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A SYSTEM OF ECONOMIC AND SOCIAL INDICATORS
FOR USE IN DEVELOPMENT PLANNING

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A Paper
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Master of Urban Planning

by

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Introduction

Today's world is divided into many camps. Nations are considered as allies or foes, as partners or competitors on the basis of such factors as ideology, religion, race, ethnic composition, or geography. One of the most commonly made distinctions between nations is the difference between "developed" and "developing" or "underdeveloped" or "less developed countries." This distinction is based on criteria related to various socioeconomic characteristics of the country: the level of output of its economy, the amount and distribution of income, the availability of different public services, etc. Implicit in the classification of countries according to these types of standards is the value judgment that the development process is positive and that it is better to be developed than underdeveloped.

This development process, predicated as it is on economic growth and the improvement of living conditions is very complex and often involves fundamental changes in the living patterns of a nation. Scientific discoveries or inventions may be used to improve the productive capacity of society, but in the process such changes may drastically alter the role and purpose of its organizations and institutions, including family, government, schools, and churches. Socioeconomic development may foster new social philosophies or codes of behavior as well as causing huge shifts in the geographic distribution of population.

In order to minimize many of the less desirable effects of development realistic, efficient planning is needed. The purpose

of this planning should be to achieve an integrated and balanced social and economic development for the country. Since development planning is concerned with promoting and sustaining change in society, it is important to have some means to monitor this change; to determine whether or not it is proceeding at an acceptable pace, to judge its negative and positive impacts, and to identify areas where future efforts should be made. Development planning attempts to coordinate the productive factors of society and, "Effective coordination of the factors of ... society means, where possible and desirable, slowing up the changes which occur too rapidly and speeding up the changes which lag."¹

The kinds of data which have been most commonly used to monitor the progress of society toward a certain level of development are statistical and economic. The emphasis has been statistical because these measurements seem more precise, and on economic data because it has been more available. But overreliance on this type of data can lead to a very narrow or unbalanced view of the state of the nation. In addition to economic information, planners need to know the political, social, cultural, and biophysical dimensions of development. In order to achieve a greater balance in the progress of society there is a need to develop a system of national social accounting which will be able to integrate relevant concepts of economics, politics, sociology, and psychology.

This paper will seek to establish the need for a system to monitor the development process that brings in the social dim-

ension to a greater degree than in current practice. It will first look at economic indicators; how they developed, how they are used, and some of their limitations. Next, social indicators will be discussed. Included in this discussion will be the reasons for their emergence, various definitions, and finally an attempt will be made to develop a comprehensive framework of social and economic indicators which could be used to evaluate the socio-economic development process. The last section of this paper will consider the actual development planning process and try to determine what role a framework of indicators could play in it.

Economic Indicators: Their Uses and Limitations

It has become commonplace to judge countries according to economic measurements such as GNP or national per capita income. But what do these figures actually measure and what are the implications of their use? National economic accounting dates back to the Political Arithmetick of William Petty (1623-1687) and to the tableau économique of Francois Quesnay, a French Physiocrat. Both of these men were concerned with developing statistics that would give a general view of the total output and income of a nation. Their ideas were further developed by the "classical" economists, the major impetus coming from the Cambridge School under Alfred Marshall and later under John Maynard Keynes.

The essence of national economic accounting, as it has evolved, is to provide a way of looking at the total sum of a country's economic activity in at least two ways: 1) the total output of

goods and services (Gross National Product) by types of expenditures and products, and 2) the distribution of national income by sectors of origin and types of income. One of the chief virtues of this kind of general index is its extraordinary aggregativeness and capacity to summarize a wide diversity of economic transactions into a single meaningful number indicating how the economy has grown or declined over a given period of time. Furthermore, it can be broken down into component sectors to help analyze the relative importance of different sectors of the economy and their relationship with each other.

National economic accounting can serve several roles.² One of these roles is technical analysis. General economic indices can provide: 1) a method of ordering vast quantities of information on various economic phenomena, 2) a means to explore a vast array of social phenomena, including those imperfectly reflected in economic terms, 3) some indication of possible interrelationships among various policies and programs, 4) a language for expressing many important objectives and aspects of performance, and 5) an impetus to fact orientation by policy-makers. Another possible role is a more social one. For this type of role economic accounting can provide: 1) a dramatic way of expressing objectives, one that capitalizes on today's emphasis on mathematics, 2) a stimulus to the formulation of objectives by providing professional legitimization of various desires and aspirations, and 3) a unifying language for professionally trained economists.

The important position to which economic accounting devices have been elevated is especially apparent in this country. Every January, the President's Council of Economic Advisors publishes their annual Economic Report which is a compilation of economic indicators charting growth, productivity, employment, inflation, distribution of income, and spending among government and private firms and individuals. This report is supplemented by the publication of Economic Indicators, a monthly look at the economic trends of the nation. These reports, and others similar to them in other countries, have become necessary tools for public policy makers and almost required reading for anyone interested in the economic climate of his nation.

