provincial Development Council (PDC) for incorporation into the provincial development/investment/ fiscal plan.

c. Provincial development plans are prepared (incorporating the municipal development plans) by the PDC or the City Development Council and submitted to the RDC for integration into the regional development and investment plans.

> ***Sec. 109 (a):*** *"The provincial, city and municipal development councils shall exercise the following functions: 1) formulate long-term, short-term and annual socioeconomic development plans and policies; 2) formulate the medium-term and annual public investment program; 3) appraise and prioritize socioeconomic development programs and projects; 4) formulate local investment incentives to promote the inflow and direction of private investment capital; 5) coordinate, monitor and evaluate the implementation of development programs and projects..."*

d. Regional development plans are submitted to the NEDA for consolidation into a national development plan.

3) Line agencies which have devolved functions in LGUs like the Department of Health (DOH), Department of Social Welfare and Development (DSWD), Department of Agriculture (DA), etc. prepare their plans in coordination with the local government units and with their respective central office or national line agency.

4) At each local level, LGUs review their socioeconomic performance during the previous plan period, and set their own goals, strategies and priorities within the framework set by the RDC guidelines.

5) The local council in the barangay/ municipality/city/ province approves the plan prior to endorsing it to the higher level.

The Development Planning Cycle

Development planning at the national and local level follows this cycle:

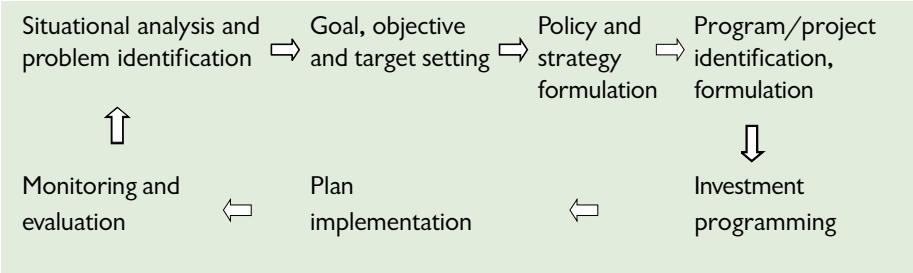


Figure 1.
Development Planning Cycle

1) Situational analysis and problem identification

The situational analysis describes the condition of the LGU at the time of planning. Data *from the situational analysis* show how the interaction of population and development variables (e.g. nutritional status and population size) gives rise to a problem situation and how women and men are affected.

The socioeconomic profile (SEP) is the best guide for accomplishing a comprehensive situational analysis. Coming up with the SEP is thus the main objective in collecting, computing and compiling all important data and information about the LGU. The SEP provides a cross-sectional description of the locality using timely, reliable and comprehensive sex-disaggregated social and economic data, including data on physical characteristics (e.g. land area, physical infrastructure and facilities). Data come from regular sources such as censuses and surveys as well as from informants in the community, including women's groups, and other concerned sectors. *(Please see Annex A for suggestions on basic statistics and indicators for a SEP).*

The situational analysis describes the past and present condition of the LGU. Specifically, it looks at

- the locality's physical characteristics, resources, strengths, and comparative advantages as basis for identifying the use of resources and how the environment might be affected;

The SEP provides a cross-sectional description of the locality using timely, reliable and comprehensive sex-disaggregated social and economic data, including data on physical characteristics (e.g. land area, physical infrastructure and facilities).

- land use allocation for identifying priority needs and concerns;

- demographic and socioeconomic factors (population, income, production, technology, etc.);

- existing programs and projects in terms of objectives, accomplishments, groups benefited and coordination mechanisms; and

- constraints to implementation of projects (social, institutional, financial, physical, environmental, procedural, etc.).

Past and present data concerning the LGU are compared. Factors that cause the situation to improve or deteriorate are analyzed and considered in the setting of objectives and targets. LGUs are sometimes compared with certain planning standards to gauge their performance; or they are compared with others in the province or region to assess their relative strengths, weaknesses and potentials.

2) Objective/target setting

After the situational analysis, the planner, in consultation with the target beneficiaries, sets the objectives and targets to address the problems. The objectives and targets should be specific and if possible expressed in quantitative terms to facilitate monitoring and evaluation. There should be specific objectives and targets for each area of concern. Where appropriate, separate targets for women and men beneficiaries should be identified since these will form the basis for designing programs and projects to address the problems.

Based on the data, the planner could decide who needs more urgent attention and where and in what manner attention is to be directed. Accordingly, she/he

could more precisely state the plan's objectives and targets and make these more measurable and realizable within the time frame. A well-directed plan will help maximize use of resources and impact.

The following examples of sectoral objectives from the Tarlac Five-Year Comprehensive Development and Land Use Zoning Plan, 1997-2001 are clearly stated but they have to be supported with quantitative targets.

- *"To maintain and ensure adequate support to the housing needs of families and low cost housing assistance for both low income and middle income families"*

- *"To improve the level of food consumption and nutritional intake especially in the depressed areas and among malnourished school children"*

In general, the plan should respond to such basic development objectives as meeting the target population's basic needs, equal and equitable distribution of resources, environmental protection and improving the people's overall economic, health, educational, cultural and sociopolitical status.

In determining population targets, the following concepts on target population may help (NEDA-POPDEV manual):

Population-at-risk: population subgroup that is most likely to develop the problem situation

Population-at-need: population at-risk exhibiting the problem condition

Population-at-demand: population at need who actually avail of resources allocated for the problem situation

Direct targets: those for whom project/plan resources are to be allocated

Indirect targets: those whom the project/plan sees as the ultimate beneficiaries although they do not directly receive resources from the project/plan

3) *Formulation of policies and strategies*

Policies and strategies dictate the manner in which the goals, objectives and targets encompassing all the important causes of the problem are to be achieved. They clarify priorities (e.g. which groups need attention most urgently) based on available information on the problems, beneficiaries and resources and considering the time, resource and administrative constraints of government.

Examples of policies and strategies would be

- the employment of technologies which are environmentally safe, make use of indigenous resources and are affordable;
- active NGOs/POs/private sector participation in the planning, implementation, and monitoring and evaluation of the plan;
- social welfare programs that promote poverty alleviation, self-reliance, social justice and community participation;
- provision of mechanisms for women's participation in the plan formulation, implementation and monitoring by redressing skills and knowledge gaps that impede the participation of target beneficiaries and by freeing women from multiple burdens that prevent them from participating;
- review/reform of relevant policies that may be inimical to the attainment of the plan's objectives;

- generation of relevant sex-disaggregated data in the course of project implementation, monitoring and evaluation;
- integrated and holistic programs and projects, since these respond better to development objectives than piecemeal ones; and
- coordination with government and private groups providing related services or undertaking similar programs.

These are sample statements of strategy from the Tarlac Five-Year Comprehensive Development and Land Use Zoning Plan, 1997-2001 cited earlier:

- *"Coordinate with all national agencies of the government that have extension programs so that a sustained education of the labor force in the town can be a year-round program."*

- *"Activities related to agriculture like aqua-culture, poultry and piggery, and similar projects should be located in areas where they can be of little nuisance to the residents of the town."*

The first strategy underscores the importance of coordinating with related agencies while the second strategy seeks to harmonize economic and health objectives.

4) Formulation of programs and projects

Policies and strategies are translated into programs and projects to address the specific causes directly or indirectly related to the problems. Programs and projects are prioritized based on the seriousness of the problem and on their potential to generate the greatest impact.

The identification of programs and projects may involve the following:

- examination of the potentials of the LGU and its environs;
- determination of the suitability of land for crops and other uses;
- assessment of the possibility of tapping existing institutions for research studies;
- identification of project ideas (livelihood, socioeconomic, environmental, infrastructure and other high impact concerns);
- determination of areas where government programs failed or succeeded as well as the causes thereof; and
- assessment of the impact of major projects.

Programs and projects should directly address the problems of both women and men beneficiaries. They should promote equitable access to and control of benefits and resources. They should likewise have a built-in gender-sensitive monitoring and evaluation system with provision for the generation of sex-disaggregated data.

If new technologies are introduced in a program, the possible displacement of female and male labor should be taken into consideration and safety provisions installed. If training is part of the program, affected women and men should have equal opportunity to participate, and the schedule, location and setting of the training should accommodate women's reproductive functions. In designing programs, planners should not confine women

to their traditional roles but provide them opportunity to learn new skills, play new roles and increase their direct participation in the various activities of the programs. This way, traditional perceptions of what women can and cannot do may be erased.

To determine if programs and projects are gender-responsive or not, the following questions may help:

- Do programs/projects adequately respond to the development needs or problem situation of both women and men?
- Will women and men equally/equitably benefit from the positive outcome of the program/project?
- Will the program/project increase their direct participation and involvement in the socioeconomic and political activities of the community? Will it provide the opportunity for women to participate in nontraditional roles?
- Does the program/project promote the use of indigenous materials and low cost production techniques?
- Is there a provision for the generation of sex-disaggregated data to be used in monitoring, evaluation or plan reformulation?
- Does the program/project actively promote private sector participation?
- Does the implementation mechanism require a participatory process?
- Are there measures, like day care centers, marketing cooperatives or laundry services, to enable those with family responsibilities, especially women to take part more actively?

(Reference: Handout on Gender-Responsive Population Indicators with Reproductive Health Perspective (no author, no date)

5) Plan implementation

In plan implementation, project activities are undertaken to achieve desired outputs by using the various inputs. Implementation puts to test the LGU's capability in terms of managing human resources, financial resources, equipment and facilities. The sustainability of the program will also depend on these capacities. Thus, LGUs implementing programs and projects should constantly refer to the plan's objectives and activities to make sure that these are met or followed accordingly. Any departures from the plan should be properly evaluated against such considerations as cost effectiveness, long-term versus short-term effects, intensive versus extensive impact, and others.

Mechanisms, like the GAD Focal Point, should be put in place to coordinate the various groups involved in plan implementation. This should include the different units in the LGU, the target beneficiaries, private business and non-government groups including women's groups, as well as other agencies doing related activities and providing related services.

6) Plan monitoring

Plan monitoring ensures that the intended beneficiaries are actually the ones benefited by the program or project. The intended number of women and men beneficiaries should be checked against those who actually participated; differences, if any, should be explained. Statistics and information should be generated to determine the project's performance. For example, did all women and men participants in a training program complete the training and if not, what was the reason for the drop-outs? What factors, e.g. coordination with related programs or services, contributed to the program's success or failure?

The results of monitoring should be fed directly into the program so that adjustments, if necessary, could still be made. These could also be considered in the next planning cycle, depending on the kind of adjustments required.

7) Plan evaluation

Plan evaluation looks at the direct and indirect results or impact of the program, as well as the intended and unintended effects. An example of a direct result is whether those who were trained were employed or had any bright job prospects at all, or if they could actually run a small business if capital is made available. Evaluation could also determine whether the intervention was effective in reducing the unemployment problem of women and men and if this effect is sustainable over a long period. An indirect result could be a boost in the self-esteem of the beneficiaries as a result of their gaining a new skill.

As in plan monitoring, data and information about the program should be generated and disaggregated by sex to permit more comprehensive assessment. Also, the results of plan evaluation should be considered in the program implementation or the next planning cycle, or both.

Some helpful notes on gender-responsive planning

For planners who are beginning to understand and apply gender-responsive development planning, the following reminders may help:

- Be aware that there are innate gender biases in many of the assumptions in traditional planning. A good example is the practice of designating the male as the head of the

household even if the number of women who are mainly responsible for earning their family's livelihood has been increasing.

- Always look at the gender implications of the population and development variables under consideration. This is very important in analyzing the situation, identifying the problems and proposing solutions. Always remember that the problems that affect women may not be the same problems that affect men. Try to differentiate the needs of the two and propose solutions that respond to each respectively, or examine if a proposed solution will adequately respond to the needs of both.

- Always be reminded of the multiple roles of women and think of programs that meet both their practical and strategic needs. Consider support systems (e.g. child minding or child care facilities) as necessary components of development programs.

- Push for programs that eliminate or overcome traditional biases against women.

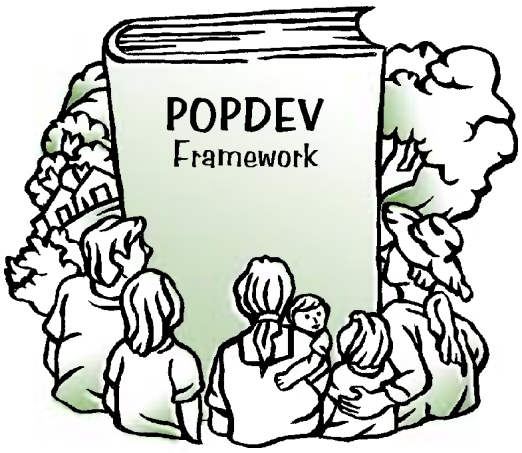
- Support planning with sex-disaggregated data and statistics.

- Ensure women's participation (through consultation) in the planning process. Remember that women who work in government as well as those who are the target beneficiaries of programs are bound to gain from a more participatory and more empowering process.

Population and Development (POPDEV) Integration in Planning*

*(*The POPDEV framework including the discussion was taken, with some modification, from the "Training Module on Integrated Population and Development Planning" by NEDA-Integrated Population and Development Planning Project, 1993)*

The POPDEV framework is one of several approaches used in development planning. It is included here to sustain initial efforts by NEDA, DILG and the Population Commission (POPCOM) to train LGUs on the use of POPDEV in local development planning. Moreover, it builds on previous work done on the subject, such as the use of 109 indicators selected by the SRTC and recommended as basis for local planning. In cooperation with NEDA, DILG and POPCOM, SRTC has conducted training in 32 pilot LGUs on the use of the POPDEV framework and on the development, installation and maintenance of a computer-based indicator system containing the 109 indicators as initial data base.



The POPDEV approach is also presented here because it highlights gender considerations in local planning with its focus on the socioeconomic and demographic aspects of the locality. The recommended indicators are among the basic data requirements of LGUs, are more encompassing though simpler in scope, and address sectoral and gender concerns.

The POPDEV framework

The POPDEV framework is a development planning approach that highlights the interrelatedness of population and socioeconomic (development) factors. For example, nutritional status is affected by household income and household size. If household income is low

and the number of household members is high, the food portion for each member will be less.

This municipal development plan recognizes this interrelationship of population and development:

> *"The actual problem that confronts both the physical and socioeconomic aspect of the municipality is urbanization. This implies increase in the population and the need to provide this expansion with the usual services that are basic to human necessities." (Tarlac 5-Year Comprehensive Development and Land Use Zoning Plan, 1997-2001)*

Awareness of this interrelationship helps the planner to analyze the situation more comprehensively and to plan more accurately.

The framework for the integration of population and development in planning is illustrated below:

Development Policies and Programs	Population Development Interaction Model	Development Goals and Objectives
Population and development policies/ programs	A view of how the real world behaves	Desired population and development outcomes

Figure 2.
Framework for Integration: Basic Elements

Elements of the framework

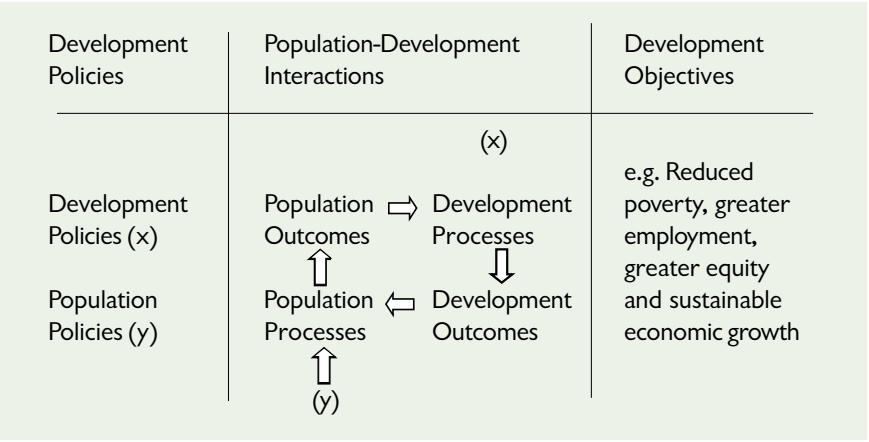
- Development goals and objectives (col. 3) are statements of what the plan wants to achieve based on an analysis of the situation.

- Development policies, strategies, programs and projects (col.1) are means to achieve the development goals. Formulation and implementation of various socioeconomic and demographic policies and programs become instruments for achieving the objectives.

- Population and development interaction model (col. 2). This is the area where the appropriateness of policies, strategies and programs is tested against what is happening in the real world. It is the means to check if the objectives are attainable. For example, if a policy of free high school is implemented, people will react and some outcomes are expected, such as more people going to high school which could in turn result in the need for more high schools.

Figure 3 illustrates the three basic elements with examples. Development objectives may be stated as: reduction or alleviation of poverty, generation of more productive employment, promotion of greater equity and social justice, and sustainable economic growth. To achieve these objectives, various development (socioeconomic) or population (demographic) policies are needed.

Figure 3.
Framework for Integration: A General Perspective



A view of the real world can be summarized in terms of this population and development interaction model. While this may not be the only way to do it, this model is useful in the sense that a) it shows the relationship of population and development factors, and b) it distinguishes between processes and outcomes.

In using the framework, planners can start by looking at population (or demographic) processes. These produce population or demographic outcomes which, in turn, influence development (or

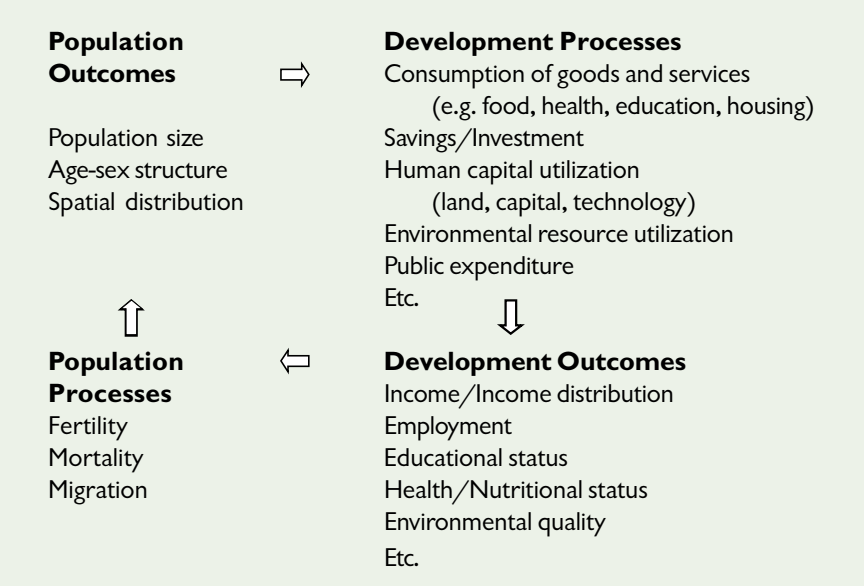
socioeconomic) processes that produce development or socioeconomic outcomes, which eventually also affect the population processes that served as starting point. Any policy (x or y) formulated to achieve the development objectives will affect the various population or development outcomes or processes.

In Figure 4, the focus is on the interaction model, expanded for easier comprehension. One may start with the population processes - fertility, mortality and migration. These processes lead to outcomes - population size, age/sex structure or the distribution of the population by age and sex, and spatial distribution or the distribution of population in various regions or various areas. These population outcomes affect in many different ways the various development processes, such as consumption of goods and services (e.g. food, health, education and housing), savings and investment behavior, public expenditure patterns, utilization of human, physical and natural resources, etc.

For example, if government provides for primary schooling and the school-age population increases, then government might have to spend more to accommodate this larger population of school-age children. Other processes of development include utilization of resources - utilization of land as well as the environment; utilization or non-utilization of labor, leading to levels of employment, unemployment and underemployment; and utilization of capital and technology. All these processes, in turn, lead to development outcomes which, more or less, indicate the extent to which development objectives are being achieved.

These outcomes could be expressed in terms of income or its distribution, levels of employment, educational, health and nutritional status and even environmental quality, which might be affected by either extensive, excessive or improper use of land and other natural resources. These socioeconomic outcomes, in turn, affect the very population processes of fertility, mortality and migration with which this planning model started.

Figure 4.
Population and Development Interrelationships:
An Overview



In general, there is an interaction between population factors on one hand, and development factors on the other, in terms of the interactions of their processes and outcomes. For example, planners might want to look at how population growth affects savings and investments, consumption, public expenditures or factor input utilization. They might also want to look at what development factors (e.g. employment or education) determine population processes.

One can actually start at any point and analyze these relationships, depending on where one wants to go. Thus the framework may be used in any of the following ways: a) start from the population process, go through the process of interrelationships, and proceed to development outcomes; b) go from population processes to development processes and vice versa; and c) examine development processes and how these eventually affect population outcomes.

PART 2

Using Statistics and Indicators for Gender-Responsive Local Development Planning

Categories and Forms of Statistics and Indicators

Input, output and outcome indicators

Statistics are data or numbers that are used in decision making. The collection, presentation and analysis of statistical data is an art and a science, without which development planners would find it difficult if not impossible to make intelligent judgments and decisions.

Indicators are data or statistics that describe people or events and the changes they might exhibit. Indicators are arrived at by selecting, rearranging or comparing basic data to show the significant

aspects of a given situation, the differentials among subgroups, and how these differentials keep changing over time.

Indicators are used in planning to measure the change in the situation of development beneficiaries before and after a particular intervention. They are categorized according to the stage of the planning process in which they are used. For this purpose, they are labeled as *input, output* and *outcome* indicators.

Input indicators. Input indicators describe the quality and quantity of the various inputs to the development interventions as well as the past, present and expected future situation or condition of the locality and its people.

Quality and quantity of inputs to development interventions include

- physical resources such as raw materials, financial and human resources;
- technology, including equipment, management systems;
- development priorities of the LGU/national level; and
- policies and strategies.

Input indicators used to make comparative descriptions of past, present and future situations are usually a set of key social, economic and demographic data such as

- population size and density;
- size and wage rate of the labor force;
- quality and quantity of natural resources
- social services, infrastructure organization; and
- description/results of past, present and prospective development programs, etc.

Output indicators. These indicators measure the quantity and quality of the goods and services produced directly by the completed program, project and other development interventions.

Examples of output indicators are:

- for a community reforestation project, the number of hectares of land reforested and number of trees planted per person;
- for an immunization program, the number of children fully immunized, the infant mortality rate, and the morbidity rate by cause; and
- for a training program, the number of trainees by age and sex and number of courses conducted.

Outcome indicators. These measure the qualitative and quantitative result of the intervention in the short run (effects) and in the long run (impact) in terms of the extent to which the needs of the target beneficiaries were met. For example, in a training program, an effect indicator would be the unemployment rate and an impact indicator would be the level of well-being of the beneficiaries.

The distinction of the three categories of indicators is further illustrated in the following:

Program/project (P/P) Ex. Training program	**P/P implementation**	**Results of P/P implementation**	**Outcome of P/P implementation**
Input indicators • unemployment rate(f/m) • number of trainees (age, f/m) • number of courses • cost per trainee • income level of participants (f/m)		**Output indicators** • number of f/m who completed training (by age) • number not able to complete training (f/m, age) • number of courses completed • actual cost of training	**Outcome indicators** short term (effect) • number able to obtain work or start a business • income level (f/m) long term (impact) • unemployment rate (f/m, age) • nutritional status (age, f/m) • possession of household goods

This illustration shows that an input indicator (unemployment rate) could also be used as an outcome indicator, although this time, its value would have changed because of the intervention. This is consistent with the earlier statement that an indicator is labeled as to how or at what stage it is used in the planning process.

An indicator may directly measure a situation, in which case it is called a **direct indicator**. In the absence of a direct indicator, a **proxy or indirect** indicator may be used. An example of a direct indicator would be the literacy rate while a proxy for literacy would be the cohort survival rate at Grade IV (the grade at which literacy would have been attained). The use of proxy indicators is resorted to in the absence of data for the direct indicator or to complement a direct indicator to more accurately describe a given situation.

