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Indicators of Human and Social Development

Report on the State of the Art

M.V.S. Rao, K. Porwit, and N. Baster

THE UNITED NATIONS UNIVERSITY

From the CHARTER OF THE UNITED NATIONS UNIVERSITY

ARTICLE I

Purposes and structure

1. The United Nations University shall be an international community of scholars, engaged in research, post-graduate training and dissemination of knowledge in furtherance of the purposes and principles of the Charter of the United Nations. In achieving its stated objectives, it shall function under the joint sponsorship of the United Nations and the United Nations Educational, Scientific and Cultural Organization (hereinafter referred to as UNESCO), through a central programming and co-ordinating body and a network of research and post-graduate training centres and programmes located in the developed and developing countries.

2. The University shall devote its work to research into the pressing global problems of human survival, development and welfare that are the concern of the United Nations and its agencies, with due attention to the social sciences and the humanities as well as natural sciences, pure and applied.

3. The research programmes of the institutions of the University shall include, among other subjects, coexistence between peoples having different cultures, languages and social systems; peaceful relations between States and the maintenance of peace and security; human rights; economic and social change and development; the environment and the proper use of resources; basic scientific research and the application of the results of science and technology in the interests of development; and universal human value related to the improvement of the quality of life.

4. The University shall disseminate the knowledge gained in its activities to the United Nations and its agencies, to scholars and to the public, in order to increase dynamic interaction in the world-wide community of learning and research.

5. The University and all those who work in it shall act in accordance with the spirit of the provisions of the Charter of the United Nations and the Constitution of UNESCO and with the fundamental principles of contemporary international law.

6. The University shall have as a central objective of its research and training centres and programmes the continuing growth of vigorous academic and scientific communities everywhere and particularly in the developing countries, devoted to their vital needs in the fields of learning and resrarch within the framework of the aims assigned to those centres and programmes in the present Charter. It shall endeavour to alleviate the intellectual isolation of persons in such communities in the developing countries which might otherwise become a reason for their moving to developed countries.

7. In its post-graduate training the University shall assist scholars, especially young scholars, to participate in research in order to increase their capability to contribute to the extension, application and diffusion of knowledge. The University may also undertake the training of persons who will serve in international or national technical assistance programmes, particularly in regard to an interdisciplinary approach to the problems with which they will be called upon to deal.

ARTICLE II

Academic freedom and autonomy

1. The University shall enjoy autonomy within the framework of the United Nations. It shall also enjoy the academic freedom required for the achievement of its objectives, with particular reference to the choice of subjects and methods of research and training, the selection of persons and institutions to share in its tasks, and freedom of expression. The University shall decide freely on the use of the financial resources allocated for the execution of its functions. . . .

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INDICATORS OF HUMAN AND SOCIAL DEVELOPMENT: REPORT ON THE STATE OF THE ART

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I. INTRODUCTION

The Charter of the United Nations University specifies that the University "shall devote its work to research into the pressing global problems of human survival, development and welfare". Accordingly, the University has taken up human and social development as one of the three priority areas for attention in its work programme.

An Expert Group on Human and Social Development convened by the University in November 1975 suggested as a framework for the University's programme in this area the following fields for consideration: (a) improving the social relevance of science and technology; (b) education for development; (c) ways of life, communities and the nation-state; and (d) world models and global issues. The Group also made a series of specific proposals and recommendations in respect of each of these fields to indicate the general direction in which the University should move, and suggested that the University should be selective in picking out the priority areas for research.

Acting on the recommendations of the Rector, the University Council approved at its meeting in January 1976 special emphasis on (a) the transfer and transformation of technology for developing countries, and (b) development indicators, particularly in the social field, including indicators of qualitative changes and structures, that would help development planners and policy makers to advance the process of improving economic, social and cultural conditions.

A Working Meeting on these two specific aspects was held in June 1976. Following the suggestions which emerged at that meeting, a research programme on development goals, processes and indicators "to develop improved methods and knowledge for setting development goals, establishing development processes and implementing appropriate indicators for measuring development progress" was submitted to the University Council at its meeting in June 1976.

The Expert Group on Human and Social Development (November 1975) pointed out that other organizations and institutes, both within and outside the United Nations system, were already studying various aspects of the priority areas of research, and stressed that one of the first studies by the University should be devoted to ascertaining what research is carried out, by whom, and with what method. The University Council also emphasized that knowledge of what has already been done by other researchers and research agencies should be ascertained, targeted towards the University's priorities, and taken into account in the University's programme. Utilizing this knowledge the University should avoid repetition of efforts made by other organizations, including international agencies. The Group added that overlapping efforts in this field were not always duplication, and so should not be peremptorily discouraged.

The University thus moved in July 1976 to organize a Task Force to undertake a thorough review of the work on development indicators already done by various bodies, and prepare a "state-of-the-art" report based on the study. The Task Force held its first meeting at Geneva in October-November 1976 for a preliminary exchange of views, consideration of the programme of work and allocation of responsibilities. Although it was asked to complete the study and prepare the report in two months, it became clear that one of the members would not be able to take up his assignment till about January 1977. The target date for the submission of the report was therefore extended to the end of March 1977.