Despite the widespread acceptance and use of such national economic accounting measures as the GNP or per capita income, they have some serious limitations. Many observers have criticized the one-sided view of development afforded by such measurements as primarily an economic process. Some of these critics have decried what they call a "new Philistinism" resulting from an overemphasis on the economic aspects of national life. In the view of these critics, "The very success of the President's Economic Reports is— from a broader view —a serious shortcoming. In raising the level of economic awareness and sophistication among American elites, they have at the same time contributed to the 'new Philistinism' that expresses national goals and performance in dollar-sign figures...."³

By focusing attention on the economic aspects of develop-

ment, aggregate accounting indices, GNP and per capita income, detract attention from the institutional, political, and cultural implications of change. Several major limitations of these indices can be identified.⁴ As an aggregative concept, national per capita income does not reflect the structure and distribution of the economy. Countries may have the same level of per capita income and yet vary widely in their respective stages of development. As a monetary concept, per capita income does not take in values that lie outside of the monetary sphere, such as social values, nor of the "real" value of things that may differ from their market prices. As a market-based concept, national income cannot be readily applied to socialist economies, subsistence economies, or the non-market sectors of market economies. As an indicator of the quality of national life, GNP cannot measure attitudes—apathy, alienation, or resentments—bred by social change. It cannot deal with the amenities of life such as better health, the degree of congestion present, the availability of social services, and the invasion of privacy.

In addition, to the failure to measure more qualitative socially-oriented results of development, the accuracy of these national economic accounting figures is doubtful. This is a problem which arises any time some kind of statistic is used to measure social phenomena, and there is sufficient reason to question the great faith put in these indicators. In general, "economic statistics are merely by-products or results of business and government activities and have to be taken as these determine.

Therefore, they often measure, describe, or simply record something that is not exactly the phenomenon in which the economist would be interested."⁵ There are three principal types of errors present in national income statistics: 1) errors stemming from inadequate basic data of production activities or expenditures, 2) errors resulting from efforts to fit available statistics to a conceptual aggregative framework, and 3) errors incurred trying to fill gaps where data is not available.⁶ The United States Department of Commerce has admitted some of these shortcomings of economic statistics. It has stated, "meaningful mathematical measures of reliability cannot be calculated for national income statistics; only frank evaluation of the sources and methods underlying them can provide the understanding which is needed for their effective use in economic analysis."⁷

The one-dimensional view afforded of the development process and the sometimes dubious accuracy of economic indicators are the major problems which result from limiting the monitoring of social progress to analysis of economic trends. In order to circumvent these difficulties, a wider view of the development process is necessary. In order to obtain this wider perspective indicators which seek to measure more of the qualitative effects which are produced in the wake of socioeconomic development, are necessary. Recently much work has been done attempting to develop such social indicators, that could be used in a more comprehensive analytical framework. By expanding the scope of the effort to measure socioeconomic development, perhaps a better

understanding of its nature and process can be obtained. Such an understanding would be of invaluable assistance to those charged with making policies and plans for the so-called less-developed countries.

Social Indicators: Development, Definitions, and Uses

The demand for social information stems largely from dissatisfaction and disapproval of the sole use of economic accounting indices to judge the quality of life and to measure changes in national levels of living. The idea of social indicators arose from reflections on the consequences of private economic activities, principally in recognition of the divergence between private costs borne by the firm or the individual entrepreneur and costs to others, or to the community which individuals generate but do not bear themselves. The efforts to develop social indicators have also received some impetus from the growing awareness of the need to relate planning and policy-making to sets of societal objectives that include, but go far beyond, conventional economic or physical development targets.

The first real attempt to synthesis the various ideas of what constitutes social information into a comprehensive report assessing the state of society was published in 1933. It was the work of the Research Committee on Social Trends appointed by President Hoover and was entitled Recent Social Trends in the United States. In the words of the commission it was "the express purpose of this review of findings to unite such problems as those of economics, government, religion, education in a comprehensive

study of social movements and tendencies, to direct attention to the importance of balance among the factors of change."⁸

Despite this kind of high-level interest expressed in social indicators before World War II, little subsequent work was done. The reasons for this lack of attention were the sociologists' interest in developing abstract theories and the government's preoccupation with economic indicators and the development of macroeconomics. During the 1960's, rising concern with domestic social problems— poverty, race, health, environmental pollution, unemployment, and housing —brought about renewed interest in social measurement and social trend analysis. The application of cost-benefit analysis to social problems and the introduction of Program Planning Budgeting Systems (PPBS) were efforts to rationalize diverse government programs using social information as a guide. Several prominent figures emerged at this time, notably Bertram D. Gross, who advocated broader utilization of social measurement. More and more discussion was initiated seeking to develop a system of national social accounts to complement the national economic accounts. In 1966, a report of the President's Commission on Technology, Automation and Economic Progress stated,

"A system of social accounts, if it could be established, would give us a broader and more balanced reckoning of the meaning of social and economic progress and would move us toward the measurement of the utilization of human resources in four areas:

- 1) the measurement of social costs and net returns of economic innovations;
- 2) the measurement of social ills (e.g., crime, family disruption)
- 3) the creation of 'performance budgets'

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- in areas of defined social needs
(e.g., housing, education);
4) indicators of economic opportunity
and social mobility.