Sectoral indicators

Sectoral indicators are the same input, output or outcome indicators classified according to their area of concern. **Social indicators** are means to describe social conditions such as the health and educational status of a given locality for which intervention may be necessary. Social indicators also look at the performance of social service programs particularly the extent to which resources are distributed or beneficiaries are affected. Examples of social indicators are population growth rate, maternal mortality rate, literacy rate by sex, and percentage of households with sanitary toilets.

Sectoral indicators are classified into:

- **Social Indicators which describe social conditions and the performance of social service programs; and**
- **Economic Indicators which are used in analyzing and predicting changes in economic activity**

Social indicators may also be political in nature. For instance, the percentage of women barangay captains, the percentage of women voters who actually voted during an election, or the percentage of cabinet positions held by women describe women's participation in decision making.

Economic indicators are statistical data used in analyzing and predicting changes in economic activity. Economic indicators include the physical characteristics of the area including natural resources and infrastructure, as well as the economic activities of the population. Examples of these are inflation rate, percentage of irrigated land to total irrigable land, employment rate by sector by sex, percentage of paved roads, etc.

Forms of indicators

(This portion is based on the work of Prof. Eliseo de Guzman, University of the Philippines Population Institute, on Indicators for POPDEV Planning.)

Indicators may come in the following form: number, frequency distribution, percentage distribution, ratio, proportion, percentage, percent change, rate and measures of central tendency (mean, median, mode). Each one is briefly described below.

Number is basic data (or datum) indicating size, quantity or magnitude. Examples are the total population of a province in 1995 (875,000), the number of hospitals in a city (5), or the number of voters in a barangay (350).

Frequency distribution shows the absolute shares of particular subgroups according to a specific characteristic or trait, as for example marital status, level of position in the civil service or educational attainment. The example below shows the frequency distribution of employees of a government agency according to level.

	Frequency distribution	Percentage distribution
First level	285	51.1%
Second level	264	47.3%
Third level	9	1.6%
Total	558	100.0%

Percentage distribution. When the absolute share of each category of a characteristic is expressed as a percentage of the total, a **percentage distribution** is generated. In the example above, the percentage distribution would be the figures on the right side. The sum of all the percentages in a percentage distribution is always 100.

A percentage distribution simplifies comparison by reducing frequency distribution to a common base and putting qualitative characteristics into numerical form.

Percentage distribution is usually used in comparing grade levels by sex, deaths by cause, population by age groups, etc. It is used in several indicators included in this guidebook.

Ratio is a single number that expresses the relative size of two quantities. If A denotes a certain number and B, another number, dividing A by B results in the ratio of A to B; that is

$$\frac{A}{B} = \text{ratio of A to B.} \qquad \text{ex. Pupil-teacher ratio} = \frac{33{,}681}{994} = 34 \text{ pupils/teacher}$$

The result may be multiplied by a constant, such as 100, or 1,000, in which case the answer is expressed as per 100 or per 1,000. For example, the sex ratio is usually expressed as the number of males per 100 females. Other ratios are population-policeman ratio, population-hospital bed ratio, population-physician ratio, etc.

Proportion is a ratio in which the denominator includes the numerator. To calculate the proportion of female inmates to the total number of the jail population in NCR in 1995 would be as follows:

Male - 4,896; Female - 496; Total -5,392
Proportion female = 496/5,392 = 0.092.

The sum of proportions for any given problem is always 1.

Percentage is a proportion multiplied by a constant, 100, so that it is expressed as per 100. In the example above, if 0.092 is multiplied by 100, then the percentage of female inmates to the total jail population is 9.2%.

Percentages describe a segment or portion of a population or a group with respect to a particular event, behavior, characteristic or phenomenon. An example of a behavior could be the use of family planning methods by a group of women among all currently married women. A characteristic would be the households who own their own homes compared to other households. Several indicators in this guidebook are expressed as percentages, such as percent of births/deaths which are attended by medical personnel, percent of household expenditure on food, and percentage of households with sanitary toilets, sanitary garbage disposal or sanitary source of drinking water.

Percent change is a special measure related to percentage. This describes the increase or decrease in a particular quantity or measure over a particular time period. To illustrate the measurement of change of the population of Batangas:

1980 population – 1,174,201; 1990 population – 1,476,783

$$\% \text{ change between 1980\& 1990} = \frac{1,476,783 - 1,174,201}{1,174,201} = 25.8\%$$

Rate measures the incidence or occurrence of events relative to the population exposed to the risk of experiencing the event in a given period of time. Examples of events are births, deaths and labor force participation. Thus, to calculate the crude birth rate for a given population:

Total live births – 1,631,069; Total population – 60,703,000
Birth rate = No. of live births / Total population x 1,000
= 1,631,069 / 60,703,000 x 1,000
= 26.9 or 27 births per 1,000 population

Measures of central tendency are the **mean, median** and **mode**. The mode can be easily spotted in a frequency distribution such as the one below. It is the subgroup which contains the largest quantity or absolute share, i.e., the age group 20-24 (924). The mean is around 25 years and the median is about 22 years. The mean denotes the amount of the characteristic that each member would have if each member would receive an equal share of the characteristic. The median divides the population into two groups in terms of the characteristic. In this case, a median of 22 years means that one half of the population is aged below 22 years and the other half over 22 years.

Age group	Frequency distribution
0-4	888
5-9	872
10-14	788
15-19	845
20-24	924
25-29	831
30-34	695
35-39	543
40-44	412
45-49	282
50-54	239
55-59	169
60-64	126
65-69	81
70-74	51
75 +	58
Total	7804

Characteristics of a Good Set of Indicators

For indicators to be useful in development planning, they must be

- *relevant*. This means that they are appropriate to the problem being addressed or the population being targeted and they could be useful in decision making. For instance, if the problem situation is malnutrition, an appropriate indicator would be the proportion of third degree malnourished children aged 1-4 among poor families.

- *comprehensive*. Indicators should cover a wide range of interrelated socioeconomic-demographic factors. For instance, the problem of malnutrition is related to such factors as age of children, their health, the education of their mothers, family income and prices of food and health services.

- *measurable*. They can be quantified, for example, the number or proportion of malnourished children aged 1-4, percentage of unemployed, or number of households headed by women.

- *simple*. Indicators must be easy to interpret so there is no room for misunderstanding or misinterpretation.

- *objective*. This means that indicators are not subjective or biased, and can be readily verified by existing or new data so that their factual content, validity and reliability or consistency over time cannot be disputed. The percentage of women among the unemployed or the number of children dying before reaching age 1 (infant mortality rate) are factual indicators that can easily be identified.

- *specific*. The magnitude, scope and time at which the problem or its improvement or deterioration is observed are expressed in explicit, precise and finite terms. For example, "200 children aged 1-4 who are third degree malnourished and belonging to families earning below P1,000 per month in Barangay Uno" is specific enough.

- *gender-based and age-based*. Whenever possible, indicators must be given by sex and age to distinguish between population subgroups. For example, it is important to delineate the vulnerability of women and men to certain illnesses because of their biological differences. Women's reproductive function make them susceptible to malnutrition, anemia and other vitamin/mineral deficiencies.

The POPDEV Indicator System

There are 109 indicators for population and development, or POPDEV, planning at the local level, selected by the SRTC from among several indicator systems put together by different groups for planning purposes. This selection was done in connection with a project implemented by POPCOM jointly with NEDA and DILG to: a) build the capability of the planning staff of 32 pilot LGUs on the use of the POPDEV framework in development planning, and b) to develop, install and maintain a computer-based indicator system to support the POPDEV planning approach. The 109 indicators and other indicators on gender and development are defined and explained in succeeding pages and are strongly recommended for use in local and national development planning.

The LGUs are expected to implement the indicator system and to exert effort to put together the data needed for the indicators. SRTC continuously provides training to LGUs to help them better appreciate, understand and apply basic statistical methods and indicators in planning. The agency also developed a training manual, *Core POPDEV Indicator System for POPDEV Planning at the Local Level,* to help LGUs install and maintain the system.

According to SRTC *(SRTC Report to POPCOM and UNFPA on Core Indicators for POPDEV Planning at the Local Level, 1998),* these 109 core indicators were chosen on the basis of the following:

- They are among the basic data requirements of planners as per consultation with the LGUs.

- Compared with other indicator sets, they are more encompassing, simple in scope, and deemed more important especially at the local level as specified by technical experts in consideration of local planners' priorities.

- They address sectoral concerns, such as the Minimum National Data Set (MNDS) intended to monitor the achievement of social development goals. The MNDS was established by experts from the UN Statistical Commission.

- They address gender concerns, such as those in the Gender and Development indicator framework which shows the development of women's situation according to the visions of the Philippine Plan for Gender-Responsive Development.

- They are common to many or most of the indicator sets proposed by other groups.

Using Gender Statistics and Indicators in Local Development Planning

The use of the POPDEV indicators is seen in the following presentation. The guide questions below are suggested for use in planning, particularly in analyzing the population and development interrelationships that have pronounced gender differentiation. Variables included are fertility and population factors, health and nutrition, economic (employment), public safety and welfare and education concerns of the population. *(This discussion is based on the POPDEV module cited previously.)*

- What is the magnitude of the problem situation? What are the values of the indicators of the problem? What related factors are responsible for the situation?

- What do we want to do about the problem situation? What are our quantitative targets? How do we factor the other related factors into the proposed measures?

- How do we know if we are achieving these targets? What new values are set for the indicators?

Fertility and population growth

One of the basic considerations in socioeconomic planning is the size of the population for which the plan is being prepared. A large population requires a huge amount of resources to meet its basic needs such as food, health, education, shelter and other facilities. Development planning will enable the LGU to manage the present resources and prepare for future needs.

The primary factors that affect population size are fertility, mortality and migration. These in turn determine the rate of population growth. The planner should look at the values of these indicators to target a manageable population size at some future time, say in five to ten years. High fertility, low mortality coupled with a high population base and in-migration will accelerate population growth.

The planner could estimate the population growth rate of the LGU if information about its present and past population are available from census records. The formula for estimating the population growth rate and a computation example is found in this text.

Implications on gender-responsive POPDEV planning

Once the planner is able to consider the various factors that affect population growth by obtaining the value of the indicators, she or he can start considering what can be done to change these values. The amount of change in the indicators will depend on the interventions that will be designed and implemented. In designing interventions, the planner should pay attention to the factors that directly and indirectly affect fertility, such as the education of women, their employment, contraceptive practice and access to contraceptives, and their health.

It is well to remember that in monitoring and evaluating plan implementation, the new values of these indicators (outcome indicators) should be estimated and compared with their values before the intervention (input indicators) to determine if or to what extent the desired change is being achieved. Values of the indicators for women and men should always be computed.

A gender-responsive POPDEV plan considers the following:

- **consultation with target beneficiaries on reproductive health, i.e. fertility regulation**
- **sufficient information for contraceptive practice**
- **focus on improving educational and income opportunities for women**
- **coordination with concerned government and private sector entities for the implementation of the plan**

A gender-responsive plan should therefore consider the following:

- With their reproductive capacity, women are the key to fertility regulation. Because of this, they are the focus of family planning programs. However, women need to be consulted and informed so they can make intelligent decisions regarding their fertility. Also, more men should be educated on family planning so they can support their wives' reproductive choice or be helped to decide about using a condom or undergoing vasectomy.

- For married couples to practice family planning, they must be sufficiently informed about contraceptive practice and the advantages and disadvantages of each method. The contraceptive of choice must be accessible and affordable; reproductive health facilities should be user-friendly and the services dispensed by professional staff.

- Research reveals that better educated and gainfully employed women are more likely to use contraception and have fewer children. Programs should therefore focus not only on family planning but also on improving educational and income opportunities for women.

- Coordination with other government and private sector entities whose work affects the attainment of fertility objectives is important. For example, there is a need to look at women's nutritional status and health particularly their reproductive health, as well as their knowledge of health care to help them ensure the health of their children. Thus, coordination with proper authorities in the health department is crucial.

Relevant indicators on fertility and population
(Note: *Definitions of and commentaries on the socioeconomic indicators are also based on the work of Prof. Eliseo de Guzman of the UP Population Institute on Indicators for POPDEV Planning.*)

Fertility

The most basic measures of fertility are the *crude birth rate* (CBR), the *age specific fertility rate* (ASFR) and the *total fertility rate* (TFR). Fertility itself is affected by several factors, such as the woman's age, her family's desired and existing number of children, family income, level of education, whether she is employed or not, her health, her beliefs and knowledge or practice of contraception including access thereto.

Data on births and deaths come from vital registration records while data for population come from censuses. Demographic surveys contain data on migration, contraceptive prevalence and household headship.

Crude birth rate. This is simply the number of children born alive in a given year per 1,000 population. It is a "crude" measure because births are divided by the entire population including those who do not give birth. Crude birth rates can be computed for the total population, for females and males, by geographic subdivisions or even by income group.

CBR is the simplest measure of current fertility and is easiest to compute. However, this may be difficult to calculate from birth registration because births are underreported (which will mean an underestimation), or from population estimates which suffer from underreporting (which means an overestimation).

A CBR of 31 is considered moderate for the Philippines. A value below 25 is unlikely especially if there are no known reasons for the wide variation. Developed countries like USA and Japan have a CBR hovering between 10 and 15.

Data to compute the CBR come from vital registration records in each local government unit, from population censuses, and from demographic surveys. However, vital registration usually suffers from underreporting or late registration. In this case, alternative estimates of the CBR using other data are sometimes resorted to by demographers and other users.

Formula: $CBR = \frac{B}{P}$

where B = number of births in a given year,
P = midyear population

Data requirements: Number of live births by sex
Midyear population

Data source: Births: Vital Registration
Midyear Population: Censuses, Demographic Surveys

Example: No. of live births: Total - 19, 970
Female - 9,621
Male - 10,349
Midyear population - 640,486

$$CBR\ T = \frac{19,970}{640,486} \times 1,000 = 31$$

$$CBRF = \frac{9,621}{640,486} \times 1,000 = 15;\ CBRM = \frac{10,349}{640,486} \times 1,000 = 16$$

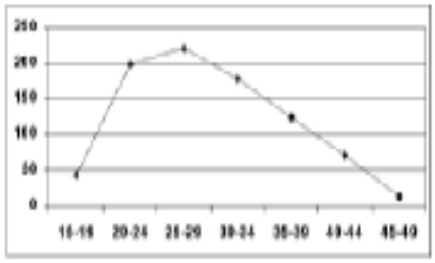
Remarks: In the example, the total CBR is 31. Note that when the male and female CBRs are added, they make up the total CBR. A total CBR greater than 50 is extremely high and should be reviewed for accuracy.

Age-specific fertility rate. This refers to the number of births per specific age group of women, say 25-29, divided by the population of women in the same age group 25-29. It is usually multiplied by 1,000 so that the indicator is expressed as per thousand women.

If the ASFR data are graphed, the curve would appear as an inverted "U" *(please see graph below)* which means that fertility rates are lower at young ages, peak at ages 25-34 and then decline at around age 40. (If your ASFR values do not follow this pattern, there may be an error in the computation or in the data). Lower fertility at

a young age means that fewer women between 15-19 are married or are not exposed to childbearing. Fertility decline around age 35 may indicate fertility regulation especially when women have attained their desired number of children. An example of computed ASFRs for a province is as follows:

Age group	ASFR per 1,000 women of age group
15-19	42.7
20-24	198.3
25-29	221.3
30-34	177.6
35-39	123.8
40-44	70.3
45-49	12.7



Calculating ASFR from birth statistics that are underreported or where there is misreporting of the ages of women will affect the accuracy of the estimate. The user must watch out for unreasonably low ASFRs.

Data sources for the computation of ASFR and other fertility measures are the same as for the CBR.

Formula: $ASFRi = \frac{B_i}{W_i} \times 1{,}000$

Where B_i = number of live births to women in age group i
W_i = midyear population of all women in age group i
i = age group, e.g., 15-19, 20-24,....up to 45-49

Data requirements: Number of live births to women in age group i in a given year
Estimated midyear population of all women in each age group for the same year

Data source: Births: Vital Registration
Midyear Population: Censuses, Demographic Surveys

Example:

Age group (I)	Births (B_i)	Women Pop. (W_i)	ASFR i	ASFRx 1,000
15-19	1,428	33,445	0.0427	42.7
20-24	5,342	26,941	0.1983	198.3
25-29	5,348	24,163	0.2213	221.3
30-34	3,612	20,341	0.1776	177.6
35-39	2,229	18,000	0.1238	123.8
40-44	906	12,896	0.0703	70.3
45-49	134	10,559	0.0127	12.7
Total	**18,999**	**146,345**		

Total fertility rate. This is the number of children that would be born alive to a woman during her lifetime if she were to pass through her childbearing 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 reaches age 50 under a given fixed fertility schedule. TFR is sometimes referred to as completed family size.

Unlike ASFR, TFR is not affected by peculiarities in the age composition of the women in the reproductive age group of 15-49.

If the figures are not multiplied by 1000 in the example above but are instead added up (i.e., .0427 +.1983 + .2213 + .1776 + .1238 + .0703 + .0127) and multiplied by 5 which is the number of years in each age group, the value of the TFR is obtained as 4.23. This would be the number of children a woman would have if she were to follow the same age-specific fertility schedule above. However, her actual number of children would not necessarily be 4.23 as ASFRs change every year. We will know her actual number of children only if we follow her through her childbearing period.

Formula: $TFR = 5 \sum ASFR_i$, where, $ASFR_i = \frac{B_i}{W_i}$

Where B_i = number of live births to women in age group i
W_i = midyear population of all women in age group i
$_i$ = age group, e.g., 15-19, 20-24,....up to 45-49

Data requirements and data source: Same as ASFR above

Example: Using the data on the example given on ASFR above, the TFR will be the total of all the figures in column 4 multiplied by the size of the age group interval, 5, thus:

$TFR = 5 \sum ASFRi$
$= 5(0.0427 + 0.1983...+ 0.0127)$
$= 5(0.8467)$
$= 4.23$

Remarks: From the example, a TFR of 4.23 means that a woman is capable of bearing 4 children during her whole reproductive period under the given ASFRs. But the actual number of children that she will have will be known only if we follow her along the fertility rate timeline.

Mortality

Indicators on mortality are the crude death rate (CDR), age-specific death rate (ASDR), infant mortality rate (IMR), child mortality rate (CMR), maternal mortality rate (MMR) and percentage of deaths by leading causes. The CDR and deaths by leading causes include deaths occurring to the entire population regardless of age. Deaths by leading causes indicate the population's vulnerability to certain illnesses and signals government priorities in terms of health information and service provision. ASDR indicates rates of death at different ages or the relative exposure of population subgroups to the risk of dying. IMR and CMR consider death to the most tender age group, ages 0-4 when children have not fully developed their immunity to certain diseases. Maternal deaths are also an important indicator of women's health before and during childbirth.

Mortality rates are also influenced by age, health (physical and emotional), nutrition, morbidity, environment, injury and other factors.

Crude death rate. CDR is the number of deaths per 1,000 population. It is "crude" because it does not show the variations in the occurrence of death across ages. Mortality is very high in infancy, in early childhood and at old age.

CDR is also affected by the age structure of the population. The CDR would be relatively low for a young population and high for an old population. Thus, a population with a relatively big proportion in the elderly ages (e.g. 15% are 65 and over) in a fairly developed area would have a higher CDR than a population in a less developed area but with only 5 percent of its population 65 and over. The CDR would give erroneous impressions with respect to health conditions and the level of mortality if used in making real comparisons.

Data for the computation of the CDR come from the vital registration records and data for the population come from population censuses. Estimates should also be subjected to close scrutiny due to underreporting or misreporting.

The CDR for the Philippines in 2000 was estimated at 5.8 per 1,000 population.

Formula:	$CDR = \frac{D}{P} \times 1000$
Where	D = no. of deaths in a given year P = midyear population in the same year
Data requirements:	No. of deaths in a given year, by sex Midyear population for the same year
Data source:	National Statistics Office Vital Statistical Reports

Example:

No. of deaths (total) = 1,512
No. of female deaths = 551
No. of male deaths = 961
Midyear population = 640,496

$$\text{CDR (Total)} = \frac{1{,}512}{640{,}496} \times 1{,}000 = 2.36$$

$$\text{CDR (Female)} = \frac{551}{640{,}496} \times 1{,}000 = 0.86$$

$$\text{CDR (Male)} = \frac{961}{640{,}496} \times 1{,}000 = 1.50$$

Remarks: The CDR of males is higher than the CDR of females.

Age-specific death rate. ASDR is the number of deaths in a certain age group (i.e., 0-4, 5-9, etc.) divided by the population in that age group. If you plot the rates, you will get a J - looking curve. This curve shows the higher risk in infancy and childhood, a lower risk from later childhood to early adulthood, and higher risks at older ages.

Formula:

$_nM_x$ = ASDR for age x to x +n
= $K{}_nD_x / {}_nP_x$

where,
K = 1,000 (a constant)
$_nD_x$ = deaths to persons of age group x to x+n
$_nP_x$ = midyear population of age group x to x+n

Infant mortality rate. IMR is the number of children dying below one year of age for every 1,000 children born alive. It is the probability that a newborn will die before reaching her or his first birthday.

When IMR is not multiplied by 1,000, the figure represents the proportion dying or the probability of dying before age one. The complement is the probability of surviving to age one.

IMR is an important health indicator because of its implications on the availability, accessibility and affordability of professional health services during childbirth and the first 12 months following birth. It also reveals a lot about the mother's state of health and nutrition during childbirth and while she was carrying the baby in her womb. IMR is closely associated with other development indicators and is usually used as a substitute for many of them.

The IMR in the Philippines was computed at 36 per 1,000 live births in 1998.

Formula: $IMR = \frac{D_0}{B} \times 1{,}000$

Where D_0 = Deaths to children below age 1 in a given year
B = Total live births in the same year

Data requirements: Number of deaths to children below 1 year of age in a given year
Total number of live births in the same year

Data sources: TWG on Maternal and Child Mortality of the National Statistical Coordination Board
Philippine Statistical Yearbook

Example:

Sex	Live births	Infant deaths
Female	9,621	130
Male	10,349	182
Total	19,970	312

$$IMR = \frac{312}{19{,}970} \times 1{,}000 = 15.62$$

$$IMR\ Female = \frac{130}{9{,}621} \times 1{,}000 = 13.51$$

$$IMR\ Male = \frac{182}{10{,}349} \times 1{,}000 = 17.59$$

Remarks: Findings show that for every 1,000 babies born alive, about 16 die before reaching their first birthday. More male infants die (by as many as 4 per 1,000 live births) than female babies.

Child mortality rate. CMR is the number of deaths among children 1-5 (i.e., $1 \leq x < 5$) 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. It is therefore critical for them to be immunized (with follow ups or boosters until later ages) to help their bodies fight these diseases.

Like IMR, CMR is closely associated with many development indicators. The Philippines' CMR in 1998 was estimated at 19.7.

Formula: $CMR = D_{(1 \leq 5)} / C_{(1 \leq 5)} \times 1{,}000$

Where $D_{(1 \leq 5)}$ = Number of deaths among children aged $1 \leq 5$

$C_{(1 \leq 5)}$ = No. of children aged $1 \leq 5$

Data requirements: No. of deaths among children aged $1 \leq 5$ years old
No. of children aged $1 \leq 5$ years old

Data source: TWG on Maternal and Child Mortality of the National Statistical Coordination Board (NSCB)

Example:

Sex	Children $1 \leq 5$ yrs old	Deaths to children $1 \leq 5$
Female	39,724	57
Male	41,364	66
Total	81,088	123

$$CMR = \frac{123}{81{,}088} \times 1{,}000 = 1.52$$

$$CMR_{Female} = \frac{57}{39{,}724} \times 1{,}000 = 1.43$$

$$CMR_{Male} = \frac{66}{41{,}364} \times 1{,}000 = 1.60$$

Maternal mortality rate. MMR is the number of women dying during childbirth in a given year per 100,000 live births. MMR highlights the woman's state of health and nutritional status and her access to professional medical services before and during childbirth.

Some of the leading causes of maternal mortality in the Philippines are postpartum hemorrhage, hypertension during pregnancy or childbirth, and other complications related to pregnancy in the course of labor.

The most recent estimate of MMR was 172 per 100,000 live births.

