MONITORING THE MICRO IMPACT
OF MACROECONOMIC ADJUSTMENT
POLICIES (MIMAP)

Rodolfo F. Florentino and Ma. Regina A. Pedro

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TABLE OF CONTENTS

LIST OF TABLES AND FIGURE

MONITORING THE MICRO IMPACT
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I. INTRODUCTION

In the past 10 to 15 years, the Philippines, along with the rest of the Third World, experienced one economic crisis after another brought about by adverse international developments including the oil crisis and falling prices of export commodities. These were aggravated by natural calamities such as floods, droughts, earthquake, and volcanic eruption, not to mention political destabilization. As a result, macroeconomic imbalances occurred in the form of excessive deficits in the current account balance and expanding foreign debt.

To respond to these crises, the government implemented various types of macroeconomic adjustment policies. While these policies were not inherently good or bad for the poor, the impact of these policies likely differed between population groups (Pinstrup-Andersen 1990a). Concern has been raised, therefore, particularly by the United Nations Children's Fund (UNICEF) on the harmful consequences of these policies especially on the population's disadvantaged groups: the poor and the vulnerable age groups (Cornia, et al., 1987). UNICEF noted that in the early 1980s, these economic changes sharply deteriorated child welfare conditions in health, nutrition, and educational standards in many developing countries.

The poor and the disadvantaged suffer the most from adjustment policies for two main reasons. First, the poor have the least economic "fat" with which to absorb the blow of recession. For many in this group, any cut in real incomes means sacrifice in basic commodities. Second, the poor have the least political "muscle" to ward off the blow. Usually, services on which the poor depend most are reduced in favor of the concerns of more powerful sectors in society (UNICEF, 1989).

Little empirical evidence exists on the impact of macroeconomic adjustment policies on the households' welfare, i.e., at the micro level particularly the poor and disadvantaged. According to Pinstrup-Andersen (1990), one of the main reasons for the poor documentation of the impact of macroeconomic policies on low-income population groups is the difficulty in estimating it with a reasonable degree of accuracy. The relevant factors and relationships are many, and the separation of the impact of specific policies from the impact of other factors may be complicated. Moreover, short-term effects may differ from long-term ones.

However, adjustment policies can be surmised to affect the poor by reducing real income and consumption. Poverty groups may not benefit from the changes brought about by the

adjustment policies in the long term. While adjustment policies are necessary for sustained growth in the long term, Cornia, et al. (1987) pointed out the predominantly deflationary nature of adjustment policies that tend to heighten poverty through depressed employment and real income, and through direct harmful effects of certain macro policies on the welfare of certain socioeconomic groups.

Pinstrup-Andersen (1990) gave an excellent overview of the most important links between macroeconomic policy reforms and poverty. In the Philippine setting, Lamberte et al. (1991) took health status as an indicator of household welfare and proved a close relationship between health status and some macroeconomic indicators such as the growth rate of the gross national product (GNP), real per capita income, and underemployment rate during the 1970s and 1980s. They noticed that the rate of decline in infant mortality, an indicator of health status, accelerated during periods of lower unemployment rate and slowed down during periods of higher unemployment rates. Villavieja, et al.(1985) saw a similar trend upon examining the nutritional status of children during the period of economic stress in 1984 and 1985. Valdecañas, et al.(1984) observed a number of coping strategies resorted to by urban households during the same period.

The Rationale and Significance of Monitoring the MIMAP

That macroeconomic policies have a direct bearing on household welfare should compel policymakers to give proper weight to social conditions, particularly of the poor. The UNICEF's position has been for an "adjustment with a human face," meaning adjustment that considers the human implications of the economic policies formulated (Cornia, 1987). Endorsing this, Managing Director Michael Camdessus of the International Monetary Fund (IMF) stated that "adjustment does not have to lower basic human standards" and "efforts for the UN to protect social programs in the face of unavoidable budget cuts and to make some programs more efficient -- delivering better services at less cost -- exemplify the type of things that are essential" (UNICEF, 1989).

To fashion adjustment policies that avoid harmful repercussions on the poor, up-to-date and reliable data on sensitive indicators of this group's welfare conditions should be available to policymakers. UNICEF (1987) identified the monitoring of the human condition, especially living standards, health, and nutrition of low-income groups, as an important element of adjustment with a human face. This is to ensure that needs are identified and the effectiveness of adjustment programs assessed and modified. Monitoring the social and welfare conditions at the micro level should be as important as monitoring economic variables.

In the Philippines, welfare data are being collected by several agencies which produce statistics either from censuses and surveys, or from administrative reporting systems. However, no formal structure has the specific task of monitoring the conditions of households under changing macroeconomic policy environment. The review of Lamberte, et al. (1991) on a micro level monitoring system for MIMAP points to the lack of a monitoring, information, and feedback system to assess the impact of macroadjustment policies on the micro or household level. Moreover, pertinent data are either not collected often enough or are of doubtful quality.

More importantly, much of the data cannot be disaggregated to show what is happening on the conditions of the poor, as related to changes and effects of macroeconomic policies and programs over time.

The Study's Background and Overview

This paper seeks primarily to identify more precisely and reliably the most vulnerable groups to policy changes, irrespective of whether these are defined regionally, sectorally, occupationally, and/or by age, by gender, by ethnicity, or by some other factor. In particular, the paper focuses on the design of a MIMAP monitoring system for the social and welfare conditions of the population, particularly the poor and disadvantaged households and vulnerable segments of the population. The project is a component of a bigger project of the Philippine Institute of Development Studies (PIDS): Development of Framework Papers and Research Proposals on Selected Areas where a Study on Micro Impacts on Macroeconomic Adjustment Policies (MIMAP) can be Conducted.

The following make up the objectives of this project:

1. To review existing monitoring systems for social and welfare conditions of households and their members,

2. To provide a summary of existing data regarding changes on the social and welfare conditions of poorer households over the past years,

3. To identify best estimates of welfare trends based on recently available information,

4. To design and recommend a reliable monitoring system that can quickly produce information on MIMAP on a timely and regular basis.

II.   CONCEPTUAL FRAMEWORK

The paths that macroeconomic policies take in influencing the welfare of households and individuals are far from simple. Pinstrup-Andersen (1990) described the complex interactions among various policy changes and the pathways through which the consequences of policy reforms on poverty and specific household measures may flow. Behrman (1988) also pointed out the complexity of the relationship because of its dynamically evolving context. Segregating the effects of adjustment policies per se from those caused by preadjustment trends and macroeconomic imbalances would also prove difficult (Thorbecke, 1988).

Lamberte, et al. (1991) proposed an analytical framework for analyzing the impact of macroeconomic adjustment policies on household welfare by putting together a series of building blocks to capture the complex processes involved. At its simplest micro level framework or the household, the household's wellbeing depends upon the value of the household's real purchasing power. This, in turn, depends on its initial endowment of wealth (assets), its wage income, and public provision of goods and services. The framework builds into more complex relationships as higher level dimensions are considered.

In designing a monitoring system to show the impact of macroeconomic adjustment policies on welfare and poverty, the framework will have to be simple because the monitoring system also has to be simple in order for it to work on a continuing basis.

This section presents the conceptual framework that will guide us is selecting the critical minimum indicators of welfare and their immediate determinants. At this point, it should be noted that the indicators that may be used to measure human welfare are numerous (one can list down more than 50); altogether these will be difficult to manage for a MIMAP monitoring system. A practical number of indicators will thus prove useful and necessary if economic planners are to be encouraged to measure the country's development in terms of human welfare rather than only in economic terms.

Description of the Conceptual Framework

Figure 1 depicts the conceptual framework that will guide the design of the monitoring system. The framework was made simple on purpose and is not meant to be exhaustive. It shows only the most important relationships, omitting numerous possible linkages and interrelationships for purposes of clarity. The framework exhibits the major elements of concern in monitoring the MIMAP and the points where the indicators to be used in monitoring will be identified. It does not concern itself with the whole picture nor does it attempt to trace all the variables from macroeconomic policies to survival. Rather, the framework focuses on the ultimate indicators of welfare and the more immediate determinants of welfare. It is recognized that the different macroeconomic policies may affect different people in varying ways or even contrastingly, but the framework does not attempt to show this because our task is not to come out with an economic model analyzing the impact of macroeconomic adjustment policies on welfare, but rather to monitor the impacts of policies on welfare.
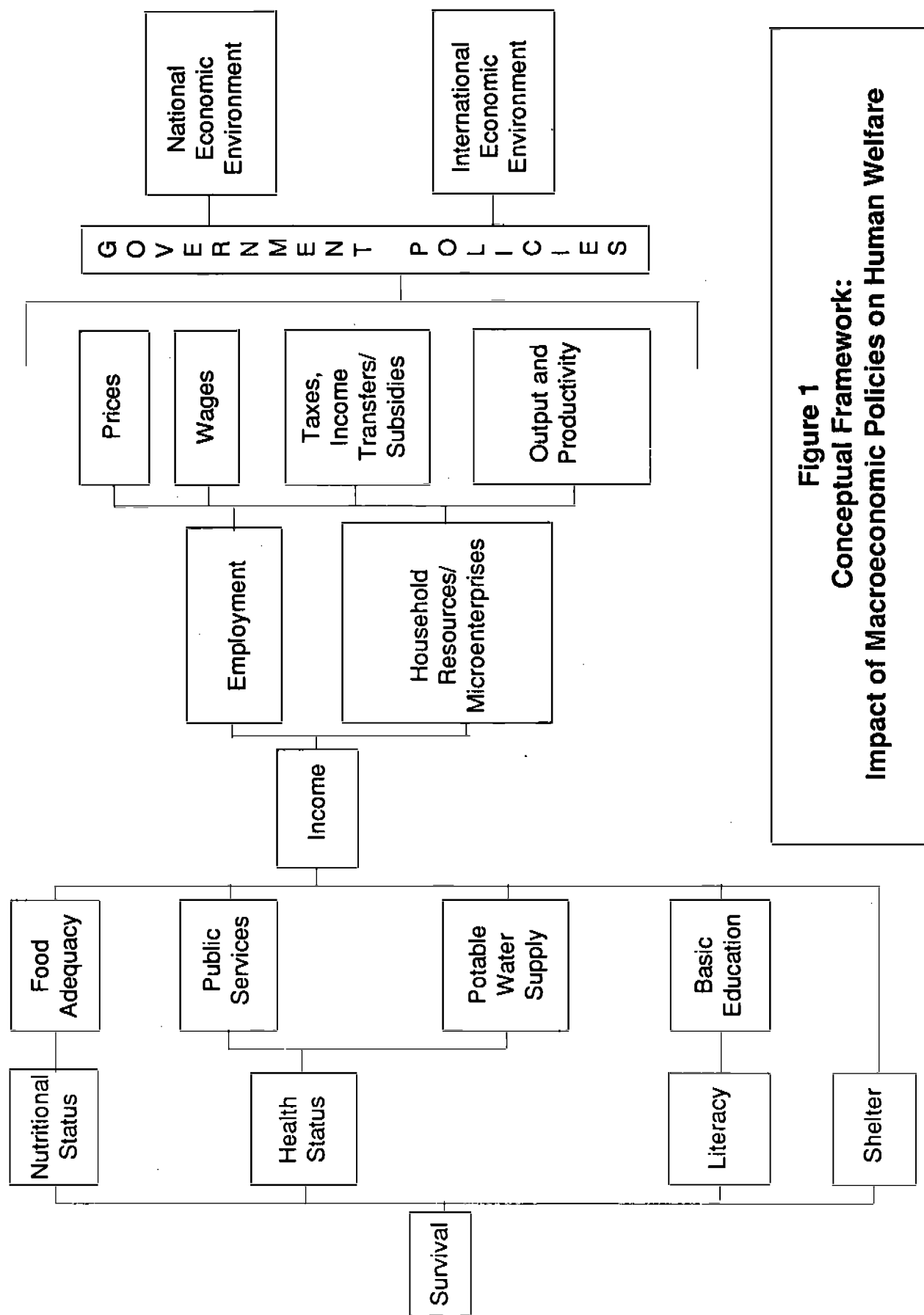
Figure 1
Conceptual Framework:
Impact of Macroeconomic Policies on Human Welfare

Survival

There is actually no single indicator of human welfare. UNICEF defines the ultimate goal of development as the enhancement of the capabilities of every human being, their health and nutrition, education, and skills (UNICEF, 1989). On a quantitative scale, however, **survival** may be regarded as the best final measure of human welfare, as reflected in such indicators as average life expectancy and child mortality rate, although this does not measure the quality of life.

Qualitative Indicators of Welfare

In a qualitative scale, the necessary ultimate inputs of social and eco- nomic development, if these will truly enhance the capabilities of every human being to grow and address poverty alleviation and welfare promotion, are adequate nutrition, competent health care, decent housing and proper clothing, and basic literacy and education. The immediate determinants of survival, therefore, are nutritional status, morbidity and health status, literacy, and housing condition.

Nutrition. Poor nutrition leads to retarded minds and bodies, if not death, particularly of young children but not excluding adults. It reduces the potential of the human being to be productive. Young children, because of their higher nutritional requirements and their yet underdeveloped defense mechanisms, are most vulnerable to malnutrition. Thus, both in scale and severity, the child -- particularly the under-five years of age -- suffers most from malnutrition. Pregnant and nursing women are also vulnerable because of increased nutritional requirements. In fact, the women's state of nutrition even before pregnancy determines to a large extent their nutritional state during pregnancy and lactation. Thus, the nutritional status of children as well as women of child-bearing age, especially pregnant women, serves as a key indicator of human welfare.

Health. Poor health retards the functional capacity of the individual and, hence, the person's productivity. Poor families, in general, and pregnant women and young children, in particular, are the most vulnerable to health problems as much as to malnutrition. Based on UNICEF data (1989), over a thousand young women die each day because something has gone wrong with their pregnancies or because of complications in giving birth; approximately 32,000 children under five years of age die from one or more of six causes which include tetanus, measles, whooping cough, acute respiratory infections, or malaria, often in association with some degree of malnutrition. In the Philippines, 1,745 maternal deaths occurred in 1988 or a rate of 1.1 per 1,000 livebirths. Deaths among the under-fives during the same year regis- tered a rate of 32.2 per 1,000 children of the same age. For this age group, morbidity from diarrhea and acute respiratory infection is highest.