Eventually this might provide a 'balance sheet' which could be useful in clarifying policy choices. It would allow us to record not only the gains of economic and social change but the costs as well, and to see how these costs are distributed and borne."⁹

On the last day of the Johnson administration, a slim volume entitled Toward a Social Report was published. This was a preliminary attempt to develop a national social accounting system of the sort that had been advocated by Gross, the President's Commission, and other individuals and organizations concerned with the need for better social information. The reasons for this rebirth of interest in social information were several: the increasing maturation of the social sciences, with ever greater attention being paid to quantitative methods; the emergence of corporation executives with fact-based styles of management and broader social perspective; the entry into public policy positions of a broadening array of intellectuals, professionals, modern-style managers, technologists, and natural and social scientists; the acceptance of "new economics" by both conservatives and liberals, which focused increasing attention on social as well as economic objectives; and continuing efforts to provide more rational bases for political decisions.¹⁰ Whatever specific reasons can be cited, there was an increasing general awareness that, "For many of the important topics on which social critics blithely pass judgement, and on which policies are made, there are no yard-

sticks by which to know if things are getting better or worse."¹¹

There are almost as many definitions of social indicators or social information as there are people writing on the subject. Generally, the term "social" is used to refer to all aspects of human life that are excluded from conventional use of the term "economic." To a broad extent, "social" can be taken as pertaining to relationships among human beings. "Social indicators" are then attempts to measure the nature and quality of these relationships. Although there is no single agreed upon meaning, a social indicator usually refers to "quantitative data that serve as indexes to socially important conditions of the society."¹² They are associated with broad purposes or conditions of society and are supposed to "give a reading both on the current state of some segment of the social universe and on the past and future trends, whether progressive or regressive, according to some normative criteria."¹³ According to Toward a Social Report, the work accepted by many as the best existing attempt to identify the information needed for a social report, a social indicator "may be defined to be a statistic of direct normative interest which facilitates concise, comprehensive and balanced judgments about the condition of major aspects of a society. It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction, while other things remain equal, things have gotten better, or people are better off."¹⁴

Once social indicators have been selected, they can be organized in some kind of conceptual framework. This kind of frame-

work may be referred to as a system of social accounting or a social report. The term social accounting is often used interchangeably with social indicators but a distinction should be made. Social accounts are closely analogous to the economic accounts which have gained such widespread acceptance. Although no real definition exists, the term is usually thought to suggest precise, bookkeeping methods of organizing information. A social report is concerned with integrating and using the information expressed as social indicators. The main purpose of such a report is to increase the visibility of social problems as a first step toward improved decision-making, whether it be individual or collective, or public or private.

Indicators of social conditions can be classified according to many different schemes. One useful classification is to differentiate between four types of social information: flow-of-welfare indicators, state-of-welfare indicators, welfare-effect coefficients and productivity-effect coefficients.¹⁵ The first two types express the welfare of the population. The second two types refer more to the process of development. Flow-of-welfare indicators seek to measure the welfare of the population according to the level of satisfaction of needs. This type of welfare is best understood in terms of the satisfaction of nutrition, shelter, medical, education, security, and leisure needs. Indicators in this category can be used to identify the objectives of development plans. State-of-welfare indicators attempt to measure the welfare of the population at a given point in time. This "state of welfare" is the result of the satisfaction of needs mea-

sured by the flow-of-welfare indicators. It usually refers to characteristics of the population and is expressed as the physical state of the people. Measures of this state would include physical fitness, freedom from disease, and educational and cultural levels.

The third and fourth categories refer to the relation between changes in economic and social conditions caused by the process of development and are of vital interest to planning. The third category encompasses welfare-effect coefficients. These are ratios of movements of welfare-flow indicators to movements of economic resources used to determine the capacity of economic advances to generate higher levels of welfare. Indicators of this type may refer to particular components of welfare; e.g., the increment of calorie intake per capita to the increment of cost of agricultural production. They may also refer to particular factors of production; e.g., the increment of calorie intake per capita to the increment of fertilizer utilization. The fourth category is productivity-effect coefficients. These are measurements that express the fact that improved welfare conditions can raise the productivity of society and thus act as social factors of production.