Formula: $MMR = \frac{D_M}{B} \times 100{,}000$

Where D_M = Number of maternal deaths
B = Total live births

Data requirements: No. of deaths among women caused by childbearing in a given year
No. of births in a given year

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

Example: No. of maternal deaths = 19
No. of live births = 19,971

$$MMR = \frac{19}{19{,}971} \times 100{,}000$$
$$= 0.0009514 \times 100{,}000$$
$$= 95.1$$

Remarks: The calculation shows that about 10 mothers die in childbirth for every 1,000 babies born alive.

Percentage of deaths due to 1st, 2nd, 3rd leading causes. This indicator looks at the three leading illnesses that cause death to the population in a given period. Based on data in recent years, the three leading causes of death are pneumonia, diseases of the heart and diseases of the vascular system. The percentage of deaths due to the 1st, 2nd and 3rd leading causes of death during a given year is divided by the total number of deaths in the same year regardless of cause, times 100.

In the example below, the first three leading causes of death for the total population are diseases of the heart, pneumonia and diseases of the vascular system. Women follow the same trend as the total population, but for the men, the leading causes of death are pneumonia, diseases of the vascular system and diseases of the heart.

Formula: Percentage of deaths = $\frac{D_C}{D_T} \times 1{,}000$

Where D_C = total number of deaths by cause
D_T = total no. of deaths

Data requirements: No. of deaths due to 1st, 2nd, 3rd leading causes
Total no. of deaths

Data source: Department of Health-Health Intelligence Service

Example: Total no. of deaths for the year: 319, 575

	Total		Women		Men	
Ten leading causes	**No.**	**%**	**No.**	**%**	**No.**	**%**
Diseases of the heart	49,022	15.34	33,335	10.43	15,687	4.91
Pneumonia	42,974	13.45	11,173	3.50	31,801	9.95
Diseases of the vascular system	35,414	11.08	10,978	3.44	24,436	7.65
Malignant neoplasms	23,946	7.49	9,578	3.00	14,368	4.50
Tuberculosis	23,356	7.31	8,175	2.56	15,181	4.75
Accidents	11,292	3.53	2,371	0.74	8,921	2.79
Chronic illnesses	9,391	2.94	4,508	1.41	4,883	1.53
Other respiratory diseases	6,967	2.18	3,204	1.00	3,763	1.18
Diarrheas	6,742	2.11	4,045	1.27	2,697	0.84
Septicemia	5,774	1.81	2,656	0.83	3,118	0.98

For urban centers like Metro Manila, migration can significantly increase population size because of the influx of migrants from the provinces to study and look for jobs. Similarly, areas close to Metro Manila also experienced abnormal population growth as urban workers settled in the numerous low-cost housing projects that mushroomed along the peripheries or suburbs of the metropolis.

The effect of migration is not only in relation to the growth rate of the population. Equally important is its effect on the composition of the population. Migration can alter the sex and age structure and such other characteristics as educational, marital or income status of the population. It is also important to know what type of people are out-migrating or in-migrating and this information may be known through censuses and surveys that include items on the number and characteristics of migrants. Needless to say, massive migration into cities takes a heavy toll on the area's resources, environment and social life.

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

Formula: 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 t+n

$P_{(t+n)}$ = population in year t+n

Data requirements: No. of in-migrants and out-migrants between year t and year t+n

Total population in year t+n

Data source: Census of Population and Housing

Example:

	Total	Female	Male
Pop 1995	640,486	306,726	333,760
I (1990-1995)	33,381	15,590	17,791
O(1990-1995)	6,426	3,376	3,050

In-migration rate $= \frac{33{,}381}{640{,}486} \times 1{,}000$

$= 0.0521 \times 1{,}000$

$= 52.1$

In-migration (Female) $= \frac{15{,}590}{306{,}726} \times 1{,}000$

$= 0.0508 \times 1{,}000$

$= 51$

In-migration (Male) $= \frac{17{,}791}{333{,}760} \times 1{,}000$

$= 0.053304 \times 1{,}000$

$= 53$

Remarks: The data show that 52 out of every 1,000 population migrate into the locality. Males and females have almost the same propensity to migrate.

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

Formula: Out-migration rate $= \frac{O_{[t-(t+n)]}}{P_{(t+n)} - I_{[t-(t+n)]} + O_{[t-(t+n)]}} \times 1{,}000$

Where $O_{[t-(t+n)]}$ = number of out-migrants between year t and year t+n

Example: Using the same data above on In-migration:

$$\text{Out-migration rate} = \frac{6{,}426}{640{,}486 - 33{,}381 + 6{,}426} \times 1{,}000$$
$$= \frac{6{,}426}{613{,}531} \times 1{,}000$$
$$= 0.01047 \times 1{,}000$$
$$= 10.47$$

Population size

Population size is the number of inhabitants or people living in a locality or country in a given period. The population size is usually obtained by a census or a complete enumeration of all the inhabitants in the area. Sometimes, data from surveys are used to estimate the population size of some areas using a weighting system. These estimates should be used carefully as they are only approximations of the total.

Population growth rate. PGR is the average annual rate of change of population size over a specified period of time. It gives an indication of how fast a particular population or group of persons is increasing or decreasing in number over a certain period.

Population growth rates may be calculated for different geographic or administrative entities like provinces, cities or municipalities, or for population subgroups, like by sex or specific age groups.

A PGR of 3 percent or higher indicates very rapid growth, while 2-2.9 percent is moderately rapid. The growth rate is slow if it is below 2 percent. Philippine population growth rate was estimated at around 2.3 percent in 1995. In the example below, the population grew at the rate of 3.82 percent between 1990 and 1995, with that of women growing at 3.701 percent and that of men at 3.93 percent. These are considered high rates of growth.

The PGR (r) computed using the equation below represents growth by regular changes, that is, *r* is assumed to operate successively (year by year) resulting in an increase or decrease conforming to a geometric pattern.

The formula can be utilized to calculate the growth rates of different geographic or administrative entities like provinces, cities or municipalities, or for population subgroups, such as by sex or specific age groups.

Formula: $r = [(P_t / P_0)^{1/t} - 1] \times 100$

Where,

R = the average annual rate of growth
P_t = population size for the later census
P_0 = population size for the earlier census

Data requirements: Population of two censuses

Data source: Census of Population and Housing (CPH)

Example: Data from the 1990 and 1995 census and where t = 5.33

	1990	1995
Total	524,493	640,486
Women	252,717	306,726
Men	271,776	333,760

$r = [(640,486/524,493)^{1/5.33} - 1] \times 100$
$r = [(1.22115)^{1/5.33} - 1] \times 100$
$r = (1.03820 - 1) \times 100$
$r = 3.82$
$r_{women} = [(306,726/252,717)^{1/5.33} - 1] \times 100 = 3.701$
$r_{men} = [(333,760/271,776)^{1/5.33} - 1] \times 100 = 3.93$

Remarks: The findings show that the population grew at a rate of 3.82 between 1990 and 1995. The population of men grew slightly higher than that of women.

Sex ratio. SR 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. (While the usual formula for the SR is the number of males per 100 females, it may also be expressed as the number of females per 100 males, in which case the numerator is the population of females and the denominator is the population of males).

When a population is closed to migration, meaning it is not affected by migration, the SR (m/f) is slightly higher than 100 in the young age group because more male than female babies are born. However, as age increases, more males die at each age so that the ratio gradually decreases until it reaches 100 or lower, especially at later ages when more men die earlier than women.

Migration also affects the sex ratio especially at certain age groups. Massive migration of females into the city especially of ages 20-39 would press the SR to less than 100. An imbalance in sex ratio at marriageable ages will affect marriage and fertility and may result in a marriage squeeze. In this situation, women or men cannot marry individuals with the desired characteristics and hence may opt to delay marriage or to remain single. Fewer marriages may lower fertility.

Formula:

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

Where M = total number of males in a given year
F = total no. of females in the same year

Data requirements: Total no. of male and female population

Data source: CPH

Example:

Male population: 333,760
Female population: 306,726

$$SR = \frac{333,760}{306,726} \times 100$$
$$= 108.81$$

Population structure

The population structure defines the configuration of the population according to certain variables such as age and sex. Indicators related to the population structure are very important in determining its potential growth rate, potential and actual productivity as well as actual and potential economic and social burden.

Median age of the population. The median age divides the population into two groups of equal size, one group being younger and the other group older relative to the median. It is computed for each sex, female and male.

The median age is considered the most appropriate measure of central tendency for an age distribution. 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. This may arise as a result of downward changes in fertility or the influx of young adults or older migrants, increasing the number of people in the older age groups.

Another useful application of median age is age at marriage. Comparing female and male median age at marriage will show if women or men are marrying at an earlier or later age, and this again affects fertility.

Formula:

$$Md = L_{CB} + \frac{[\,N/2 - F_B\,]\,i}{f_{Md}}$$

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 sex and age group

Data source: CPH

Example: (pls. see data below)

$$Md = 14.5 + \frac{[640{,}486/2 - 271{,}184]}{68{,}044}\ 5$$
$$= 14.5 + \frac{[320{,}243 - 271{,}184]}{68{,}044}\ 5$$
$$= 14.5 + 3.605$$
$$= 18.105$$

$$Md_{Women} = 14.5 + \frac{[306{,}726/2 - 133{,}145]}{33{,}445}\ 5$$
$$= 14.5 + 3.023$$
$$= 17.523$$

$$Md_{Men} = 14.5 + \frac{[333{,}760/2 - 138{,}039]}{34{,}599}\ 5$$
$$= 14.5 + 4.168$$
$$= 18.668$$

Remarks: The median age of the population is 18.10 years. This means that half of the population is younger than 18 and half is older than 18. Males are slightly older with a higher median age at 18.7 years than the female's 17.5.

	Frequencies			Cumulative Frequencies		
Age group	**Total**	**Men**	**Women**	**Total**	**Men**	**Women**
Under 1	20,400	10,439	9,961	20,400	10,439	9,961
1-4	81,088	41,364	39,724	101,488	51,803	49,685
5-9	90,540	46,263	44,277	192,028	98,066	93,962
10-14	79,156	39,973	39,183	271,184	138,039	133,145
15-19	68,044	34,599	33,445	339,228	172,638	166,590
20-24	55,756	28,815	26,941	394,984	201,453	193,531
25-29	50,991	26,828	24,163	445,975	228,281	217,694
30-34	44,146	23,805	20,341	490,121	252,086	238,035
35-39	39,077	21,077	18,000	529,198	273,163	256,035
40-44	28,784	15,888	12,896	557,982	289,051	268,931
45-49	23,278	12,719	10,559	581,260	301,770	279,490
50-54	17,795	9,78	8,011	599,055	311,554	287,501
55-59	14,269	7,692	6,577	613,324	319,246	294,078
60-64	10,715	5,969	4,746	624,039	325,215	298,824
65-69	7,116	3,760	3,356	631,155	328,975	302,180
70-74	4,433	2,334	2,099	635,588	331,309	304,279
75- 79	2,668	1,372	1,296	638,256	332,681	305,575
80-84	1,418	685	733	639,674	333,366	306,308
85 & over	812	394	418	640,486	333,760	306,726

Percentage of women aged 15-49. This is the population of women in the reproductive age group 15-49 or those who are exposed to the risk of childbearing, compared with the total female population. This group of women, especially those who are married, is the focus of the family planning program.

Formula: $\%\ \text{of women 15-49} = \frac{\text{Women population 15-49}}{\text{Total women population}} \times 100$

Data requirements: Women population by age group

Data source: CPH

Example:
Population of women 15-49 = 146,345
Total population of women = 306,726
% of women 15-49 = 146,345/306,726 x 100
= 47.71%

Remarks: About 48 % of all women are exposed to the risk of childbearing.

Dependency ratio. DR is the ratio of the dependent (non-working) population (0-14 and 65 & over age groups) per 100 persons in the working ages of 15-64 years. A higher DR indicates a heavier burden on the part of the working population. In depressed areas where this tends to be very high with the presence of many small children, fertility regulation becomes an important issue, particularly for the women since they are the childbearers and are the ones held mainly responsible for child care and family health.

The DR has two components: the child dependency ratio and the old age dependency ratio.

Child dependency ratio refers to the number of economically dependent persons 0-14 years old per 100 persons in the working age 15-64. It denotes the child dependency burden and the number of young dependents that are being supported by 100 persons in the working age 15-64.

While easy to understand, this measure has its limitations. For one, it assumes that all 0-14 are

not working and all 15-64 are working, which is not the case. Moreover, the child dependency ratio can be pulled down by an undercounting of those in ages 0-4, which often happens because of late registration or complete failure to register births.

Old age dependency ratio is the number of elderly persons aged 65 years and over per 100 persons in the working ages 15-64. A small population of the elderly (usually associated with poorer countries where people die younger) will result in a low old age dependency ratio. On the other hand, in more developed countries where the elderly population is growing, the old age dependency ratio is higher. In this case, care of the elderly becomes the concern of the state or of family members, especially the women.

Formula: $\text{Dependency Ratio} = \frac{\text{Population 0-14} + \text{Population 65 \& over}}{\text{Population 15-64}} \times 100$

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

$\text{Old Age Dependency Ratio} = \frac{\text{Population 65 \& over}}{\text{Population 15-64}} \times 100$

Data requirements: Population of persons aged 0-14, 15-64 and 65 & over

Data source: CPH

Example:
Population 0-14 = 271,184
Population 15-64 = 352,855
Population 65 & over = 16,447

$\text{Total Dependency Ratio} = \frac{271{,}184 + 16{,}447}{352{,}855} \times 100 = 81.515$

$\text{Child Dependency Ratio} = \frac{271{,}184}{352{,}855} \times 100 = 76.854$

$\text{Old Age Dependency Ratio} = \frac{16{,}447}{352{,}855} \times 100 = 4.66$

Remarks: There are about 77 children and 5 elderly (a total of about 82) who are dependent on every 100 working population.

Household characteristics

Growth rate of the number of households. This is the average annual rate of change of the number of households during a specified period.

Formula:

$$rH = \frac{[(HH_1)^{1/t} - 1]}{[(HH_0)]} \times 100$$

where, rH = average annual rate of growth of households
HH_1 = number of households for the later census years
HH_0 = no. of households for the previous census years
t = the interval in years between the two census years

Data requirements: No. of households in year t
No. of households in year t+1

Data source: Census of Population and Housing by NSO

Example:

$HH_{1\ 1990} = 101, 117$
$HH_{0\ 1995} = 124, 928$

$$rH = \frac{[(124,928)]^{1/5.33} - 1]}{[(101,117)]} \times 100$$
$$= [(1.23546)^{1/5.33} - 1] \times 100$$
$$= (1.04047 - 1) \times 100$$
$$= 0.04047 \times 100$$
$$= 4.05$$

Remarks: The number of households has been growing at a rate of 4.05 between 1990 and 1995.

Average household size. Average household size is the average number of persons that compose a household. The ratio estimate (or total household population divided by the total number of households) is based on the assumption that the total household population is evenly distributed among all existing households in the specific geographic area of interest.

The average household size is an important indicator because it shows the number of persons that share in the production and consumption of income and utilization of available resources.

Fertility, mortality and migration affect household size. Declining fertility tends to reduce household size while declining mortality will tend to increase it although to a much lesser extent. The effect of migration on household size depends on where migration is directed. It has been observed that well-to-do households in urban and rural areas tend to be larger because of the migration of relatives and the presence of household helpers.

Formula: Average household size = $\frac{\text{Total household population}}{\text{Total number of households}}$

Data requirements: Total household population
Total no. of households

Data source: CPH

Example: Total household population = 640,486
Total no. of households = 124,928

Average household size = $\frac{640,486}{124,928}$
= 5.127

Remarks: A typical household has an average of 5 members.

Percentage of households by sex of household head. This is the ratio of women and of men household heads to the total number of household heads.

Household headship is determined according to a) who is reported or acknowledged by the other members as the head; b) who controls the maintenance of or exercises authority to run the household; and c) who is the main supporter or chief earner of the household.

In the Philippines, it is customary to designate the oldest male member as the head of the household. Men are more likely to be named as household head because of their traditional role as bread-

winner. Thus, even while many women or wives are earning as much as or even more than men, the percentage of women-headed households is still low. Women become household head in such situations as when they are separated or widowed, when as single women they work far from home and live alone, in single parenthood, or when the husband is employed overseas.

Household headship is associated with power and decision making in the household. Gender and development proponents argue that the definition of household head has to be refined so that women would have their equitable share in decision-making and even property ownership.

Formula:

$$\%\ HH_{women} = \frac{HH_{women}}{HH\ total} \times 100$$

$$\%\ HH_{men} = \frac{HH_{men}}{HH\ total} \times 100$$

Data requirements: Total number of households
Total no. of HH women / men

Data source: CPH

Example:

$Total\ HH = 124{,}928$
$Total\ HH_{women} = 10{,}144$
$Total\ HH_{men} = 114{,}784$

$$\%\ HH_{women} = \frac{10{,}144}{124{,}928} \times 100 = 8.12$$

$$\%HH_{men} = \frac{114{,}784}{124{,}928} \times 100 = 91.88\%$$

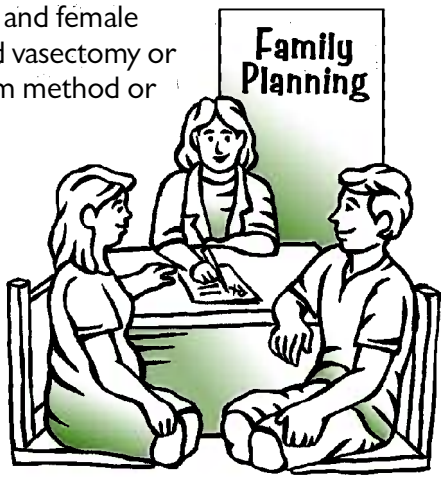
Remarks: Majority of households are headed by men.

Family planning

The contraceptive prevalence rate and percentage of households with access to family planning services are indicators of the reach and relative success of the family planning program. Data for

these indicators come from family planning records and from surveys conducted by the DOH or other institutions.

Contraceptive prevalence rate (for any method, by method used). This is the percentage of women and men currently using a family planning method among currently married women and men in the reproductive age group 15-49. Modern methods are mostly female-oriented such as pills, IUD, injectables and female sterilization. Male-oriented methods are condom and vasectomy or male sterilization. Traditional methods are the rhythm method or withdrawal.



The contraceptive prevalence rate is very closely related to the fertility level. Based on the experience of other countries, high contraceptive prevalence rates of as much as 65-70 percent are associated with reduced fertility levels (2-3 children). Conversely, low contraceptive prevalence rates are associated with high levels of fertility.

Formula: Contraceptive prevalence rate = $\frac{\text{Number of married women using a family planning method}}{\text{No. of married women aged 15-49}} \times 100$

Data requirements: No. of married women using a family planning method by method used
No. of married women aged 15-49

Data source: NSO Family planning and demographic surveys

Example: (pls. see table below) No. of women aged 15-49 = 28,188

Remarks: Only about 4% of women aged 15-49 use any kind of family planning method. Most women acceptors use the pill to regulate their fertility while male users prefer the condom. Relate this data with the indicator on % of households with access to family planning services (below). The example below says that about 60% of households have access to FP services which indicates a relatively wide coverage of the program. But if the acceptor rate is as small as 4% as in the example above, this means that the values and attitudes of women relative to the use of FP have to be looked into.

Type of FP method	No. of Acceptors	Contraceptive Rate
Modern Method	1,062	3.77
Pills	426	1.51
IUD	125	0.44
Condom	228	0.81
Female sterilization	119	0.42
Bilateral tubal ligation	164	0.58
Traditional	303	1.07
Natural	303	1.07
All methods	1,365	4.84

Percentage of households with access to family planning services. This is the number of households with access to family planning services of the government compared with the total number of households. It is reflective of the amount of resources for technology, information, personnel and other logistics allocated to reach the targets of family planning.

Formula: % of HH with access to FP services

$$= \frac{\text{Number of households with access to FP services}}{\text{No. of households}} \times 100$$

Data requirements: No. of households with access to FP services
No. of households

Data source: Family planning surveys conducted by the NSO

Example: No. of HH with access to FP services = 75,764
No. of HH = 124,928

$$\text{\% of HH with access to FP services} = \frac{75{,}764}{124{,}928} \times 100$$

$$= 60.65\%$$

Health and nutritional status

The LGU's health and nutritional situation affects the fertility, morbidity and mortality as well as the overall well-being of its 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.

At the household level, health status is affected by income, age, sex, household size, nutritional intake, affordability of and access to health services, health knowledge and beliefs, education especially of the mother, environmental factors, and others.

A high population growth rate will mean considerable attention to maternity and child health care. Mothers and young children and infants are susceptible to different kinds of illnesses. Young children are more prone to diarrheas and to immunizable diseases such as measles, hepatitis B and poliomyelitis. Pregnant and lactating women are prone to malnutrition, toxemias (increased blood pressure or blood poisoning) and anemia.

Nutritional status is dependent on family income; household size; food availability, prices and preferences; nutrition education especially of mothers; and fertility (fertility principally affects the nutritional status of mothers and children). Women as mothers are primarily concerned with their children's nutritional state and government support will help them fulfill this responsibility.

Implications on gender-responsive POPDEV planning

In looking at the values of the health indicators, the planner should be able to assess the present health condition of the locality. Based on these values, the LGU can project the necessary improvements and accordingly set goals, objectives and targets.

Investments in health services affect the health condition of the population. An adequate health infrastructure should provide the necessary health facilities, personnel, equipment, medicines and supplies, and education of the population on proper utilization of health services. Health plans/insurance are becoming increasingly important in health maintenance and security and should therefore be continuously reviewed to make them accessible and more responsive to the needs of the population.

Public health/sanitation relies on people's sanitary and environment-friendly practices. However, public investments are crucial in providing and maintaining sound garbage disposal, sewerage facilities, and a safe water supply system.

For better health outcomes, it is not enough that health facilities and services are available to those who ask for them. They should also be utilized by people who are in need and those who are at risk. The geographic distribution of health facilities should be well-planned to maximize their reach and utilization.

Government health programs should take special consideration of population subgroups which are most vulnerable or need the most immediate attention, such as the poor, young children, women, the elderly and those who live in very remote areas.

Among other things, the LGU's health situation improvement plan should consider the following:

- availability, accessibility, affordability and utilization of health care services for women and men with professional and friendly service providers;
- subsidized/free health services for vulnerable groups such as young children, the elderly, and pregnant and lactating women particularly the poor;
- health policies and priorities especially investments in health infrastructure and services;
- licensing, regulation and monitoring of private health facilities and practitioners on their compliance with policies and regulations;
- coordination with agencies including relevant private sector groups and institutions and NGOs that contribute to the attainment of health objectives such as health education; infrastructure for access to health facilities and safe drinking water; environmental agencies to safeguard against water and air pollution; and agencies monitoring the implementation of the Generic Drugs Act.

While men are expected to be equally responsible for the family's health, it is the women who carry most of this burden despite their being saddled with home and market work. They take care of the sick, bring them to the doctor or hospital and ensure that infants and children are protected from preventable diseases. As the ones who bear and raise children and as market workers, women need to take care of their health not only for their own sake, but also because the welfare of the rest of the family depends on them. Planners should therefore pay closer attention to women's special needs, and one major concern is reproductive health. The following points need to be emphasized:

- A woman should have the choice or freedom to decide if, when and how often she would bear children.
- She and her husband need information about and access to the various means of regulating fertility, including information about their cost, side effects and effectiveness.
- She needs protection against sexually transmitted diseases and HIV/AIDS, and care and counseling for reproductive and gynecological disorders.
- As part of the response to general and reproductive health concerns, women victims of violence should be given due attention in government programs, in terms of counseling and treatment facilities and services.
- Women need support for child care and domestic chores, either from other family members or from the community.
- Poor women should be helped to meet their basic health needs.

Women are frontline participants in health care promotion. They make up the majority of health care providers as health workers, trained hilots and health guardians or volunteers for their role in maintaining health and sanitation in the community. They should therefore be educated in health and sanitation practices, in the family planning program, and in the use of low-cost appropriate strategies

for health maintenance such as in the promotion of breastfeeding and preparation of nutritious and inexpensive meals.

As health is to a considerable extent affected by nutrition, the following should be considered in planning:

- nutrition education and nutrition-related services especially for children, pregnant and lactating women, teenagers, the elderly;
- availability of affordable but nutritious food;
- food assistance program especially for the population in need, such as children, the elderly, and pregnant and lactating women; and
- coordination with agencies including related private groups and institutions that contribute to the attainment of nutrition objectives, for such activities as nutrition education, keeping the food supply adequate, and monitoring compliance with relevant laws on food, food supplements and drugs.