The Task Force held its second and final meeting from 14 to 25 March 1977 at Geneva and finalized its report. One of the members of the Task Force has had in the meanwhile an opportunity to visit some of the international organizations at Geneva, Paris, Rome and Bangkok and collect useful material for the study. Another has also had an opportunity to visit Geneva, Paris, Oslo and The Hague for discussions with national and international organizations engaged in work on development indicators. Otherwise, the study has had to be based largely on published and other readily available materials. Considering the limitations of time and resources, a systematic and thorough collection of materials from all possible sources could not even be thought of. As an alternative, a study of the more important and representative sources was attempted. The report cannot therefore be regarded as a thorough study. Nonetheless, it may be considered fairly comprehensive, covering, at it does, a variety of sources, and touching, as it aims to, on various aspects of the development and use of indicators.

There are several reasons for the growing concern about human and social aspects of development as well as for the growing activity concerning social indicators. The most obvious, and, at the same time, the most general reason stems from the fact that people have become more conscious of the societal contexts of their individual conditions of life. Many aspects of human life, welfare and values are no longer matters of personal approaches linked to the behaviour of individual

human beings, but have become a matter of public or societal concern. They are studied by scholars, measured by statisticians, and taken into consideration by politicians. Consequently there has been a growing volume of empirical and theoretical research, the main purpose of which is to get a better insight into the nature of social processes. This activity has been going on spontaneously without any direct implications for specific policies or actions. There are, however, certain practical implications emerging from the studies in question which can influence public opinion and form a background for social and political pressures. Nonetheless, this type of research is not done for any specific user; it is a part of a general stream of scientific activities.

Against this general background one can see a more restricted, but more action-oriented, field of concern related to such activities as are considered in a given society as falling within the scope of public responsibilities. In this field there are specific public institutions—central, regional or local—which are not only potential users of information gained by research and conveyed by relevant indicators, but also active participants of the analytical and/or decision-making framework for the problems they are dealing with. The scope of such activities varies among countries but in most cases it covers social conditions, social phenomena, social services, social security, social welfare and labour conditions.

The nature of the institutions concerned, and the reasons for their concern, introduce some kind of planning framework, i.e. indicators become linked with such notions as ends and means, inputs and outputs, implementation of the programmes and distribution of benefits. Therefore, they have to be useful from the viewpoint of evaluation, making choices and devising actions, which involve the issues of values, norms and rationality. As a rule, actions are devised and implemented in time-conditioned cycles so that there arises the need to have indicators useful for monitoring performance. In some cases the indicators may become a part of a larger and institutionalized informational pattern within the field in question.

Another line of approach to the indicators arises from the integration of social and economic spheres of societal activities, including, in many cases, certain environmental issues. It becomes more evident in countries where economic planning is recognized as an area of societal responsibility. Specifically, there are the following fields where attempts to integrate economic and non-economic aspects of planning lead to considerations of corresponding indicators:

(a) allocation of resources in relation to the structure of the final demand, where the patterns of satisfaction of human and social needs are linked with general patterns of economic development;

(b) income distribution and redistribution, where there is linkage between two kinds of premises: social equity values on the one hand and economic con-

siderations on the other (both demand-oriented and related to motivational aspects); and

(c) links between the extent and quality of social services and the economic aspects of labour productivity (including various aspects such as biological, psychological and professional).

If such aspects are more extensively considered and tackled by means of appropriate indicators (quantified explicit treatment is often difficult) one may speak about planning becoming more comprehensive, integrating or unifying social and economic aspects of societal life and development. Operationally the inspirations for construction and use of indicators come from institutions charged with responsibilities for planning and development. Consequently the language and the analytical framework are those of programming, decision making and monitoring the performance.

Finally, one can see the fourth direction of studies (which is still at an initial stage) which in principle aims at some kind of integration between the first (less institutionalized) and the other two lines. This direction concerns the "social reproduction process" whereby societal planning seeks to build human and social indicators into the specialist techno-economic languages of operational institutions and management centres. Ways must be found to enrich these institutional structures by adding the dimension of informal human interactions.

All four directions of work have been considered in the report, the emphasis having been placed however on those which seem to have more direct implications for diverse actions aimed at promoting development.

The report is presented in six substantive chapters, besides the introduction and the concluding recommendations. The first, i.e. Chapter II, deals with the concepts, objectives and processes of development, as the basic framework of developmento indicators. Chapter III deals with the role of development indicators in national planning and policy making, with illustrations of the use of such indicators in some of the developed countries. Chapter IV deals with the concept, scope and methodology of development indicators. Chapter V presents an account of the international work on development indicators, while Chapter VI reviews the work of some of the national governments, research institutions and individual scholars. Chapter VII covers the use of development indicators in national planning and the assessment of progress in the developing countries. The chapters are presented under the names of the authors in order to allow some flexibility of approach.