When attempting to develop a framework of social indicators, several criteria can be used to make the choices of which indicators to include.¹⁶ In order to be useful, indicators should be output-oriented rather than input-oriented. They should be simple and readily understandable in the context of political

controversy. They must be comprehensive enough to take into account all significant consequences and should be based on information that is readily and cheaply available. Indicators must be separable into geographically localized components and must be able to reveal the intensity and extensiveness of failures to meet social objectives. In addition, they must be capable of revealing differential effects of given trends on different groups in the population.

Every indicator may be said to have several different qualities which may include distance, degree of causality, degree of dependability, and degree of comparability.¹⁷ Distance refers to the number of intervening links, situational and behavioral, between the indicator and the welfare it purports to measure. The degree of causality is the extent to which the variable measured by the indicator can effectively cause changes in the state of welfare. The dependability of an indicator is the degree to which its association with the state of welfare is stable and observable. Comparability is the extent to which the same indicator can be used for different groups, localities, regions, countries, and time periods. The performance of any indicator depends on its accuracy, relevance, and reliability on the one hand and the uses to which it may be put on the other.

The selection of any social indicator implies some kind of decision has been made about the purpose of a particular social policy. The changes measured by the indicator reveal the extent to which that purpose is being achieved. A policy can be assessed

only after a change in the indicator is judged attributable to that policy. Of the uses for social indicators in policy decision-making, three seem to enjoy wide consensus. It is generally agreed that indicators can be valuable in helping to evaluate specific programs, in developing a balance sheet or system of social accounts, and in the establishment of goals and priorities. If used in these ways, social indicators can contribute to the analysis of social change and the prediction of future social events and conditions of social life.

The expressed purpose of any social indicator is to measure some facet of a nation's state of welfare or standard of living. But in order to ensure the efficient use of these measurements it may be helpful to more clearly define the concept of a standard of living. According to a United Nations report, what is generally referred to as a standard of living actually contains three separate concepts: 1) the actual living conditions of the people, this is increasingly referred to as the "level of living;" 2) the aspirations or expectations of the people, that is, the living conditions which they seek to attain or which they regard as proper for themselves to enjoy, this is referred to as the "standard of living;" and 3) the desirable conditions of living as defined for specific purposes, such as a minimum wage or maximum number of working hours.¹⁸

The concept of "level of living" can be further divided into component parts for ease of measurement. Any component so selected should be able to meet several criteria of its viability.

A component should be reasonably important to the well-being of individuals according to generally accepted objective norms. It should also be selected according to the extent to which any deficiency measured can be remedied by human action, and its susceptibility to statistical measurement.

Once an indicator has been selected and defined, it must then be put to use. However few proponents of indicators are actually interested in comprehensive systems of social accounting. Instead they want "vindicators" or "indictors" to support their own purposes..New forms of knowledge may represent a threat to the existing power structure, and therefore a system of social indicators revealing problems in society may be met with resistance on the part of government officials. But if a government is truly committed to improving the level of living of its citizens, then social indicators can be indispensable tools.

There are two fundamental problems in socioeconomic development which cannot be dealt with without adequate social information: 1) the meaningful assessment of the results of development and 2) giving a social content to development planning.¹⁹ Because of the interrelationship between social conditions and the productivity of society, any attempt to increase the output of society should also involve efforts to ameliorate the existing social conditions. If the improvement of these conditions is one of the main aims of development, then the objectives of development plans should be formulated in terms of the conditions which these plans are supposed to bring about. In order to do this, plan-

ners must possess reliable information describing the conditions of living in quantifiable terms.

Basically, social indicators can be used to assess the state of society, to assess the performance of society, and to anticipate the future. An assessment of the state of society involves an analysis of the dominant sociocultural features of the nation; the various types of social units and their interrelationships, patterns of behavior and values attached to membership in different social units, precise arrangement of age and sex characteristics of the population and their social implications, the occupational system, the system of ownership of resources. Such an analysis should also include an examination of the equality of society, its political system, and the ethnic and geographic distribution of population. The performance of society should be assessed in terms of how well society is doing to achieve its chosen set of goals. The future can be anticipated by projecting alternate social futures to serve as a basis of political choice.

All of the various proposed uses for social indicators have one thing in common: they all act to increase the effectiveness and rationality of the attempts to guide and manage the development of society. In order to plan effectively, it is necessary to choose the most efficient program for dealing with conditions which have been revealed by the indicators. In deciding upon what kinds of programs must be initiated, hard choices must be made about the allocation of scarce resources among competing objectives. Indicators may be helpful in determining which resources can

produce what levels of results that best achieve the planners' development objectives. If indicators are used in such a way, they can be extremely valuable in the evaluation of public program accomplishments and helpful in the elimination of the waste of resources.