Literacy and education. Literacy and basic education contribute directly to the enhancement of people's capacity to improve their own lives. Education provides the individual with the basic literacy, fundamental knowledge and skills, and positive values hence minimizing barriers

to wage employment or entrepreneurial activities, and empowering them to be productive and to adopt good health practices and nutrition standards. Maternal education, in particular, acts as one of the most powerful levers for raising family wellbeing (UNICEF, 1989), being closely related to the health and nutrition of children.

Housing and clothing. Decent housing and proper clothing rank alongside health, nutrition, and education in a person's priority needs. The poor are just as concerned as anybody else about housing that is safe, convenient, and comfortable to live in. The poor living in overcrowded makeshift dwellings, made of light or even salvaged and dilapidated materials, wage a daily struggle to maintain not only family health but also human dignity and self-respect.

Intermediate Determinants of Welfare

The ultimate results of development -- survival, nutrition and health status, literacy, and housing -- depend on adequate food, adequate and accessible medical care and other public services, potable water supply, adequate environmental sanitation, and basic education.

Adequate food in the household may be expressed quantitatively as the amount of dietary energy consumed. It may also come in terms of nutrients, most important of which is protein, and the proper balance of nutrients ingested. Sufficient food, quantitatively and qualitatively, determines adequate nutrition. Accessible medical care and other public services, together with potable water supply and sanitary environment, directly determine health status. Available basic education of satisfactory quality ensures functional literacy.

Adequate real income plays a pivotal role in the interplay of forces and factors determining human welfare, as these become more accessible with wealth. Income, in turn, depends on employment in the formal sector, together with household resources such as land and other sources of wealth, as well as microenterprises in the informal sector. All these are influenced by prices of food and non-food items as related to amount of wages earned. Taxes and other income transfers are the government's measures for redistributing wealth. Output and productivity, which are determined by health and nutritional status, serve as inputs to income generation.

Finally, the availability and accessibility of these inputs to human welfare depend ultimately on the government's social and economic programs and policies, including macroadjustment policies responding to national and international economic environment.

The Target Population Groups

Scobie (1989) suggested that in order to monitor the impact of macroeconomic adjustment policies on a population group, three fundamental steps are needed:

1. Identify the target group,

2. Select welfare indicators relevant to the conditions of the target group, and

3. Define the mechanism whereby policy leads to changes in welfare indicators.

For the target group, the MIMAP monitoring should focus on poorer households and disadvantaged population groups or communities because they are the ones who suffer the most from the harmful consequences of economic change. For health status in particular, MIMAP monitoring will be most useful and relevant if focus were limited to young children and pregnant women as they are the most vulnerable. The monitoring of nutritional welfare can put priority on children five years old and below. Also, information on food adequacy will prove more useful if obtained from at-risk households or communities, i.e., those with low income or belonging to disadvantaged occupational groups. The monitoring of education and literacy among the lower income or disadvantaged groups will also be most desirable, highlighting in particular maternal education.

In short, the MIMAP monitoring system should focus primarily on economically depressed communities, households belonging to disadvantaged occupational groups, young children, and pregnant women.

The next section will review the existing monitoring and statistical systems on human welfare now operating in the Philippines, together with the indicators being collected, as the next step in designing the MIMAP monitoring system.

III.   REVIEW OF EXISTING MONITORING SYSTEMS

Before developing and establishing an appropriate mechanism for the regular and timely collection, processing, analysis, and use of data required to monitor impacts of macroeconomic policies on household welfare, the study reviewed existing systems that monitor and measure relevant indicators related to human wellbeing.

The framework discussed in the last chapter identified five social goals or concerns, and some of their immediate and intermediate determinants. This chapter defines and evaluates relevant indicators under each concern in terms of importance, data sources, and availability for the desired frequency of collection and disaggregation. The various monitoring and statistical systems gathering these indicators and currently operating in the Philippines are also discussed.

Indicators of Human Welfare

Survival

Longevity of human life constitutes a basic human and social concern.   One of the indicators used to measure this concern is *life expectancy at birth*. It refers to the "average number of years which a newly born cohort would live if subject to the prevailing age specific rates of mortality." The National Statistics Office (NSO) generates estimates of this indicator from the **National Census on Population and Housing** done every 10 years. It provides estimates at the national, regional, provincial, and urban-rural levels by sex.

Mortality is the basic component of life expectancy. The following comprise the most generally accepted indices: *crude death rate (CDR), infant mortality rate (IMR), and child mortality rate (CMR)*.

The CDR, expressed as the number of deaths from all causes per 1,000 population, gives an overview of the general mortality conditions.

The IMR tracks the number of deaths among children below one year per 1,000 live births.

The CMR records the number of deaths among children, ages one to four years, per 1,000 of children in the same age group.

The IMR and CMR combined make up the Under-5 Mortality Rate (U5MR). The U5MR not only reflects the nutritional and health status of children but also such determinants as nutritional and health knowledge and practices of mothers, level of immunization, available maternal and child health services, income and food available to the family, the availability of clean water, and the state of environmental sanitation. UNICEF recommends the U5MR as the best available single indicator of overall social development since most of the factors that define it comprise the essential needs of all human beings (UNICEF, 1989).

Data on mortality come from the NSO's National Civil Registration System. The number of deaths are derived annually from death and fetal death certificates forwarded by the NSO Local Civil Registrars to the office of the Civil Registrar General. In cities, the City Health Officers also function as the Local Civil Registrars, as designated by their respective city charters; in municipalities and municipal districts, the municipal treasurers and the municipal district treasurers, respectively, double up as Local Civil Registrars. Each vital event is registered in the office of the registrar of the locality where the event occurred. A copy of each document or register goes to the office of the Civil Registrar General (who is at the same time the Director of the NSO) within the first 10 days of the succeeding month. The local and national offices involved do the computations. However, no adjustments are made for under-registration (the extent of which is largely unknown) which limits the analysis and interpretation of the data presented. The estimates derived from population projections to correct under-reporting (indirect method) are the official estimates adopted. Data are available yearly and are disaggregated by region and province/city. The Vital Statistics Report of the NSO publishes the compiled data but the report is beset by a time lag of three years after the reference period.

The Department of Health (DOH) administrative data also provides mortality data; as mentioned above, however, the estimates from the NSO civil registration are being adopted as official. The DOH administrative reporting system will be described further below.

Nutritional Status

Nutritional status basically deals with the biological use of dietary energy and nutrients ingested. Deficiency of dietary energy or one or more of essential nutrients causes bodily dysfunction known as malnutrition. It retards physical and mental development, reduces resistance to infection, and causes various functional and biochemical abnormalities. It is often the cause of high morbidity and mortality among infants and young children, although even older children and adults also suffer from it. All these result in lowering the productive capacity of the population. The most widely affected segments of the population consist of preschoolers (0-6 years), schoolchildren (7-14), and pregnant mothers. Special concern is thus directed toward reducing the prevalence of malnutrition among these vulnerable groups.

Strictly speaking, malnutrition is a clinical condition; therefore, it should be assessed by a combination of clinical, biochemical, and anthropomet- ric measurements, according to the person's clinical and dietary history. In practice, however, generalized malnutrition caused by dietary energy deficiency or a combination of energy and protein deficiency (commonly called protein-energy malnutrition or PEM) is assessed in the field by weight and height measurements. Weight reflects the body mass and changes due to short-term dietary fluctuations, whereas height reflects nutrient intake over a considerable period of time. Since change in weight for a particular age is easily detected, weight-for-age has become the most common parameter in determining the degree of malnutrition. Weight-for-height, however, gives a more accurate index of acute malnutrition, while height-for-age in children provides the index of chronic or past malnutrition.

Since children are most vulnerable to malnutrition, the most common indicators being collected, which measure the extent of generalized malnutrition in the population, are --

1. *Prevalence of moderate and severe underweight 0-6 years old children,*

2. *Prevalence of moderate and severe underweight 7-14 years old children,*

3. *Prevalence of acutely and chronically malnourished 0-6 years old children, and*

4. *Prevalence of acutely and chronically malnourished 7-14 years old children.*

The National Nutrition Survey (NNS) conducted by the Food and Nutrition Research Institute (FNRI) is the primary source of comprehensive data on the nutritional status of children. The NNS gathers data every five years (see further discussion on methodology below). Anthropometric measurements represent standard techniques used by either FNRI nutritionists or college degreeholders hired and trained in the regions. Weight and height measurements are compared with FNRI recommended standards for Filipino children and classified according to how far the measurement is from the standard.[1] Data are disaggregated by urban-rural and by region only. Since the sampling technique, by its design, draws national and at most regional estimates, it does not allow accurate estimates at the provincial level.

In 1989 and in response to the need for more timely data on child malnutrition in the Philippines, the FNRI initiated a nationwide rapid nutrition survey covering all provinces in the Philippines (at least as much as peace and order would allow). The survey is intended to be repeated every two years. It includes weight and height measurements of children up to 10 years, together with simple qualitative dietary assessment.

The **Operation Timbang (OPT)** of the DOH provides another source of data on moderately and severely underweight-for-age preschool children. However, the OPT primarily serves local level planning and identifies the malnourished for purposes of intervention. It, therefore, usually yields overestimated data on malnutrition. But careful data selection (such as considering only data from municipalities of high coverage or validated in a survey by a central team) may be reasonably used for assessment of time trends or for regional comparisons. Data are disaggregated by municipality and are available annually.

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[1] In the surveys prior to 1992, the 1972 FNRI Standards and Gomez Classification were used for assessment. Recently, the FNRI - Philippine Pediatric Society Reference Tables (Florentino, 1992) became the new standards, wherein percentile values were recommended as cutoff points: P25 for mild, P5 for moderate, and -3SD for severe underweight.

The Rural Health Units (RHUs) of the DOH conduct the OPT at least once a year. Infants and preschoolers are weighed by trained volunteers: Barangay Health Workers (BHW), Barangay Nutrition Scholars (BNS), or the RHU midwife, usually in a centrally located place using the bar scale of the National Nutrition Council (NNC) or the Nutrition Center of the Philippines (NCP).

The **Index Monitoring Project (IMP)** of the NNC arose from the need for data that are more timely than the FNRI's nutrition surveys and more accurate and representative than what the OPT can provide. Prevalence rates of normal, mildly, moderately, and severely underweight and the proportion of deaths among 1-4 year old to the total deaths were collected from index areas through trained barangay data collectors; these data were transmitted to the central processing unit at NNC using the telegraph system. Twenty-five index provinces and eight index cities were chosen at random, from where index municipalities and index barangays -- the number depended on the preschool population -- were chosen at random. All preschool children in the index barangays were to be weighed. These index areas served as such for five consecutive quarters, after which another group of 25 provinces and eight cities were again selected until all the provinces of the country served as index area.

However, problems arose from the inefficiency of the telegraph system; some index areas also discontinued reporting after some time. Thus, the IMP was replaced by a system where central personnel conducted the surveys. In 1984, a sample of 4,186 preschool children were weighed; in 1985, 3,782 children were weighed coming from 2,270 households in 144 barangays all over the country. This scheme stopped operating in 1990 when a multiagency **Philippine Nutrition Surveillance System** (PNSS) took over. The local nutrition surveillance system collects such indicators as the prevalence of underweight preschool and school children, low birth weight, morbidity from diarrhea and acute respiratory infections, infant mortality rate, price of staple, and occurrence of natural calamities (NNC, 1990). This system is now being piloted in Iloilo province.

The School Health and Nutrition Center of the Department of Education, Culture and Sports (DECS) also provides yearly data at the regional and school district levels on the prevalence of moderate and severe underweight elementary school children. In each school, teachers have to take the height and weight measurements of enrolees at the start and at the end of the school year. These become part of the health record of the children maintained in the schools. Reports are published through the DECS annual reporting system.

A special survey was undertaken by the DECS in collaboration with the NNC in 1982 to determine the nutritional status of Grade I school children. It considered the height and weight of school entrants as a good index of nutritional status of children since it reflects the child's status during preschool years and can predict nutritional status in later years. The nationwide survey covered 8,945 school districts as part of the implementation of the PNSS.

Another DECS survey, this time assisted by the DOH, took place in 1990 covering 7-10 year old children in 127 provincial and city divisions; it used a three-stage, stratified random sampling technique. Height and weight measurements were taken from all children in randomly

selected sections of Grades I to IV. This is the system being carried out today under the DECS, to assess the nutritional status of children in schools (DECS, 1991).

Another important indicator to measure nutritional status is the preva- lence of *low birth weight*. Low-birth-weight, which is equivalent to 2.5 kilograms or less, reflects the nutritional status of the mother prior to conception as well as during pregnancy. Aside from the potential use of birth weight as indicator of the prevalence of maternal malnutrition, it also provides a valuable predictor of the nutritional status during infancy. The RHU of the DOH is the primary source of data for the prevalence of low birthweight, available quarterly at the local level only. However, data are limited to birth weights obtained by midwives (if a scale is available) or hospitals on births attended by the public health system only.

Aside from statistics on generalized malnutrition, data on the *prevalence of specific nutritional deficiencies* such as anemia, endemic goiter, and xerophthalmia or vitamin A deficiency give additional valuable information on the nutrition status of individuals and communities.

Iron deficiency anemia (referred to simply as anemia) is considered the most widespread of the specific nutritional deficiencies. It commonly affects pregnant women, children under two years, adolescent girls, and the elderly. Because of the need for a laboratory examination to accurately detect anemia, nationwide prevalence of the condition is currently obtained only by the FNRI through its national or regional nutrition surveys. Even here, only a subsample of the survey population is used (about 50 percent of the national sample). Disaggregation is by region, rural/urban, and by age and sex. The DOH, however, is planning to equip regional laboratories to do more frequent surveys by province.

Endemic goiter or iodine deficiency disorders (IDD) is also recognized as a major nutritional deficiency in the Philippines, following its detection in many areas that were not thought before to be endemic for the condition. The deficiency not only causes unsightly enlargement of the thyroid gland in the neck, but also has serious effects on the physical and mental development of the population and on the outcome of pregnancy. The FNRI in the clinical phase of its nutrition surveys obtains the national and regional prevalence of the condition. Starting in 1987, the DOH, in collaboration with the DECS, has also been surveying selected regions where the endemicity is deemed high. The surveys are conducted in randomly selected public and private schools where trained school health personnel examine children for goiter; the children are also asked to report who in their family have goiter. Because of the circumscribed nature of the condition, mapping the entire country to uncover all endemic areas should be completed soon.