As a report on the state-of-the-art, this is basically a factual report and no attempt has been made to present a blueprint for the future. An occasional remark of an

evaluatory nature is inevitable but no systematic attempt has been made to project any single concept, definition or methodology as the most scientific, rational or suitable, as such an approach would be almost impossible. It has to be recognized that, as long as each country has its own political, social and economic philosophies, as long as each country is free to follow its own objectives, goals and processes of development, as long as each country has its own policies, values and norms, the approach to development indicators inevitably has to vary from country to country, and it would be futile to think of a uniform system. Within this framework, the report aims to consider the purposes and applicational contexts of development indicators in various conditions prevailing in different types of countries as well as related to the activities of international bodies. In this sense the scope of topics covered by the report has been extended to include certain comments on the nature of societal regulatory mechanisms and on the approaches to the role and functions of national planning. The sections dealing with these subjects are considered as the background for a discussion on the operational, action-oriented features of development indicators. As the operational contexts of development indicators, their construction and use vary among the countries, we are inclined to conclude that an analysis of societal (systemic) regulatory mechanisms should be considered as crucial for an appraisal of projects related to the construction and use of development indicators in particular countries. It would, therefore, be well to limit international activity to the development and issuance of broad guidelines, the organization of international seminars for the dissemination of knowledge and exchange of ideas, and to conducting training courses and promoting research towards the development and use of indicators. Our recommendations on these aspects are presented in Chapter VIII.

We wish to thank the United Nations University for giving us this opportunity to serve the world community in an area of vital concern and we hope that this report will provide a basis for furthering the research and training programmes of the University. We appreciate the interest taken in this project by the UN Research Institute for Social Development and acknowledge with gratitude the facilities provided by the Institute for the meetings of the Task Force and other related services. We are also grateful to the various international and national organizations which some of us visited, for their co-operation and the useful materials they made available to us for our consideration.

II. CONCEPTS, OBJECTIVES AND PROCESSES OF DEVELOPMENT

By Krzysztof Porwit

1. The concepts of development and their relevance to this study

We are dealing in this chapter with development objectives, and processes with a specific purpose, that of forming the adequate framework for a discussion of development indicators. The issue of human and social development indicators has been chosen as a topic for a United Nations University research programme with an ultimate aim to contribute to development tasks facing many countries and nations. This contribution can be effected hopefully by systemization and clarification; of notions and conceptual categories; of patterns characterizing their interrelations; of methods applicable in their utilization. Following general lines accepted by the UNU we bear in mind a directive that priorities be given to aspects and features of the area involved which may be especially relevant to practical actions and policies promoting development.

Starting, as D. McGranahan (1972 a) did, with a definition that "an indicator is something that points out something else", one is inclined to ask the following questions:

(a) What is the object of this operation, i.e., what is "something else"?

(b) Why, and for whom, do we have indicators, i.e., who is supposed to receive information and why is this information supposed to be relevant?

A seemingly obvious answer to the first question – that development is the object of development indicators – would in fact be meaningless, as the notion of development is an abstract one, reflecting a heterogenous set of features, depending on a supplementary definition of the developing object and on criteria of defining quantitative and/or qualitative attributes which would show whether this object is developing and by how much.

We are not relieved of these difficulties by recalling that "human and social de-

velopment" is the main area of our concern, even if we define the boundaries by assuming that this area is associated with societies within particular nation-states. This leaves us still with unanswered questions related to the symptoms and attributes of human and social development of a society. While trying to give such answers we shall have to relate our efforts to simultaneous answers concerning the second type of question. Symptoms and attributes of development should be relevant to a specific recipient and for specific purposes. The emphasis on human and social development reflects a necessity to concentrate on these attributes in a framework of their interactions.

1.1 Societal context of human needs as the objectives of development

As was stated in the report of the United Nations University Expert Group on Human and Social Development in November 1975:

> "Development is fundamentally . . . about, by and for human beings. Development must therefore begin by identifying human needs. The objective of development is to raise the level of living of the masses of the people and to provide all human beings with the opportunity to develop their potential."

The needs of human beings, the manifold aspects of their welfare and manner of life, cannot be separated from patterns of social interactions in work and leisure time, in families and communities, in organizational and institutional structures corresponding to social divisions of labour and to the modes of production prevailing in a given socio-economic formation. It is generally accepted that for the satisfaction of needs corresponding goods and services must be available, produced by people and adequately distributed. But the patterns of production and distribution are closely interlinked with patterns of social behaviour (and consequently with patterns of human life). There is much more in the interconnections between economic and social aspects of development than the relation between demand and supply with "an economy" taking care that the needs of human beings forming a society are met. Such complex interconnections are still more relevant if one considers numerous kinds of non-material needs, their nature and the manner of satisfaction, which depend significantly on the nature of the whole socio-economic formation.

The priority given to human needs and rights (as expressed in the report of the UNU Expert Group) seems thus certainly valid if considered as a basis for recognition and identification of societal aims. This may be conceived as the framework for cognitive processes leading to formation of an important category of societal norms in the sense suggested in T. Koopmans' and J. Montias' work (1971) on comparisons of economic systems. The same approach may seem, however, too simplified and disputable if it is isolated from the whole network of processes,

structures and institutions characterizing the socio-economic system. If one considers human needs and rights in a context of relations between an individual and "the society", the latter becomes an abstract concept, presumably "reified" and driven by some forces or laws which are left out from the arguments. Is it not a sign of forgetting that development is, among other things, achieved by people? All this leads to a conclusion that, considering human and social development, we have to deal with the development of *socio-economic systems.* If this conclusion is to become meaningful then a systemic approach has to be adopted more fully and consequentially.

This would mean a number of things which – as we shall argue – are relevant from the viewpoint of development indicators, their scope and nature, and the functions they are supposed to perform.

Firstly, there is the issue of interrelations and feedback loops among real processes (as conceived and defined, e.g., by J. Kornai (1971)) taking place in such spheres of the system's behaviour and development as the economic, social, political, educational, health, science and technology "systems".