The State of Society: A Preliminary Framework for a National Social Accounting System

The terms "national interest," "general welfare," and "common good" are meaningful concepts only when applied to the interests and needs of various concerned groups in society and the satisfaction of these needs. In order to give these terms a more concrete meaning, social information can be used to create national accounting systems, which include social as well as economic indicators, that can provide conceptual links between the stated goals of society and the actual performance of society in trying to achieve these goals. The first step in constructing such an accounting system involves selecting the basic structural elements, or "components", of a nation's level of living. Then, the best available statistical indicators which measure the status of these components should be chosen. Tentative relationships among these different indicators can be established to determine how different levels of development are reflected in different levels of living. After all indicators have been selected and integrated into an overall system, it may be possible to combine them into a synthetic indicator of the level of development attained by a country.

The state of any nation can be analyzed in terms of two interrelated multidimensional elements which encompass all of the individual components of the level of living.²⁰ These two elements are: system structure and system performance. System structure deals with the internal relations among the different organizations, institutions, and social groups of society. System performance attempts to assess the nation's ability to acquire inputs and transform them into the outputs demanded by society.

The structural elements of any social system include human and nonhuman resources, the various organizations existing in society, the natural environment, and the governmental organization. The population of the nation, which can be thought of as human resources, forms the basis of the entire social system and embodies the social and cultural values of the society. The population can be measured by types of categories (e.g., age, sex, religion, occupation), its quantity or size, and its quality (e.g., state health, nutrition, education). Nonhuman resources are those found in the natural environment of the nation, and include water, soil, minerals, and the flora and fauna. Nonhuman resources can also include man-made assets such as investments in physical infrastructure, capital goods, and stocks of consumers' or producers' goods. Social subsystems result from the different patterns of social interaction. They can consist of families, communities, employment organizations, and political parties (depending on the nature of the government in power).

Attempts to analyze the structure of society may also encom-

pass less quantifiable aspects of the life of a nation such as the market structure, the hierarchy of power in society, the kinds of values held by members of society, and the organization of governmental authority. However, because of their illusive quality, indicators for these aspects are hard to develop. Conclusions drawn about their nature may have to be inferred from indicators measuring more observable phenomena.

The performance of any social system can be judged by activities undertaken to satisfy different interest groups, the production of various kinds, qualities, and quantities of output, investments made in the productive capacity of society, the efficient acquisition and conversion of inputs into outputs and the technical and administrative rationality of those who control the production efforts.

The performance of a social group or organization should be evaluated according to its ability to satisfy the interests of its members or clients. These interests can be either subjective or objective. Objective interests are more easily measurable and are often fundamental biological, shelter, and survival needs. Objective interests can also include employment, leisure, income and consumption. Subjective interests are, conversely, more difficult to identify and measure. They can include a sense of belonging, participation, or affection. An individual's feeling of status, power, or respect is another such interest; as is his sense of self-fulfillment or beauty and creativity. For these more intangible interests, surrogate indicators are necessary to act

as indirect measures of the level of satisfaction.

One aspect of system performance is the level of security present in society. Security can refer to the steady provision of an economic subsistence or to protection from domestic violence or external attack. One of the major criteria of performance is the ability of the social system to produce output. This ability can be measured in terms of the quality of output (this can be best expressed if market prices are a somewhat accurate index to the additional satisfactions provided by better quality products), the output mix, and the total quantity of output.

Measures of output levels are not adequate by themselves. They must be combined with some indicators of the efficiency of the production processes. Efficiency can be expressed as a ratio of actual to potential output. Also, an estimate of "total" productivity can be derived by relating weighted averages of labor and capital inputs to the "real gross product." This measure should reveal the real productivity of society. Social efficiency can be measured by combining the indicators of actual to potential and total productivity. Calculations of this kind can be made for different sectors of the economy or for individual projects. Output ratios for labor and capital are other possible indicators. These can be derived from estimates of GNP per worker or man-year or the amount of physical investment needed to produce a given level of output.

The ability of the social system to acquire resources is indicated by the levels of imports and the existing balance-

of-payments. Imports can identify areas of shortages, either in food or necessary inputs into the production processes. The balance-of-payments is determined to a large extent by the import-export ratio of the country. More fortunate countries can use foreign earned by exports to pay for their essential imports. A deficient balance-of-payments results from the inability to earn sufficient foreign exchange needed to finance further development.

The performance of the system can further be judged for its ability to attract investment in its future productive capacity. This investment may be in hard, capital goods or in people. For capital goods, the increment of investment as a percentage of GNP is a useful indicator. A figure for net investment can be derived by deducting from this indicator an estimated amount for depreciation. Investment in people can be measured by expenditures on education and training, health facilities and services, and research and development of more productive techniques.

To some extent, system performance is reflected in the observance of socially accepted codes of behavior and rational behavior. Codes of behavior may be imbedded in custom, tradition, or widespread concepts of morality. They also can be expressed as laws and regulations. All societies have a core of such laws or codes to which observance is essential for the operation of the social structure. Indications of the observance of prevalent codes of behavior can be found in the incidence of different crimes. A society may be considered rational to the extent that

it chooses means that will succeed in attaining desired ends. Although indicators of rationality are hard to develop, the courses of action chosen by a government can be assessed according to their desirability, feasibility, and consistency.