Xerophthalmia or vitamin A deficiency is another serious nutritional deficiency. The condition causes permanent blindness among young children, and contributes significantly to child morbidity and mortality from common infectious diseases. At present, data on the disease's prevalence can be obtained from the clinical and biochemical nutrition surveys of FNRI, as part of its NNS. Since the prevalence of clinical xerophthalmia is relatively low and the condition seems to exist only in pockets such as in depressed areas, accurate assessment requires either an overly large population sample or more localized surveys. For the past several years, the DOH with the help of Helen Keller International has been performing surveys

on vitamin A deficiency in specific provinces suspected to have high prevalence of the condition. As in goiter, there is a need to map the entire country to detect areas of endemicity.

Health Status

Morbidity refers to "any departure, subjective or objective, from a state of physiological wellbeing." It is synonymous with such everyday terms as illness, sickness, or disease. Its obvious effect on health justifies its inclusion as one of the basic areas of welfare concern.

An indicator to measure this concern is *incidence of notifiable diseases*.[2] This indicator represents the number of new cases of the specified disease, condition or groups of conditions during a defined period, divided by the average number of population at risk during the same period. The data source for this is the **vital registration system** of the DOH, which includes the disease reporting systems. These systems are facility-based or based on patient contact, i.e., data are gathered on the basis of patient or client contact with DOH facilities and, to some extent, hospital facilities in the private sector. They do not, however, provide information on patient contact with private practitioners at the secondary level of health care, nor on the nature and extent of public health problems that have not been referred to any health facility. Therefore, these statistics are generally considered to underestimate morbidity incidence. Data are available annually at the regional level, but local level data are available monthly. Unusual outbreaks of diseases are communicated as they occur.

Aware of the problem of under-reporting under an administrative system, the DOH initiated the **National Health Survey** (NHS) intended to provide representative data on a periodic basis. The survey takes place every five years in order to measure trends in health status and program performance. The first survey was carried out in 1987 as a "rider" to the third quarter round of the Labor Force Survey of the NSO. The survey aims 1) to measure the level and frequency of morbidity and mortality in the population, and 2) to examine patterns of health conditions among provinces and across subgroups of the population. A nationally representative sample is drawn using the list of barangays and associated population counts from the NSO's Census of Population and Housing as a frame. Stratified, two-stage cluster sampling design is employed, with barangays as the primary sampling unit and households as the secondary sampling unit. Municipal Census Officers and Census Field Workers obtain information on mortality, morbidity, maternal and child health, environmental sanitation, and the use of health facilities by interviewing household respondents. The Health and Intelligence Service of the DOH processes and analyzes the data from household questionnaires.

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[2] Diseases whose occurrence are mandated to be reported by DOH field offices.

Literacy Rate

Literacy largely determines the capacity of individuals to be productive in society and to attain a life of dignity and a level of success.

The overall indicator for education is *literacy rate* of the population. This refers to the percentage of the population 10 years and above who can, with understanding, both read and write a simple message about their everyday life. *Functional literacy* includes the ability to read simple instructions, write a legible letter, perform mathematical operations, and engage in contractual relationships.

Sources of data on literacy rate is the NSO's **Census of Population and Housing.** Figures of literacy rate estimates are based on a subsample of the total census population (which is a complete enumeration). Thus, while all households are asked on population and housing characteristics, only 20 percent for 1980 and five percent for 1990 were asked on other data including information on literacy. Data are available by region, age group, and sex.

Shelter and Clothing

The importance of shelter or housing and its related facilities as vital elements in determining the population's standard of living is a universal concern. It also forms an integral part of the total development process. Thus, the government takes the major responsibility in improving the provision of housing facilities for the population.

One relevant indicator under this concern is the *housing profile by type of materials*. This indicator determines how many of the households are housed in structurally acceptable dwelling units. Structural acceptability of dwelling units implies that these are built of durable construction materials that will safeguard the household occupants from adverse climatic effects and provide protection and privacy. Data on this indicator come from the NSO's Census on Population and Housing.

Another useful indicator for this concern is the *percentage of households in makeshift housing made of light materials*. This gives an estimate of households living under subsistence housing conditions. Field implementors of the Department of Social Welfare and Development (DSWD) collect the information yearly from the DSWD's list of depressed barangays throughout the country. The NSO's Census of Population and Housing provides an alternative source of information.

The *ratio of net addition to housing stock to housing demand* also serves as an important indicator of this concern. The effective growth in the number of dwelling units is measured in relation to the potential addition to the housing stock. Housing stocks refer to dwelling units that are of the acceptable type only; housing demand is said to exist in a household if it has no dwelling unit of its own or owns a dwelling unit which is an unacceptable type, and it has the intention to own an acceptable dwelling unit. The ratio of net addition to housing stock to housing demand, therefore, would establish the extent to which new construction meets the

growing demand for housing. Primary source of data is the **monthly building permit per municipality.**

An equitable distribution of access to residential land relates to providing land for shelter units. To enable a greater number of families to avail of housing benefits, a system of tenure whereby land ownership can be regulated by the government will have to be reinforced. The *proportion of total squatter families resettled* measures this concern. Relocating squatter families constitute a primary concern in the dynamics of urban planning and zoning operations. The proportion of total squatter families resettled, therefore, directly measures how much effort is being exerted to eliminate the problem of settlement on land without legal claim.

Upgrading sites and services in marginal areas involving the on-site redeployment of blighted urban communities make up another social concern. This entails improving essential physical facilities, complemented by a socioeconomic component that will provide adequate community services and employment opportunities to enhance the quality of life of families living in the area. Thus, the *proportion of slum households served by urban renewal or development schemes* provides a direct measure of the extent of efforts toward achieving this goal.

The National Housing Authority (NHA) has data on the proportion of total squatter families resettled and the proportion of slum households served by urban renewal or development schemes; but data are available on an irregular basis and limited to Metro Manila only.

Adequacy of Food

Adequacy of food supply at the national level could be gleaned from the Food Balance Sheet published annually by the NSCB from agriculture data as compared to nutritional standards. This is expressed as *percentage sufficiency of calorie and protein supply*. Since these are aggregate figures, they do not show the maldistribution of food among regions and among population groups. Moreover, no food balance sheet is currently available at the regional level.

Adequate food intake fundamentally preconditions nutritional health. This can be measured in quantitative or qualitative terms. Thus, the *mean daily per capita consumption of the various food groups* is a quantitative measure of food intake. The problem with this parameter is the absence of a single yardstick for individuals with which to compare, in order to determine if the total food intake is adequate or not. For the whole population, however, the mean per capita food intake for each food group may be compared to the so-called Desirable Dietary Pattern (DDP), in order to determine which food group is probably being taken inadequately. A qualitative assessment may also be made in this manner, looking at the **balance** of the various food groups ingested relative to the DDP.

The most important property of food is its energy content because energy is the most fundamental biological requirement to sustain life. Thus, the adequacy of total food intake is best measured in terms of the intake of dietary energy from food in comparison to requirement. This is expressed as *mean per capita energy consumption* for a particular population or age group. This may then be compared to the average daily recommended energy requirement for

that group as estimated from the FNRI's Recommended Dietary Allowance (RDA) and expressed as a *percentage of RDA*. The FAO recommends 80 percent of energy requirement as the average minimum level that can sustain **minimum** level of physical activity. Thus, the *proportion of the population or households with energy intake less than 80 percent of RDA* measures extreme energy inadequacy.

Adequacy of food may also be expressed in terms of nutrient intake, particularly the intake of protein. The population or household's *mean daily per capita nutrient intake* in absolute terms or as a *percentage of RDA* for that nutrient measures the quality of the diet of the population or household. A diet that supplies at least 100 percent energy adequacy and 80 percent protein adequacy may be considered to fall above the food threshold. Thus, the proportion of the population or household with *food intake below the food threshold* may also be considered a single measure of food adequacy.

The FNRI's NNS, conducted every five years, give data on food adequacy. The sample households are selected using a stratified, three-stage sampling design. Areas are stratified by region and by urban/rural classification. The survey covers all regions and all provinces within the region. Food intake of sample households is obtained by trained nutritionists by means of one-day food weighing technique spread out through all seven days of the week. All foods intended for the whole day's consumption are weighed. Also accounted for are leftovers, food wastage, and meals eaten outside and by visitors. Food intake is then translated into energy and nutrients using the Philippine Food Composition Table and compared to the RDA. Data are disaggregated by region, urbanization, income group, and occupation of household head. Due to sample limitations, the collected data do not allow disaggregation by province or city.

The DSWD's administrative reporting system includes the collection of information on the *number of meals taken by households per day*. Data, however, are only available locally from municipalities considered depressed by DSWD.

Health Services

Availability and access to health services significantly contribute toward the attainment of good health. Health services refer to the activity provided in or through a facility which is designed to contribute to the good health of the community. The effective provision and use of health services require sufficient and efficient health resources. The indicators used to monitor the expansion of the supply of health resources include

1. Ratio of government medical and selected paramedical workers to population,

2. Ratio of barangay health workers

3. Ratio of RHUs and barangay hea   1.

The *proportion of the population availing of health services* measures the degree to which the people are utilizing the existing health services.

The proportion of births/deaths with medical attendance to total births/deaths measures the extent to which vital events are attended to by truly qualified health personnel. It also indicates whether the presently available health manpower are effectively utilized. Thus, the percentage of pregnant women given pre- and post-natal care, the percentage of under-five children served, and the percentage of fully immunized children comprise important indicators in measuring effective utilization of health services.

The DOH's administrative reporting system provides statistics on health services disaggregated by region and province.

Environmental Sanitation

Toilet facilities and garbage disposal systems play important roles in reducing morbidity rates. The indicators, *proportion of households with sanitary toilet facilities* and *percentage distribution of households by type of garbage disposal,* measure the degree of access of the population to these sanitation facilities.

Data can be obtained annually from the Environmental Sanitation Service of the DOH; but more representative data can be secured from the NSO's Census of Population and Housing (which is carried out every 10 years) and the DOH's NHS (which is carried out every five years).

The DSWD also provides data on environmental sanitation, but these deal only with the Department's target communities.

Water Supply

As important as toilet facilities and garbage disposal systems in reducing morbidity is safe water supply. Households with access to potable or safe water supply refer to those with piped water in house taps or in community standpipes, whether from public or private deep wells or improved spring. The indicator relevant to monitor this concern is the *proportion of households with access to safe water supply.*

The Environmental Sanitation Services of the DOH, the NSO's Census of Population and Housing, and the NHS provide data for this indicator. Data are disaggregated by region and province/city. The DSWD's social workers (who will eventually be with the local government with the operation of the Local Government Code) also collects data on type of water supply available to households targeted for social welfare programs.

Basic Education

Basic education makes a man functionally literate and renders him capable of performing his daily functions adequately. Having basic education generally means the completion of the first two levels of education. Thus, *the combined gross elementary and secondary schools enrolment rate* measures this concern. *The gross enrolment ratio* is the total enrolment in a given level of education as a percentage of the population which, according to national regulations, should be enrolled at this level. It is a measure of the "capacity" of a region's elementary or secondary schools.

Another indicator for this concern is the *survival rates* through the elementary and secondary levels of education. It is the proportion of enrolees at the beginning grade or year who reach the final grade or year at the end of the required number of years. Used interchangeably with survival rate is *completion rate*. This refers to the percentage of first year entrants in a cycle of education surviving to the end of the cycle. *Retention rate* represents the proportion of the enrolment in any school year that continues to be in school the following year. The opposite of retention rate is the *drop-out rate* which refers to the proportion of school children initially enrolled but who dropped out during the school year, to total enrolment. These indicators reflect the holding power of schools on students and the ability of school children to remain in school for the duration of the school year, considering income status among others. They indicate the relative position of educational attainment on the value scale of people's priorities, given the relevance of the school systems in delivering knowledge, on the one hand, and people's economic resources, on the other.

An important component of educational quality is the immediate environment of a student. Inputs to learning are, therefore, monitored. The indicator relevant to this concern is the *student-teacher ratio*. This indicator shows the relationship between the number of teaching personnel and student enrolment. It indicates whether or not the number of teachers is adequate to the size of school enrolment. A high ratio, for instance, would mean that teachers are overburdened; consequently, educational quality suffers.

Data for all these education indicators, except for the literacy rate, are available annually through the cooperative efforts of the Office of the Planning Service, the Regional offices, and the various centers or units of the DECS. The schools offering elementary and secondary level of education, both government-owned and privately operated, and all the school districts gather the data. Data-gathering instruments called school or district profiles are distributed to them through their respective regional offices at the beginning of each school year. The various agencies of the DECS Central Office such as the bureaus, centers, and units also serve as data sources.

Income

Income status is pivotal in determining human welfare. The household's income level determines its capacity to obtain adequate nutrition, health, and education for its members; it

determines the household's capacity to provide the basic necessities of life. Thus, alleviating poverty is one of the government's primary concern.

To measure changes in income, *distribution of total annual income by decile* and *median family income by major occupation group of household head* may be used as indicators. *Total family income* refers to the income of the family from all sources. It consists of cash and non-cash income accruing to the household members during a specific period. *Distribution of total annual income by decile by size of income*, where families are grouped and ranked by decile from lowest to highest, could show changes or improvement in the percentage of share of the lower income deciles.

Median family income is another useful indicator. An increase in the median income (level and growth rate) of the target occupation groups such as agricultural workers and production workers mean an improvement in the income distribution.

Since all economic programs and policies desire to improve the financial condition of the families in the low income brackets, the *mean income of the bottom 30 percent of families* would serve as a very useful indicator. This gives the position of the disadvantaged relative to the position of the high-income groups, and shows whether the improvements in their purchasing power is adequate to meet their basic needs. Another indicator relevant to this goal is the *ratio of mean income of families in the top 30 percent to mean income of bottom 30 percent*. This ratio gives a direct estimate of the inequality gap between the poorest and the richest in the population.

The *growth rate of per capita personal income and personal disposable income* can also monitor the attainment of a more equitable distribution of income and wealth. This rate depicts changes in the per capita personal income and personal disposable income by year. Per capita personal income covers income from employment, entrepreneurial and property income, social security benefits, general government transfers, and current transfers from the rest of the world. Personal disposable income refers to per capita personal income less personal direct taxes, which measures the amount at the disposal of the private individual intended for consumption or for savings.

Growth rate of the ratio of personal savings to personal income is another relevant indicator, with high rates indicating greater capacity to provide the family's basic needs.