Secondly, there are the networks of informational channels and processes which influence the mechanism of functioning and control (regulation) prevailing in a given socio-economic system. They involve again interconnections and feedback loops among the spheres mentioned above, their patterns depending very much on the shape of institutional and organizational features related in turn to economic and political power structures.

Development patterns include not only each of these two categories of interconnections but also mutual interrelations existing between them. All these networks are changing, they are in motion, so they have to be considered along a time axis. For this purpose the following scheme can be suggested which makes distinctions among various time-conditioned perspectives.

(a) A relatively simple approach, and simultaneously most operational, will consider development processes, a system's performance against its potential, in terms of real processes within a given[1] existing framework of information processes related to a given existing institutional and socio-political pattern.

(b) The next includes those features of development processes which pertain to changes in informational channels and processes, i.e. in the manner of functioning, and regulatory mechanisms, the changes being introduced within a given institutional and socio-political pattern.

1) This does not mean that such conditions are or can be kept constant. What it means is that the influences of changes in these conditions are left out of any analysis, either an explicative or a prescriptive one.

(c) Next there is the approach which includes also the interconnections between the changes in institutional and socio-political patterns and the processes and their changes which were considered in the previous two approaches; interconnections imply here mutual influences and the impacts of one type of factor on the other.

(d) Finally, one feels inclined to include also a special type of cognitive process which may promote development by contributing to growth and enrichment of "system consciousness"—i.e., to a growing and deepening awareness and recognition of interdependence among sets of factors included in the first three approaches, as well as to an improvement in abilities to utilize this recognition.

There are several aspects of such cognitive processes. Some of them are similar to research and development (R & D) processes in the sense that they pertain to the science and technology of mechanisms relevant for functioning and regulation within the whole system. Others concern dissemination of knowledge as well as institutional and motivational factors promoting creative and innovative attitudes. In the widest sense they can be related to some regulatory mechanisms with functions concerning adaptative and anticipative changes in the mechanisms of control.[2]

1.2 Economic and non-economic dimensions of development

In what way do such observations correspond to approaches found in practical analyses and future-oriented studies, plans and policies concerned with development?

Seen from an economic viewpoint, the processes of development are primarily considered to be utilization and reproduction of scarce resources to satisfy a final demand, the latter being subject to certain constraints of structural and intertemporal distribution. According to this approach, it is necessary to assume an exogenous knowledge, acquired from outside the economic development field, of the following factors: (a) demographic and those related to natural resources as well as environmental conditions; (b) sets of available technologies; (c) final demand structures and distribution; (d) external conditions related mainly to foreign

2) The notions of "meta-control" and "meta-planning" are used in that context, e.g. by Majminas (1974). The meaning and importance of these processes as carriers of innovative, qualitative changes are discussed by Pajestka (1975), who like Pietrakow (1974) analyzes conditions for dissemination and absorption of innovative information. More generally, this set of issues is related to the so-called Ashby's Law of requisite variety in control processes with resulting problems of variety reduction and generation discussed in more detail, e.g. by S. Beer (1974). Arguments are raised in favour of generating requisite variety in control processes, against an alternative of reducing variety in real processes, as conditions promoting innovative forces of development.

trade. Once these factors are assumed to be identified[3] then the mechanisms of development can be explained by means of corresponding economic development models. The nature of the latter differs depending on additional assumptions concerning the logic of behaviour and choice which drives economic development processes. This logic is assumed either to reflect an outcome of multiple partial behaviours (with presumably known rules of rational behaviour) driven by autonomous forces of the market, or to reflect the rules of over-all macro-rationality, with a condition that partial rational behaviours are somehow concerted with the patterns deduced from the macro-criteria.

As a result, there appear additional fundamental features for an economic analysis of development: (a) the patterns of price formation and their changes in time, (b) the patterns of income distribution which reflect the distribution of "decision potential" in respect to final demand and to reproduction processes. They are both related to a crucial characteristic, that of using monetary measurement as a common denominator ("a numeraire") in economic considerations. These features are relevant for both types of model approaches, but there is an important difference in their inherent nature and origin. In one case they are assumed to reflect an interplay of autonomous forces, whereas in the other, their nature is conceived as instrumental and derived from consciously-devised development patterns.

It would not be correct to judge that other, non-economic dimensions are absent in this approach to development. They are, in fact, involved but hidden behind various assumptions which were mentioned above. Thus, for example, the issues of human needs and their satisfaction are hidden in simplified forms of final demand patterns; the issue of full employment is seen from the standpoint of utilization of resources and that of sources of income; the issues of income distribution are treated from the viewpoint of its impact on final demand and reproduction; the factors of science and technology are behind the assumptions of feasible technologies, etc.

Within this framework it is possible to analyze the impacts of exogenous, non-economic factors on the patterns of economic development. It is not possible, however, to get an insight into the nature of processes which are forming such non-economic factors[4] and still less to identify feedback loops between these processes and those considered directly within an economic framework.[5]

The importance of an analytical framework for development processes grounded

3) Some of them—as constants in time; some others—as functions of time; still others—as sets representing various alternative possibilities.
4) For these purposes one has to resort to other theoretical and analytical constructs being developed by other disciplines of social and natural sciences.
5) A distinguished exception is that of the Marxist approach to dialectic interdependences of the modes of production and the means of production.

primarily on economic premises should not be underrated, as the latter form in fact a fundamental base and texture for other, non-economic development phenomena. On the other hand, it has been widely recognized that non-economic phenomena deserve much more attention. The ultimate aims of development and its essence cannot be fully explained in economic terms[6] and the achievement of such aims is attained not only by economic processes—there are important mutual relations and impacts between economic and non-economic processes.