Having discussed some of the conceptual considerations involved in the selection of social and economic indicators, we now turn to the problem of actually choosing a set of indicators that could be used to make up a general national accounting system. The indicators included here have been selected from several various lists and are those about which there is a general consensus as to their relevance. To a large extent the following list represents an ideal which is probably not economically or physically capable of being achieved. However such a list may be useful in identifying pertinent indicators when they are available to planners.

In keeping with the dichotomy drawn between indicators of performance and structure, the indicators listed below have been classified as either economic or social and demographic. Although this latter categorization does not always agree with the former one, it is perhaps more useful in that it is easier to distinguish between indicators of these two categories. These two main classifications have been further divided into component parts. The economic sector has been divided into transportation and services, agriculture, industry, trade, consumption and savings, employment, and general economic indicators. The social sector has been divided into health and demographic, food and nutrition, educ-

ation, housing, communications, political, religion, and leisure indicators.

The complete list of the different componets and their indicators follows below.

Sector: Economic

Component: Transportaion and Services

- Indicators:
- 1) kms of railways per 100,000 square kms
 - 2) number of passenger kms per year per 100,000 population
 - 3) freight-ton kms per year per 100,000 population
 - 4) kms of roads per 100,00 square kms
 - 5) number of motorized vehicles per 100,000 population
 - 6) number of air passenger kms per 100,000 population
 - 7) percentage of labor force in transportation and services (including electricity, gas, water, sanitary services)

Component: Agriculture

- Indicators:
- 1) output per agricultural worker
 - 2) percentage of total labor force in agriculture

Component: Industry

- Indicators:
- 1) energy consumption per capita (for electricity, coal, oil)
 - 2) steel consumption per capita
 - 3) percentage of Gross Domestic Product derived from industry
 - 4) percentage of work force employed in industry

Component: Trade

- Indicators:
- 1) import/export ratio
 - 2) sum totals of imports and exports
 - 3) concentration of certain exports as part of total exports

Component: Consumption and Savings

- Indicators:
- 1) percentage of population which is economically active
 - 2) percentage of economically active population employed (or unemployed)
 - 3) conditions of work
 - a) hours of work per week
 - b) wages per week, for workers in different sectors of the economy

Component: General Economic

- Indicators: 1) Gross National Product
2) national per capita income
3) government expenditures as a percentage of GNP
4) investments as a percentage of GNP
5) percentage of national income spent on social services

Sector: Social and Demographic

Component: Health and Demographic

- Indicators: 1) expectation of life at birth
2) infant mortality rate
3) crude death rate
4) crude birth rate
5) gross reproduction rate
6) incidence of different prevalent diseases
7) inhabitants per physician
8) inhabitants per hospital bed
9) size of population
10) percentage of population in cities over a selected size (e.g., 20,000)
11) density of population
12) distribution of population
13) average size of family households
14) ethnic or racial distribution of population
15) marriages, divorces per 1,000 population
16) immigrants and emigrants per 1,000 population

Component: Food and Nutrition

- Indicators: 1) calorie consumption per capita
2) protein consumption per capita
3) consumption of animal protein per capita
4) consumption of calories derived from cereals and starches as a percentage of total calories consumed

Component: Education

- Indicators: 1) literacy rate of adult population
2) percentage of eligible children enrolled in primary and secondary school
3) female students as a percentage of total students enrolled
4) pupil/teacher ratio
5) total number of students enrolled in universities, vocational and technical schools

Component: Housing

- Indicators: 1) condition of existing housing stock
2) number of persons per room, or per dwelling unit
3) availability of supportive services (plumbing, sewers, electricity)
4) expenditures on housing construction as a percentage of GNP

Component: Communications

- Indicators: 1) circulation of daily newspapers per 1,000 population
2) number of telephones per 1,000 population
3) number of television, radio receivers per 1,000 population
4) number of books published per 1,000 population
5) number of domestic and foreign mail items per 1,000 population
6) different languages and their respective numbers of speakers

Component: Politics

- Indicators: 1) citizen participation in social and political institutions (percentage of those eligible actually voting)
2) percentage of working force employed by government

Component: Religion

- Indicator: 1) percentage of population believing in different religions

Component: Public Order and Safety (Security)

- Indicators: 1) incidence of different crimes
2) social costs of crime - monetary value of stolen or damaged goods
3) hours worked by police, firemen

Component: Leisure

- Indicators: 1) hours free from working per week
2) expenditures on recreation activities as a percentage of GNP

Obviously, many of the indicators involve value judgements which may have to be adapted to local conditions. Indicators of food and nutrition, housing, and political conditions must esp-

ecially be adapted to local customs and habits and ideology. As a preliminary step toward this kind of national accounting system, an inventory of the natural environment should be undertaken also. Such an inventory should include an identification of any valuable natural resources; mineral, water, potential power sources, and land. The extent of air, water, and land pollution should also be assessed. This can be done by determining the amounts of waste put into the nation's ecological systems versus the materials taken out.