The NSO's Integrated Survey of Households (ISH) have quarterly data on income. This survey uses a stratified, two-stage sampling design. The urban and rural areas of each province are the principal domains of the survey. The barangays make up the primary sampling units, and the households within each sample barangay comprise the secondary sampling unit. The items of information are derived from a structured questionnaire covering economic and demographic characteristics of individuals. The NSO Municipal Census Officers and Assistants and Statistical Researchers act as interviewers. Results are published in the Integrated Survey of Household Report. Unpublished figures on more detailed cross classifications can be obtained from the NSO.

Another source of data on income and expenditures are available every three years from the NSO's Family Income and Expenditure Survey (FIES). The operation is similar to the ISH, except that corrections, comments, and notes on doubtful or questionable entries are indicated by central office processors and returned to the provincial offices for the second visit operation. Through this method, the enumerators are able to verify doubtful or questionable first visit entries upon their second visit to the households.

Poverty incidence gives the proportion of families whose monthly income falls below the overall poverty line or threshold. This indicator aims at quantifying the extent of absolute poverty, which refers to the absence of access to a minimum basket of goods and services deemed necessary for bare physical survival such as food, clothing, and shelter. *Poverty threshold* is the monthly income required to satisfy the nutritional requirements and other needs of a family of six. Poverty lines for the national and regional levels are available once every three years, as estimated from the FIES by the NSCB-Technical Working Group (TWG) on Poverty Determination.

Employment

The fight against unemployment and underemployment is a major concern in every nation. Thus, promoting employment and minimizing underemployment is a government policy corollary to its concern for human welfare.

To monitor this concern, the *employment rate, total unemployment rate, and labor participation rate* are used to indicate the government's success in creating employment as a response to growth in the labor force. Employment rate is the ratio (in percent) of the total number of employed persons to the total number of persons in the labor force. Total unemployment rate is the ratio (in percent) of the total number of persons openly unemployed and the number of persons visibly underemployed (in fulltime equivalent units) to the total labor force. The openly unemployed are those without work but are able and willing to work and are looking for work. The visibly underemployed are those with work but falling short of the fulltime employment standard, and are wanting additional work. The *proportion of employed by economic activity* and the *proportion of unemployed by skill type* are also relevant indicators of this concern.

Sources of data on employment are the NSO's ISH/Labor Force Survey conducted every quarter. Data are disaggregated by sex, urban/rural, major industry, class of worker, major occupational group, age group, marital status, and head/non-head of family. Data from depressed communities can also be obtained from the DSWD's reporting system.

Household Resources/Microenterprises

Ownership of assets useful for productive endeavors like lands clearly indicates a family's wealth. Since these assets are generally income-generating, an increasing proportion of families with these assets may indicate an improvement in the distribution of income. Relevant

indicators to measure this concern consist of the *proportion of households with backyard gardens, proportion of households with income-generating activities or self-employment activities, and distribution of farm by type of tenure and farm size*. Sources of data are the administrative systems of the Department of Agrarian Reform and the Department of Agriculture, which are available annually. The FIES of the NSO gives data on this concern every three years while the Census of Agriculture and Fishery secures this type of data every census year.

Prices and Wages

Prices of food and non-food items, together with wages, determine the amount of goods and services that can be made available to the household. Data on *consumer price index, purchasing power of the peso, inflation rate, and price indices for specific basic commodities and services* are available monthly and by region. The FNRI's NNS provides information on the *peso value of food consumed*. Data on the *average earnings per worker* can be secured quarterly from the NSO's Labor Force Survey.

Table 1 enumerates some on the currently available welfare indicators, together with their sources, levels of disaggregation, and frequency of collection.

Existing Monitoring and Statistical Systems

In summary, the existing statistical systems that monitor and measure relevant indicators on human welfare are as follows:

NSO's Integrated Survey of Households (ISH)

This survey seeks to provide quantitative basis for planning and policy- making in the labor sector. Specifically, the survey aims 1) to gather, process, and analyze data on the labor force, the employed, and the unemployed, including their characteristics; and 2) to gather, process, and analyze data on other relevant socioeconomic characteristics of households.

The modular approach to household surveys implemented in 1984 makes the labor force section the core module of the ISH questionnaire. The module permits the collection of data on general demographic and socioeconomic characteristics of the population. It covers a nationwide sample of about 20,000 households drawn by two-stage, cluster sampling. This sample is deemed sufficient to measure the levels of employment and unemployment at the national and subnational levels. Rider questionnaires on special topics are included during selected survey rounds.

Since the survey is done on a quarterly basis, it provides data with satisfactory frequency and monitors relevant indicators regularly. Data on employment can be disaggregated by sex, urban-rural, major industry group, class of worker, major occupational group, age group,

Table I. SOME HUMAN WELFARE INDICATORS
BY SOURCE, DISAGGREGATION AND FREQUENCY

INDICATORS	SOURCE	DISAGGREGATION	FREQUENCY
A. SURVIVAL			
1. life expectancy at birth	NSO	Region, Sex	Annual(Proj.)
2. crude death rate	—do—	—do—	—do—
3. crude birth rate	—do—	—do—	—do—
4. infant mortality rate	NSO/DOH	Region, Urban/Rural	—do—
5. child mortality rate	—do—	—do—	—do—
B. NUTRITIONAL STATUS			
1. prevalence of moderate and severe underweight 0—6 years old children	DOH FNRI	Municipality Region, Urban, Rural	Yearly Quinquennial
2. prevalence of acutely malnourished 0–6 years old children	FNRI	Region, Sch.Dist. Region, Urban, Rural	Yearly Quinquennial
3. prevalence of moderate and severe underweight 7–14 years old children	FNRI DECS	—do—	—do—
4. prevalence of acutely malnourished 7–14 years old children	—do—	—do—	—do—
5. prevalence of low birth weight	DOH(RHU)	(available at local level)	Quarterly
6. prevalence of anemia	FNRI	Region, U/R, island groups, age, sex	Quinquennial
7. prevalence of xerophthalmia	FNRI DOH	—do—	—do—
8. prevalence of goiter among pregnant and lactating women	FNRI DOH	Region, U/R, island grp.age sex, pop.grp. Selected reg., prov.	—do— Special surveys

Chapter III

INDICATORS	SOURCE	DISAGGREGATION	FREQUENCY
C. HEALTH STATUS			
1. mortality rates of communicable diseases	DOH	Region, U/R, age, sex	Yearly
2. ratio of mortality rate of communicable disease to total deaths	—do—	—	—do—
3. infant death (rate and causes)	—do—	—do—	—do—
4. maternal deaths (rate and causes)	—do—	—do—	—do—
5. morbidity rates of notifiable diseases	—do—	—do—	—do—
D. LITERACY			
1. literacy rate	NSO	Region, Age grp. Sex	Decennial
2. functional literacy rate	NSO	—do—	—do—
E. SHELTER AND CLOTHING			
1. housing profile by type of materials	NSO DSWD	Municipality target depressed brangays	Yearly
2. percent of household in makeshift housing made of light materials	—do—	—do—	—do—
3. ratio of net addition to housing stock to housing demand	NSO	Municipality	Monthly
4. percent of urban slum dwellers/squatters resettled	NHA	Metro Manila	Irregular
5. proportion of slum households served by urban renewal/re-development scheme	—do—	—do—	—do—

Chapter III

INDICATORS	SOURCE	DISAGGREGATION	FREQUENCY
F. ADEQUACY OF FOOD			
1. calorie sufficiency of supply (in % RDA)	NSCB		Annual
2. mean daily per capita food consumption	FNRI	Region, U/R, income group, island group occupation of HH head, education of meal planner, HH size	Quinquennial
3. mean daily per capita energy consumption	—do—		—do—
4. mean daily per capita nutrient consumption	—do—		—do—
5. proportion of population above/below 80% energy/protein adequacy	—do—		—do—
6. proportion of population above/below food threshold level	—do—		—do—
7. number of meals taken by household per day	DSWD	target depressed barangays	—do—
G. HEALTH SERVICES			
1. proportion of births/deaths with medical attendance to total births/deaths	NHS (NSO/DOH)	Region	Annual
2. ratio of government medical and selected paramedical workers to population	—do—	—do—	—do—
3. ratio of barangay health worker to household	—do—	—do—	—do—
4. ratio of RHU and barangay health station to population	—do—	—do—	—do—

INDICATORS	SOURCE	DISAGGREGATION	FREQUENCY
5. percentage of pregnant women given pre and ante natal care	DOH	—do—	—do—
6. percentage of under—6 children served	—do—	—do—	—do—
7. percentage of fully immunized children	—do—	—do—	—do—
8. percentage of school children dewormed	DECS	Region, school district	Annual
H. ENVIRONMENTAL SANITATION			
1. proportion of hh with sanitary toilet facilities	NSO DOH	Region, U/R Region, U/R, Prov.	Quinquennial Annual
2. percent distribution of hh by type of garbage disposal	—do—	—do—	—do—
I. WATER SUPPLY			
1. proportion of hh with safe water supply	—do—	—do—	—do—
J. BASIC EDUCATION			
1. gross enrolment rate	DECS	Region, Province District	Annual
2. gross enrolment ratio	—do—		—do—
3. retention rate	—do—		—do—
4. participation rate	—do—		—do—
5. transition rate	—do—		—do—
6. cohort survival rate	—do—		—do—
7. completion rate	—do—		—do—
8. teacher—student ratio	—do—		—do—
9. drop—out rate	—do—		—do—

Chapter III

INDICATORS	SOURCE	DISAGGREGATION	FREQUENCY
K. ADEQUATE INCOME			
1. median family income by major occupation group of hh head	NSO	Region, U/R	Triennial
2. mean income of families in bottom 30%	–do–	–do–	–do–
3. ratio of mean income of families in top 5% to mean income of bottom 30%	–do–	Region	–do–
4. distribution of total annual family income by decile	–do–	Region, U/R income decile	–do–
5. growth rate of per capita personal income and personal disposable income	NSO/NSCB	–do–	–do–
6. growth rate of the ratio of personal savings to personal income	–do–	–do–	–do–
7. poverty incidence	(NSCB) Inter–agency WG on poverty Allev.	Region	1985,1988
8. subsistence incidence		–do–	–do–
9. per capita income at current prices	NSO/NSCB		Annual
10. per capita income at constant 1978 prices	–do–		–do–
11. family consumption expenditure per capita and per family	NSO, NSCB	Region, U/R	Quinquennial
12. ratio of family food consumption expenditure to non–food consumption expenditure	–do–	–do–	–do–
13. percent of households with basic possessions	DSWD	target depressed barangays	Yearly

Chapter III

INDICATORS	SOURCE	DISAGGREGATION	FREQUENCY
L. EMPLOYMENT			
1. employment rate and total unemployment rate	NSO	Region, age, sex	Quarterly
2. proportion of employed by type of economic activity	−do−	U/R, educational attainment, head non−head	−do− −do−
3. proportion of unemployed by skill type (professional, skilled, unskilled)	−do−	−do−	−do−
4. open underemployment rate	−do−	−do−	Annual
5. proportion of overseas contract workers employed as entertainers/domestics	−do−	Region/educational status/professional degree	−do−
M. HOUSEHOLD RESOURCES/ MICRO ENTERPRISES			
1. distribution of farm lands by tenure type	DAR	Region/province	Annual
2. distribution of farms by farm size	−do−	−do−	−do−
3. proportion of households with backyard garden	DA	Region, province/ City	−do−
4. proportion of households with income−generating activities/self employment activities	NSO	Region	Quarterly

Chapter III

INDICATORS	SOURCE	DISAGGREGATION	FREQUENCY
N. PRICES			
1. consumer price index	—do—	Region, NCR, outside NCR, item	Monthly
2. purchasing power	—do—	—do—	Annual
3. peso value of food consumed	FNRI	Food Group	Quinquennial
4. price indices and growth rate of medical services and medical and pharmaceutical supplies	NSO	National	Annual
5. inflation rate	NSO/NSCB Central Bank	—do—	Annual Quarterly
O. WAGES			
1. average earnings per worker	NSO		—do—

marital status, region, highest grade completed, total earnings, and agriculture and non-agriculture. However, some data are limited to urban-rural and regional disaggregations.

NSO's Family Income and Expenditures Survey

This triennial survey has the following objectives: 1) to gather data on family income and family living expenditures, as well as related information affecting income and expenditure levels and pattern in the Philippines; 2) to determine the source of income and income distribution, levels of living and spending patterns, and the degree of inequality among families; and 3) to provide benchmark information to update weights in estimating the consumer price index.

Data gathered in this survey include sources of income in cash and in kind, and the level of consumption by items of expenditure. Related information such as family size, number of family members employed for pay or profit (wage/salary or own-account worker), occupation, age and educational attainment of household head, and housing characteristics are also included.

In most NSO surveys, statistics have been limited to socioeconomic data at national and regional levels. In this survey, the sample design was developed in such a way that accurate provincial/key city level classification would be possible for selected characteristics. The FIES sampling design adopts that of the ISH. The survey involves the interview of a national sample of about 20,000 households deemed sufficient to provide reliable estimates of income and expenditure levels for each province of the country, including key cities.

The FIES adopts the "shuttle type" of data collection wherein respondents are interviewed in two separate operations using the same questionnaire each time; a half-year period precedes the interview as reference period. This scheme is utilized to improve the quality of data gathered since it minimizes memory bias of the respondent and, at the same time, captures the seasonality of income and expenditure patterns.

NSO's National Census on Population and Housing

The national census takes place every 10 years. It adopts a combination of complete enumeration and sampling. All households are asked about population and housing characteristics, while only a percentage are asked about other characteristics including literacy. Assisted by the Task Force from the central office and in coordination with the local census boards, the Regional Census Officers and the Provincial Census Officers directly supervise the field operations in their respective areas. District Supervisors, Head Teachers, and elementary school teachers from public schools are tapped as City or Municipal Census Supervisors, Team Supervisors, and enumerators in that order. The NEDA Inter-Agency Committee on Population and Vital Statistics and its Technical Working Group provide the expertise and technical advice. Life expectancy and literacy rates are derived from this census while projections or estimates are generated in between census periods.

Administrative Reporting Systems and Government Special Surveys

1. The NSO's Civil Registration System gathers vital statistics drawn annually from birth, death,and marriage certificates submitted by the Local Civil Registrars to the Office of the Civil Registrar General.