All this has been leading to significant efforts to consider development explicitly in a wider perspective: a "multidimensional" or perhaps rather an "interdimensional" one.[7]

The essence of these essays consists neither of replacing nor changing the economic analytical framework but of linking it with other, parallel frameworks (related to sociological, socio-political, medical, educational, cultural and ecological aspects of societal processes).

Looking from the viewpoint of an economic analytical framework of development, let us note the following more relevant ways adopted in order to transform it into a more interdimensional one.

(a) It has been recognized that in order to link consumption patterns with the notions of human needs and their satisfaction it does not suffice to rely on presumably autonomous consumers' preferences. The latter are always conditioned by various societal and environmental factors. Consequently a simplied reliance on the notion of "consumer's sovereignty" will not be justified. Major issues pertain then to the interrelations between such phenomena as (i) social perceptions of human needs; (ii) factors contributing to such conditions which would allow the needs to be perceived and satisfied in line with the social perception; (iii) factors causing differentiation in perception and satisfaction of needs among individuals, i.e. reflecting really a diversity of human needs and not the differences in conditions imposed by exogenous and societal factors.[8]

These interlinked phenomena are related to the nature of income distribution, including centralized redistribution and supply of "benefits in kind".

6) If one recalls that monetary measures are derived and relative, then some kind of a "metalanguage" is necessary for fundamental and ultimate evaluations.

7) The distinction is made to emphasize that the point is not only to consider simultaneously multiple parallel dimensions but rather to concentrate on interdependences among processes seen in various dimensions. If one were to consider the economic perspective of development as too narrow then it would not be justified to treat other approaches as more relevant if they left out important feedbacks with economic aspects of development.

8) These aspects are analyzed in more detail by Z. Ferge (1975) and also by J. Danecki (1974) in the context of equity aims.

This is conceived as essential for an analysis of equity in distribution and/or opportunities.

(b) It is emphasized that various input-output relations used in an economic analysis of development, especially the conditions and possibilities for their change, depend not only on technological characteristics of corresponding processes (based primarily on respective physical and/or chemical properties), but are influenced by a range of factors depending on the manner in which such characteristics are utilized by people, especially in wider sets of interactions. Moreover, attention is drawn to the manner in which new possibilities are formed by science and technology, are made available for practical application and are assimilated in practice. Correspondingly, there have been many attempts to supplement the analytical economic framework with features related to the roles of science and technology, as well as organization and management performance, as factors essential for increased efficiency in striving for development goals.[9]

(c) Attempts are made to identify the links between patterns of human needs satisfaction on the one hand and those of efficiency-promoting factors on the other. These links are assumed to be manifold, related to such conditions of human activities as the biological, educational, cultural and psychological. In this sense the level and pattern of needs satisfaction are being considered not only as defining the aims but also as essential factors promoting development.[10]

(d) Much attention is devoted to relationships between human activities and the state of, and changes in, the natural environment, especially from the viewpoint of ecological conditions for human life as well as of depletion of non-renewable resources and conservation of renewable resources. Attempts are being made to introduce analytical "constructs"[11] allowing us

9) Among numerous contributions in this field one can see at least the following types of approaches: (a) concentrating on the identification of the share of factors in question in promoting output growths, made in quantitative terms, as in various "production function" studies or as devised by Dennison (1967); (b) bringing into the picture wider socio-economic implications, e.g., Pajestka (1975), Gwiszani (1974), Singer (1975), Richta (1971); (c) connecting the issues in question with wider aspects of impacts exerted by, and/or forecasted of, technological change, e.g., Chacko (1975), Jantsch (1974).

10) Such aspects were emphasized by Secomski (1976), Pajestka (1975).

11) This is done in the following ways: (a) by introducing certain environmental variables into originally economic-oriented constructs, e.g., Leontieff (1976); (b) by introducing certain economic premises into analyses made primarily in terms of corresponding natural sciences; (c) by attempting approaches assumed to be of interdisciplinary nature, such as, "System Dynamics" as applied e.g., by Donella Meadows and Dennis Meadows and heir associates (1973).

to consider these relationships in a manner promoting a conscious and active environmental attitude in shaping development patterns.

(e) There is a significant line of research, characteristic of contemporary scientific thought in socialist societies, which concentrates on a comprehensive approach to fundamental changes being effected in all relevant aspects of a socio-economic system's development in a stage when "a *mature* socialist society" is being formed. Comprehensiveness means that not only the above mentioned aspects are included, but also much emphasis is given to manifold factors characteristic of the patterns of societal and individual "way of life" in that stage.[12]

(f) A number of important issues related to integration of various dimensions of development were raised and discussed in the UNRISD study concerned with a "unified approach" to development analysis and planning.[13] These issues will be dealt with in Chapter III of this report.

1.3 Socio-economic development indicators

As it seems that many similar issues are reflected in scientific publications concerned with development indicators, let us recall some of the most relevant and representative views concerning the features and attributes of development.[14] In that context:

(a) Development is multidimensional. It is not justifiable to consider any specific symptom of performance (related to a specific sphere of a system's actions and outcomes)[15] as a proxy for the whole system's comprehensive performance.