Relevant health and nutrition indicators

Health services

The provision of health services has a major impact on the population and its health status. Indicators on these are fairly easy to compute. Data requirements come mostly from the local health office or the DOH. Other data needed are population data obtained from census records, and information about births and deaths available from vital registration offices. Estimates may, however, be subject to error due to underreporting or over-estimation (as in the number of clients reached). By comparing the ratios with certain planning standards, the LGU can estimate if its services are sufficient for the number of people it has to serve.

Population-midwife ratio. This shows the number of people served by one midwife in a locality. This is usually compared with certain planning standards to determine the relative adequacy of medical or paramedical personnel in a locality. For accessible areas, the planning standard is 1:5,000 population while for remote areas, the planning standard is 1:3,000 population. Thus, a municipality of 50,000 inhabitants would need at least 10 midwives.

Formula: $\text{Population-midwife} = \frac{\text{Population}}{\text{Number of midwives}}$

Data requirements: No. of midwives
Total population

Data source: Department of Health

Planning standards: 1: 5,000 population (accessible area)
1:3,000 population (hard to reach area)

Example: No. of midwives: 222 (175 females + 47 males)
Population: 640,486

$$\text{Population - midwife} = \frac{640{,}486}{222} = \frac{2885.07}{1}$$

or 1: 2,885.07 (one midwife per 2,885 population)

$$\text{Population - female midwife} = \frac{640{,}486}{175} = \frac{3{,}659.92}{1}$$

or 1: 3,659.92 (one female midwife per 3,659 population)

$$\text{Population - male midwife} = \frac{640{,}486}{47} = \frac{13{,}627}{1}$$

or 1: 13,627 (one male midwife per 13,627 population)

Population-nurse ratio. Similar to the population per doctor and midwife ratio, this is a measure of the availability of health personnel and health services to the population. The planning standard for this ratio is 1:20,000 population.

Formula: $\text{Population - nurse} = \frac{\text{Population}}{\text{Number of nurses}}$

Data requirements: No. of nurses; population count

Data source: Department of Health

Planning standard: 1: 20,000

Example: No. of nurses = 94; Female = 53; Male = 41

$$\text{Population - nurse} = \frac{640{,}486}{94} = \frac{6{,}813}{1}$$

Or 1 nurse for every 6,813 population (which is better than the planning standard)
Or 1 female nurse for every 12,084 population
Or 1 male nurse for every 15,621 population

Population-doctor ratio. This is the number of people served by one doctor in a locality. The planning standard is 1:20,000 population. A locality with 100,000 residents would therefore need at least five doctors.

Formula: $\text{Population - doctor} = \frac{\text{population}}{\text{number of doctors}}$

Data requirements: No. of doctors; population count

Data source: Department of Health

Planning standard: 1: 20,000 population

Example: No. of doctors = 822; female = 254; male = 568

$$\text{Population-doctor} = \frac{640{,}486}{822} = \frac{779.18}{1}$$

Or 1 doctor per 800 population
Or 1 female doctor for every 2,521 population
Or 1 male doctor for every 1,127 population

Population-hospital bed ratio. This is another measure of the adequacy of health services. It is obtained by dividing the population by the number of hospital beds. The planning standard for this indicator is 1hospital bed per 500 population.

Formula: $\text{Population - hospital bed ratio} = \frac{\text{Population}}{\text{number of hospital beds}}$

Data requirements: Population ; no. of hospital beds

Data source: Department of Health - Health Intelligence Service

Example: Population = 640,486 ; no. of hospital beds = 7,133

$$\text{Population - hospital bed} = \frac{640{,}486}{7{,}133} = \frac{89.79}{1}$$

Or one hospital bed per 90 persons

Percentage of immunized children 12-23 months old (fully immunized by type of immunization). This is a measure of the reach of the government program to immunize small children against DPT, measles, poliomyelitis, tuberculosis and Hepatitis B.

Formula: % of immunized children 12-23 months =

$$\frac{\text{Number of children 12-23 months immunized by type of immunization}}{\text{No. of children aged 12-23 months}} \times 100$$

Data requirements: No. of children aged 12-23 months
No. of children of same age immunized by type of immunization

Data source: National Health Survey

Example: Total no. of children aged 12-23 months = 34,072

Pertussis $= \frac{506}{34,072} \times 100$

Tetanus $= \frac{3,452}{34,072} \times 100$

Measles $= \frac{10,752}{34,072} \times 100$

Poliomyelitis $= \frac{10,898}{34,072} \times 100$

Tuberculosis $= \frac{22,988}{34,072} \times 100$

Hepatitis B $= \frac{18,763}{34,072} \times 100$

Type of immunization	Number	%
Pertussis	506	1.49
Tetanus	3,452	10.13
Measles	10,752	31.56
Poliomyelitis	10,898	31.99
Tuberculosis	22,988	67.47
Hepatitis B	18,763	55.07

Percentage of households who availed of health services. This is the number of households who availed of health care services of the government compared with the total number of households.

Formula: % of HHs who availed of health services =

$$\frac{\text{HHs who availed of health care services}}{\text{Total number of households}} \times 1{,}000$$

Data requirements: No. of HHs who availed of health care services
No. of households

Data source: Department of Health - Health Intelligence Service

Percentage of births attended by health personnel. This refers to the number of births attended by health personnel in a given period compared with the total number of births in the same period. Health personnel refers to doctors, nurses, midwives and trained/certified *hilots*. This indicator directly impacts on maternal and infant mortality.

In the example given below, notice that only about one-fourth of the births were attended by medical or trained health personnel. This means that majority of the births were not attended by health professionals and both mothers and infants may have been exposed to serious danger.

Formula: % of births attended by health personnel =

$$\frac{\text{Number of births attended by health personnel}}{\text{Total no. of births in a given period}} \times 1{,}000$$

Data requirements: No. of births attended by health personnel in a given period
Total no. of births in the same period

Data source: Civil Registration System/Vital Statistics Report of the National Statistics Office

Example: Total no. of births = 9,454

Attendant at Birth	No. of live births	
	No.	%
Physician	462	4.89
Nurse	171	1.81
Midwife	1,756	18.57
Others	7,065	74.73
Total	9,454	100.00

Percentage of deaths attended by health personnel.

This is the total number of deaths attended by health personnel in a given period divided by the total number of deaths in the same period, times 100.

Formula:

$$\%\ \text{of deaths attended by health personnel} = \frac{\text{Number of deaths attended by health personnel in a given period}}{\text{Total no. of deaths in the same period}} \times 100$$

Data requirements: No. of deaths attended by health personnel in a given period
Total no. of deaths in the same period

Data source: NSO - Civil Registration Survey
Vital Statistical Report

Example:

Attendant at Death	No. of Deaths	
	No.	%
Physician	262	58.22
Nurse	158	35.11
Midwife	18	4.00
Nurse	12	2.67
Total	450	100.00

Percentage of population covered by GSIS/SSS/PhilHealth. This indicator does not fall strictly under the category of health services, nevertheless it is included here as part of health measures.

Health insurance coverage extended by the Government Service Insurance System (GSIS), the Social Security System (SSS) and the Philippine Health Insurance Corporation (PhilHealth) extends health and social security protection to members and their dependents. GSIS is for government employees while SSS is for private employees including the self-employed. PhilHealth is a health insurance scheme for all workers and their dependents.

Under RA 7192 *(Women in Development and Nation Building Act)*, married persons (wives or husbands) who devote full time to managing the household and family affairs are, with the working spouse's consent, entitled to voluntary membership in SSS/GSIS and National Home Development Mutual Fund or PAG-IBIG to the extent of one-half of the salary and compensation of the working spouse. Contributions are deducted from the salary of the working spouse.

Data should be computed for women and men members to determine if both have health and social security protection. Social security is especially important for women because they have a higher life expectancy than men. Information about GSIS/SSS/PhilHealth coverage may be obtained from the local offices of these agencies or from their respective central offices.

Formula: % of population covered by GSIS/SSS/Philhealth =

$$\frac{\text{Population covered by GSIS/SSS/Philhealth}}{\text{Total population}} \times 100$$

Data requirements: Population covered by GSIS/SSS/Philhealth by sex
Total population

Data source: Government Service Insurance System
Social Security System
Philippine Health Insurance Corporation

Percentage of children 0-6 months old with low birth weight. This compares the number of children aged 0-6 months old with low birth weight with the total number of children 0-6 months old. Low birth weight is less than 2.5 kilograms.

Formula: % of children with low birth weight = $\frac{\text{Number of children with low birth weight}}{\text{No. of children aged 0-6 months old}} \times 1{,}000$

Data requirements: Birth weight of all 0-6 months old children in a given period
Total no. of children aged 0-6 months old

Data source: National Health Survey conducted by the National Statistics Office

Morbidity rate by 1st, 2nd, and 3rd leading cause. This refers to the number of cases of the first, second and third leading causes of illness during a particular period 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: Morbidity rate by cause = $\frac{\text{Number of new cause of illness}}{\text{Population}} \times 100{,}000$

Data requirements: No. of new cause of illness
Population

Data source: Department of Health

Life expectancy. 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 socioeconomic and health conditions of the population. For instance, people in Western Europe and other highly developed countries have a life expectancy ranging from 73 to 80 years whereas the range is from 56 to 67 years for those in less developed countries in Southeast and Southern Asia. Women generally live longer than men.

Nutritional status

Nutrition services are rendered at critical stages or ages of the target clients such as among pregnant or lactating women and young children. Nutritional deficiencies in these stages spell the difference in the child's or woman's lifelong health condition. For example, iron supplements are given to pregnant and lactating women to prevent or treat iron deficiency anemia. Iodine supplements are given to prevent iron deficiency which can cause visible or palpable goiter in pregnant women. Goiter in pregnant women can cause mental retardation, speech impairment, deaf-mutism, squint-locomotor problems and physical deformities in the babies they are carrying. Goiter during pregnancy can also cause stillbirth or miscarriage.

Thus, to avoid preventable but irreversible health problems or stop them from getting worse, the government provides these services especially to the poor and other vulnerable groups. The following indicators are thus important consideration in health and nutrition planning. They are easy to compute and interpret. Data may be obtained from the local health office particularly from the records of recipients of the service. However, information should also be available on those who are at risk but were not reached by the program so that the LGU could project future requirements.

Percentage of pregnant and lactating women provided with iron and iodine supplements during pregnancy or breastfeeding period. Pregnant women provided with iron supplements refer to those who have taken two tablets of ferrous sulfate daily for four months starting on the fifth month of pregnancy to complete 250 tablets during pregnancy. Lactating women provided with iron supplements refer to those who have taken two tablets of ferrous sulfate daily for two months to complete 125 tablets. Pregnant and lactating women provided with iodine supplements refer to those who have taken one iodized oil capsule per year.

Formula: % of pregnant and lactating women provided with iron and iodine supplements during pregnancy or breast feeding period =

$$\frac{\text{Number of pregnant and lactating women provided with iron and iodine supplements during pregnancy or breast feeding period}}{\text{No. of pregnant and lactating women}} \times 100$$

Data requirements: No. of pregnant and lactating women provided with iron and iodine supplements during pregnancy or breast feeding period
No. of pregnant and lactating women

Data source: Department of Health

Percentage of preschool children who are moderately and severely underweight. This is the percentage of female and male children aged 0-6 years old who are found to be moderately and severely underweight by comparing the child's weight with the weight-for-age standard. Preschool children who are underweight are the targets of the government's nutrition/feeding program.

Formula: % of children (female and male) who are moderately and severely underweight =

$$\frac{\text{Total number of female and male preschool children who are moderately and severely underweight}}{\text{Total no. of children aged 0-6 years old examined}} \times 100$$

Data requirements: No. and weight of children 0-6 years old
Standard weight for age

Data source: National Nutrition Survey conducted by the Food and Nutrition Research Institute
Minimum Basic Needs Survey

Prevalence of anemia/iron deficiency. This is the percentage of the population group with hemoglobin levels below the normal level. Hemoglobin is determined from blood samples.

Formula: Prevalence of anemia/iron deficiency =

$$\frac{\text{Number of persons with HBL}}{\text{No. of persons examined}} \times 100$$

Where HBL = hemoglobin level below the normal level

Data requirements: Hemoglobin level of persons examined

Data source: National Nutrition Survey conducted by the Food and Nutrition Research Institute
Minimum Basic Needs Survey

Percentage of pregnant/lactating women who are moderately or severely underweight. The nutritional status of pregnant/lactating women is measured by body mass index, which is the weight in kilograms divided by height in meters.

Formula: Percentage of PLW =

$$\frac{\text{Number of PLW}}{\text{No. of women examined}} \times 100$$

Where, PLW = pregnant and lactating women who are moderately and severely underweight

Data requirements: Height and weight of pregnant/lactating women
Standard weight for height

Data source: National Nutrition Survey conducted by the Food and Nutrition Research Institute
Minimum Basic Needs Survey

Prevalence of Bitot's spot/vitamin A deficiency (by age group, female and male). This is seen in the percentage of the population with signs and symptoms of Bitot's spot in the eyes. Those with Bitot's spot have a silvery or grayish plaque or patch on the temporal lobe or nasal part of the conjunctiva.

Formula: $\%\ \text{of BS/VA Deficiency} = \frac{\text{Number of BS/VA}}{\text{No. of persons examined}} \times 100$

Where, BS/VA = persons with signs and symptoms of Bitot's Spot or with Vitamin A deficiency

Data requirements: No. of persons with signs and symptoms of Bitot's Spot or with Vitamin A deficiency

Data source: National Nutrition Survey conducted by the Food and Nutrition Research Institute
Minimum Basic Needs Survey

Prevalence of goiter/iodine deficiency. This is seen in the percentage of the population found positive for goiter, whether nodular or diffused. Goiter examination is done through inspection of the person's neck for any enlargement of the thyroid gland.

Formula: $\text{Percentage of G/ID} = \frac{\text{Number of persons positive for G/ID}}{\text{No. of persons examined for G/ID}} \times 100$

Where, G/ID = goiter or iodine deficiency

Data requirements: No. of persons positive for G/ID
No. of persons examined for G/ID

Data source: National Nutrition Survey conducted by the Food and Nutrition Research Institute

Percentage of family expenditure on food/nonfood (by item group). This indicator is not strictly a nutrition indicator but it is included here to provide additional information on how much of the family budget goes to food requirements. This, however, does not tell if the amount is sufficient to satisfy the appetite of family members, or if it meets their required dietary intake. Non-food item groups are shelter, clothing, footwear, education, transportation and communication, medical and health care, recreation and leisure, taxes and other miscellaneous expenses. Data for this indicator come from the Family Income and Expenditure Survey.

Formula: $$\%\text{ of family expenditure on food} = \frac{\text{Total expenditure on food items}}{\text{Total family expenditures}} \times 100$$

Data requirements: Total family expenditure on food
Total family expenditure on each non-food items
Total family expenditure

Data source: Family Income and Expenditure Survey by the National Statistics Office

Water supply and sanitation

Related to health maintenance is the LGU's capability to provide efficient or reliable utility services for water and sanitation including control of environmental pollution. Data are usually available from the records of the LGU or they may be obtained from surveys or other sources (such as the Minimum Basic Needs Survey in some LGUs).

Percentage of households with sanitary toilets. The type of sanitary toilet facilities are water sealed toilet, sewer/septic tank and closed pit. Unsanitary waste disposal systems include the open pit, use of portable containers and dumping of the waste elsewhere, and having no facilities at all. Information on toilet facilities and their proper use is important in health maintenance as well as in housing.

Formula: % of HHs with sanitary toilet facilities =

$$\frac{\text{Number of HHs with sanitary toilet facilities}}{\text{Total no. of HHs}} \times 100$$

Data requirements: No. of households with sanitary toilet facilities
Total no. of households

Data source: Family Income and Expenditure Survey conducted by the National Statistics Office
Minimum Basic Needs Survey

Percentage of households with safe main source of drinking water. Drinking water is considered safe if it is supplied through a community water system that processes the water before distributing it by pipe to households, whether the water is from a reservoir or pumped from a deepwell. Pumpwells also provide potable water if they are of the required depth, and are situated far from sources of contamination like pit toilets, garbage dumps and seepage from pesticides and other farming chemicals.

Formula: % of HHs with safe main source of drinking water =

$$\frac{\text{Number of HHs with safe main source of drinking water}}{\text{Total no. of HHs}} \times 100$$

Data requirements: No. of households with safe main source of drinking water
Total no. of households

Data source: Family Income and Expenditure Survey conducted by the National Statistics Office
Minimum Basic Needs Survey

Percentage of households with sanitary garbage disposal. The collection of garbage by truck and its disposal in an appropriate dumpsite is considered the sanitary way for households to dispose of trash. So are recycling and composting. However, garbage collection services among LGUs is limited. Also, recycling and composting are done but not systematically. Harmful practices like

burning or burying trash indiscriminately, or dumping it in vacant lots and waterways, are common.

Formula: % of HHs with sanitary garbage disposal = $\frac{\text{Number of HHs with sanitary garbage disposal}}{\text{Total no. of households}} \times 100$

Data requirements: No. of HHs with sanitary type of garbage disposal
Total no. of households

Data source: Family Income and Expenditure Survey by the NSO
Minimum Basic Needs Survey

Planning for economic improvement, public safety and welfare

The LGU's economic situation is affected by several factors among which are the size and capability of its human resources, income, level of technology, predominant economic activities, and physical and geographic assets. Sound management of the various economic factors will enable the LGU to meet people's basic needs and expand their economic and social options. Here are some points that need to be considered:

- The size of the labor force is determined by the size, age and sex structure and spatial distribution of the working age population.
- Women's labor force participation rate is influenced by household income, fertility and presence of small children, the woman's education, and her employment status.
- Demand for labor depends on the demand for goods and services (the bigger the demand for goods and services, the bigger the demand for labor and new investment).

- Labor supply that is greater than demand for labor lowers wage rates and tightens competition for jobs, and may also lead employers to require higher qualifications in terms of education, skill and experience.

- The economic policies and infrastructure program of government affect private sector initiatives in investment and job creation.

- The economic well being of women and men enables them to afford and enjoy other social and cultural benefits. This includes participation in community activities, social security, ownership of their home or residence, and enjoyment of modern labor-saving and recreational appliances.

- As mothers and homemakers women are expected to look after the health, safety and comfort of family members. Availability and affordability of basic amenities will greatly ease their burden.

Implications on gender- responsive POPDEV planning

Economic policies that relate to the production, distribution and consumption of economic goods must be reviewed in terms of their differential effect on women and men. Mechanisms should be designed to ensure equal opportunities for both sexes for formal and non-formal education and on-the-job training. Women need to have an equal share in power and decision making in economic affairs to be able to enjoy a fair share of the economic resources and benefits, including equal pay for work of equal value.

Women are increasingly being involved in economic activities outside the home but there has not been a corresponding change in the sharing of home responsibilities, resulting in multiple burdens for women.

Local development plans should give careful consideration to carrying out or achieving the following:

- credit and financial assistance schemes and tax policies to promote small and medium entrepreneurship that generate job opportunities for women and men.

- generation of sex-disaggregated data on the economic activities of women and men including the LGU's physical and infrastructure data.

- equitable wage/income policies across all industrial and occupational sectors.

- increased opportunities for women to engage in nontraditional occupations to widen their economic options, by providing them access to technology, skills training and credit facilities.

- support system to ease the homemaking and child care responsibilities of women and men engaged in economic activities, such as child minding centers, transportation for school children and commuting workers, health programs, etc.

- promotion of technologies that consider women's physical, biological and social conditions.

- quality educational services and infrastructure, scholarship programs for academic and nonacademic courses, and other schemes to upgrade the qualifications of women and men in the labor force.

- programs to enable families and households to acquire basic necessities and allow them to engage in economic, social, educational, and cultural pursuits. These include programs for housing, communication, energy, and a clean environment; social welfare services; the safeguarding of public safety; and participation in community activities.

- coordination with agencies, including private groups and institutions that contribute to the attainment of economic objectives, for the formulation of policies and schemes aimed at creating jobs, generating revenue, and increasing investments in economic activities.

Relevant indicators to determine economic status, public safety and welfare

Labor force participation

The following indicators on labor force participation and employment/unemployment are the most common measures of the economic participation of women and men.

Data on labor force participation, employment and unemployment are obtained from labor force surveys conducted by the National Statistics Office (NSO). Surveys are conducted on a quarterly basis to capture the seasonality of work in the year. For example, employment rates are usually higher around Christmas and are lower during summer when students and new graduates enter the labor force and farm work stops until the rains come in June or July. Thus, when comparing the employment or unemployment rates of different years or in establishing trends over several years, it is important to use data gathered from same-quarter surveys. Rates are fairly easy to compute and interpret as these are mostly percentages or percentage distributions.

Labor force participation and rate by sex, age group. This is the number and percentage of persons, female and male, 15-64 years old, who are available for work, whether they are employed or unemployed.

Although the productive ages are considered to begin from age 15 and end at age 64 or 65, not all males and females aged 15 -

65 are necessarily available for work. A huge number are full-time students, full-time housewives (not considered members of the labor force), voluntarily idle (they have no plan to work or do not need to work), or are incapable of working such as those in mental institutions or the completely disabled.

On the other hand, there are those under 15 and over 65 who are working. Labor force surveys, however, usually exclude them from the count. These data are captured in other surveys, such as in a survey of working children that may be conducted by the NSO, the Department of Labor (DOLE), the DSWD, or other institutions.

As noted earlier, women who are usually full-time housewives may decide to enter the labor force (that is, actively look for paid work outside the home) depending on certain factors. Some of these would be the family's income, the woman's education, the presence of small children, or whether the woman is a household head responsible for her family's sustenance.

Labor force participation rates (LFPR) are useful if one wants a more detailed picture of the extent to which specific sectors of the population are economically active. These can be computed for urban or rural populations and for young children and the elderly.

Formula:

$$\text{LFPR} = \frac{\text{total number of persons 15 -64 years old who may be employed or unemployed}}{\text{total no. of persons 15-64 years old}} \times 100$$

$$\text{LFPR (female)} = \frac{\text{total no. of females 15 -64years old who may be employed or unemployed}}{\text{total no. of females 15 -64 years old}} \times 100$$

$$\text{LFPR (male)} = \frac{\text{total no. of males 15-64 years old who may be employed or unemployed}}{\text{total no. of males 15 -64 years old}} \times 100$$

Where, LFPR = labor force participation rate

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 persons aged 15-64 years old

Data source: Labor Force Surveys of the National Statistics Office

Example: (pls. see data below)

$$\text{LFPR} = \frac{30,154}{45,918} \times 100 = 65.67\%$$

$$\text{LFPR (Female)} = \frac{11,299}{23,174} \times 100 = 48.76\%$$

$$\text{LFPR (Male)} = \frac{18,855}{22,744} \times 100 = 82.90\%$$

Remarks: 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 nonproductive.

	Female	Male	Total
LF members	11,299	18,855	30,154
Total population age 15 & over	23,174	22,744	45,918

Level and percentage distribution of employed persons by sector and by sex. Employment participation (of those 15 years old and over) may be viewed by sector (agriculture, fishery, forestry; industry; services) and by sex. Note here that the various industrial groupings are regrouped into three sectors - agriculture, industry and service sectors. If the indicator is computed for each sex, it will allow comparison of women's and men's participation in the three sectors.