2. The DOH Health Information System includes annual and regional data on mortality and morbidity from notifiable diseases, nutritional status, low birth weight, nutritional deficiencies, health services and environmental sanitation. Results are published in the DOH Annual Report.

The National Health Survey of the DOH, in collaboration with the NSO, is a survey which is population-based. Done every five years, it gathers data on mortality, morbidity, nutritional status, health services, and environmental sanitation.

3. The DSWD's information system for planning collects data on housing, streetchildren, number of meals eaten, number of households with basic possessions, and other relevant information from depressed families and communities targeted for social welfare programs. The **Social Welfare Indicator System (SWIS) project** of the DSWD (DSWD, 1992) is a system that aims to improve the monitoring of the situation of the "subsistence level" poor. Indicators are collected from poor communities on productivity and income, nutrition, health, education, employment, family life, community life, crimes, housing, and access to essential services.

4. The **DECS reporting system** gathers annual data on performance indicators such as enrolment rate, drop-out rate, survival rate, participation rate, and teacher-student ratio. These data are disaggregated by district, by division, and by region.

The School Health and Nutrition Center also carries out an annual **Nutrition Survey of Public School Children,** wherein weight and height measurements are taken by school teachers to determine the children's nutritional status (DECS, 1991).

5. The NNC's Philippine Nutrition Surveillance System aims to collect early warning indicators of the nutritional status of children and related information. As stated above, the local phase of the system collects data on prevalence of underweight preschool and school children, low birth weight, morbidity from diarrhea and acute respiratory infections, infant mortality, price of staple, and occurrence of natural calamities (NNC, 1990).

6. The NSCB's Community-Based Child Monitoring System is now being piloted in UNICEF-assisted provinces (Castro, 1991). The system has five components: the status of children and women, the care of children and women, the socioeconomic and environmental context, the socio-political and community participation context, and program management and partnership.

7. NEDA's Economic and Social Impact Analysis (ESIA) Indicator system collects almost 300 social and economic indicators being gathered by government agencies to analyze the impact of the Philippine Development Plan (NEDA, undated).

8. FNRI's National Nutrition Survey conducted every five years has four components: food consumption (by one-day food weighing), anthropometry, as well as clinical and biochemical characteristics; it also collects related socioeconomic information about households. Data are available at the regional level on nutritional status, food adequacy, and nutritional deficiencies; these are disaggregated into age, sex, urbanization, income, occupation of household head, education of mother, and other classifications.

9. **The administrative reporting system of other government agencies** such as the NHA for housing data, and DA and DAR for farm and other agriculture and natural resources data are available annually and by region. The administrative data from the different agencies are facility- and contact-based. Thus, even though data are available at the desired frequency and disaggregation, these are beset with limitations such as unreliability of data due to undercoverage.

Conclusion

Our review shows that primary sources of data on welfare and their immediate determinants come from censuses, surveys, and administrative report ing systems of various national agencies. However, some data are not collected at regular and timely intervals, and at a satisfactory level of disaggregation. While the NSO is responsible for generating general-purpose statistics, no formal statistical system is specifically tasked to monitor the condition of households under a changing macroeconomic policy environment. The usual procedure for specific-purpose survey is to commission an agency to conduct a special survey. The current surveys, however, come only in discreet times and are, therefore, insufficient for the requirements of regularly monitoring the MIMAP.

Nevertheless, the following chapter gives a summary of welfare trends as could be discerned from currently available data.

IV.   RECENT TRENDS IN SOME WELFARE INDICATORS

As cited earlier, the Philippines experienced a number of economic shocks in recent years. At the international level, the oil crisis and lowered prices of export commodities damaged the Philippine economy severely just before the mid-1980s, resulting in deficit in the external balance of payments. Together with a number of political disturbances and natural calamities, these economic shocks brought about one economic crisis after another, raising concern on their harmful consequences on the population's welfare conditions.

This chapter makes a brief review of trends in welfare conditions during the last decade, as evidenced by some of the more important indicators reviewed in the preceding chapter. These trends will help gain insight on the population's social conditions during this period of economic flux. Because of lack of readily available data on poor households and areas as compared with the rest of the population, it will not be possible to ascertain more precisely what happened to this segment of the population vis-a-vis the general population.

Demographic Situation

During the decade of the 1980s, the Philippine population grew at an almost constant annual rate of 2.4-2.5 percent. This was somewhat lower than the growth during the decade of the 1970s when the growth rate was 2.7-2.8 percent. However, rapid population growth in urban centers characterized the period; urban growth surged from 37.5 percent of the total population in 1980 to 42.7 percent in 1990 (NSCB, 1992).

Survival

Based on census figures, the projected average life expectancy at birth lengthened from 61.6 years in 1980 to 64.6 years in 1990 (Table 2). The projections on CDR decreased steadily from 8.7 per 1000 population in 1980 to 7.2 per 1000 in 1990. The IMR, also a projection, also shrank from 63.2 per 1000 live births in 1980 to 50.3 per 1000 in 1990 (NSCB, 1992).

Table 2. Average Life Expectancy at Birth, Crude Death Rate and Infant Mortality Rate (1980-1990)

Year	Average Life Expectancy (Years)	Crude Death Rate*	Infant Mortality Rate**
1980	61.6	8.7	63.2
1981	61.9	8.5	61.9
1982	62.2	8.4	61.4
1983	62.5	8.2	59.2
1984	62.8	8.1	57.9
1985	63.1	7.9	56.6
1986	63.4	7.8	55.3
1987	63.7	7.6	54.2
1988	64.0	7.5	52.8
1989	64.8	7.4	51.5
1990	64.6	7.2	50.3

* Per thousand population.
** Per thousand live births.
Source: National Statistical Coordination Board, 1992.

Nutrition

Based on the Food Balance Sheet, the country's calorie supply, in terms of percentage sufficiency relative to calorie requirements, went up from 108.4 percent in 1978 to 120.2 percent in 1982, but slid to a low of 109 percent in 1987, recovering somewhat in 1988 to 114.2 percent. This trend somehow mirrored the mean per capita calorie intake of the population which increased from 88.6 percent in 1978 to 89.0 percent in 1982, but dropped to 87.1 percent in 1987 following the economic crisis in the mid-1980s. The reduction fell most heavily in the rural areas, among the lowest income group, and among farm laborers and small or hired fishermen (Villavieja, 1989).

The same trend, corresponding to the economic crisis followed by recovery, occurred in the proportion of malnutrition among the children population (Table 3). In 1978, 21.9 percent of preschool children were undernourished, diminishing to 17.2 percent in 1982, but rising again to 17.7 percent in 1987 (Villavieja, 1989). Some recovery took place in 1989-1990 when the prevalence of undernutrition dropped to 14 percent (FNRI, 1990). Acute malnutrition among the same age group also slid from 13.8 percent in 1978 to 9.5 percent in 1982, but climbed to 12.7 percent in 1987, only to fall again to 9.0 percent in 1989-1990. Stunting, which reflects past or chronic malnutrition, exhibited a steady decline, from 20.6 percent in 1982 to 14.1 percent in 1987, and to 11.6 percent in 1989-1990. This suggests that the malnutrition problem in the Philippines belongs to the more acute type. Young children below four years are

**Table 3. Percentage of 0-6 Year Old Children who are
Underweight, Wasted, and Stunted (1978 - 1989/90)**

	1978	1982	1987	1989/90
Underweight*	21.9	17.2	17.7	14.0
Wasted**	13.8	9.5	12.7	11.6
Stunted***		20.6	14.1	9.0

*   < 75 percent weight for age standard.
**   < 85 percent weight for height standard.
***   < 90 percent height for age standard.

Source: Villavieja, 1989; FNRI, 1990.

invariably most affected, particularly in economically depressed regions such as Regions V, VI, and VIII.

Health

The DOH vital statistics show that the rates of deaths under one year also displayed a decreasing trend during the last decade, except for a slower rate of decline from 1984 to 1986. Maternal death rates, however, remained more or less constant since 1979; see Table 4 (Health Intelligence Service, DOH, 1991).

Examining the ratio of deaths due to communicable diseases to total deaths presents a better way of gauging the health picture to ascertain welfare trends. This ratio stood at 37.0 percent in 1975, dropping to 33.8 percent in 1985. However, communicable diseases still accounted for a large proportion of total deaths. Of the 10 leading causes of death in 1985, four were communicable diseases: pneumonia, tuberculosis, diarrhea, and measles.

The morbidity rates of most communicable diseases have been rising since the late 1970s. Bronchitis and influenza, for example, had a rate of 938 per 100,000 population in 1978, climbing to 1,984 per 100,000 in 1987. This most probably resulted from the increase in health services delivery and, therefore, better coverage and reporting, but not from an absolute increase in cases. As proof, the ratio of RHUs to population grew from 1:24,397 in 1979 to 1:29,219 in 1987. But morbidity from diarrhea from 1972 to 1986 clearly registered an increase in reported cases during the crisis years of 1984 to 1986, despite its steady decline prior to this period. Diarrhea morbidity peaked in 1984 and 1988: about 1000 cases per 100,000 population compared with earlier years registering rates of 500 cases or less. The same occurred for measles (which peaked in 1984 and 1987) and tuberculosis (which peaked in 1985); see Table 5 (Health Intelligence Service, DOH 1991).

Table 4. Deaths under One Year and Maternal Mortality Rate (1978 - 1988)

Year	Death under 1 Year	Maternal Deaths*
1978	53.1	1.2
1979	50.2	1.1
1980	45.1	1.1
1981	44.1	1.0
1982	41.8	1.0
1983	42.7	0.9
1984	38.5	1.0
1985	38.0	1.1
1986	35.0	1.0
1987	32.1	1.1
1988	30.1	

Source: HIS, Department of Health (DOH), 1991a.

Table 5. Morbidity from Diarrheas, Measles, and Tuberculosis (1978 - 1988)

Year	Diarrhea	Measles	Tuberculosis
1978	462.6	61.2	62.4
1979	466.2	62.8	60.6
1980	413.0	55.4	59.6
1981	482.7	54.6	55.1
1982	435.6	70.9	55.7
1983	529.2	84.1	55.0
1984	1036.9	141.5	51.4
1985	956.2	115.2	57.9
1986	962.2	106.0	54.6
1987	1031.8	142.8	50.0
1988	1063.3	120.6	46.0

Source: HIS, Department of Health (DOH), 1991a:

Literacy and Education

The literacy rate of the population 15 years and above generally improved since 1960 when the rate stayed at 71.9 percent (NSCB, 1992). In 1970, the rate increased to 82.6 percent; in 1980, it increased again to 83.3 percent. Total enrolment in elementary schools grew steadily up to 1984-1985, but rose rather sharply starting 1985-1986. The school enrolment rate at the elementary level (enrolment relative to total school age population), however, actually declined during the period SY1982-1883 to SY1986-1987, but climbed after that (Table 6). The growth in secondary school enrolment dropped from 1984 to 1988, but recovered in 1989. Except for Grade I, survival rates were generally declining since SY1983-1984, increasing only in 1987-1988 to the present (Table 7). The completion rate in elementary schools followed the same trend. The drop-out rates, however, were steadily decreasing although, starting 1984-1985, the decline slowed down considerably.

**Table 6. School Enrolment Rate and Drop-Out Rate in Elementary
Schools (SY 1980-1981 to SY 1990-1991)**

School Year	School Enrolment Rate*	Drop-Out Rate**
1980-81	42.0	3.6
1981-82	42.2	2.9
1982-83	41.7	2.8
1983-84	41.3	2.7
1984-85	40.7	2.0
1985-86	40.2	2.0
1986-87	40.7	1.7
1987-88	41.4	1.8
1988-89	42.2	1.8
1989-90	42.8	1.7
1990-91	42.6	1.7

* Percentage of school-age population.
** Percentage of total enrolment.
Source: National Statistical Coordination Board, 1992.

Housing

In general, the total number of occupied dwelling units expanded from 1970 to 1980, in consonance with the population increase. In fact, the number of improvised *barong-barong* (shanties) diminished from 220,839 in 1970 (which comprised 3.7 percent of the total dwelling units) to 84,131 (1.0 percent) in 1980; see Table 8 (NSCB, 1992).

**Table 7. Survival Rate* in Elementary Schools
(SY 1980-81 to SY 1990-91)**

	Elementary					
School Year	I	II	III	IV	V	VI
1980-81	100.0	85.3	79.8	77.0	70.3	65.7
1981-82	100.0	86.7	80.8	75.9	72.2	66.0
1982-83	100.0	85.2	80.9	75.8	70.3	66.4
1983-84	100.0	85.3	79.2	76,6	70.9	65.4
1984-85	100.0	85.5	79.4	74.9	70.8	65.4
1985-86	100.0	85.8	78.9	74.7	69.1	65.5
1986-87	100.0	87.1	80.8	75.7	70.2	65.1
1987-88	100.0	86.8	82.0	77.1	71.2	65.7
1988-89	100.0	86.2	81.8	78.5	72.8	66.6
1989-90	100.0	86.7	81.7	77.4	73.3	67.6
1990-91	100.0	87.2	82.4	78.2	74.2	68.4

* Percentage of total enrolment.
Source: National Statistical Coordination Board, 1992.

**Table 8. Number of Occupied Dwelling Units
by Type of Building (1979 and 1980)**

Dwelling Unit	1970	1980
Total No.	6,027,055	8,500,826
Single House	5,392,955	7,911,102
Duplex	145,623	144,024
Apartment/ Acc/Cond.	215,382	220,839
Improvised barong-barong	220,839	84,131
Others	52,256	41,000

Source: NSCB, 1992.

An increase in the proportion of households with potable water supply occurred from 1978 to 1988. The 1987 NHS revealed that of the total households, 87.7 percent had access to potable drinking water.

The proportion of households having sanitary toilet facilities also climbed from 45 percent in 1978 to 70.4 percent in 1988.

Employment

While the working age population and labor force continued to expand in the 1980s, following the population increase, labor force participation rate leveled off between 1983 and 1986 (Table 9). In fact, the employment rate actually diminished between 1985 and 1987, compared with the rate during the rest of the decade. Correspondingly, the unemployment rate grew during the same period (NSCB, 1992).