(b) The concept of development is, by its very nature, value-loaded (Mukherjee, 1976; Yeh, 1976). As D. Seers (1972) put it, "development is inevitably a normative concept, almost a synonym for improvement. To pretend otherwise is just to hide one's value judgements." This implies that its assessment must be based on definite criteria or norms, and consequently there is an obvious relevance of some mechanisms, sets of forces and cognitive processes which create, sustain or change such norms.

12) As examples one may mention a collection of papers published in a volume edited by Mikulski (1976). A series of contributions in this field has been published in a Polish monthly *Nowe Drogi:* e.g., Szczepanski (1975:4), Jaroszewski (1976:2), Secomski (1976:10).

13) Compare United Nations (1974).

14) We are drawing here mainly from the volume edited by N. Baster (1972) including also observations and ideas of other authors discussed in the introductory chapter to this volume.

15) These terms are used in the sense as introduced by T. Koopmans and J. Montias (1971).

(c) As the developing society is complex and multidimensional, any effort to measure the state of development and its changes in time by composite, aggregative indicators must involve a very difficult problem of adequate weights (Seers, 1972)[16] and a still more difficult one of comparable weights for intertemporal assessments (e.g., de Jouvenel, 1972).

(d) Identification and analysis of state variables and the rates of their change do not suffice, as one has to get an insight into distribution and correlation characteristics and their respective changes in time (Galtung, 1972).

(e) As the number of separate features and symptoms (considered relevant for an assessment of development) increases, there arises a problem of how to organize them so that they may convey information[17] and consequently various ways and methods for organizing such sets of data are considered (compare e.g., Hellwig, 1971, Adelman and Morris, 1972, McGranahan *et al.*, 1972 b).

(f) The most salient features of development result from successive direct and indirect adaptations induced by tensions caused by imbalances among mutually interrelated elements of the whole system (Galtung and Höivik, 1971) which leads to emphasis on a diachronic type of analysis.

Correspondingly one finds different viewpoints taken to describe and classify the set[18] of socio-economic development indicators.

Firstly, the set is organized according to particular areas of activities, related to particular aspects of human and social life, to particular types of needs and rights. As examples one can recall listings of indicators contents areas suggested by: Sheldon and Land (1972), United Nations studies (most recent: 1975), Fiedorenko (1974), Hronsky (1976). Generally there is not much difference among respective listings.

In some discussions in this field attempts are made to find higher-order organizing criteria applicable to these contents areas. Thus Land (1975) suggests an organizing framework of the following basic types of features (or activities) related to human and social life: (a) reproduction; (b) sustenance; (c) order and safety;

16) A more detailed and technical discussion of this problem is presented by O. Arkhipoff (1976).

17) Which is important in view of a limited informational capacity of human minds as recipients of information (this point is elaborated e.g., by S. Beer, 1974).

18) Sometimes the notion of "a system of indicators" is used (e.g., United Nations (1975) study "Towards a system . . ."). One can doubt however whether the usage of this term is legitimate.

(d) learning, science and art. Each of these basic types is linked with corresponding institutional organizations and distributive consequences.[19]

Secondly, within each of the contents areas there is a distinction among categories of phenomena (stock or flow categories) covered by the indicators. One finds (e.g. in the United Nations study referred to above) the following types of categories: (a) the state variables related to respective aspects of human and social welfare and way of life; (b) the flows causing changes in these states; (c) the flows of goods and/or services conditioning (a) and (b); (d) the stock and flow variables reflecting a potential to supply the flows listed under (c). Various types of derived rates and relations are formed.

Thirdly, there seems to be widespread agreement that structural and distributive features related to the composition of a society have to be considered. This is reflected in the organization of the Sheldon and Moore (1968) volume. In the contribution of Galtung and Hoivik (1972) there is a suggestion to consider a multidimensional set of features ($V = R + D + C + S + G$).[20] Intertemporal features were emphasized in Land's (1975) analysis of "sociological life-cycle" and "social transformation strategy" concepts. Longitudinal models are discussed by the authors contributing to the Land and Spilerman (1975) volume.

Fourthly, there are issues of relationships linking variables and their indicators within frameworks of explicative and policy models respectively. Land (1975) suggests a scheme of relationships among: A. Exogenous variables including: A/1, policy-instrument descriptive indicators, A/2, non-manipulative descriptive indicators; B: Endogenous variables including: B/1, output and/or product descriptive indicators, B/2, side-effect descriptive indicators. A wider review of model approaches can be found in Karl A. Fox's (1974) volume, whereas a more general typology of explicative models has been offered by R. D. Evered (1976) with a general organizational scheme of "causal", "gestaltic" and "teleological" types related to past, present and future-oriented approaches respectively. Naturally enough most of the empirical research follows causal or gestaltic lines. At the same time however there is an understanding of the relevance of a teleogical approach. According to R. L. Ackoff (1974):

> "The doctrines of reductionism and mechanism, and the analytical mode of thought, are being supplemented and partially replaced by the doctrines of

19) Another approach of this kind, although made from different premises, is exemplified by the recent contribution of J. Galtung (1977) to this UNU programme. Relevant also are the suggestions offered by Gawrilec (1974) referred to later on in this review.