Formula:

$$\%\text{ of employment by sector} = \frac{\text{Number of employed persons by sector}}{\text{Total no. of employed persons}} \times 100$$

Data requirements: No. of employed persons by sector, by sex
Total employed persons

Data source: Labor Force Survey conducted by the National Statistics Office
Labor Statistics Yearbook

Example:

$$\text{\% employed (agri., etc.)} = \frac{11{,}645}{27{,}186} \times 100 = 42.83\%$$

$$\text{\% employed (agri., etc., women)} = \frac{3{,}100}{10{,}016} \times 100 = 30.95\%$$

$$\text{\% employed (agri., etc., men)} = \frac{8{,}545}{17{,}170} \times 100 = 49.77\%$$

$$\text{\% employed (services)} = \frac{5{,}464}{27{,}186} \times 100 = 20.10\%$$

$$\text{\% employed(services, women)} = \frac{2{,}937}{10{,}016} \times 100 = 29.32\%$$

$$\text{\% employed(services, men)} = \frac{2{,}527}{17{,}170} \times 100 = 14.72\%$$

$$\text{\% employed (industry)} = \frac{10{,}077}{27{,}186} \times 100 = 37.07\%$$

$$\text{\% employed (industry, women)} = \frac{3{,}979}{10{,}016} \times 100 = 39.73\%$$

$$\text{\% employed (industry, men)} = \frac{6{,}098}{17{,}170} \times 100 = 35.52\%$$

	Employed Persons					
Sector	**Total**	**% dist'n**	**Women**	**% dist'n**	**Men**	**% dist'n**
Agri., fish., forestry	11,645	42.83	3,100	30.95	8,545	49.77
Services	5,464	20.10	2,937	29.32	2,527	14.72
Industry	10,077	37.07	3,979	39.73	6,098	35.52
All sectors	27,186	100.00	10,016	100.00	17,170	100.00

Remarks: Males dominate the agriculture sector where almost half of all employed males are found. Most of the women work in the industry and services sectors.

Level and percentage distribution of employed persons by sex and by class of worker. Class of worker means wage and salary workers, own-account workers and unpaid family workers. The majority of unpaid family workers are housewives. In the present definitions of productive work, housekeeping and child care are considered nonproductive. There are current efforts to give monetary value to women's domestic work.

Formula: % of employed persons by class of worker = $\frac{\text{Number of employed persons by class of worker}}{\text{Total employed persons}} \times 100$

Data requirements: No. of employed persons by class of worker, by sex
Total no. of employed persons

Data source: Labor Force Survey conducted by the NSO

Example:

Class of worker	Total	%	Women	%	Men	%
Wage & salary	12,649	46.53	4,558	45.51	8,091	47.12
Own-account	10,326	37.98	3,170	31.65	7,156	41.68
Unpaid family	4,211	15.49	2,288	22.84	1,923	11.20
Total	27,186	100.00	10,016	100.00	17,170	100.00

% employed, Wage & Salary $= \frac{12,649}{27,186} \times 100 = 46.53\%$

% employed, W & S (women) $= \frac{4,558}{10,016} \times 100 = 45.51\%$

% employed, W & S (men) $= \frac{8,091}{17,170} \times 100 = 47.12\%$

% employed, Own-Account $= \frac{10,326}{27,186} \times 100 = 37.98\%$

% employed, O-A (women) $= \frac{3,170}{10,016} \times 100 = 31.65\%$

% employed, O-A (men) $= \frac{7,156}{17,170} \times 100 = 41.68\%$

% employed, Unpaid Family $= \frac{4,211}{27,186} \times 100 = 15.49\%$

% employed, U-F (women) $= \frac{2,288}{10,016} \times 100 = 22.84\%$

% employed, U-F (men) $= \frac{1,923}{17,170} \times 100 = 11.20\%$

Remarks: Most of those employed work as wage and salary workers (46.5%). Most own-account workers are men while most unpaid family workers are women.

Percentage of working children by age, sex. Working children may be paid or unpaid. They are classified by age group as follows: under 10 years, 10-14 years and 15-18 years. Computing this indicator by sex would show the extent to which girls or boys are deprived of proper health and child care, enjoyment of their childhood, education, and a brighter future.

Formula: $\%\ \text{of children}_i = \frac{\text{Children}_i}{\text{No. of children by age group i}} \times 100$

Where, children_i = no. of working children by age group i

Data requirements: No. of working children by age group
Total number of children by age group

Data source: Labor Force Survey by the NSO

Employment/unemployment/underemployment

Employment/unemployment rate by sex. This is the number of employed or unemployed persons per 100 persons in the labor force (who are aged 15-64 years old).

Employed persons include all those who, during the reference period, are 15-64 years old as of their last birthday and reported either

- at work (these include 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 enterprises operated by a member of the same household related by blood, marriage or adoption); or

- with a job but not at work. (These include those who have a job or business but are not at work because of temporary illness/injury, vacation or other reasons. Persons who plan to report for work or to start operating a farm or business enterprises within two weeks from the day of the enumerator's visit are also considered employed.)

Unemployed persons are those who, during the reference period, are 15-64 years old as of their last birthday who have no job/business, and are actively looking for work. Also considered as unemployed are persons without a job or business who are reported not looking for work because of their belief that no work is available, or because of temporary illness/disability, bad weather, or a pending job application or job interview.

Employment/unemployment rates show the composition of the labor force in greater detail and the extent to which employment opportunities need to be provided, especially for women.

Formula: $\text{Employment rate} = \frac{\text{Number of employed persons}}{\text{Total no. of persons in the LF}} \times 100$

Data requirements: Total no. of employed persons by sex
Total no. of unemployed persons by sex
Total no. of persons in the labor force by sex

Data source: Labor Force Survey by the NSO

Example:

Persons in the LF	Total	%	Women	%	Men	%
Employed	27,531	91.30	4,129	86.16	23,402	92.27
Unemployed	2,623	8.7	663	13.84	1,960	7.73
Total	30,154	100.00	4,792	100.00	25,362	100.00

Employment rate $= \frac{27,531}{30,154} \times 100 = 91.30\%$

Employment rate (women) $= \frac{4,129}{4,792} \times 100 = 86.16\%$

Employment rate (men) $= \frac{23,402}{25,362} \times 100 = 92.27\%$

Unemployment rate $= \frac{2,623}{30,154} \times 100 = 8.7\%$ (or 100 - 91.30%)

Unemployment rate (women) $= \frac{663}{4,792} \times 100 = 13.84\%$

Unemployment rate (men) $= \frac{1,960}{25,362} \times 100 = 7.73\%$

Remarks: Less than 15 % of the employed are women. Employment rate for both is 91% or about 9 out every 10 persons in the labor force are presently employed. Women have a higher unemployment rate than men.

Underemployment rate by sex. The underemployed are those who have a job or run a business, but want additional work because they have the time for it and/or desire additional income. The underemployment rate is the number of underemployed persons per 100 employed persons in the labor force.

Formula: Underemployment rate =

$$\frac{\text{Number of underemployed persons}}{\text{Total no. of employed persons in the LF}} \times 100$$

Data requirements: Total no. of underemployed persons
Total no. of employed persons in the LF

Data source: Labor Force Survey of the NSO

Example:

	Employed	Underemployed	%
Women	4,129	1,569	38.00
Men	23,042	4,779	20.74
Total	27,171	6,348	23.36

$$\text{Underemployment} = \frac{6,348}{27,171} \times 100 = 23.36\%$$

$$\text{Underemployment (women)} = \frac{1,569}{4,129} \times 100 = 38.00\%$$

$$\text{Underemployment (men)} = \frac{4,779}{23,042} \times 100 = 20.74\%$$

Remarks: About one quarter of the employed want additional work. The percentage of those who believe they are underemployed is higher for women than for men.

Income status

Average family income. This is the total income of all families divided by the total number of families. It is an estimate of the amount of resources available to a family to meet its basic requirements.

Formula: Average income per family = $\frac{\text{Total family income}}{\text{Total number of families}}$

Data requirements: Total family income
Total no. of families

Data source: Family Income and Expenditure Survey conducted by the NSO

Example: From the 1994 FIES, total family income = P 5,407,319,000
Total no. of families = 109, 622

Average family income = P5,407,319,000 / 109,622
= P49,326.95

Remarks: Each family has an average income of about P50,000 every year or about P4,110 per month.

Industry and trade

Labor productivity of industry sector. This is the ratio of Gross Value Added Income to employment of industry sector (manufacturing, construction). This indicator makes it possible for the labor productivity of female and male workers to be computed separately using the following formula:

$$\text{LPI} = \frac{\text{Gross Value Added (GVA) on Industry}}{\text{Employment on Industry}} \times 100$$

$$\text{LPI (women)} = \frac{\text{GVA on Industry x \% of female workers}}{\text{Number of female employees}} \times 100$$

$$\text{LPI (men)} = \frac{\text{GVA on Industry x \% of male workers}}{\text{No. of male employees}} \times 100$$

Data requirements: Gross Value Added
Total employed persons by industry

Data source: Annual Survey of Establishments

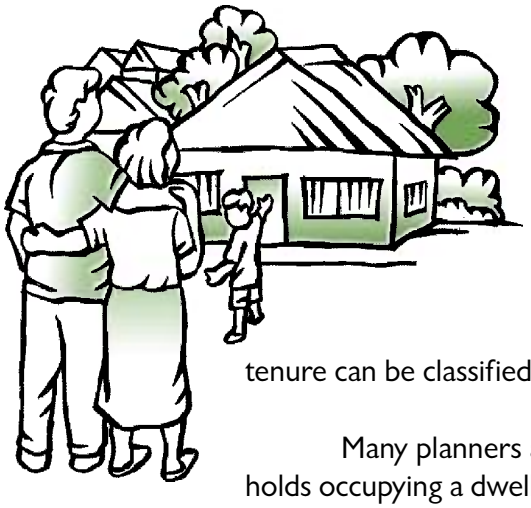
Example: Labor productivity by industry by level

Industry group	Employed persons	GVA
All manufacturing establishments	152,000	17,649,423,000
Women	44,000	
Men	108,000	

LPI (Both sexes) = 17,649,423,000 / 152,000 = P116,114.63
LPI (Women) = 17,649,423,000 x 29% / 44,000 = P116,325.74 or P9,693.81 per month
LPI (Men) = 17,649,423,000 x 79% / 108,000 = P116,028.61 or P9,669.05 per month

Ownership of dwelling

Ownership of dwelling, ownership of modern appliances and having electrical power connection are additional indicators of the family's economic status. Information about these indicators gives



government planners concrete basis in estimating resources needed for housing and energy.

Percentage of households who own/rent/share their house/lot. This refers to secure tenure status of households and not to illegal occupancy. Type of tenure can be classified as owner, tenant or sub-tenant.

Many planners are interested in the tenure status of households occupying a dwelling unit since this has implication on housing programs and services.

Formula: Percentage of HHs who own/rent/share house and/or lot =

$$\frac{\text{Number of HHs who own/rent/share house and/or lot}}{\text{No. of households}} \times 100$$

Data requirements: No. of HHs with owned/rented/shared house and/or lot
Total no. of households

Data source: Family Income and Expenditure Survey by the NSO
Minimum Basic Needs Survey

Percentage of households occupying danger areas. This refers to households who live in places not suitable for housing such as along esteros and railroad tracks, garbage dumps and riverbanks, and in other public places such as sidewalks, roads, parks and playgrounds.

Formula: Percent of households occupying danger areas =

$$\frac{\text{Number of households occupying danger areas}}{\text{No. of households}} \times 100$$

Data requirements: No. of households occupying danger areas
No. of households

Data source: Family Income and Expenditure Survey by NSO

Remarks: A higher rate means a housing problem exists in the locality. For a comprehensive housing plan, assess the area in terms of total population, average household size and number of families by income group. Identify possible resources in terms of indigenous materials for housing and potential area for housing development. Also consider peace and order situation.

Percentage of households with house made of durable materials. Durable materials for the roof and outer walls are galvanized iron, aluminum, tile, concrete, brick, stone, wood, plywood and asbestos.

Formula: Percentage of HHs with house made of durable materials =

$$\frac{\text{Number of HHs with house made of durable materials}}{\text{No. of households}} \times 100$$

Data requirements: No. of HHs with house made of durable materials
No. of households

Data source: Family Income and Expenditure Survey by NSO
Minimum Basic Needs Survey

Energy

Percentage of households with electrical connection. Information on households with electricity connection is important in determining areas to be covered by an extension of the community lighting system. The productivity of home-based industries can also improve with the availability of electricity.

Formula: % of HHs with electricity connection =

$$\frac{\text{Number of HHs with electricity connection}}{\text{No. of households}} \times 100$$

Data requirements: No. of HHs with electricity connection
No. of households

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

Ownership of modern conveniences

Percentage of households who own electrical appliances or any modern conveniences. Refrigerators, washing machines and to a certain extent, telephones and motor vehicles are labor saving while radio and television sets provide recreation aside from being an information source.

Formula: % of HHs who own a particular appliance/convenience =

$$\frac{\text{Number of HHs who own that particular appliance/convenience}}{\text{Total no. of households}} \times 100$$

A percentage may be computed for each item using the same number of households.

Data requirements: No. of HHs who own: a radio, stereo, TV, refrigerator, washing machine, telephone, motor vehicle, etc.

Data source: FIES, CPH

Public participation

The two indicators of public participation are useful in determining to what extent women are participating in public affairs, particularly in decision making and in the allocation of resources.

Percentage of elective posts by sex of person occupying the position. This is obtained by dividing the number of women or men who are voted into a particular elective position (e.g. mayor) by the total number of those elected to that position (e.g. total number of mayors) and multiplying the quotient by 100.

Formula: % of elective positions (sex) = $\frac{\text{Elective positions}}{\text{Total elected}} \times 100$

Where, Elective positions (sex) = total number of persons occupying the elective position by sex

Data requirements: Total no. of persons occupying the elective position by sex
Total no. of persons occupying the elective position

Data source: Commission on Election

Example:

% mayors (women) = 6/31 x 100 = 19.4%
% mayors (men) = 25/31 x 100 = 80.6%

Position	Total no.	Women		Men	
		Number	%	Number	%
Congressman	1	-	-	1	100.0
Governor	1	-	-	1	100.0
Vice Governor	1	-	-	1	100.0
Prov. Board Member	8	-	-	8	100.0
Mayor	31	6	19.4	25	80.6
Vice Mayor	31	-	-	31	100.0
Councilor	186	41	22.0	145	78.0
Bgy. Captains	478	115	24.1	363	75.9
Bgy. Councilor	3,906	1,367	35.0	2,539	65.0
SK* Chairperson	558	251	45.0	307	55.0
SK Councilors	3,906	1,835	47.0	2,071	53.0

*SK – Sangguniang Kabataan

Remarks: About one fifth of the mayors are women. Younger women are becoming increasingly involved in politics, composing 45% and 47% of Sangguniang Kabataan chairpersons and councilors, respectively.

Percentage of government positions by level (1st, 2nd, 3rd) and sex of incumbent. This indicator shows how women and men are distributed in the different positions and occupations in government. The different levels are as follows:

1st level - clerical, trades, crafts and custodial positions involving non-professional or sub-professional work in a non-supervisory capacity requiring less than four years of collegiate studies;

2nd level - professional, technical or scientific work in a supervisory or non-supervisory capacity requiring at least four years of collegiate work up to Division Chief level; and

3rd level - positions in the Career Executive Service.

From present and recent estimates, women occupy only about 15 percent of the 17,460 elective positions in 1998. Their share of appointive positions at the first and the second level of government service is 34.6 percent and 72 percent respectively. Women's participation at the highest level (third level) is only about one-third.

Formula: $$\%\ \text{of women/men at a particular level} = \frac{\text{Number of women/men at a particular level}}{\text{Total no. of persons at the same level}} \times 100$$

Where, 1st level - refers to clerical, trades, crafts and custodial positions involving non-professional or sub-professional work in a non-supervisory capacity requiring less than four years of collegiate studies;

2nd level - refers to professional, technical or scientific work in a supervisory or non-supervisory capacity requiring at least four years of collegiate work up to Division Chief level; and

3rd level - refers to positions in the Career Executive Service.

Data source: Civil Service Commission (or a CSC-certified copy from the personnel office of each government agency or LGU)

Example: Data from the National Power Corporation, 2000

Level	Total	Women	%	Men	%
I	3,151	519	16.5	2,632	83.5
II	2,699	742	27.5	1,957	72.5
III	274	40	14.6	234	85.4

$$\text{\% women in 1st level} = \frac{519}{3,151} \times 100 = 16.5\%$$

$$\text{\% men in 2nd level} = \frac{1,957}{2,699} \times 100 = 72.5\%$$

$$\text{\% women in 3rd level} = \frac{40}{274} \times 100 = 14.6\%$$

Remarks: NAPOCOR is a male-dominated agency probably because of the nature of its work which requires field work and round-the-clock shifting of workers. The representation of women is lowest at the highest professional level.

Public safety and welfare

Indicators of public safety and welfare are included here because they provide information on the amount of resources needed to protect the population. While the presence of a large number of police officers does not guarantee safety for everyone, this indicator nevertheless signals to government what needs to be done to ensure public safety, assist victims, rehabilitate offenders and uphold justice.

The special interest in the estimation of crime victims by sex springs from the fact that there are sex-related offenses and almost all victims are women. Rape, incest, sexual harassment and domestic violence are committed mostly by men against women. These indicators will pinpoint the need for special measures to protect women victims, assist them in their search for justice, and support their effort to rebuild their lives.

The data for crime indicators come mainly from police or criminal records. Estimates therefore do not include unreported incidents. In the case of sex-related crimes, for instance, fear or shame may prevent the victim from bringing the matter to the police.

If such a case is known though, information may still be obtained with the help of research or counseling experts using special interview techniques.

Population/police officer ratio. This refers to the total number of population divided by the total number of police officers. This indicator may be viewed in relation to the general peace and order situation in the area, the number and location of the local police stations or outposts, the presence of private security or detective agencies, and other military services within the locality and/or in the adjoining municipalities, to determine the strength of the police services.

The ratio is compared with the following planning standard:

1 : 300 - population for highly congested areas
1 : 500 - population for semi-urbanized areas
1 : 1,000 - population for rural areas

Formula: Population – police ratio = $\frac{\text{Population}}{\text{Number of police officers}}$

Data requirements: No. of police officers
Population

Data source: National Police Commission
National Statistics Office

Crime rate by type (against persons, against property). This is the number of crimes against persons (e.g. murder,homicide, physical injuries, rape) reported to the police per 100,000 population. (For LGUs with less than 100,000 population, the rate may be adjusted to per 10,000 or per 1,000 population and interpreted accordingly).

Data on crimes against persons and against property give an indication of the kind of peace and order services needed by the citizenry, the adequacy of present services (e.g., if the number of police precincts should be increased), the need to change the police/

population planning standard, or the need to involve the community in the maintenance of peace and order.

Formula: $\text{Crime rate} = \frac{\text{Number of crimes reported}}{\text{Population}} \times 100{,}000$

Data requirements: Crimes reported according to type and sex of victim
Population

Data source: Directorate for Intelligence, Philippine National Police

Example: Population = 528,287

Crime rate vs. persons $= \frac{833}{528{,}287} \times 100{,}000 = 157.7$ per 100,000

Crime rate vs. women $= \frac{345}{528{,}287} \times 100{,}000 = 65.3$ per 100,000

Crime rate vs. men $= \frac{488}{528{,}287} \times 100{,}000 = 92.4$ per 100,000

Crime	Total	vs. Women	vs. Men
Crimes vs. persons	833	345	488
Murder	72	24	48
Homicide	171	86	85
Physical injury	535	183	352
Rape	55	52	3
Crimes vs. property			
Robbery	364	177	187
Total	**1,197**	**522**	**675**

Percentage of crime victims by sex. The percentage of crimes committed against women and men can be computed using the data on crimes against persons by sex of victim. Information on the number of crime victims by sex over a period will indicate if there is an increase or decrease in sex-related crimes such as rape, and from this an inference may be made as to whether the anti-rape law deters the commission of this crime.

Formula: $\text{Crime victims by sex} = \frac{\text{Number of crime victims by sex}}{\text{Total no. of crime victims}} \times 100$

Data requirements: No. of crime victims by sex

Data source: Philippine National Police

Example:
No. of crime victims = 833
No. of women victims = 345
No. of men victims = 488

Women crime victims $= \frac{345}{833} \times 100 = 41.4\%$

Men crime victims $= \frac{488}{833} \times 100 = 58.6\%$

Percentage of abusers of minors by sex. Information from this indicator as well as the indicator on perpetrators of family violence by sex (below) is very relevant to the issue of domestic violence particularly violence against women. A worsening situation warrants an improvement in the existing measures to check this problem, such as better information and community education, a more comprehensive approach to the problem, and the engagement of related professionals such as psychiatrists, sociologists and sympathetic women police officers.

Formula:

$$\%\ \text{of female abusers} = \frac{\text{Number of female abusers}}{\text{No. of abusers of minors}} \times 100$$

$$\%\ \text{of male abusers} = \frac{\text{No. of male abusers}}{\text{No. of abusers of minors}} \times 100$$

Data requirements: No. and sex of abusers of minors

Data source: UP Center for Women Studies Foundation research studies

Percentage of perpetrators of family violence by sex. Although the type of family violence committed is not specified in this indicator, the disaggregation into female and male perpetrators gives valuable leads on the type of police and public safety services that should be augmented. The data also help bring into focus domestic violence as a public safety concern.

Formula:

$$\%\ \text{of PFV (female)} = \frac{\text{PFV (female)}}{\text{Total number of PFV}} \times 100$$

$$\%\ \text{of PFV (male)} = \frac{\text{PFV (male)}}{\text{Total no. of PFV}} \times 100$$

Where, PFV (female) -- no. of female perpetrators of family violence
PFV (male) -- no. of male perpetrators of family violence

Data requirements: No. of female and male perpetrators of family violence

Data source: UP Center for Women Studies Foundation research studies

Population-firefighter ratio. This indicator provides basis for the LGU to improve its firefighting capability, especially when viewed with data on the occurrence of fires, including the number of lives lost and cost of property destroyed.

Formula: Population-firefighter ratio = $\frac{\text{Population}}{\text{Total number of firefighters}}$

Data requirements: No. of firefighters
No. of population

Data source: Bureau of Fire Protection
National Statistics Office

Planning Standards: 2 : 1,000 population served in the urban or metropolitan area
1 : 1,000 population served in the municipality

Example: Population = 640,486 No. of firefighters = 908
Pop-firefighter ratio = 640,486 / 908 = 705.38 / 1
= 705.81 : 1

Remarks: The strength of the fire services personnel depends on the population density, presence of high value districts where buildings are larger or taller; density of the buildings, topographical conditions, human-made barriers such as railways or highway structures, traffic congestion and the number of firefighting apparatus.

Social security

Percentage of population (female/male) covered by GSIS/SSS. (Please see health indicators)

Social welfare

Percentage of poor households provided with basic services. Poor families are those with annual income less than the annual

poverty threshold. Some basic welfare services are community productive centers, maternal and child care services and shelter assistance.

Formula: $\%\ \text{of poor HHs}_{BSS} = \frac{\text{Number of HHs}_{BSS}}{\text{No. of poor HHs}} \times 100$

Where Poor HHs_{BSS} - no. of poor households provided with basic social services

Data requirements: No. of poor households provided with basic social services
No. of poor households

Data source: Department of Social Welfare and Development

Percentage of clientele served by DSWD by sex. Clientele are household heads, needy adults and children in difficult situations disaggregated by sex. This indicator helps the local planner determine the adequacy of social services in the locality.

Formula: $\%\ \text{of clientele (female)} = \frac{\text{Number of female clients served}}{\text{Total no. of clients served}} \times 100$

$\%\ \text{of clients (male)} = \frac{\text{No. of male clients served}}{\text{Total number of clients served}} \times 100$

Data requirements: No. of female and male clients served by DSWD.

Data source: Department of Social Welfare and Development

Planning for education development

For Filipinos, education remains the most important vehicle for social and economic mobility. It is with education that women hope to overcome the traditional stereotypes in which they have been cast for years. It is critical that women be given equal opportunity to achieve a certain level of education to enable them to acquire knowledge and skills, earn income and raise their status in the family and in society.

The educational status of women and men is affected by family income, the educational status of their parents, and their health as schoolchildren. Demand for education also depends on the availability, accessibility, affordability and quality of educational services and infrastructure.

- Girls and boys should have equal opportunity to attend school especially higher education. Scholarship programs for academic and non-academic courses should be available to both. Girls should be encouraged to enter scientific and technological courses to increase their chance of becoming professionals in new and challenging fields.
- Women and men providers of educational services should be given equal opportunity for appointment, training and promotion.
- The low rank given to education in the government's order of priorities and an increasing school age population affect the quality of education and consequently, the quality of the labor force.