Development Planning: An Attempt to Balance Growth

Up to now the discussion has been concerned with the measurement of different aspects and effects of what is referred to as "development." It is now appropriate to examine this term more closely to understand its implications and see how efforts to "develop" society can be planned. Development is closely associated with the growth of the national economy. Traditionally, economic statistics have been the criteria for differentiating between developed, developing, and less developed countries.

The term implies an amelioration of living conditions which allows the populace to be wealthier, healthier, better educated, and generally more satisfied with their own lives. Although economic growth has been the main goal for development, this view is becoming broader. There is a growing recognition that, "National development objectives relate not only to a rate of growth but also to income distribution and other social goals."²¹ In terms

of actual physical investments, or projects, "Development means many things. It means dams and factories, electrification, soil improvement, universities, secondary schools, primary schools, sanitation, research, and a multitude of other activities and achievements. But above all, development means people....The preparation of people is the cause of economic and social development."²² Although economic growth is still the major concern of those seeking to promote development, planners are becoming more aware that economic development is dependent on "a variety of factors which constitute the psychological and sociological setting within which the economy operated."²³

Today almost all countries draw up national plans the purpose of which is to promote and direct development in the country. The process of planning for development does not substantially differ from other planning processes. Basically, development planning consists of formulating goals and developing programs to attain them. The principles underlying this process are to improve the level of living of the population in both material and cultural aspects, to integrate and coordinate the plans of the different sectors of the economy or departments of the government, to specify targets for the major sectors of national life, to make judgements as to the urgency of specific societal needs and to place emphasis on the corresponding planned programs, to balance the rates of growth in the individual sectors of the economy, and maximize results of projects wherever possible.²⁴

Keeping these principles in mind, planners must develop a

program which will achieve the goals set by society. To develop such a program involves five main steps. The first step is to survey the resources of the country or the government to discover the areas where major efforts are needed, to envisage alternative courses of action and to estimate the costs of these alternatives. The next step is to make a decision between the alternatives courses of action. From this point the program can be drawn up, executed and adjusted to meet changing circumstances. The relationship between the societal goals and the program developed is revealed in a statement from Puerto Rico's eleventh 6-year Financial Program. In this program it is stated that, "The fundamental goal of the Commonwealth development program is eminently social. The program comprises essentially economic means to the achievement of the social objective of raising the levels of living of ~~the~~ Commonwealth of Puerto Rico to those of the most progressive countries of the world."²⁵

In many of the so-called less developed countries, resources available for development programs are severely limited. Where resources are limited it is desirable to formulate a program which will produce results quickly and demonstrably. Initial stress should be placed on projects that are simple and practical, easy to carry out, and inexpensive. First priority should be given to projects with a high probability of success. Initial projects should be the preconditions to other more expensive or complicated projects. Emphasis in the initial stage of development should be placed on projects with a built-in capacity for providing

sustained and continuous employment.

The success of any development project depends to a large extent on its management. The most important determinants of success are prior planning and quality of staff. The most frequent mistakes made on projects involve inadequate prior conception and planning of the project and defects within the staff. Problems can also arise due to lack of coordination or cooperation between different government agencies.

Planning is not done in isolation. It must be undertaken within the context of geographic, economic, and social and political environments. It is by providing an accurate assessment of the existing conditions in each of these environments that social information becomes useful as a development planning tool. The geographic environment of development encompasses the land use potential, valuable mineral and other resources, the country's location with respect to international trade routes, and any areas that might be of scenic or natural history value. The economic environment consists of the existing economic structures which may affect planning: the relative roles of the public and private sectors; the importance in the economy of large corporations, governmental departments, and local authorities; characteristics of the labor force; and the state of the banking system. The performance of the economy can be judged by indicators mentioned previously, national per capita income, availability of social services, income differences between different racial and ethnic groups. The social and political environments are affected by major class,

regional, religious, and ideological divisions in society. Planning should be compatible with the prevalent ideology. The influences of different domestic and foreign interests may be an important determinant of planning decisions.

Any attempt to coordinate the utilization of resources in a nationwide program of development is bound to attract criticism. It is impossible to be aware of all the pertinent influencing conditions, and mistakes bound to be noticed and vociferously pointed out. However, several valid criticisms of national planning have emerged as more and more countries go through the experience of developing their own plans. In many countries, planning is an exercise carried out in the national capital with little connection between the goals formulated by planners and the actual needs of the local populations. Often governments do not realistically appraise the obstacles impeding local and national development efforts. A big factor in the failure of many projects has been the lack of extension agents or administrative officials to work with the local population. The encouragement of local leadership may help ensure a project's success. Many project manager and officials need better training and a change in their attitude toward the local people affected by their work.