Table 9. Working Age Population, Population in the Labor Force, and Labor Force Participation Rate (1980-1990)

	Working Age	Labor Force Population	Employment Participation Rate (%)
1980	28,967	59.6	92.1
1981	29,847	61.2	91.3
1982	20,748	60.1	90.6
1983	31,644	63.6	92.1
1984	32,679	63.5	89.4
1985	33,646	63.4	88.9
1986	34,612	63.8	90.9
1987	34,840	65.7	90.9
1988	35,865	65.4	91.7
1989	36,916	64.6	91.6
1990	37,999	64.5	91.9

Source: National Statistical Coordination Board, 1992.

Income, Expenditure, and Prices

As expected, the per capita personal income (in constant 1978 prices) dipped sharply during the crisis years of 1984 to 1987, recovering only in 1988. As a result, personal savings plunged to very low levels during the same period (Table 10). In 1988, the lowest 30 percent of families contributed only 9.3 percent of total family income, while the highest 10 percent contributed 35.7 percent of total family income; see Table 11 (NSCB, 1992).

Table 10. Per Capita Personal Income and Savings (1980 - 1990)

Year	Per Capita Personal Income*	Per Capita Personal Savings*
1980	2,987	232
1981	2,968	254
1982	2,919	124
1983	2,921	36
1984	2,802	32
1985	2,521	36
1986	2,459	76
1987	2,590	3
1988	2,867	209
1989	3,005	230
1990	3,089	84

* At constant 1978 prices.
Source: National Statistical Coordination Board, 1992.

Table 11. Total Family Income Distribution by Decile Group (1988)

Ranking ot Families	Percent Share	Cumulative % Share
1st tenth	2.0	2.0
2nd	3.2	5.2
3rd	4.1	9.3
4th	5.0	14.3
5th	6.0	20.3
6th	7.3	27.6
7th	9.1	36.6
8th	11.6	48.2
9th	16.1	64.2
10th	35.7	100.0

Source: National Statistical Coordination Board, 1992.

Although food accounted for 51.9 percent of total family expenditures in 1985, this percentage diminished to 50.8 percent in 1988. In the rural areas, however, food still accounted for 56.7 percent of expenditures in 1988.

During the crisis years of 1983-1985, the consumer price index spiralled from 173.2 in 1982 to 190.5 in 1983, and 401.0 in 1988. The purchasing power of the peso dove to 0.25 in 1988 (1978 = 1.00).

Summary

The above discussions show that the welfare conditions of the population remained rather well up to 1983 when conditions deteriorated. Presumably precipitated by the political crisis in the country at that time, the consumer price index rose sharply and the purchasing power of the peso drastically fell. As a result, calorie and nutrient consumption decreased and malnutrition among children particularly of the acute type became prevalent. Morbidity from diarrhea, measles, and tuberculosis reached a peak between 1984 and 1985. The school enrolment rate and growth in secondary school enrolment declined at about the same time. Employment rate diminished and per capita personal income fell.

After 1987, all of the social welfare indices started to improve. Notable improvements were seen in nutritional and health situation. School enrolment rate grew in 1988. The same occurred in employment and personal income.

The social welfare situation of the poor must have followed the same trend as the rest of the population. Some indications (e.g., in nutritional situation) even suggest that they fared worse than the rest during the period of economic crisis. A monitoring system that specifically targets this group will more accurately ascertain the impacts of the economic environment. The next chapter describes a system that will attempt to answer this need.

V.   RECOMMENDED MIMAP MONITORING SYSTEM

A MIMAP monitoring system aims to reduce the burden of adjustment programs especially among the vulnerable and helpless poor. This can be done by providing policymakers, particularly those influencing adjustment programs, with quick and regular information on the welfare conditions of poor households, or the burden that adjustment may be exacting on this group.

To be useful, the MIMAP monitoring system should be able to identify the sectors (by occupation, cultural grouping, geographical characteristics, and even tenure status in the agricultural sector) that are most vulnerable to policy changes and to describe their welfare conditions. It is important, therefore, that the data collected should be capable of disaggregation into functional groupings such as age; gender; geographical location (coastal, inland, upland); occupation of household head; and rural/urban location. The system need not concern itself with determining the absolute magnitude of the poor;[3] it can thus focus on generating data from economically depressed municipalities and communities where the poor abound. A statistically adequate number of randomly selected, economically depressed municipalities can serve as index or sentinel areas for MIMAP monitoring. The MIMAP monitoring system being proposed here will also put special focus on women and children, as they are believed to be most vulnerable to cuts in social programs and other relevant welfare inputs that usually accompany adjustment.

The system should allow regular and frequent monitoring of human welfare indicators. This means that MIMAP trends should be updated at least yearly in time for the periodic policy reviews conducted by policymakers. Although administrative data of the DECS, DOH, DSWD, DOLE, DA, and DAR may be available on an annual if not quarterly basis, the biases from coverage and delays in reporting will need to be addressed by the system. It is believed that involving highly motivated and adequately trained local residents in the index municipalities or communities may minimize such biases, while raising their consciousness and enthusiasm in collaborating with intersectoral efforts to improve their own and their community's wellbeing.

The local people's involvement in the MIMAP monitoring system at the barangay level should not end at data gathering. It should also include the analysis and utilization of the welfare data by the local government units and non-government organizations (NGOs) in the area, thus empowering the local government, as called for the new Local Government Code, to plan and institute relevant action to address gaps in the poor's welfare. At the same time, the data, with the desired disaggregations into functional groups as described earlier, should reach national-level policymakers with a minimum loss of time.

Since the MIMAP monitoring system targets its use by local residents, it will need to involve indicators that are simple and easy to collect and that the grassroots can appreciate. For example, identifying households taking only one meal or less a day is a much simpler activity

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[3]   The magnitude of absolute poverty can be determined using the classical statistics of poverty incidence through the triennial Family and Expenditure Survey of the NSO.

example, identifying households taking only one meal or less a day is a much simpler activity that the local people can better relate to, than weighing foods eaten by households and translating these into energy, nutrients, and percentage of recommended dietary allowances. The system should nevertheless ensure that the data collected are accurate, reliable, and consistent.

Lastly, the system should only include a minimum set of indicators that best reflect the welfare conditions and potentials of the poor to encourage the use of MIMAP data by the country's adjustment planners. This means that including less than the proposed set of indicators will miss one or more significant concerns of welfare; adding more than the proposed set may be unnecessary. The criteria in selecting the minimum MIMAP indicators are as follows:

1. Impact or outcome rather than input orientation,

2. Perceived sensitivity to the welfare concern being monitored,

3. Relevance to the conditions of the poor,

4. Feasibility of collection by and at the local level, and

5. Appropriateness to the welfare concern being monitored.

In summary, the following principles should guide the conceptualization of a MIMAP monitoring system:

1. The monitoring system should include a minimum set of indicators that will best reflect the changing welfare conditions and potentials of the poor;

2. The system should be able to identify and describe the welfare conditions of the sectors (occupational groups, geographical and urban/rural location, age/sex groups) most vulnerable to adjustments through the use of functional classifications;

3. The system need not concern itself with determining the absolute magnitude of the poor, and should instead focus on economically depressed municipalities as index or sentinel areas for MIMAP monitoring;

4. The system should ensure the timely and frequent collection of MIMAP data from the index areas;

5. The system should be simple using easy to collect indicators, and should insure collection of accurate, reliable, and consistent data;

6. The system should allow the analysis and utilization of the collected MIMAP data at the local level in order to institute the necessary action to address welfare gaps among the poor; and

7. The system should insure that MIMAP data, with the relevant disaggregations, reach the national level regularly and on time.

Elements of the MIMAP Monitoring System

Selecting MIMAP Index or Sentinel Areas

As stated above, the MIMAP monitoring system should focus on poor households and disadvantaged population groups or communities, these being vulnerable to adjustment programs. Operationally, MIMAP monitoring could be done in economically depressed municipalities where the poor generally abound, which can serve as index or sentinel areas. The NNC, for example, identified 115 nutritionally depressed municipalities using nutrition and some economic indicators; these could initially be considered as index or sentinel areas. The NEDA also identified a number of pro-poor areas for the government's poverty alleviation programs which could serve the MIMAP monitoring purpose. The DSWD pinpointed the most socioeconomically depressed barangays in the country for its programs for the "poorest of the poor." This strategy is believed to be more manageable than identifying and monitoring welfare conditions of the whole population. It will be more advantageous to monitor relevant indicators over time among selected poor households, e.g., the bottom 30 percent among the income groups.

Functional Classification of Individuals and Households

To be able to determine and pinpoint the groups most vulnerable to economic change during adjustment, the system should disaggregate the collected data into functional groups. Data collected at the level of individuals should be capable of disaggregation by age and gender. Household data should be capable of disaggregation by geographic location (coastal, inland, upland), urban/rural location, and occupation of household head.

Community-based Monitoring of MIMAP Indicators

The recent signing into law of Republic Act 7160, otherwise known as the Local Government Code of 1991, highlighted the urgency of uplifting the current state of the sub-national statistical system. This includes addressing the miserable state of data generation at the level of the barangay, and the inefficient use of generated data for community development. This Code provides legal basis for a proposed MIMAP monitoring system that seeks active data generation and utilization at the smallest geopolitical unit.

Thus, the MIMAP monitoring system will adopt the concept of mobilizing and developing the capability of communities for data generation and utilization, which is the outstanding feature of the NSCB's Community-based Child Monitoring System or CBCMS (Castro, 1991) and the Proposal for Decentralization of the Philippine Statistical System of the Congressional Planning and Budget Office (CPBO), the NSO, and the Philippine Rural Reconstruction Movement

(CPBO, 1992). These will constitute the core strategy of a community-based MIMAP monitoring or key indicator system involving primary data generation, particularly of critical welfare indicators for which accurate and reliable annual data are currently not available.

From among local residents and key informants (both formal and informal leaders) in the community, a corps of community monitors (one for each purok or group of 10 to 20 households, for example) will be tapped to record relevant events that are indicative of welfare conditions. Barangay-based organizations such as women's or youth groups will be encouraged to participate if not lead in the barangay level MIMAP data generation. Meanwhile, a community monitor will be in charge of monitoring one or more welfare indicators within his or her designated purok or group of 10-20 households, mindful of not overloading the person with too many indicators to monitor and forms to accomplish to avoid monitor drop-outs.

However. the community-based MIMAP monitoring system should recognize, and not be independent from, monitoring systems already or planned to be in place. For example, the Child Monitoring Project, which is being piloted by the NSCB in selected provinces, will still be the primary source of data on under-5 mortality rate. The Growth Monitoring and Promotion System, while it needs to be strengthened, could be the basic source of data on the incidence of diarrhea. The DSWD's barangay-level family survey for planning will be the basic source of information on households consuming one meal or less daily and employment/underemployment on a monthly basis. Where there is no existing monitoring system from which secondary data could be obtained, primary data generation (still by community monitors) will be generated. These indicators will constitute the key indicator system of the MIMAP monitoring; the local government may also add other indicators within their areas of interest.

MIMAP Data Reporting Flow

Barangay data should be reported to the next higher geopolitical level for immediate intervention to address welfare gaps among the vulnerable group, ultimately reaching macroeconomic planners in order to influence adjustment programs. It is recommended that data on specific concerns generated from each purok by the volunteer monitor be consolidated monthly, with the desired disaggregations (i.e., occupational groups, urban-rural and other geographical groupings, cultural groups, tenure status, or farm size), and reported to the concerned agency workers assigned in the barangay (whether from a local government unit or an NGO). These barangay agency implementors then submit the respective concern-specific, MIMAP barangay reports to the offices at the municipal or city level. Municipal or city level officers submit the respective concern-specific, MIMAP-municipal/city reports to the designated MIMAP databank, with copies furnished to their offices at the provincial level.

For example, purok data on under-5 mortality recorded by community monitors will be consolidated by the rural health midwife for the barangay and reported to the municipal public health nurse or municipal health officer who then reports municipal U5MR data, with the desired disaggregations, to the municipal MIMAP's databank and the provincial health officer.

Creation of a MIMAP Databank per Geopolitical Level

MIMAP databanks should function at each geopolitical level; it will retrieve periodically from concerned line agencies data on MIMAP indicators and feed the information to the development planning bodies at the respective levels. The databank could be the Barangay Development Council (or a Barangay Development Planning Office) at the barangay level, and the Municipal/City and Provincial Development Planning Offices at the municipal, city, and provincial levels. The Philippine Statistical Commission (or the National Statistics Office while a Philippine Statistical Commission is not yet been created) may then obtain MIMAP statistics from these databanks for reporting to national level policymakers.

Using Data from National Monitoring Systems or Special Surveys

The MIMAP monitoring system recognizes that certain monitoring systems are already in place and could provide relevant MIMAP statistics, although on a less frequent periodicity, from triennial to decennial. These will constitute the MIMAP monitoring system's support indicator system, which will not focus on sentinel areas alone but on the entire country. These will include --

1. The NSO's quarterly ISH, triennial FIES, and decennial National Census on Population and Housing,

2. The FNRI-DOST's quinquennial NNS,

3. The DOH-NSO quinquennial NHS, and

4. Administrative reporting systems and special surveys of national agencies.

MIMAP Indicators

Survival

Under-5 mortality rate (U5MR) is the most accurate indicator of child survival. This is because under-five year old children are the most vulnerable to health and nutritional inadequacies, which prevents the fulfillment of a person's potential for survival.

UNICEF presented a strong rationale for selecting the U5MR as its single most important indicator of the state of a nation's children (UNICEF, 1987). The U5MR reflects the nutritional health and the health knowledge of mothers, the level of immunization and life-saving diarrheal management, the availability of maternal and child health services, income and food availability in the family, the availability of clean water and sanitary environment, and the overall safety of the child's environment. It is also the best available single indicator of overall social

development as most of its determinants show the meeting of essential needs of a human being, particularly the needs of a child.

In the same manner, average life expectancy at birth could also aptly reflect a population's survival potential. The statistics on this, however, are merely projections based on data on the extent of health care delivery, the nutrition situation, and environmental sanitation conditions. Being projections, vis-a-vis actual or hard data that U5MR may be able to provide, the average life expectancy at birth may be a less sensitive indicator than the latter.

The present flaws in collecting and reporting data on U5MR, however, need to be addressed. The NSCB is developing a local-level monitoring system on the situation of children and women known as the Child Monitoring Project and, as a distinct component of this, a data generation approach whereby the community members themselves monitor their own children and women, called the Community-Based Child Monitoring System (CBCMS). The U5MR is one of the indicators being monitored by the system, which will prove a very useful tool for MIMAP monitoring.