Implications on gender-responsive POPDEV planning

In planning to improve the educational status of women and men, the LGU may consider the following:

- the need for and availability of educational institutions with complete facilities (including health) that are accessible and affordable to families of school age children;
- equal opportunity of girls and boys to attend school, and equitable scholarship opportunities both for academic and non-academic training;
- incentives to attract good teachers and school officials and enable them to concentrate on their teaching and improve the quality of instruction;

- monitoring of school age children who are not in school (out-of-school youth) and measures to draw them into formal or non-formal education;

- campaign to improve the school environment and eradicate influences that lead school children astray such as drugs, smoking, gambling, truancy and other forms of delinquency; and

- monitoring the compliance of public and private educational institutions with government educational policies.

Relevant indicators to determine educational status of women and men

School participation

Elementary school participation rate by sex. The rate is arrived at by dividing the number of pupils enrolled in public and private elementary schools by the population aged 7-12 years, times 100.

Formula:

$$\text{ESPR} = \frac{\text{Number of pupils enrolled in public and private elementary schools}}{\text{Total population aged 7-12 years}} \times 100$$

Where, ESPR = elementary school participation rate

Data requirements: No. of pupils enrolled in elementary school by grade level

Data Source: School Records, Department of Education

Example:

$$\text{ESPR} = \frac{95,895}{88,270} \times 100 = 108.64$$

$$\text{ESPR-F} = \frac{57,537}{44,312} \times 100 = 129.85\%$$

$$\text{ESPR-M} = \frac{38,358}{43,958} \times 100 = 87.26\%$$

Type of School	Sex		
	Total	Male	Female
Private	65,209	17,645	47,564
Public	30,686	20,713	9,973
Total	95,895	38,358	57,537
Population 7-12 years old	88,270	43,958	44,312

Remarks: The elementary school participation rate for the locality is 108.64. This means that 100% of the population aged 7-12 who should be in school are actually in school while the additional 9% came from the population over 12 years of age. The elementary school participation rate for females is about 130%, with the 30% coming from the female population older than 12. The elementary school participation rate for males is 87%.

The accuracy of this indicator will depend largely on the data provided by the educational system. Care must be taken that the numerators representing female ESPR and male ESPR should jibe with the total, to avoid any biases that may result from inconsistencies in the data.

Secondary school participation rate by sex. The number of students enrolled in public and private high school divided by the population aged 13-16 years, times 100, gives the secondary school participation rate. The rate is also computed for each sex.

Formula: $SSPR = \frac{SP}{Pop_{13\text{-}16}} \times 100$

Where

SSPR = the secondary school participation rate
SP = the number of students enrolled in the secondary level
$Pop_{13\text{-}16}$ = the total population of persons aged 13-16 years

Data requirements: No. of students enrolled in secondary school
Total population aged 13-16 years

Data source: School Records
CPH conducted by the National Statistics Office (NSO)

Example:

$$SSPR = \frac{30,272}{88,270} \times 100 = 34.29\%$$

$$SPR_{Male} = \frac{19,980}{44,312} \times 100 = 45.09\% \qquad SSPR_{Female} = \frac{10,292}{43,958} \times 100 = 23.41\%$$

Type of School	Total	Male	Female
Private	20,088	12,987	7,101
Public	10,184	6,993	3,191
Total	30,272	19,980	10,292
Pop 13-16 years old	88,270	44,312	43,958

Remarks: A secondary school participation rate of 34 means that of the children who should be in school, only 34% are actually in school. The rest may be out of school or probably enrolled in other short-term or vocational courses. This is a low participation rate and has serious implication on the efforts of the locality to encourage school age children to remain in school until they reach a certain level where they can become eligible for a decent occupation.

Elementary cohort survival rate by sex. This rate refers to the population of enrollees in the beginning grade who reach the final grade. The survival rate is obtained by dividing the number of pupils enrolled in Grade VI by the number of pupils in the original group that enrolled in Grade I five years back, times 100.

Formula: $$\text{Elementary Cohort Survival Rate} = \frac{\text{Pupils}_{\text{Grade VI}_t}}{\text{Pupils}_{\text{Grade I}_{t-5}}} \times 100$$

Where, $\text{Pupils}_{\text{Grade VI}_t}$ = number of pupils enrolled in Grade VI in year t

$\text{Pupils}_{\text{Grade I}_{t-5}}$ = no. of pupils enrolled in Grade I in year t-5

Date requirements: No. of pupils enrolled in Grade VI in year t
No. of pupils enrolled in Grade I in year t- 5

Data Source: Department of Education

Example: The present enrollment of Grade VI is 17,578 of which 14,414 are females and 3,164 are males. The enrolment of Grade I five years ago is 22,896 of which 16,738 are females and 6,158 are males.

$$\text{Elementary Cohort Survival Rate} = \frac{17,578}{22,896} \times 100 = 76.77\ \%$$

$$\text{Elementary Cohort Survival Rate Female} = \frac{14,414}{16,738} \times 100 = 86.12\%$$

$$\text{Elementary Cohort Survival Rate Male} = \frac{3,164}{6,158} \times 100 = 51.38\%$$

Remarks: This means that almost 77% of those enrolled in Grade I five years ago were able to finish Grade VI. The elementary cohort survival rate for females of 86% is significantly higher than that of the males' 51%.

Secondary cohort survival rate by sex. Dividing the number of students enrolled in fourth year high school by the number of students in the original group that enrolled in first year high school three years back, times 100, yields the secondary cohort survival rate. The rates by sex are similarly obtained using sex-disaggregated enrolment data.

Formula: $$\text{Secondary Cohort Survival Rate} = \frac{\text{Students}_{\text{Fourth Year}_t}}{\text{Students}_{\text{First Year}_{t-3}}} \times 100$$

Where, $\text{Students}_{\text{Fourth Year}_t}$ = number of students enrolled in Fourth Year in year t

$\text{Students}_{\text{First Year}_{t-3}}$ = no. of students enrolled in First Year in year t-3

Data requirements: No. of Fourth Year students enrolled in time t
No. of First Year students enrolled in time t-3

Data source: Department of Education

Example: The present enrolment for Fourth Year High School in a locality is 15,764 of which 8,670 are females and 7,094 are males. The enrolment for First Year three years back is 20,891 of which 10,027 are females and 10,864 are males.

Then, the

Secondary Cohort Survival $= \frac{15,764}{20,891} \times 100$
$= 75.46\%$

Secondary Cohort Survival Rate Female $= \frac{8,670}{10,027} \times 100$
$= 86.47\%$

Secondary Cohort Survival Rate Male $= \frac{7,094}{10,864} \times 100$
$= 65.30\%$

Remarks: This means that almost 76% of the students enrolled in first year were able to finish high school. Of these, 42% were females and 34% were males. The secondary school cohort survival rate of female students is again significantly higher than the males' (86% vs. 65%).

Elementary retention rate by sex. This measures how much of the elementary school enrolment in the past year was able to continue schooling in the current year.

Formula: Elementary Retention Rate (ERR) $= \frac{\text{Grade X}_t}{\text{Grade (X-1)}_{t-1}} \times 100$

Data requirements: Number of pupils enrolled in Grade X in school year t
No. of pupils enrolled in Grade X-1 in school year t-1

Data source: Department of Education

Example: (Please see data below)

$ERR_{III} = \frac{9,312}{9,764} \times 100$
$= 95.37\%$

$ERR_{\text{Grade III Female}} = \frac{5,419}{5,425} \times 100$
$= 99.89\%$

$ERR_{\text{Grade III Male}} = \frac{3,893}{4,339} \times 100$
$= 89.72\%$

$$ERR_{Grade\ V} = \frac{9,229}{9,321} \times 100 = 99.01$$

$$ERR_{Grade\ V\ Female} = \frac{5,162}{5,254} \times 100 = 98.25\%$$

$$ERR_{Grade\ V\ Male} = \frac{4,067}{4,067} \times 100 = 100.00\%$$

$$\text{Elementary Retention Rate} = \frac{53,757}{56,936} \times 100 = 94.42\%$$

Grade	June 1995			June 1994		
	Total	Female	Male	Total	Female	Male
Grade I	8,114	4,090	4,024	10,314	6,704	3,610
Grade II	9,233	5,238	3,995	9,764	5,425	4,339
Grade III	9,312	5,419	3,893	9,582	5,419	4,163
Grade IV	8,997	4,930	4,067	9,321	5,254	4,067
Grade V	9,229	5,162	4,067	8,983	5,107	3,876
Grade VI	8,872	5,000	3,872	8,972	5,098	3,874
Total	53,757	29,839	23,918	56,936	33,007	23,929

Remarks: Based on the figures, 95 % of those enrolled in Grade II in June 1994 were able to attend Grade III. The retention rate for females is nearly 100% while that of males is about 90%. Likewise, 99% of those who enrolled in Grade IV were able to go through Grade V. The ERR for females for Grade V is 98% while that for males is 100%. The ERR for school year 1994-1995 is 94%. This means that 94% of those enrolled in 1994 were still in school in 1995.

Elementary dropout rate by sex. This is the proportion of students who leave school during the year to the total enrolment at the beginning of the schoolyear. It could also refer to those who completed a grade or year but failed to enroll in the next grade/year. Increase in the dropout rate or decrease in retention rate may be attributed to such factors as transfer of residence, financial difficulties, or lack of interest in schooling. LGUs should examine dropout rates so they could implement corrective measures in cooperation with concerned education or school officials.

Formula:

$$\text{Elementary Drop Out Rate} = \frac{\text{Enrollment}_{\text{June T}} - \text{Enrollment}_{\text{March T+1}}}{\text{Enrollment}_{\text{June T}}} \times 100$$

Where, $\text{Enrolment}_{\text{June T}}$ = number of enrolled in grade X in the beginning of the school year t

$\text{Enrolment}_{\text{March T+1}}$ =no. of enrolled in grade X at the end of the school year t

Data requirements: No. of pupils enrolled in Grade X in the beginning of school year t.
No. of pupils enrolled in Grade X at the end of school year t.

Data source: Department of Education, Culture and Sports.

Example: The following are the enrolment by grade for the school year 1994-1995

Grade	Enrolment					
	June 1994			March 1995		
	Total	Female	Male	Total	Female	Male
1	10,314	5,670	4,644	10,310	5,668	4,642
2	9,764	5,586	4,178	9,744	5,568	4,176
3	9,582	5,563	4,019	9,578	5,560	4,018
4	9,321	5,478	3,843	9,320	5,477	3,843
5	8,983	5,475	3,508	8,975	5,477	3,498
6	8,972	5,474	3,498	8,972	5,474	3,498

$$\text{Elem Drop out Rate}_{\text{Grade I}} = \frac{10,314 - 10,310}{10,314} \times 100 = 0.04\%$$

$$\text{Elem Drop out Rate}_{\text{Grade I Female}} = \frac{5,670 - 5,668}{5,668} \times 100 = 0.04\%$$

$$\text{Elem Drop out Rate}_{\text{Grade I Male}} = \frac{4,644 - 4,642}{4,644} \times 100 = 0.04\%$$

Percentage of NEAT/NSAT passers. This is the proportion of students who passed the National Elementary Achievement Test (NEAT)/ National Secondary Achievement Test (NSAT) administered by the Department of Education among Grade VI/Fourth Year high school students, respectively.

Formula: Percentage of NEAT passers = $\frac{\text{Number of Grade VI pupils who passed the NEAT}}{\text{No. of Grade VI pupils who took the NEAT}} \times 100$

Percentage of NSAT passers = $\frac{\text{No. of Fourth Year students who passed the NSAT}}{\text{No. of Fourth Year students who took the NSAT}} \times 100$

Data requirements: No. of NEAT passers & no. of NEAT examinees
No. of NSAT passers & no. of NSAT examinees

Data source: Department of Education

Example: Suppose the following are the number of NEAT and NSAT passers and examinees:

	Test					
	NEAT			NSAT		
Students	Total	Female	Male	Total	Female	Male
Examinees	8,972	5,474	3,498	10,463	6,800	3,663
Passers	8,657	5,268	3,389	9,878	6,218	3,660

Percentage of NEAT passers = $\frac{8,657}{8,972} \times 100 = 96.49\%$

Percentage of NEAT passers $_{\text{Female}} = \frac{5,268}{5,474} \times 100 = 96.24\%$

Percentage of NEAT passers $_{\text{Male}} = \frac{3,389}{3,498} \times 100 = 96.88\%$

Percentage of NSAT passers = $\frac{9,878}{10,463} \times 100 = 94.41\%$

Percentage of NSAT passers $_{\text{Female}} = \frac{6,218}{6,800} \times 100 = 91.44\%$

Percentage of NSAT passers $_{\text{Male}} = \frac{3,660}{3,663} \times 100 = 99.92\%$

Elementary/secondary school teacher/pupil ratio. Dividing the number or elementary school pupils by the number of elementary school teachers, and the number of secondary school students by the number of secondary school teachers, will yield the elementary and secondary school teacher-pupil ratio, respectively.

Formula: Elementary school pupil-teacher ratio

$$= \frac{\text{Number of elementary school pupils}}{\text{No. of elementary school teachers}}$$

Secondary school student-teacher ratio

$$= \frac{\text{No. of secondary school pupils}}{\text{No. of secondary school teachers}}$$

Data requirements:
No. of elementary school pupils
No. of elementary school teachers
No. of secondary school students
No. of secondary school teachers

Data Source: Department of Education

Planning Standard: Teacher: Student 1:40

Example: If the number of elementary teachers for a province is 1,113 and the number of pupils is 56,936, the elementary school pupil-teacher ratio is 56,936: 1,113 or 51 students per teacher.

Percentage of women/men by highest grade completed. The categories of highest grade completed are No Grade Completed, Grades I-V, Grades V-VII, Undergraduate-Secondary, Graduate-Secondary , Post-Secondary, Undergraduate-College, Graduate-College, Postgraduate.

Formula: Percentage of women by HGC $= \frac{\text{Number of women by HGC}}{\text{Total no. of persons by HGC}} \times 100$

Percentage of men by HGC $= \frac{\text{No. of men by HGC}}{\text{Total no. of persons by HGC}} \times 100$

Where, HGC = Highest grade completed

Data requirements: No. of women/men by highest grade completed

Data source: Department of Education

Example: Consider the following table of household population 7 years old and over by sex, and the highest grade completed:

Highest grade completed	Total	Women	Men
No grade completed	57,376	28,417	28,959
Elementary Grades	263,618	123,142	140,476
Undergraduate secondary	74,815	37,253	37,562
Graduate secondary	53,118	24,901	28,217
Post secondary	8,303	3,847	4,456
Undergraduate college	28,042	14,127	13,915
Graduate college	21,450	12,437	9,013
Postgraduate	532	275	257
Total	**507,254**	**244,399**	**262,855**

$$\text{Percentage of women}_{\text{no grade completed}} = \frac{28,417}{57,376} \times 100 = 49.53\%$$

$$\text{Percentage of men}_{\text{no grade completed}} = \frac{28,959}{57,376} \times 100 = 50.47\%$$

$$\text{Percentage of women}_{\text{graduate secondary}} = \frac{24,901}{53,118} \times 100 = 46.88\%$$

$$\text{Percentage of men}_{\text{graduate secondary}} = \frac{28,217}{53,118} \times 100 = 53.12\%$$

Simple literacy rate by sex. This is the percentage of the population aged 10 years and over who can read and write a simple message in a language or dialect.

Formula: $SLR = \frac{\text{Population aged 10 years and over who are simple literate}}{\text{Population aged 10 years and over}} \times 100$

Data Requirements: Number of population aged 10 years and over who are simple literate
Population aged 10 years and over

Data Source: Functional Literacy, Education and Mass Media Survey (FLEMMS) conducted by the National Statistics Office
Minimum Basic Needs Survey

Example: The following are the data on the literacy of household population 10 years old and over by sex.

	Total	Women	Men
Pop (10 years old & over - who are literate)	333,027	165,773	167,254
Population (10 years old & over)	364,822	174,411	190,411

$$SLR = \frac{333,027}{364,822} \times 100 = 91.28\%$$

$$SLR_{Women} = \frac{165,773}{174,411} \times 100 = 95.05\%$$

$$SLR_{Men} = \frac{167,254}{190,411} \times 100 = 87.84\%$$

Remarks: The simple literacy rate for both sexes is 91.28%. Females have a higher literacy rate than males.

Functional literacy rate by sex. This is the percentage of the population 10 years old and over who have acquired a higher level of literacy that includes not only reading and writing skills but also numerical skills and the ability to participate fully and efficiently in community activities.

Formula: $SLR = \frac{\text{Population aged 10 years old and over who are functionally literate}}{\text{Population aged 10 years old and over}} \times 100$

Data requirements: Number of population 10 years old and over who are functionally literate
Population 10 years old & over

Data source: Functional Literacy, Education and Mass Media Survey (FLEMMS) conducted by the National Statistics Office
Minimum Basic Needs Survey

Example: Following are the data on the functional literacy of household population 10 years old and over by sex.

	Total	Male	Female
Population 10 years old & over who are functionally literate	310,056	152,763	157,293
Population 10 years old & over	364,822	190,507	174,411

$$FLR = \frac{310,056}{364,822} \times 100 = 84.98\%$$

$$FLR_{Women} = \frac{157,293}{174,411} \times 100 = 90.19\%$$

$$FLR_{Men} = \frac{152,763}{190,507} \times 100 = 80.19\%$$

Remarks: Based on the figures, about 9 (5 females and 4 males) out of 10 persons aged 10 years and over have acquired a higher level of literacy that includes not only reading and writing skills but also numerical skills.

Population-S&T professional ratio. S & T professionals are graduates of science and technology courses.

Formula: $\text{Population-S\&T professional ratio} = \frac{\text{Population}}{\text{Number of S\&T professionals}}$

Data requirements: No. of S&T professionals
Population

Data source: Department of Science and Technology

Elementary/secondary school pupil-textbook ratio. This is the number of elementary or secondary school pupils divided by the number of textbooks.

Formula: Elementary/secondary school pupil-textbook ratio =
Number of elementary/secondary school pupils
No. of elementary/secondary school textbooks

Data requirements: No. of elementary & secondary school pupils
No. of elementary & secondary school textbooks

Data source: Department of Education

Example: No. of elementary school pupils = 53,757
No. of elementary school textbooks = 483,813
Pupil-textbook ratio = 53,757 / 483,813 = 1:9 (9 books per pupil)

Other Core Indicators on Gender and Development

In addition to the indicators discussed above, there are other indicators which are crucial in determining gender-based issues. They were identified according to the vision of the PPGD and the objectives of the Beijing Platform for Action. Identification was made under the project implemented by the National Statistical Coordination Board (NSCB) as part of the second phase of the CIDA-assisted Institutional Strengthening Project of the NCRFW .

A total of 20 core GAD indicators were selected under the NSCB project in pursuit of the following visions and concerns:

- ***Gender equality and equity and actualization of human potentials beyond basic needs***

Concern	Indicator
Equal access to and attainment of educational qualifications	literacy rate by sex
	elementary/high school/college completion rate by sex; post-secondary and higher education graduates by major programs and sex

Women are increasingly involved in paid work outside the home but questions of equal pay for work of equal value and sharing of home responsibilities with their partners are raised.	labor force participation rate by sex and age group; employment rate by sex, age group and highest grade completed; share of women to total employment size by major occupation group by class of worker average income by sex average time spent doing household chores by employed women and men
Women have different and unequal access to and use of basic health resources. Women's health is affected by gender bias in the health system and by inadequate and inappropriate medical services.	nutritional status by sex and age group; nutritional status of pregnant women (incidence of malnutrition) life expectancy by sex % of family planning/contraceptive users by sex MMR (maternal mortality rate), CMR (child mortality rate) by sex, mortality by leading causes of death by age and sex; morbidity by leading causes, by age and sex incidence of teenage pregnancy, STD (sexually-transmitted diseases) and RTI (reproductive tract infections)
Feminization of poverty due to absence of economic opportunities and autonomy, lack of access to education and support, minimal participation in decision making, sexual exploitation	poverty incidence by sex
Presence of institutional mechanisms to promote the advancement of women	% of government budget for gender and development activities
Negative and degrading images of women in media	% of advertisements and printed materials which are sexist, stereotyped and show women in demeaning roles

- ***Women's empowerment, democratic participation and self determination at all levels***

Women's lack of decision making power and authority, preventing them from leading fulfilling lives and improving their status	% of women candidates and share in national and local elective positions; % of women's share in managerial or supervisory positions % of women in technical positions % of female/male headed households by civil status leadership/membership in labor unions, cooperatives and peasant organizations by sex

- ***Sustainable development***

Women and men are entitled to a healthy and productive life in harmony with nature. Women have an essential role in developing sustainable and ecologically sound consumption and production patterns and approaches to natural resource management.	Indicators on people's exposure to air and water pollution, by sex and by "polluting industries"

- ***Peace and social justice and respect for human rights***

Violence against women violates and impairs or nullifies their enjoyment of their human rights and fundamental freedoms.	Incidence of violence against women and children, number of cases, by type of violence
Violation of the human rights of women in situations of armed conflict and military occupation are violations of the fundamental principles of international human rights and humanitarian law.	number of political detainees, incidence of arrests/executions/other human rights violations, by sex and age group.

Take note that one of the indicators is the percentage of the government budget for gender and development. This indicator is based on the provision in the General Appropriations Act which requires government agencies and LGUs to allocate a minimum of 5 percent of their annual budget for gender and development activities. Agency compliance with this provision is monitored by Congress. Technical assistance on GAD budgeting is provided by the NCRFW.

Many of the indicators are already included in the previous discussions and are ordinarily used by planners. The rest are relatively unknown or not widely used because the data requirements are not normally included in regular data collecting activities or, if they are, they are not processed at the required level of disaggregation. Examples are average income by sex, college completion rate by sex, mortality and morbidity by leading causes by sex, and poverty and subsistence incidence by sex.

NSCB has made some proposals to generate the data for some of these. For instance, since average income by sex could not be generated from the Family Income and Expenditure Survey which is a household-based survey, there has to be a special study for this purpose. For data on leading causes of mortality and morbidity by sex, the DOH should be requested to disaggregate its data in the Philippine Health Statistics and the Field Health Service Intelligence System. The DOH monitoring system should likewise be requested to generate data on the incidence of sexually transmitted diseases and reproductive tract infections. The percentage of male-headed and female-headed households by civil status would require special tabulations from the Census of Population and Housing.

Certain types of data for some of the core GAD indicators are gathered using special research or data-gathering techniques. For example, while data on violence against women and children may come from crime statistics, these are not necessarily the only instances that violence was committed against them. Many cases of domestic violence are

unreported because the family prefers to hide these to avoid embarrassment or scandal. It takes professional interviewers and a special research method to encourage victims to speak up. Thus, for a program to be more comprehensive and address violence against women, information-gathering should not be limited to crime statistics.

The indicator on average time spent doing household chores also requires a special methodology. It means a detailed recording of time spent by women and men in activities inside and outside the home, in terms of hours and minutes on a daily basis and probably over several weeks or a month to establish a pattern. Ateneo de Manila University did initial studies on time use and came up with interesting findings on the average time use of employed women and men. NSCB and NSO have also devised a methodology for a nationwide pilot survey on time use. Findings from this survey would provide a benchmark for tracking changes in the sharing of domestic responsibilities by husband and wife or between male and female household members over time.

Another type of "unusual" data are data on sexism in media, which continue to be filled with negative images of women while overlooking women's significant contributions. Stereotyped and demeaning portrayals of women are typical, reinforcing the perception that women should not be taken seriously or that they are not capable of important or challenging roles. This detracts from the achievements of women and makes the struggle for gender equity doubly difficult. To convince media practitioners that sexism exists and that it has to stop because it distorts the truth and violates women's rights, data must be presented showing the prevalence of these negative images and how they are perpetuated in print, on television, in the movies, and on the Internet. One of the methods of gathering such information is through content analysis of print, broadcast and electronic media including movies. This will involve a lot of resources in terms of time, expertise and funds including the cooperation of the media industry.

Finally, there are data requirements which, with current methods in data collection, may be difficult to obtain. Examples are

data on the exposure rates of women and men to air and water pollution, possibly by polluting industry.

The definition and estimation methodology of the core GAD indicators not previously explained are in *Annex B*.

Additional Indicators for the Socioeconomic Profile

The locality's socioeconomic profile would not be complete without the other important indicators that describe its economic assets and physical characteristics. Thus, the following indicators should be put together and included in the analysis of the socioeconomic profile of the locality. Definitions, computation method, data requirements and data sources for these indicators are found in *Annex C*.