Puerto Rico serves as a good example of some of the possible shortcomings of planning. In re-evaluating their planning efforts, Puerto Rican officials found that there had been no systematic study of the potentialities of social development analogous to the investigations carried out in the areas of econ-

omic and physical development. In addition, it was concluded that there was a lack of planning and administrative procedures to ensure that decision-makers would have access to information about the social and economic implications of different alternative programs.

In order to correct these deficiencies, Puerto Rico set out to rationalize its planning procedure to a greater degree. This was to be accomplished by first establishing a development frame of reference consisting of analyses and projections of economic and social conditions. The second step was to evaluate the impact and implication of different proposed projects. Other steps were to include the determination of financial resources, the allocation of resources, putting ceilings on the expenditures of different departments, and the writing of a Progress Report.

The purpose of development planning is to improve the living conditions of the people of the country. To achieve this purpose, plans, which usually cover a time period of from five to six years, are developed. These plans usually consist of a schedule of different programs and projects requiring different levels of investment. These programs and projects are designed to meet certain needs of society. In seeking to identify these needs, data on existing social and economic conditions should be collected. This data can then be organized into a comprehensive system of indicators which can then be used to monitor changes in the living conditions of the country, to anticipate future areas of need, and to assess the contribution governmental act-

ivities make toward the improvement of the national life. The indicators included in such a comprehensive system should be so designed that they provide planners with easily identifiable goals; progress towards which can be conveniently measured.

Although many planners recognize the symbiotic relationship between economic and social conditions, primary emphasis is usually given to the economic aspects of development. This is because improving the economic level of a country is seen as the quickest way to improve overall level of living in the country. And without the additional government revenue resulting from higher levels of economic activity, financing of social programs would be nearly impossible. The need to regard development planning from a perspective wider than solely economic is summed up in India's first 5-year plan. In this plan it is stated, "The economic condition of a country at any given time is a product of the broader social environment, and economic has to be viewed as an integral part of a wider process aiming not merely at the development of resources in a narrow technical sense, but at the development of human faculties and the building-up of an institutional framework adequate to the needs and aspirations of the people."²⁶

In order to promote a more balanced economic growth in conjunction with the improvement of detrimental living conditions, some means of evaluation is necessary. This means is available in the development of a comprehensive national accounting system of economic and social indicators which reveal the status of different important aspects of the life of the nation. A nat-

ional accounting system would provide an invaluable frame of reference which development planners could use to establish goals for their programs and then assess the impact these programs have made. Such a system could reduce conflicts over confusing and contradictory reports, thereby improving the efficiency and effectiveness of the planning process. Any government committed to the ideal of improving the life of its citizens should seriously consider the advantages of establishing such a system of indicators.

FOOTNOTES

1 Recent Social Trends in the United States (New York: McGraw-Hill Book Company, 1933), p.xv.

2 Raymond A Bauer ed., Social Indicators (Cambridge, Mass.: The MIT Press, 1966), p. 164ff.

3 Bertram Gross and Michael Springer, "A New Orientation in American Government," Annals of the American Academy of Political and Social Science 371 (May 1967): 8.

4 D.V. McGranahan, et. al., Contents and Measurement of Socioeconomic Development (New York: Praeger Publisher, 1972), p. 6-8.

5 Oskar Morganstern, On the Accuracy of Economic Observations (Princeton, N.J.: Princeton University Press, 1963): 14.

6 Ibid., p. 251.

7 Ibid., p. 252.

8 Recent Social Trends in the United States, p. xiii.

9 Daniel Bell, "The Idea of a Social Report," The Public Interest 15 (Spring 1969): 78.

10 Gross and Springer, p. 7.

11 Bauer, p. 20.

12 Itzhak Galnoor, "Social Information for What?" Annals of the American Academy of Political and Social Science 393 (January 1971): 3.

13 Ibid.

14 Toward a Social Report (Ann Arbor: University of Michigan Press, 1970): 97.

15 Jan Drenowski, "Practical Significance of Social Information," Annals of the American Academy of Political and Social Science 393 (January 1971): 85-87.

16 United Nations, Social Indicators for Housing and Urban Development (New York: 1973): 5.

17 Ibid., p. 12.

18 United Nations, Report on International Definitions and Measurement of Standards and Levels of Living (New York: 1954), p. 23.

19 Drewnowski, p. 83.

20 Bauer, p. 155ff.

21 Galnoor, p. 10.

22 Ibid., p. 8.

23 United Nations, Planning for Balanced Social and Economic Development (New York: 1964), p. 8.

24 Ibid., pp 83-84.

25 Ibid., p. 141.

26 Ibid., p. 4.

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