20) These symbols having the following meaning: R-rates, averages; D-dispersions; C-correlations; S-structural properties; G-global properties

expansionism and teleology and a new synthetic (or systems) mode of thought."

and also:

". . . in the 1950's teleology – the study of goal-seeking and purposeful behaviour – was brought into science and began to dominate our conception of the world".

J. W. Forrester (1971) emphasized the "counterintuitive behaviour of social systems" arguing that these systems "belong to the class called multi-loop non-linear feedback systems" and that their behaviour cannot be grasped by intuitive models inherent to human actions and decision-making procedures. His arguments are in favour of "System Dynamics" simulation models.

1.4 The indicators looked upon from the viewpoint of their users

It is hardly possible to summarize and assess all the multidirectional research on development and its indicators without a clear apprehension of the reasons for them, (i.e. the purpose of a given study) and their applicational aims (i.e., are there persons or institutions supposed to utilize the results from the viewpoint of development-oriented actions and, if so, who are they?). If one were to assume that the main reasons and aims are to identify and to model the multidimensional behaviour of the whole socio-economic system in order to directly shape its development, then inevitably the conclusion would be reached that all we can do is to "feel our way" in trying to grasp, measure and understand some symptoms and elements of a very complex whole, the description of which lies beyond our capacities. But this is just the point which should be made clear if we wish[21] to follow a systems approach. Apprehending the systemic nature of such large and complex systems as the socio-economic means that it must be considered useless and hopeless to try and describe or model them directly in a manner which will show precisely how "everything is connected with everything else". Moreover it can be argued that there is no reason which would justify the necessity of such knowledge being gathered and utilized by any person or institution. If one leaves aside fruitless efforts to gain such "divine" knowledge as well as to construct and use indicators which would fully depict and explain the development of socio-economic systems, then really relevant problems emerge: (a) how to identify certain major types of agents with specific roles, within systemic mechanisms of functioning and control, in respect to development processes, goals and objectives; (b) what kinds of information do these agents need and use and in which way may the indicators serve as information carriers (being tailored in their scope and kind to the needs of respective agents).

21) As we ought to in this author's opinion.

In approaching these problems (in the context of the UN University programme) it should be made clear that no general and universal solutions and prescriptions can nor will be attempted. They cannot be found anywhere in scientific publications because they do not exist. The nature of these problems is such that they are subject to change, subject to "learning processes"; they are influenced by manifold features specific to particular socio-economic systems.[22] What one can and should do is to outline a basic organizing framework for actions which would eventually enrich the information available to different types of agents and thus contribute to development.

2. The approaches to development studies

To identify the main types of agents, the recipients of information interested in formulation, analysis and usage of development indicators, let us, first make a distinction between the two following classes:

(a) the first, whose interest may be identified as a "purely scientific" search for knowledge and understanding of phenomena taking place outside the sphere of their subjective concern;

(b) the second, whose interest, being either scientific or operational, is closely connected with concern about development, about indicators of success or failure, as well as of phenomena accompanying such performance and possibly contributing to it in a positive or negative way. This concern is also about the future possibilities of getting positive performance by means of undertaking adequate actions.

It may be argued that in the field of socio-economic development the former of these approaches is not possible even if it is claimed or declared. However, we shall not continue such an argument but concentrate our attention on the latter approach. We shall assume a stand corresponding to an opinion expressed by M. Shubik (1974) in a somewhat different (but not too distant) context of future-oriented studies and models:

"The work on models depends heavily upon the ability of the futurologists:

(a) to see themselves as part of the processes,
(b) to concentrate on isolating interesting questions,
(c) to be able to recognize answers to these questions,
(d) to be able to view their own activities in terms of being part of the dynamic value formation and perception mechanism of a society.

22) We have in mind here various features of historical, economic and cultural heritages as well as of environmental conditions.

The above view contrasts starkly with the technocratic approach to planning, treating it as though it were a static commentary and given plan drawn up by expert technocrats who are themselves sitting outside of the system and judging it in an objective and platonic manner."

Within the framework of this approach one may make a distinction between the following two kinds of perspectives in considering and studying development and its indicators:

The first is that of an analyst and comparor of development processes taking place in various countries and societies, the presumable aim of which is to provide information for appraisals as well as background for possible actions to be taken at an international level (within the United Nations Organization or certain other international organizations and bodies). Indirectly, this is also a source of information relevant to actions and policies undertaken within respective socio-economic systems in a sense that a comparative analysis indicates certain fields of activities which deserve special attention and supplementary analysis from the internal viewpoint of the system in question.[23]

The second is an approach adopted from within a specific socio-economic system when the treatment of development becomes necessarily a part "of the dynamic value formation and perception mechanism of a society" wherein the indicators become information carriers with specific functions in the mechanisms which regulate the manner of functioning and development of this particular socio-economic system. In this case the role of indicators must be related to the position of respective recipients of information carried by respective indicators. This role is related then also to the nature of actions the recipients (as actors) can, or are expected, to undertake within the system.

In this study we shall concentrate on central government actions specified in corresponding national plans and policies. However it does not seem possible to separate these actions from the nature of forces and mechanisms influencing actions undertaken by other agents within the system.

3. An intrasystemic viewpoint

In what follows we shall try to present certain approaches which assume a systemic and/or cybernetic way of looking at the behaviour of socio-economic systems and their development. The purpose of this exposition is to focus attention on selected characteristics of a systemic approach especially relevant for control of development processes.[24] It is hoped that this may form a reference

23) Direct conclusions based on international comparisons may be misleading.