For MIMAP monitoring, under-5 mortality is proposed to be reported at the barangay level, after which U5MRs of grouped rural, urban, and target depressed barangays will be estimated at the municipal level from the raw data. Annual estimates on U5MRs in rural, urban, and target depressed barangays are proposed.

Life expectancy at birth by sex, the yearly estimates of which are done by the NSO, will be useful as a support indicator.

Key indicator	:	Under-five mortality in target depressed municipalities
Frequency of collection	:	Monthly
Data generator at grassroots level	:	Child monitoring volunteer monitors, Barangay Health Worker, and Rural Health Midwife
Data consolidator at barangay level	:	Rural Health Midwife
Data consolidator at municipal level	:	Public Health Nurse/MHO Technical Services Chief/PHO
Data consolidator at province/city level	:	Provincial Health Off./ Technical Services Chief

Databank	:	Municipal/Prov./City Planning or Development Officer
Support Indicator	:	Life expectancy at birth
Disaggregation	:	Region, sex
Frequency	:	Annual
Data generator	:	Local Civil Registrars NSO
Databank	:	NSO

Nutrition

Malnutrition is a key manifestation of poverty and survival. Nutritional anthropometry, specifically the weight and height of the vulnerable young children, best reflects the extent of malnutrition in a population group.

Data on the prevalence of preschool underweight and wasting for all provinces and cities, with disaggregations for urban-rural areas and income groups, are available only every two years (starting 1989-1990). Meanwhile, the locally conducted nationwide OPT provides information even up to the barangay levels on the prevalence of preschool underweight. However, because of resource limitations, the OPT is beset with flaws; it limits its target to weighing activities on preschool children in nutritionally-at-risk households (i.e., socioeconomically disadvantaged). But this limitation may yet prove useful for MIMAP monitoring. The prevalence of preschool underweight among nutritionally-at-risk or socioeconomically disadvantaged communities, as obtained from the OPT, can serve as the key indicator while prevalence of pre- school underweight and wasting among the lower income groups from the FNRI-DOST surveys may be used as the support or confirmatory indicator.

Key indicator	: Prevalence of preschool under- weight (among nutritionally at risk or socioeconomically dis- advantaged households)
Frequency of collection	: Yearly

grassroots level	: Operation Timbang: Barangay Nutrition Scholar, Barangay Health Worker, or mother-leaders
Data consolidator at barangay level	: Rural Health Midwife
Data consolidator at municipal level	: Public Health Nurse/MHO
Data consolidator at provincial/city level	: Technical Services Chief/PHO
Databank	: Municipal/Provincial/City Planning and Development Office
Support indicator	: Prevalence of preschool under- weight and wasting
Frequency of collection	: Bi-annual
Disaggregation	: Province/city; urban-rural income groups
Data generator	: FNRI
Databank	: FNRI

Health Status

Diarrhea, or the dehydration which accompanies this, is a major cause of child morbidity and mortality especially among the poor where water supply is not potable, waste disposal is unsanitary, preventive and even curative health care is inadequate, and health care knowledge is erroneous or insufficient.

The completeness of data on the incidence of diarrhea, however, depends considerably on the households' reporting of cases to the Barangay Health Stations or RHUs, or even to volunteer monitors if an indigenous monitoring team were to be put in place. At present, the incidence of diarrhea is very much under-reported.

Growth monitoring, if all or majority of households with under-five chil- dren were to adopt the system, may yet facilitate the recording and reporting of diarrheal incidence among

under-fives. The growth monitoring system calls for the recording of the child's weight each month by health personnel or volunteer health workers, as well as of events including diarrheal episodes that may affect the child's weight in between weighing periods. The strategy does not require the mother to walk or travel to the nearest health center or volunteer monitor, which may discourage many mothers from participating in most health care activities, as the growth chart is kept at home. The system's usefulness to MIMAP monitoring, however, depends greatly on the success of promoting growth monitoring.

Key indicator   : Incidence rate of diarrhea
                                       among under-five children in
                                       target depressed
                                       municipalities

Frequency of collection
(i.e. reporting or retrieval
of data from household record): Monthly,

Data generator at grassroots
level   : Growth Monitoring and
                                       Promotion: household and
                                       Barangay Health Worker or
                                       volunteer monitor

Data consolidator at
barangay level   : Rural Health Midwife

Data consolidator at
municipal level   : Public Health Nurse/MHO

Data consolidator at
provincial/city level   : Technical Services Chief/
                                       PHO

Databank   : Municipal/Provincial/City
                                       Planning and Development
                                       Office

Housing

Adequate housing is a prerequisite to good health and general wellbeing of families. Only productive employment and rising incomes can allow the poorer families to fulfill their aspirations for a decent home. Measurements suggested for monitoring the welfare conditions of disadvantaged groups for this concern would be the proportion of families in the community living in decent and comfortable dwellings that protect them from the elements. The DSWD social welfare indicator system uses the following in defining housing conditions:

Survival level : Makeshift or temporary
housing structure made of
salvaged, old, or
dilapidated materials

Subsistence level : Makeshift housing structure
made of light materials

Self-sufficiency
level : House made of combined
heavy and light material

A fourth classification are the homeless families. Information on the proportion of families in DSWD's target depressed barangays, living in either survival or subsistence type of housing, may be available from social workers at the grassroots level. The national census generates information on the distribution of households by type of housing material on a less frequent period, i.e., quinquinnially. The DSWD data seem a more useful indicator for MIMAP monitoring if reported at least up to the provincial or city level.

Key indicator : Proportion of families
in target depressed
municipalities living
in at least makeshift
housing structure of
light materials

Periodicity of data
collection : Annual

Data generator
at grassroots level : Direct social worker;
volunteer monitor

Data consolidator
at municipal level : Municipal Social
Worker

Data consolidator
at provincial level   : Provincial/City Social
                              Worker

Databank   : Municipal/Provincial/City
                              Planning and
                              Development Office

Support Indicator   : Distribution of households
                              : by type of material

Frequency of collection   : Quinquinnial

Disaggregation   : Region, province/city,
                              urban/rural

Data generator   : NSO

Databank   : NSO

Food Adequacy

The most reliable data on dietary adequacy may be obtained from the NNS, which is carried out every five years covering a sample population. Only national and regional estimates (at least from the 1978, 1982, and 1987 surveys) can be generated, although disaggregations by urban-rural, income, and occupation (of household head) groups are available. Such surveys require technical skills and concepts as well as tools which have made more frequent surveys with larger samples to obtain provincial estimates not feasible, besides being expensive. Meanwhile, researches are being carried out aimed at developing rapid assessment procedures or proxy measures for dietary assessment which could provide annual data. Such proxy or rapid techniques include using a list of core foods as the dietary standard or counting the number of meals taken per day. Moreover, such rapid surveys can focus on a convenient and easily accessible population group such as the schoolchildren as they are a "captive" group. Those in Grade VI are preferred since they are mature enough to provide reliable information. FAO/RAPA (1988) contended that data on the food intake of Grade VI schoolchildren gives an indication of the family's diet. These proxy measures, while tested in some countries, have yet to be validated in the Philippines. The DSWD, meanwhile, already uses "families taking one meal or less a day" as indicator in identifying disadvantaged or subsistence households; this can thus be used as the key indicator for MIMAP monitoring. The proportion of households with per capita intake less than 80 percent of energy adequacy, taken by the quinquinnial NNS, can be a confirmatory and a support indicator.

Key indicator	:Proportion of households in target depressed municipalities taking one meal or less a day
Frequency of collection	: Monthly
Data generator at grassroots level	: Direct social worker (in depressed barangays)
Data consolidator at barangay level	: Direct social worker
Data consolidator at municipal level	: Municipal social worker
Data consolidator at provincial/ city level	: Provincial/city social worker
Databank	: Municipal/Provincial/City Planning and Development Office
Support indicator	: Proportion of households among (lower income group or specific occupational group) with per capita energy intake < 80% adequacy
Frequency of collection	: Quinquinnial
Disaggregation	: Province/city; urban-rural
Date generator	: FNRI
Databank	: FNRI
Support indicator	: Proportion of Grade VI pupils (households) in target depressed municipalities with less than acceptable diet score
Frequency of collection	: Annual

Disaggregation	: Province/city; district, urban-rural, occupational group, geographic group
Data generator at grassroots level (i.e. classroom) level	: Pupil, school HE teacher
Data consolidator at school level	: School HE teacher
Data consolidator at municipal level	: District Supervisor
Data consolidator at provincial/city level	: Division Superintendent
Databank	: Municipal/Provincial/City Planning and Development Office

Public Services

Basic community services consists of water, sanitation, health care, formal education (indicators of which are discussed separately), and skills training which provides disadvantaged groups opportunities for alternative income sources.

Eighty percent of diseases afflicting children are water-borne. Clean water is, thus, a key factor to a child's health. Besides benefiting health, accessibility to clean water source saves time (especially among the women and older children considering that the task of hauling water is commonly left to them) and boosts productivity. Households with access to potable or safe water supply, as defined in existing monitoring systems, refer to those with piped water in house taps or in community standpipes, whether from public or private deep wells or improved spring.

Sanitation, specifically waste disposal, influences health of children in the same way that water does. Households with access to sanitary waste disposal facilities refer to those with water carriage excreta disposal system, which includes septic tanks and water-sealed types (not including those who use sanitation facilities of a neighbor or relative).

Accessibility of health care is primarily determined by the ratio of RHUs and barangay health stations to households in a community.

Accessibility of skills training refer to percentage of target population, that is, those unemployed or underemployed in the community, who avail of skills training.

Key indicator : Proportion of house-
holds in target
depressed municipal-
ities with access to
potable water supply

Periodicity of data : Annual

Data generator at grassroots
level : Volunteer monitor,
Barangay Health Worker,
and/or direct social
worker

Data consolidator at
municipal level : Municipal Sanitary
Engineer

Data consolidator at
provincial/city level : Provincial/city
Sanitary Engineer

Databank : Municipal/Provincial/City
Planning and
Development Office

Key indicator : Proportion of house-
holds in target
depressed municipal-
ities with access to
sanitary toilet
facilities

Periodicity of data : Annual

Data generator at grassroots
level : Volunteer monitor,
Barangay Health Worker,
and/or direct social
worker

Data consolidator at
barangay level : Rural Health Midwife

Data consolidator at
municipal level : Municipal Sanitary
                 Engineer

Data consolidator at
provincial/city level : Provincial/City
                        Sanitary Engineer

Databank : Municipal/Provincial/City
           Planning and
           Development Office

Support indicator : Ratio of rural health
                    unit/barangay health
                    station to households
                    target depressed
                    municipality

Periodicity of data : Annual

Disaggregation : Province/city;
                 urban-rural

Data generator at grassroots
level (i.e. barangay) : Barangay Health Worker

Data consolidator at municipal
level : Municipal Health
        Officer

Data consolidator at
province/city level : Technical Service
                      Chief/PHO

Support indicator : Proportion of
                    unemployed/under-
                    employed in target
                    depressed municipal-
                    ities who availed of
                    skills training

Periodicity of data : Annual
Disaggregation : province/city;
                 urban-rural

Data generator at grassroots
level (i.e.,barangay)   : Direct social worker

Data consolidator at
municipal level   : Municipal Social Worker

Data consolidator at
province/city level   : Provincial/City Social
                                Worker

Databank   : Municipal/Provincial/City
                                Planning and Devt. Office

Basic Education

Education and literacy unleashes the individual's capacity to improve his own and his family's lives. Productivity, child health and nutrition, family size, community participation in development programs, among others, correlate with education and literacy. Maternal education, in particular, relates closely with child health and nutrition. The female members of the family are usually deprived of education during socioeconomic stress. Thus, maternal education has been commonly used as an indicator of socioeconomic level.

Four to five years in primary school provides a person the basic skills and literacy. While an impressive proportion of six to 11 year old children may be enrolled in elementary schools, the percentage of those enrolled who drop out during the school year or are unable to complete at least four years rise or fall as a direct consequence of socioeconomic conditions.

The best available indicators of education and literacy based on the above are:

1. Adult literacy/functional literacy rate,

2. Elementary school enrolment and drop-out (retention) rate,

3. Elementary school cohort completion rate, and

4. Average educational attainment among women.

These are available from literacy surveys and administrative reports of the DECS. Elementary school enrolment and drop-out (or retention) rate is proposed as key indicator, being available on an annual basis. Data on completion rate, being longitudinal in character, are oftentimes flawed due to the transfer of children to other schools in other towns; this factor limits the indicator's usefulness. However, literacy rates and average educational attainment are

estimated every 10 and five years, respectively, making these suitable as support indicators. The estimation of literacy rates is proposed to be done every five years.

Key indicator	: Elementary school enrolment and drop-out (retention) rate in target depressed municipalities
Periodicity of data	: Annual
Data generator at grassroots (school) level	: School Principal
Data consolidator at municipal level	: District Supervisor
Data consolidator at provincial/city level	: Division Superintendent
Databank	: Municipal/Provincial/City and Development Office
Support indicator	: Average educational attainment among women in target depressed municipalities
Periodicity of data	: Quinquinnial
Disaggregation	: Province/city; urban-rural
Data generator at grassroots level	: Volunteer monitors
Data consolidator	: NSO - Municipal and provincial/city officer
Databank	: Provincial/City Planning and Development Office
Support indicator	: Adult basic literacy rate in target depressed municipalities
Periodicity of data	: Quinquinnial

Disaggregation	: Province/city; urban-rural
Data generator at grassroots level	: NSO Educ. specialists)
Data consolidator	: NSO - municipal and provincial/city offices
Databank	: Municipal/Provincial/City Planning and Development Office

Income

The capacity of the poor to provide for their basic needs depends a lot on income. The indicators recommended to measure this concern among the disadvantaged groups are:

1. Percentage of households in target depressed municipalities with income below the poverty line;

2. Percentage of income accruing to the subsistence households (i.e., below poverty line) in the target depressed municipalities; and

3. Mean income of subsistence households.

Data on these three indicators are generated triennially through the FIES, although no municipal profiles can be generated. Provincial, city, urban, and rural estimates are available.

The DSWD estimates income status of households in selected depressed barangays, using "acquisition of basic possessions" as proxy indicator for income for planning purposes. Thus, data on the "number and percentage of households with basic possessions only" in DSWD's selected barangays are available annually; this information, however, remains at this level as it is used mainly for targeting and delivery of services.