Spatial distribution of the population

- Percentage of urban population
- Population density
- Percentage of population by geographic classification

Macro-economics and financing

- Local government income by source
- Local government income by source and expenditure
- Consumer price index for all items
- Average annual inflation rate

Agriculture and fishery

- Percentage of agricultural land to total land area
- Agricultural land area per farm, per worker, per farm population
- Percentage of local production to national production by type of agricultural product
- Percentage/ratio of irrigated land to total irrigable land

Agrarian reform

- Percentage of land parcels by tenure status

Environment and natural resources

- Percentage of forests and woodlands to total land area
- Percentage of denuded forest area to total forest area
- Water pollution index
- Air pollution index

Energy

- Energy consumption per capita

Transportation

- Percentage of paved roads

Communications

- Postal density

Housing

- Average floor area of housing units

Types and Sources of Data for the Indicators

(This is based on the work of Prof. Eliseo de Guzman, UP Population Institute, on Indicators for POPDEV Planning.)

Data may be classified as primary or secondary. Primary data come from censuses, surveys, vital registration, administrative data and service statistics of government agencies. Secondary data are usually based on primary data and are used in research conducted by government, academic, research and other institutions.

Censuses. Census data cover the entire population of a particular locality which may be a country or a clearly defined geographic territory within a particular country. A census is usually taken

once every five or 10 years. The principal agency in charge of conducting censuses and processing the data is the NSO.

Sample surveys. Sample survey data cover only a part of the entire population, usually a representative segment, and as such can provide estimates about the entire population. The segment or sample is carefully chosen so that some generalizations can be made about the entire population. While it covers a limited number of cases, a survey can be more comprehensive or can cover more details than a census.

Examples of surveys that are regularly conducted and are mentioned in this Guidebook are:

- Quarterly Labor Force Surveys (LFS)
- Family Income and Expenditure Survey (FIES)
- National Demographic Surveys (NDS)
- Family Planning Surveys (FPS)
- National Nutrition Survey (NNS)
- Functional Literacy, Education and Mass Media Survey (FLEMMS)

Except for the NNS which is conducted by the Food and Nutrition Research Institute, all these surveys are conducted principally by the NSO in coordination with concerned agencies of government and some academic institutions. Other research or private institutions also conduct surveys for their own special requirements or purposes.

Vital statistics. Vital statistics are collected through the vital registration system of the NSO. Recorded in the vital registration system are vital events such as births, deaths, marriages, fetal losses and annulment of marriages. Ideally, the vital registration system should cover all vital events occurring in the entire population. However, this does not happen and as a result, vital statistics suffer from underregistration.

Administrative data. These are data maintained by government and non-government institutions as part of their administrative records for management and other purposes. These records provide

data on a particular group or special group of individuals under the employ of the organization concerned. One example of administrative data would be the personnel record of the civil service.

Service statistics. Government and non-government agencies which conduct programs and projects that provide certain types of services have data on their beneficiaries or clientele. These data are called service statistics. They provide information on the number of target clientele, number of individuals who avail of the services, and the characteristics of the clientele and beneficiaries.

Major sources of primary data are government statistical agencies and other agencies producing or generating statistics as part of or as a result of the implementation of their programs and services.

Secondary data. Research, assessment studies or special studies are conducted by government and non-government organizations, academic institutions and individuals. These activities may generate and analyze data and derive parameters or indicators useful for further analyses.

Data sources are the major statistical agencies as well as other agencies producing data as part of their operations or administrative functions. The major statistical agencies are the following:

- NSO (in charge of general purpose statistics obtained through censuses, surveys or vital registration);
- NSCB (policy and coordinating body on statistical concerns and activities);
- SRTC (a research and training institution on statistics);
- Bureau of Agricultural Statistics under the DA (a major producer of agricultural statistics); and
- Bureau of Labor and Employment Statistics under the DOLE (produces labor and employment statistics).

Other government agencies which produce statistics on the sector they serve are:

- DOH, Food and Nutrition Research Institute (health and nutrition)
- DepEd (education)
- DSWD (social welfare)
- Bangko Sentral ng Pilipinas, Department of Finance, Department of Trade and Industry (trade and finance)
- Civil Service Commission (civil service)
- Philippine National Police (crime)
- Department of Public Works and Highways, Department of Transportation and Communications, others (infrastructure, utilities)

Addressing Data Gaps at the Local Level

Probably one of the main problems of local development planning is the lack of statistics or indicators available at the municipal or barangay level, or the so-called small area statistics. Because of limited budget and enormous statistical responsibilities, statistical agencies are committed to supply statistics at the provincial level, and at most, for designated statistics. NSO has published provincial profiles containing comprehensive statistics and indicators on almost all areas of concern — physical or geographic characteristics, demographic, economic, educational, political, health and family planning, agriculture, housing, mining, etc. For municipal level statistics, NSO is publishing municipal/city level statistics of selected 20 provinces which include demographic and socioeconomic data - population, demographic, education, economic, housing and utilities and infrastructure *(SRTC Report on Core Indicators for POPDEV Planning at the Local Level)*.

Many LGUs are still faced with the problem of lack of sex-disaggregated data for use in their planning. If statistics for the needed indicators are not available, they may consider preparing a data improvement plan. They can either collect and process their own

data, or negotiate with statistical agencies to make the data available (for free or for a fee) by including these in their next data-gathering activity or generating them from existing census or survey data and administrative data. In either case, this will require financial resources.

LGUs may also consider proxy indicators from other available data, such as indicators from the Minimum Basic Needs (MBN), especially once this becomes operational at the national level.

Municipalities or cities collecting their own data can design their data-gathering instruments or techniques to meet their particular requirements. For example, to address a particular issue, they may focus their data gathering on the area/s where the issue is prevalent. They may use focused group discussions or interview community informants. They may also do a mapping or conduct small area sample surveys.

With basic training in preparing and administering profile sheets or forms and in tabulating data, barangays can be involved in data gathering. They can come up with the socioeconomic profiles of their constituents. In addition, they may introduce an improvement in their "Katarungang Pambarangay" recording system. They may also be assisted to prepare a barangay profile. These are a very rich source of current and comprehensive information for municipal or city planning and programming.

The barangay may administer a profile sheet on specific items or groups of items so as to limit the information being sought from the respondent and keep the form short, preferably one page. The process could be repeated for other items on another occasion. The form should be worded in the local dialect.

A typical profile sheet may contain some of the following *(please see sample household profile on the following page):*

- name, age, sex, civil status, number of children;
- educational attainment, occupation, business (nature), if waged or own-account worker/overseas contract worker;
- homeowner/renter/squatter/shares dwelling with others;
- landowner/tenant/agrarian reform beneficiary;
- with electricity/telephone/vehicle/number and kind of electrical or electronic appliances;
- with own toilet/no toilet, etc.;
- if aware of family planning or contraceptive methods; and
- membership in formal organizations.

Forms should be numbered as a control measure. They could be distributed and retrieved after a reasonable period of time. Retrievers should examine if they are properly filled up.

Barangay officials may also be taught and required to prepare a barangay profile to accompany their annual development and investment plan *(please see sample on pp. 134-135)*. Information which can go into a barangay profile would be:

- number of residents by age and sex (which can be obtained directly by enumeration or based on the tabulated results of the profile sheets);
- number of schools in the barangay by level, school population, number of pupils and teachers;
- predominant economic activities; major agricultural, industrial, commercial products;
- business establishments and number of employees;
- existing water system for the household;
- existing garbage disposal system;
- having regular health services;
- the presence of squatters or homeless people, how many, etc.; and
- existence of formal organizations or NGOs, POs, religious groups, women's groups, etc.

Using this method may prove to be most economical (direct cost would be training and the printing of forms which can be charged to the GAD budget) and most beneficial to the municipality. Helping them see their own situation (in figures) may awaken the interest of residents to be more active in the transformation of the community. Municipalities may decide to pilot this in one or two barangays to see if it would serve their purpose, and if it does, to improve the technique when they decide to require it from all the barangays. They may also opt to update their data regularly (maybe once a year) and involve the youth organizations particularly the Sangguniang Kabataan in this activity.

Such local data permit generalizations only in the specific locality where they were obtained. But they are valuable in addressing the specific problems in the area. The municipality can compare data and issues across barangays to gain a broader and in- depth view of the needs of its constituents.

Sample Household Profile Form

Household No.:____ Date:_____
Informant:_____ Relation to HouseholdHead_____

1. Household members:

Name	Sex	Age	C. Status	Highest grade completed
HH head:				
Spouse of HH head:				
Children: 1)				
2)				
3)				
Other members 1)				
2)				

2. Information about working or employed HH members:

Name of employed or working member	Occupation	Own-acct/Salaried	Monthly cash income

3. Homeownership: [ ] Homeowner [ ] Renter [ ] Sharer
[ ] Squatter [ ] Homeless

4. House is built mostly of: [ ] Concrete/GI sheets [ ] Wood/GI sheet
[ ] Nipa/bamboo [ ] Others: _____

5. Land ownership: Size of landholding (hectares or sq. m)_____

Land use (indicate % of total): [ ] Agricultural [ ] Commercial/industrial
[ ] Residential [ ] Others (pls. specify)
_____

6. Ownership of electrical appliances (type and number, e.g. 2 TV sets, 1 washing machine, etc.)

7. Ownership of motorized vehicles: (type and number, e.g. 1 tricycle, 1 passenger jeep)

_____

8. Ownership of telephone (land line and cellular) _____

9. Toilet facilities: [ ] Flushed [ ] Antipolo [ ] None

10. Source of water for household use: [ ] Piped-in [ ] Pump
[ ] Open well [ ] Others _____

11. Membership in organizations:

Name of member	Organization
_____	_____
_____	_____

12. If wife/husband is aware of or presently uses any of the following family planning methods:

	Is aware of them		Presently uses them	
	Wife	Husband	Wife	Husband
Natural/rhythm	_____	_____	_____	_____
Condom	_____	_____	_____	_____
Pill	_____	_____	_____	_____
IUD	_____	_____	_____	_____
Sterilization	_____	_____	_____	_____

Sample Barangay Profile Form

Date_____
Name of Barangay:_____ City/Municipality_____ Province_____
Prepared by:_____ Position in the barangay:_____

1. No. of households: Total _____ Female-headed _____ Male-headed _____

2. No. of residents: Total _____ Female _____ Male _____

3. Age groups:

	Female	Male	Total
0-6	_____	_____	_____
7-22	_____	_____	_____
23-65	_____	_____	_____
65 & over	_____	_____	_____

4. No. of public schools: Elementary _____ High school _____ Others _____

5. Population in school (age 7-22 years old):

	Elementary	High school	College or higher
Girls	_____	_____	_____
Boys	_____	_____	_____

6. Population out of school (age 7-22 years old):

Girls	_____	_____	_____
Boys	_____	_____	_____

7. Land area of the barangay (in hectares and sq. km) _____

8. Land use (% to total land area): [ ] Residential [ ] Agricultural [ ] Commercial [ ] Industrial [ ] Others_____

9. Principal sources of livelihood: _____

10. Nature/number of existing commercial/industrial establishments (e.g. 1 piggery farm, 1 bihon factory, 5 sari-sari stores, etc.)
_____

11. Number of employed/unemployed (age 15 & over):

	Female	Male	Total
Employed	_____	_____	_____
Unemployed	_____	_____	_____

12. % of existing barangay roads that are paved: _____

13. No. of: Home/lot owners _____ Renters _____ Sharers _____ Squatters _____ Homeless _____

How many of the households above are male-headed? _____ Female-headed? _____

14. Existing organizations (civic, religious, cooperatives, etc. and no. of members from the barangay)

	No. of members:	
Organization	Female	Male
_____	_____	_____
_____	_____	_____

15. Existing government programs and number of beneficiaries:

Government program	No. of beneficiaries		
	Female	Male	Total
_____	_____	_____	_____
_____	_____	_____	_____

16. Existing water system for household use and no. of users:

Barangay water works cooperative (with distribution system)	_____
Household pump or motorized/electric system	_____
Barangay artesian well	_____
Open wells or other sources	_____

17. Barangay garbage disposal system: Collected ____ Individual HH disposal ____

18. No. of HHs with no sanitary toilet facilities: _____

19. Awareness and practice of family planning by method, by sex (husband/wife).

PART 3

A Gender-Responsive Population and Development Indicator System

Introduction

The Gender-Responsive Population and Development Indicators System (GRPDIS) aims to provide local planners with a database system for the identified core indicators in the project commissioned to the SRTC. The system serves as a starting point in building a database of indicators at the local level. The local government unit, however, has the option to add or delete indicators included in the list of identified core indicators as deemed appropriate for the locality.

The system was developed using MS Access. Its main features include the following:

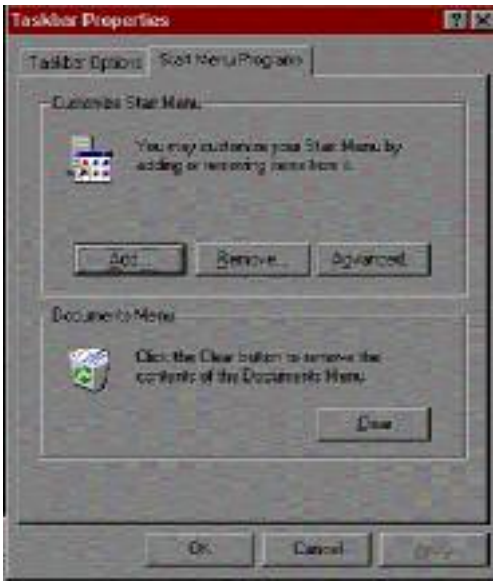
- Maintenance of database;
- Generation of reports with print preview functionality;

- Transfer of reports in MS Excel for further analysis, MS Word and Notepad for further output design requirements;
- Editable system parameters;
- Setting and unsetting of password;
- Compacting of database;
- Creation of database backup;
- Database repair; and
- Record find and replace.

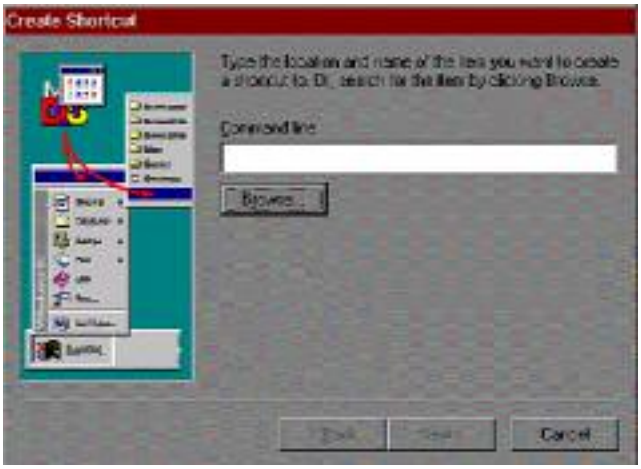
Installation Procedure

1. Click **Run** from the **Start** button. The **Run Dialog Box** will pop-up on the screen, then type **A:\INSTALL.BAT** and click **OK**.

2. Click the **Start** button, select **Taskbar** from **Settings**. The **Taskbar Properties** will appear on the screen. Select the **Start Menu Programs** tab.



3. Click the **Add** button, **Create Shortcut** window will appear on the screen.



4. Click **Browse**. Look for the **GRPDIS** folder and double-click it. From the said folder, select **Gender**. If **Gender** does not exist, select **All Files** from the **Files Of Type**. Click **Open** button.

5. The **Create Shortcut** window will again appear on the screen with the name of the system written on it. Click **Next**.

6. The **Select Program Folder** window will appear on the screen, click **Next**.

7. Type **Gender** and then click **Finish**.

8. Close the **Taskbar Properties** window.

System Navigation

The system is designed to be user-friendly. Buttons and menus are available for navigating the entire system. All buttons are equipped with tooltips. System guides are visible at the status bar located at the lower portion of the screen. Menus can be activated even without a mouse by pressing the **Shift** key plus the hot key of the desired command. Messages will be given to the users by means of a dialog box.

1. **System Startup**

   Select **Programs** from the **Start** button and click **Gender**. The system will require a password. Enter the correct password, otherwise entry to the system is not possible.

2. **System Shut-down**

   It is recommended to compact the database before closing the system. It could defragment the file and free disk space resulting in a more efficient system.

Main Window

Upon issuing the correct password the system's main window will pop up on the screen.

1. **Menu Bar**

   Four menu options are available on the system and they are as follows:

   a. **File** – composed of the following:

      - **Save**
      - **Exit**

   The name of the menu item already dictates its function.

   b. **Edit** – composed of the following:

      - **Undo**
      - **Cut**
      - **Copy**
      - **Paste**
      - **Find**
      - **Find Next**
      - **Replace**

   The name of the menu item already dictates its function.

   c. **Report Generation**

      - **Population Development** – printing screen will pop up on the screen
      - **Sector Library** – prints all encoded sectors.

   d. **Utility**

      - **Compact Database** – to defragment the system. Activate this item before quitting the system.

- **Back-up Database** – to create replica of the data encoded. It requires that the system be opened first on exclusive mode. To open the system in an exclusive mode, do the following:

  - Quit the system.
  - Open **MS Access**.
  - Select the name of the system, then click the **Exclusive** check box.
  - Click **Open**.

- **Change System Name** – the system name written on the main window can be altered using this option.

- **Repair Database** – click this item if an error is made in opening the database.

- **Unset Database Password** – the system is password-protected for security purposes. Nevertheless the password can be altered or can be removed using this option. Like Back-up Database, it will also require the user to open the system on an exclusive mode.

Hot-keys are provided to access the menu items even without the use of the mouse. Press **Alt** together with the underlined letter of the menu option or item. Shortcut keys are also provided.

2. **Toolbar**

These items on the toolbar are the easiest way to access some functionalities of the menu items with the use of mouse.

- Save
- Undo
- Cut
- Copy
- Paste
- Find
- Find Next
- Replace

3. **Option Buttons**

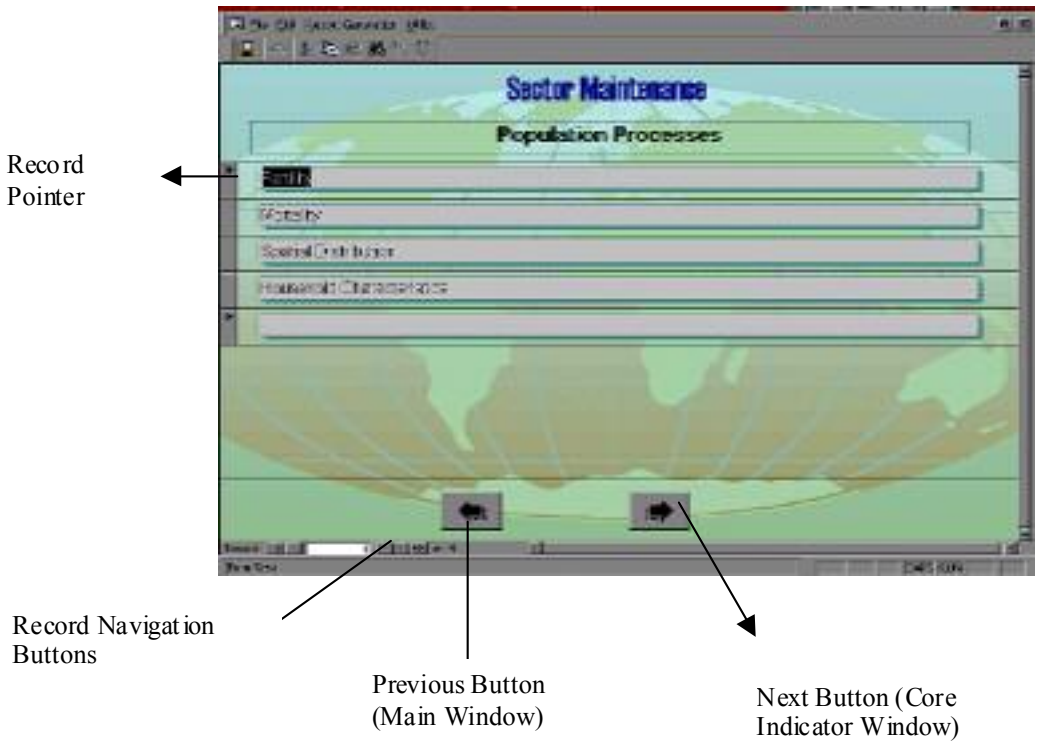
Below are the option buttons:

- **Population Processes**
- **Population Outcomes**
- **Development Processes I**
- **Development Processes II**
- **Development Outcomes**
- **Quit**

Click the category of the core indicator to be entered or to be modified.

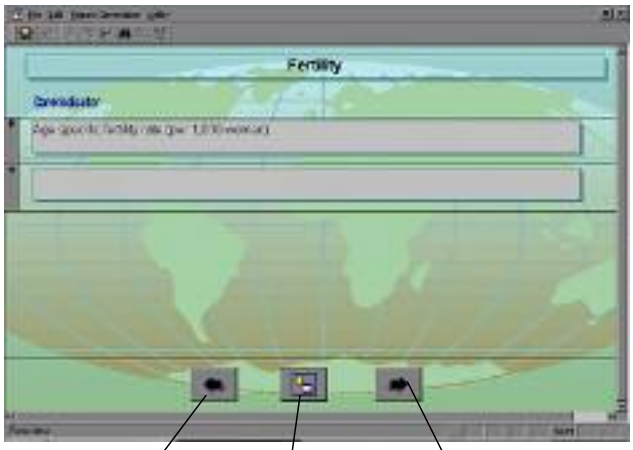
Sector Maintenance Window

Type in the sector name to be added. To add core indicators, click the record pointer of the desired sector and click the **Next** button. To go back to the main window click the **Previous** button.



Core Indicators Window

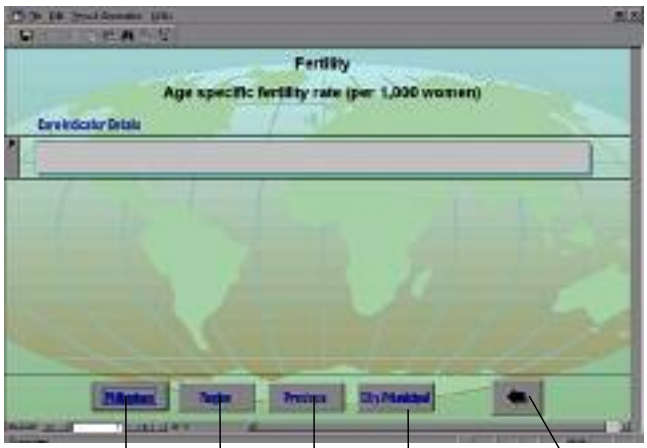
Click the **Add** button to add or edit core indicators. Press the **Previous** button to go back to the **Sector Maintenance** window. Click the record pointer of the desired core indicator and click the **Next** button to add or edit core indicator details.



Below is the **Core Indicators Maintenance** window. Press the **Previous** button to go back to the **Core Indicators** window.

A. Core Indicators Details Maintenance

This window allows the creation of new core indicator detail, alteration and deletion of existing core indicator details. Click the record pointer of the desired core indicator detail and press the area coverage of the statistics to be added or modified.

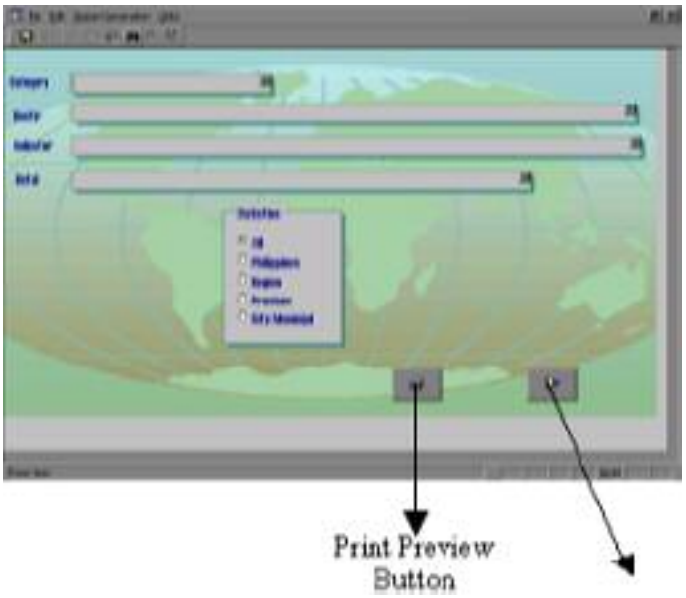


Statistics Maintenance

This window allows the creation of new statistics, and the alteration and deletion of existing statistics. Press the **Previous** button to go back to the **Core Indicator Details Maintenance** window.