The proxy indicator as employed by DSWD's direct social workers may be used to provide annual statistics, while data generated triennially from the house-to-house expenditure surveys (FIES) could be confirmatory.

Key indicator	: Percentage of households in depressed municipalities with basic possessions/no luxury item

Periodicity of data collection: Annual

Data generator at grassroots
level   : Volunteer monitor, direct
                                social worker

Data consolidator at barangay
level   : Direct social worker

Data consolidator at
municipal level   : Municipal social worker

Data consolidator at
province/city level   : Provincial/city social
                                 worker

Databank   : Municipal/Provincial/City
                                 Planning and Development
                                 Office

Support Indicator   : Mean income

Periodicity of data collection: Triennial

Disaggregation   : Province/city; urban-rural

Data generator   : NSO

Support Indicator   : Percentage of households with income below the
                                 poverty line

Periodicity of data collection: Triennial

Disaggregation   : Province/city; urban-rural

Data generator   : NSO

Employment

Wage or self-employment serves as the major means to acquire income. While wage employment is the major source of income for a large percentage of the population, poorer households have turned to household-operated activities or self-employment as coping mechanisms. Thus, while government cannot assure the labor force of adequate wage

employment, measures that will provide opportunities to the disadvantaged for income generation are needed.

The indicator recommended to measure this concern is "percentage of unemployed/underemployed." This indicator refers to both wage- and self- employment.

The Labor Force Survey, which is carried out quarterly, generates data on this information and is thus the best available data source. The DSWD's direct social workers identify households with unemployed/underemployed household members in selected depressed barangays during the planning cycle; they may thus be able to generate data on the proposed indicator, although not as frequent as the Labor Force Survey.

Key indicator : Rate of unemployment/ underemployment in target depressed municipality

Periodicity of data collection: Monthly

Data generator at
grassroots level : Volunteer monitors, direct social worker

Data consolidator at
barangay level : Direct social worker

Data consolidator at
municipal level : Municipal social worker

Data consolidator at
province/city level : Provincial/City Social Worker

Databank : Municipal/Provincial/City Planning and Development Office

Prices of Basic Commodities

In a market economy, available purchasing power may be taken as the average per capita income of an area or the minimum wage rate of the formal sector. An estimate of the average individual's ability to purchase a basic commodity for one's minimum maintenance may be obtained by expressing the cost of 450 grams of a basic food staple as a proportion of average income.

Of course, not all income is spent on food, but the poorer the people are, the more they spend on food in proportion to their income, food having the highest priority for expenditure. Since food contributes such a large proportion of the cost of basic needs, the ratio of its cost to the average income or wage rate becomes an important indicator of the state of the household's wellbeing and its capacity to cope and survive.

At the provincial level, prices of basic commodities, most especially the staple and major crops, are periodically being gathered by the DTI monitoring teams. Data on average daily income may be derived from the house-to-house expenditure survey (FIES) which takes place every three years.

Key indicator : Cost of 450 g of staple as proportion of average daily income wage rate in target depressed municipality

Periodicity of data : Annual

Data generator : DTI monitoring team (cost of staple) P/CPDO (data source for income)

Databank : Provincial/City Planning and Development Office

Support Indicator : Real cost of staple

Disaggregation : Region, province/city

Frequency of collection : Quarterly

Data generator : DTI monitoring team

Databank : DTI

Support Indicators : CPI and Purchasing Power of Peso

VI. RESEARCH AGENDA

Setting up a MIMAP monitoring system is deemed urgent, and very timely in supporting the ongoing decentralization thrust of the government. This chapter proposes a research agenda principally for the purpose of putting in place a workable MIMAP monitoring system. While a system has been proposed in Chapter V, the following need to be carried out: 1) validation of proxy indicators proposed (e.g., "number of meals eaten" and "consumption of core foods by Grade VI pupils"); 2) testing of the feasibility of collecting new indicators (e.g., "consumption of core foods by Grade VI pupils); and 3) pilot test of the proposed community-based indicator system to determine the feasibility of and requirements for setting up such a system, including organizational structures and training needs for grassroots volunteer monitors.

Validation of Proxy Indicators

The indicators "number of meals eaten" and "consumption of core foods by Grade VI pupils" are proposed as proxy measures for dietary intake. While the former, specifically "taking less than one meal a day," is being used by the DSWD in identifying disadvantaged or subsistence level families, its validation as indicator of protein or energy inadequacy still has to be done. The other indicator, "consumption of core foods by Grade VI pupils," has been proposed by the FAO as a useful indicator of meeting at least 80 percent of the average daily requirement for energy (FAO/RAPA, 1988). Identifying the list of "core foods" (or set of foods most commonly consumed by any population group within the Philippines and together contribute at least 80 percent average calorie intake) needs to be done and tested to determine whether it is sensitive enough to measure the nutritional quality of a diet. Validation may be done using data from food consumption studies of the FNRI-DOST. The Grade VI pupil is used as subject on the premise that the child is young enough to reflect the adequacy of food intake of younger members of the household and old enough to select his own food with the adult members, making the pupil's food intake representative of that of the household. Using the Grade VI pupil as the index child for household food intake will need to be validated. Also needing validation is the use of weight-for-height status of 18-year-old women as a proxy to the nutritional status during pregnancy and of infants.

Testing the Feasibility of Collecting New Indicators

This paper presumes that the indicator "consumption of core foods by Grade VI pupils" is easy to collect, considering that the subjects are captive respondents. But collecting this data as an added task to the school teacher should be considered. Recommendations to prevent inefficiencies and failure in collecting data on this indicator can be identified through a pre-test.

Pilot-test of Community-based Indicator System

This paper proposes that the recommended MIMAP Monitoring System be piloted in one province, with the NSCB taking the coordinative role. The local government unit (Provincial

and Municipal Planning Units) will be responsible for its implementation, assisted by the NSO and local representatives of national agencies.

Within the pilot province, the target depressed municipalities, and the target depressed barangays within these municipalities will be identified for data gathering. Similarly, target depressed barangays in cities will be selected as pilot areas. All households within the identified barangays will serve as respondents of the pilot. Interviewers and data gatherers will work as volunteer monitors or keepers of information from the community; approximately one per 20 households or one purok should be assigned to sectoral workers of the local government unit or line agencies assigned, in addition to the barangay. The volunteer monitors will gather information on under-5 mortality, occurrence of diarrhea, employment, number of families in makeshift dwelling, and those with potable water supply and sanitary toilet facilities. Sectoral workers such as barangay health workers, direct social workers, barangay nutrition scholars, and school principals will gather information on malnutrition, households taking one meal or less a day, elementary school enrolment and drop-out rate, households with basic possessions but without luxury items, and cost of staple in proportion to daily wage rate. The data gathered (see Chapter V for key indicators) either monthly or yearly will be consolidated with the desired disaggregation, reported to concerned agency workers working in the barangay, and to the officers at the municipal and provincial levels. A MIMAP databank will be established at each geopolitical level to retrieve the data and feed them to the respective development planning bodies and to NSO at the central level.

After an initial period of social preparation at the different geopolitical levels, all implementors down to the volunteer monitors at barangay level will undergo orientation and training.

The pilot, therefore, will attempt to test the feasibility of the system with respect to the following:

1. Acceptance of the community,

2. Success of orientation and training,

3. Feasibility of the volunteer monitor system,

4. Ease of regularly gathering information on indicators,

5. Sensitivity of the indicators in reflecting the conditions of the poor,

6. Ease of information flow from the barangay to the central level,

7. Utilization of information gathered for planning and action, and

8. Capability to monitor impact of changes in macroeconomic adjustment policies and not just welfare conditions in response to over-all economic environment.

BIBLIOGRAPHY

Behrman, J. "The Impact of Economic Adjustment Programs." In *Health, Nutrition and Economic Crisis: Approaches to Policy in the Third World,*" edited by D. Bell and M. Reich. Massachusetts: Auburn House, 1988.

Castro, N.T. "The CBCM: Towards a Barangay Statistical System." Child Monitoring Project Report. Manila: National Statistical Coordinating Board,1991.

Cornia, G.A.; Jolly, R.; and Stewart, F. "Introduction." In *Adjustment with a Human Face: Protecting the Vulnerable and Promoting Growth.* vol.1. Oxford University Press: United Nations Children's Fund, 1987.

Florentino, R.F.; Santos-Ocampo, P.D.; Magbitang, J.A.; Memdoza, T.S.; Flores, E.G.; and Madrid, B.J. "FNRI-PPS Anthropometric Tables and Charts for Filipino Children." Unpublished report. Manila:Food and Nutrition Research Institute and Philippine Pediatric Society, 1992.

Florentino, R.F.; Narciso, Z.V.; and Valerio, T.E. "Situational Analysis of Children in the Philippines: I. Food and Nutrition." Unpublished report. Manila: United Nations Children's Fund, 1986.

Food and Agriculture Organization, Regional Office for Asia and the Pacific. *Indicators for Identification of Nutritionally at Risk Communities and Geographic Areas.* RAPA Publication, 11 (1988):pp 1-31.

Food and Nutrition Research Institute. "Regional Updating of Nutritional Status of Filipino Children, 1989-90." Unpublished report. Manila: FNRI, 1990.

Jolly, R. "Recession, Adjustment, and Nutrition: An Overview." *Food and Nutrition Bulletin* 9 (1987):24-29.

Lamberte, M.B.; Llanto, G.; Lapar, M.L.; and Orbeta, JR., A.C. "Micro Impacts of Macroeconomic Adjustment Policies (MIMAP). A Framework Paper and Review of Literature." PIDS Working Paper Series No. 91-02. Makati: Philippine Institute for Development Studies, 1991.

Montes, M.F. "The Impact of Macroeconomic Adjustments on Living Standards in the Philippines." *Food and Nutrition Bulletin* 9 (1987):39-49.

Pinstrup-Andersen, P. "The Impact of Macroeconomic Policy Reforms on Poverty and Nutrition: An Overview of Analytical Approaches." In *Macroeconomic Policy Reforms, Poverty and Nutrition. Analytical Methodologies,* edited by P. Pinstrup-Andersen. Cornell Food and Nutrition Policy Program Monograph 3 (1990): 1-11.

_____. "Macroeconomic Adjustment Policies and Human Nutrition: Available Evidence and Research Needs." *Food and Nutrition Bulletin* 9 (1987): 69-85.

Republic of the Philippines, Congressional Planning and Budget Office, the National Statistics Office, and Philippine Rural Reconstruction Movement "Decentralization and the Philippine Statistical System." Unpublished report. Manila: National Statistics Office, 1992.

Republic of the Philippines; Department of Education, Culture and Sports; Health and Nutrition Center. "A Study on the Nutritional Standards of 7-10 Year Old Public Elementary School Children." Unpublished report. Manila: Department of Education, Culture and Sports, 1991.

Republic of the Philippines, Department of Health, Health Intelligence Service. *National Health Survey, 1987.* Manila: Department of Health, 1990.

Republic of the Philippines, Department of Health, Health Intelligence Service. "State of Health, 1975-1985." Unpublished report. Manila: Department of Health, 1991.

_____. "Philippine Health Statistics, 1988." Unpublished report. Manila: Department of Health, 1991a.

Republic of the Philippines, Department of Social Welfare and Development. "The Social Welfare Indicator System Project." Personal Communication. Mimeographed. Manila, 1992.

Republic of the Philippines, National Economic and Development Authority, Statistical Coordination Office. "ESIA Indicator System. Concepts, Framework and Data Sources." Unpublished report. Manila: National Economic Development Authority, n. d.

Republic of the Philippines, National Nutrition Council. *Manual of Operation for Nutrition Surveillance.* Manila: National Nutrition Council, 1990.

_____. "Towards Nutritional Adequacy for All." Country Paper of the Republic of the Philippines for the International Conference on Nutrition, 1991, Manila.

Republic of the Philippines, National Statistical Coordination Board. "1990 Compendium of Philippine Social Statistics." Unpublished report. Manila: National Statistical Coordination Board, 1992.

Republic of the Philippines, Regional Statistical System Development Project. "The Role of the Regional Statistical System Development Project in Improving the Subnational Statistical System." Unpublished report. Manila: National Statistical Coordination Board, 1991.

Scobie, G.M. "Macroeconomic Adjustment and the Poor." Cornell Food and Nutrition Policy Program Monograph 89-1. Ithaca, New York, 1989.

Thorbecke, E. "The Impact of Stabilization and Structural Adjustment Measures and Reforms on Agriculture and Equity." In *Policy Reform and Equity: Extending the Benefits of Development*, edited by E. Berg. California: Sequoia Institute, 1988.

United Nations Children's Fund. *State of the World's Children*. Oxford, U.K.: Oxford University Press. (UNICEF and Oxford University), 1989.

_____. *State of the World's Children*. Oxford, U.K.: Oxford University Press. (UNICEF and Oxford University), 1987.

Valdecañas, O.C.; Florentino, R.F.; Pedro, R.A.; Vicente, L.M.; and Maninang, S . S . "Nutritional Patterns and Adjustment to the Economic Deviation of 1983-1984 among Selected Households in Metro Manila." *FNRI* Monograph Series 1. Manila: FNRI, 1984.

Valerio, T.E.; Burk, M.C.; Lazarte, W.N.; and Villavieja, G.M. "An Analysis of Relationship among Changes in Food Consumption and Income, Prices, and other Socioeconomic Factors." *Food and Nutrition Research Institute-NSTA Research Paper* Manila: FNRI, 1983.

Villavieja, G.M.; Valerio, T.E.; Red, E.R.; Nones, C.A.; Raymundo, B.E.; Cerdena; Abaya, H. SP.; and Tanchoco, C.C. "Trends in Philippine Nutrition Situation in Relation with Some Development Indicators." Unpublished report. Manila: FNRI, 1989..

Villavieja, G.M.; Cerdena, C.M.; Abaya, H. SP.; Feliciano, E.A.; Boquecosa, C.C.; Tanchoco, C.C.; Cilindro, P.A.; Pingol, M. A., Magbitang, J.A.; Mendoza, S.M.; Flores, E.G.; and Velandria, F.V. "Third National Nutrition Survey, Philippines, 1987." Unpublished report. Manila: FNRI and DOST, 1989a.

Villavieja, G.M.; Nones, C.A.; Cerdena, C.M.; Abaya, H. SP.; and Boquecosa, J.P. "Assessment of Nutritional Situation of an Urban Region in a State of Rapid Economic Flux." Unpublished report. Manila: FNRI, 1985.

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