B. Population Development Statistics Print Options Screen

Select the category, sector, core indicator and detail to be printed. Blank entry means all.



The print preview screen has a new set of menu bar and tool bar. Below are the menu options:

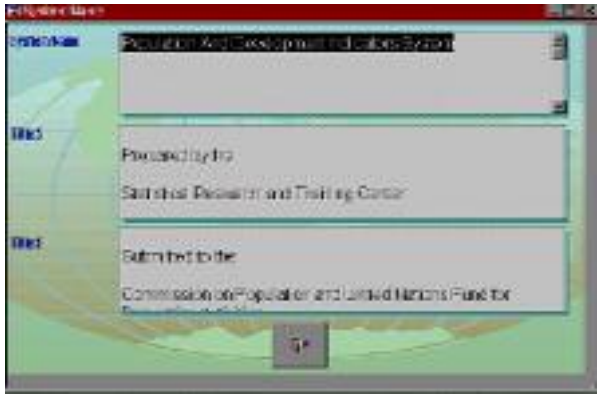
- **File**
  - **Print**
  - **Page Setup**
  - **Close**
- **Utility**
  - Analyze it with **MS Excel**
  - Publish it with **MS Word**
  - **Output to Notepad**

The toolbar items are as follows:

- **Print**
- **Page Setup**
- **Output to Notepad**
- Analyze it with **MS Excel**
- Publish it with **MS Word**
- **Zoom**
- **Zoom percent**
- **Close**

Change System Name

This window allows the user to change the system name and titles found on the main screen.



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Annexes

Annex A

Sample Socioeconomic Profile for the LGU

(***Note:*** *Normally, SEPs initially present physical and economic data. However, because of our emphasis on the human dimension in planning, we are presenting socio-demographic data first in this sample. Either way is correct. What is important is that the planner should try to present as complete or exhaustive, up-to-date and accurate sets of data as possible on all areas critical to planning. In addition to the statistics and indicators enumerated below, supplementary statistical tables, graphs and other relevant information should accompany the SEP. Note that the statistics and indicators included here are those that were explained in the text. Other statistics and indicators available in the LGU may also be included and factored into the planning process where relevant.)*

I. Demographic Characteristics

A. Fertility

1. Crude birth rate
2. Age-specific fertility rate
3. Total fertility rate

B. Mortality

1. Crude death rate
2. Age-specific death rate
3. Infant mortality rate
4. Child mortality rate
5. Maternal mortality rate
6. Percentage of deaths due to 1st, 2nd and 3rd leading causes

C. Migration

1. In/out-migration rates

D. *Population size*

1. Total population from latest census
2. Population growth rate
3. Sex ratio

E. *Population structure*

1. Median age of the population
2. % of women aged 15-49
3. Dependency ratio — Total:
   Child dependency ratio
   Old age dependency ratio

F. *Household characteristics*

1. Growth rate of the number of households
2. Average household size
3. Percentage of households by sex of household head
   Female-headed
   Male-headed

G. *Family planning*

1. Contraceptive prevalence rate (for any method, by method used)

Method		*No. of acceptors*	*Contraceptive rate*
Modern:	Pill		
	IUD		
	Condom		
	Female sterilization		
	Bilateral tube ligation		
Traditional:	Natural		
All methods			

2. Percentage of households with access to family planning services

II. Health and Nutrition

A. *Health services*

1. Population-midwife ratio
2. Population-nurse ratio
3. Population-doctor ratio
4. Population-hospital bed ratio

5. Percentage of immunized 12-23 month old children (fully immunized by type of immunization)

Type of immunization	*No. immunized*	*% of children 12-23 months*
Pertussis		
Tetanus		
Measles		
Poliomyelitis		
Tuberculosis		
Hepatitis		

6. Percentage of households who availed of health services
7. Percentage of births attended by health personnel (physician, nurse, midwife, others)
8. Percentage of deaths attended by health personnel (physician, nurse, midwife, others)
9. Percentage of population covered by GSIS/SSS/PhilHealth
10. Percentage of 0-6 months old children with low birth weight
11. Morbidity rate by 1st, 2nd and 3rd cause of morbidity
12. Life expectancy by sex

B. Nutrition

1. Percentage of pregnant and lactating women provided with iron and iodine supplements during pregnancy or breastfeeding period
2. Percentage of preschool children who are moderately or severely underweight
3. Prevalence of anemia or iron deficiency
4. Percentage of pregnant/lactating women who are moderately or severely underweight
5. Prevalence of Bitot's spot/Vitamin A deficiency (by age group, female and male)
6. Prevalence of goiter/iodine deficiency
7. Percentage of family expenditure on food/nonfood (by item group)

C. Water and sanitation

1. Percentage of households with sanitary toilets
2. Percentage of households with safe main source of drinking water
3. Percentage of households with sanitary garbage disposal

III. Economic Characteristics

A. *Labor force participation*

1. Labor force participation rate by sex:
   Total___ Female___ Male___

2. Level and percentage of employment by sector and by sex

Sector	*No. Employed*	*% Female*	*% Male*
Agri-fishery, forestry	___	___	___
Services	___	___	___
Industry	___	___	___
All sectors	___	___	___

3. Level and percentage of employment by class of worker and by sex

Class of worker	*No. employed*	*% Female*	*% Male*
Wage and salary	___	___	___
Own-account	___	___	___
Unpaid	___	___	___
Total	___	___	___

4. Percentage of working children by sex and age group

Age group	*Female*	*Male*	*Total*
<10 years	___	___	___
10-14 years	___	___	___
15-19 years	___	___	___
Total	___	___	___

B. *Employment/unemployment rates*

1. Employment rate:
   Total_____ Female_____ Male_____
2. Unemployment rate:
   Total_____ Female_____ Male_____

C. *Income status:*

1. Average family income

D. *Industry and trade*

1. Labor productivity of industry sector

E. Dwelling ownership, security

1. Percentage of households who own/rent/share their house/lot
2. Percentage of households occupying danger areas
3. Percentage of households with house made of durable materials
4. Average floor area of housing units

F. Public safety

1. Population-police officer ratio
2. Crime rate by type (against persons, against property)
3. Percentage of crime victims by sex
4. Percentage of abusers of minors by sex
5. Percentage of perpetrators of family violence by sex
6. Population-fire-fighter ratio

G. Social welfare

1. Percentage of poor households provided with basic services
2. Percentage of clientele served by DSWD by sex

IV. Educational Characteristics

A. School participation

1. Elementary school participation rate by sex
2. Secondary school participation rate by sex
3. Elementary cohort survival rate by sex
4. Secondary cohort survival rate by sex
5. Elementary retention rate by sex
6. Elementary drop out rate by sex

B. Other characteristics

1. Percentage of NEAT/NSAT passers by sex
2. Elementary/secondary teacher/pupil ratio
3. Percentage of women/men by highest grade completed
4. Simple literacy rate by sex
5. Functional literacy rate by sex
6. Population S&T professional ratio
7. Elementary/secondary school pupil-textbook ratio

V. Physical and Other Economic Characteristics

A. *Land and land use*

1. Total land area (in hectares and square kilometers) _____
2. % of land devoted to agricultural use _____
   residential use _____
   commercial use _____
   industrial use _____
   others _____
3. Agricultural land area per farm _____
   per farm worker _____
   per farm population _____
4. Percentage/ratio of irrigated land to total irrigable land ____
5. Percentage of local products to national production by type of agricultural product

Product	***% of national production***
_____	____
_____	____

6. Percentage of land parcels by tenure status

Tenure	***No. of land parcels***	***% of land parcels***
Fully-owned	___	___
Held under CLT	___	___
Owner-like possession	___	___
Tenanted	___	___
Rent-free	___	___

B. *Spatial distribution of the population*

1. Percent urban _____
2. Population density _____
3. Percent of population by geographic classification

Geog. Classification	***% of population***
Coastal	___
Upland	___
Lowland	___

C. *Environment and natural resources*

1. Percentage of forest woodlands to total area ____
2. Percentage of denuded forests area to total forest area ____
3. Water pollution index ____
4. Air pollution index ____

D. *Energy*

1. Percentage of households with electrical connection ___
2. Energy consumption per capita ___

E. *Transportation*

1. Percentage of paved roads ___

F. *Communication*

1. Postal density ____
2. Telephone density ____
3. Percentage of households who own any type of appliances or household conveniences ____

G. *Macroeconomics and financing*

1. Local government income by source

Source	***Income***
Local source	____
Revenue from taxation	
Real property tax	____
Business tax	____
Non-tax revenues	
Receipts from econ. enterprise	____
Fees/charges	____
Loans and borrowings	____
Other receipts	____
Aids and allotments	
IRA	____
Other national aids	____

2. Local government expenditures by function

Function	***Expenditure***
General government	____
Public welfare and safety	____
Economic development	____
Operation of economic enterprises	____
Other charges	____
Capital outlay	____
Basic social services	____
Gender and development	____

3. Consumer price index for all items ____
4. Average annual inflation rate ____

Annex B

Definition and Estimation Methodology for Selected Core GAD Indicators

Indicator	Definition	Estimation Methodology
Average income by sex	Total income over the number of women and men by main source such as wage and salary, entrepreneurial activities and other sources	$\frac{\text{Total income}}{\text{Total number of women and men}}$
Average time spent doing household chores by employed women and men	The average time spent by working women /men doing household chores	$\frac{\text{Total no. of hours spent doing household chores}}{\text{Total no. of working hours of women and men}}$
Nutritional status by sex and age group	The condition of the body resulting from the intake, absorption and utilization of food. Clinical and bio-chemical analyses, anthropometric measurement and dietary studies are used singly or in combination to determine this condition	$\text{BMI} = \frac{\text{women/men's weight in kg.}}{(\text{women/men's height in meters})^2}$ Body Mass Index (BMI) is an indicator of nutritional status expressed as body weight in kilograms divided by the square of the height in meters
Poverty incidence by sex	The proportion of poor individuals/families to the total population. This measure is also referred by literature as the headcount index.	$\text{Poverty incidence} = \frac{qp}{n} \times 100$ where, qp - no. of (f/m) families with per capita annual income less than per capita P n - total no. of pop./families
Subsistence incidence by sex	The proportion of individuals/ families falling below the food threshold (FT) to the total population/families	$Fo = \frac{qf}{n} \times 100$ Fo = subsistence incidence where, qf - total no. of f/m families with per capita income less than per capita FT; n - total no. of pop./families

Indicator	Definition	Estimation Methodology
% of government budget for gender and development	The ratio (%) of total budget allocation for GAD to the total government budget	$\frac{\text{Total government budget for GAD}}{\text{Total government budget}}$
% of advertisements and printed materials which are sexist, stereotyped and demeaning women's roles	Ratio of the no. of female/male sexist ads and printed materials to the total number of ads and printed materials	$\frac{\text{No. of f/m sexist ads and printed materials}}{\text{Total no. of ads and printed materials}} \times 100$
% of women's share in managerial/supervisory positions	No. of women in managerial/supervisory positions over the total no. of managerial/supervisory positions	$\frac{\text{Total no. of women in managerial/supervisory positions}}{\text{Total no. of managerial/supervisory positions}} \times 100$
% of women's share in technical positions	No. of women in technical positions over the total no. of technical positions	$\frac{\text{Total no. of women in technical positions}}{\text{Total no. of tech. positions}} \times 100$

Annex C

Definition, Data Requirements, Data Source and Computation Method for Additional Socioeconomic Indicators

Spatial distribution

Percent urban. Ratio of urban population to total population.

Formula: $\%\ \text{urban} = \frac{\text{Urban population}}{\text{Population}} \times 100$

Data requirements: Total population in the urban area
Total population

Data source: Census of Population and Housing by the NSO

Example: $\%\ \text{urban} = \frac{164,459}{524,493} \times 100$

$= 31.36\%$

Population density. This is the number of persons per unit of land area. It is expressed as the population per square kilometer of land of the area of interest. Population density is usually taken to represent the relationship between population and the available resources in a particular locality, to indicate which area has an advantage in terms of available resources relative to a population size at a certain period.

Formula: Population density = Population / Land area (in sq. km)

Data requirements: Total population
Land area in square kilometers

Data source: Census of Population and Housing by the NSO

Example:

Population = 640,486
Land area = 1,457.4 sq. km.
Pop. density = 640,486 / 1,457.4
= 439 persons per sq. km. of land

Remarks:

If data are available, comparison of total available land is also important. Whereas total land area includes areas devoted to housing or other buildings, waterways like rivers and lakes and mountainous and hilly areas, available land considers only areas for production purposes.

Compare the urban and rural distribution of population in the areas studied. Discuss present urbanization levels compared with levels in past census periods. Mention most populated barangays in the municipality and relate this with their nearness to town centers or central business districts, accessibility to transportation lines, presence of population catalyzers like industries, major institutions, schools, etc. Examine population densities of barangays in comparison with others and cite possible reasons for the differences, like topography, accessibility, presence/absence of facilities, etc.

Percentage of population by geographic classification. Population in areas classified as coastal, upland or lowland divided by the total population.

Formula:

$$\%\ \text{of population (geographical classification)} = \frac{\text{Population (geographical classification)}}{\text{Population}} \times 100$$

where geographic classification is coastal, upland or lowland

Data requirements:

Population in areas classified as coastal
Population in areas classified as upland
Population in areas classified as lowland
Total population

Source:

Administrative data system of the Land Management Bureau

Macro-economics and financing

Local government income by source. Sources of local government income are tax revenues, non-tax revenues, Bureau of Internal Revenue allotments and others.

Data requirements: Local government income by source, such as the following:

- Local source
- Revenue from taxation
  - Real property tax
  - Business tax
- Non-tax revenues
  - Receipts from economic enterprises
  - Fees/charges
  - Loans and borrowings
  - Other receipts
- Aids and allotments
  - IRA
  - Other national aids

Data source: Administrative Records of the Bureau of Local Government Finance

Local government expenditures by function (for social services and gender and development). Major functions of local government expenditures are social improvement, adjudication, protective services, general administration, government finance, equipment, economic development, real property, inter-government aids, loans/advances/transfers, etc.

Data requirements: Local government expenditure by function: for social services and for gender and development

Data source: Administrative records of the Bureau of Local Government Finance

Example of Expenditure by Function:

General government
Public welfare and safety
Economic development
Operation of economic enterprises
Other charges
Capital outlay
Basic social services
Gender and development

Consumer price index for all items. This is a single number used to measure changes in the average 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 base year.

Formula:

$$CPI = \frac{\Sigma (P_t Q_o)}{\Sigma (P_0 Q_0)} \times 100$$

where
- CPI - Consumer Price Index
- P_0 - the price of commodity in the base period
- P_t - the price of commodity in the current period
- Q_0 - quantity of commodities in the current period

Data requirements: Prices of commodities in the base period and current period
Quantity of commodities in the base period

Data source: Family Income and Expenditure Survey by the NSO

Example: The following are the CPI obtained in 1995 and 1996

Period	CPI	
	1995	1996
All Month	209.8	226.8
January	201.5	214.4
February	207.5	215.4
March	190.5	217.6
April	191.1	222.2
May	208.4	237.4
June	210.2	227.6
July	211.4	227.9
August	214.5	231.2
September	213.2	233.7
October	213.6	236.6
November	213.4	234.6
December	213.1	235.3

Average annual inflation rate. Rate of change between two periods (year on year or month on month) as measured by the CPI. Year on year is the usual measure of inflation rate and it refers to the percentage change in CPI from a particular month last year to the same month in the current year.

Formula: $$\text{Inflation rate} = \frac{CPI_{(t)} - CPI_{(0)}}{CPI_{(0)}} \times 100$$

where $CPI_{(0)}$ - consumer price index in the same month of the previous year

$CPI_{(t)}$ - 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

Example: Using February data in the example of CPI above:

$$\text{Inflation rate} = \frac{215.4 - 207.5}{207.5} \times 100$$
$$= 3.81\%$$

Agriculture and forestry

Percentage of agricultural land to total land area. Agricultural land is land used for growing permanent and temporary crops.

Formula: $$\text{Agricultural land} = \frac{\text{Total agricultural area}}{\text{Total land area}} \times 100$$

Data requirements: Total agricultural area
Total land area

Data source: Administrative data system, Land Management Bureau of the Department of Environment and Natural Resources

Example: Total land area = 14,896.3 sq.km
Agricultural area = 244,804 sq. ha.
1 sq.km = 1,000,000 sq.m
1 ha. = 10,000 sq.m.
244,804 sq.ha. = 2,448.04 sq.km

$$\text{Agricultural land} = \frac{2{,}448.04 \text{ sq.km}}{14{,}896.3 \text{ sq. km}} \times 100$$
$$= 16.43\%$$

Agricultural land area per farm worker, per farm, per capita. Size in hectares of agricultural land divided by the number of farm workers, number of farms, population.

Formula:

$$\text{Average agricultural land area per worker} = \frac{\text{Total land area devoted to permanent and temporary crops}}{\text{Total number of farm workers}}$$

$$\text{Average agricultural land area per farm population} = \frac{\text{Total land area devoted to permanent and temporary crops}}{\text{Total farm population}}$$

$$\text{Average agricultural area per farm} = \frac{\text{Total land area devoted to permanent and temporary crops}}{\text{Total number of farms}}$$

Data requirements: Total agricultural land area
Number of farm workers
Farm population

Data source: Census of Agriculture and Fisheries by the NSO

Example:

Average agricultural land area per worker
$= \frac{244{,}804 \text{ ha.}}{27{,}442 \text{ workers}} = 8.92$ hectares per worker

Average agricultural land area per farm population
$= \frac{244{,}804 \text{ ha.}}{524{,}493} = 0.4667$ ha. / person

Average agricultural area per farm
$= \frac{244{,}804 \text{ ha.}}{59{,}195 \text{ farms}} = 4.14$ ha. / farm

Percentage of local production to national production by type of agricultural product. This refers to the percentage of local production of cereals to national production in metric tons; percent local production of major crops to national production in metric tons; percent local production of other crops to national production in metric tons; percent local production of fishery to national production in metric tons.

Formula: $\text{Percentage of prod.}_i = \frac{\text{Total local production of}_i}{\text{Total national production of}_i} \times 100$

where $_i$ = cereals, crops, livestock, fishery

Data requirements: Local/national production of cereals
Local/national production of major crops
Local/national production of livestock
Local/national production of fishery

Data source: Bureau of Agricultural Statistics,
Department of Agriculture

Example:

Agricultural product	Local production in metric tons	National production in metric tons
Cereals	364.5	12,668.4
Major crops	9,658.2	38,200.4
Livestock	9,833.89	14,982,310
Fishery	12,679.9	25,980,009

$$\%\text{ production of livestock} = \frac{9{,}833.89}{14{,}982{,}310} \times 100$$
$$= 0.065\%$$

Percentage/ratio of irrigated land to total irrigable land. Percentage of land area artificially provided with water to total potential irrigable land.

Formula: $\%\text{ of irrigable land} = \frac{\text{Total land area artificially provided with water}}{\text{Total potential irrigable land}} \times 100$

Data requirements: Total land area artificially provided with water
Total potential irrigable land

Data source: National Irrigation Administration

Agrarian reform

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 (CLT), owner-like possession other than CLT; tenanted; rent free; others.

Formula: $\text{Percentage of land parcels} = \frac{\text{Total no. of land parcels by tenure}}{\text{Total no. of land parcels}} \times 100$

Data requirements: Number of land parcels by tenure
Total number of land parcels

Data source: Census of Agriculture and Fisheries conducted by NSO

Example:

Tenure of farms	No. of land parcels	% of land parcels
Fully owned	15,698	50.92
Held under CLT	3,258	10.57
Owner-like possession other than CLT	2,903	9.41
Tenanted	5,730	18.59
Rent-free	2,969	9.63
Others	270	0.87
Total	30,828	

Environment and natural resources

Percentage of forests and woodlands to total land area. Forests and woodlands are those with a tree crown cover equal to or more than 10% of the area; plantation as the artificial establishment of forests by planting or seeding; and natural forests as natural and/or semi-natural established forests.

Formula: Forests - woodlands (area) = $\frac{\text{Area of forests and woodlands}}{\text{Total land area}} \times 100$

Data requirements: Area of forests and woodlands
Total land area

Data source: Administrative data system of the Forest Management Bureau of the Department of Environment and Natural Resources

Percentage of denuded forest area to total forest area. Denuded forest is the size of forest area stripped or divested of its tree crown cover.

Formula: Denuded area = $\frac{\text{Denuded forest area}}{\text{Total forest area}} \times 100$

Data requirements: Denuded forest area
Total forest area

Data source: Administrative data system of the Forest Management Bureau of the Department of Environment and Natural Resources

Water pollution index. The measure of contamination of water bodies and surface water.

Water pollution is becoming more and more serious in many places around the world. Around large cities and industrial zones, the water of many rivers, lakes, bays and public waters are getting rapidly contaminated by various sources of pollution. Some toxic substances like cadmium are drained into those waters by factories without being properly treated or cleaned. Concentrations of mercury or cyanides are found in contaminated water or accumulated in bodies of fish and other living things. Sediments in rivers and lakes are also found to be contaminated with mercury and other chemical products containing heavy metals. These chemicals could seriously affect the life and health of the residents in the areas using tainted public waters and agricultural products.

It is very essential to know the indexes of water pollution in order to draw up and establish a proper set of anti-pollution mea-

sures. The collection of statistical and descriptive data would help review the distribution of factories and other pollutant-emitting establishments, including the nature and volume of their emissions. This information would allow the assessment of the impact of pollution on the human and physical environment.

Data requirements: Water Pollution Index readings

Data source: Department of Environment and Natural Resources

Air pollution index. Measure of air contaminants emissions. Air pollution of today represents the pollution of air quality due to sulfur oxides which bring about the incidence of photochemical smog and other pollution phenomena. Hydrocarbons and nitrogen oxides cause concentrations of oxidants under some meteorological conditions prevailing in the large cities and their vicinities. Harmful smoke and soot from factories, especially chemical factories often cause heavy concentration of these pollutants in the atmosphere particularly in heavily congested areas. Carbon monoxide from vehide exhaust is now widespread in urban areas and major thoroughfares.

Data requirements: Air pollution index readings

Data source: Department of Environment and Natural Resources

Energy

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.

Formula: $$\text{Energy consumption per capita} = \frac{\text{Total energy consumption}}{\text{Total number of consumers}}$$

Data requirements: Total energy consumption
Total number of consumers

Data source: Administrative data system, Department of Energy

Transportation

Percentage of paved roads. Length of paved roads divided by the total length of roads times 100.

National roads are classified into arterial and secondary. Local roads are classified into provincial, city, municipal, and barangay. Paved roads are either of portland cement concrete or asphalt concrete standards.

Formula: Percentage of paved national roads =

$$\frac{\text{Length of paved national roads}}{\text{Total length of national roads}} \times 100$$

Percentage of paved local roads =

$$\frac{\text{Length of paved local roads}}{\text{Total length of local roads}} \times 100$$

Data requirements: Total length of paved national roads
Total length of national roads
Total length of paved local roads
Total length of local roads

Data source: Administrative data system,
Department of Public Works and Highways

Communications

Postal density (post offices, mailing stations per 1,000 population). Number of postal offices and postal stations divided by total population times 1,000.

Formula: Postal density = $\frac{\text{No. of postal offices and postal stations}}{\text{Population}} \times 1{,}000$

Data requirements: No. of postal offices and postal stations
Population

Data source: Philippine Postal Corporation

Housing

Average floor area of housing units. Total floor area of housing units divided by the number of housing units.

Formula: $\text{Average floor area} = \frac{\text{Floor area of housing units}}{\text{Total number of housing units}}$

Data requirements: Floor area of housing units
Number of housing units

Data source: Census of Population and Housing by NSO

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