24) There is no intention of offering here any review of research and publications related to the General Systems Theory or even those referring more specifically to socio-economic

plane for consideration of development indicators and their role in control (regulation) processes.

In this sense we shall discuss:

(a) some of the general characteristics of systems which seem relevant to our purpose, primarily such which are specific to social systems with a dominant role of human elements;

(b) some of the specific traits of the mechanisms which regulate the behaviour and development, especially the respective roles of the aims, goals and objectives as the forces influencing the development processes within the regulatory mechanisms.

Attention will be drawn to the nature of such mechanisms being based on corresponding information channels and flows. Development indicators will be considered as a category of information, generated and used. Their kinds (groups or sub-groups) will correspond to specific functions their users are supposed to perform within a network of regulatory processes.[25]

We shall consider the structure of information processes as an integral characteristic of a viable system. Consequently we shall point out that this structure is changing in time, which will lead to an important question of whether and how far these changes are promoting a relative gain in information, a higher level of organization enhancing the efficiency of regulation. Such an increase of efficiency becomes an important factor of development and there arises the question how to promote the processes contributing to such an increase. This is the issue of the so-called "meta-control" which has to include both: certain self-organizing properties within the system and certain consciously devised and implemented actions and policies.

We shall argue also that the positive impact of science and technology on development processes becomes greater if it is qualitatively integrated into the pattern of information channels and flows adequate to the regulatory mechanisms of a given system in a given stage of its development. This poses a challenge to the science that it should concentrate attention on the nature of such patterns and should correspondingly dedicate its efforts to adequate lines of education, re-

systems. Our arguments refer to the following particular scientific publications in this field: Ackoff (1974), Afanasjew (1973a), Boulding (1971), Czerniak (1974), (1975), Gawrilec (1974), Klir (1969), Laszlo (1972), Majminas (1971), (1974), Mesarovic (1972). For the sake of simplicity we are indicating specific reference sources in some cases only, when the point in question is related specifically to this source.

25) These aspects will be discussed in Chapter III.

search and technological innovations (in a broad sense, including technology of control and information activities).

3.1 Selected features of a systemic approach

Out of many formulations describing the most salient features of systems we propose to use that of E. Laszlo (1972) who emphasizes the following four properties:[26]

(a) co-active relation of parts, resulting in "ordered wholeness" in the state of the system ("systemic state property");

(b) function of adaptation to environmental disturbances resulting in the "re-establishment" of a previous state of the system ("system cybernetics I");

(c) function of adaptation to environmental disturbances resulting in the "re-organization" of the system's state, involving with a high degree of probability an over–all gain in the systems' negenthropy and information content ("system cybernetics II"); and

(d) dual functional-structural adaptation with respect to subsystems (adaptation as a systemic "whole") and to supra-systems (adaptation as a coating part, "holon property"). Let us note also a distinction (Laszlo, 1972) between the notions of real and cognitive systems, the latter referring to the extent and manner of cognition and comprehension formed in the sphere of knowledge accumulated in human minds. In a similar sense attention is drawn (Czerniak, 1975) to the relativity of a system's comprehension depending on the "purposes" of considering certain objects (interrelated elements performing specific actions) by certain "subjects" (observer, researcher, designer, controller). This leads to a distinction between the following two major classes of approaches:

    (i) one which considers a system as the reflection of objects' properties and their interrelations within the knowledge of subjects solving the tasks of research; and

    (ii) the other being conceived as the manner in which the understanding of objects' properties is utilized by a subject who solves the tasks of actively influencing and shaping objects' behaviour.

This relativity is evident in cases when we are talking about and studying such

26) Similar properties are defined by the same author (Laszlo, 1974) in a somewhat different context as: (a) order and irreducibility, (b) self-stabilization, (c) self-organization, (d) hierarchization.

systems as economic, social, political, educational, etc. This is in fact a selective delimitation of the field of interactions we wish to concentrate upon with an assumption that it is legitimate to consider only "unidirectional" links between this particular field and other fields treated then as the environment.[27]

There are understandable reasons for such a selective procedure. They are related to the "largeness" and "complexity" of socio-economic systems. As a consequence of these attributes any essays to grasp all the interrelations and interactions would be futile and end up with commonplace conclusions.[28] Thus in K. E. Boulding's (1971) analysis it is indicated that human and socio-economic systems are of the relatively highest level of complexity whereas most of the theoretical schemes as well as of the analytical instruments available in the social sciences and in economics reflect the properties inherent to much lower levels in his typology of systems. It is useful to develop and use such schemes and instruments:

> "Because, in a sense, each level incorporates all those below it, much valuable information and insights can be obtained by applying low-level systems to high-level subject matter" (Boulding, 1971).

Simultaneously however there is a "caveat" not to accept:

> ". . . as final a level of theoretical analysis which is below the level of the empirical world which we are investigating" (Boulding, *ibid*).

In view of these limitations we have to accept that:

> ". . . a large system – is a system which cannot be considered but as a set of aprioristically delimited sub-systems". (Czerniak, 1975, p. 28), whereas:

> ". . . a complex system – is a system for the solution of multipurpose (multigoal) tasks; a system reflecting different non-comparable characteristics of the object; a system the description of which demands the usage of various languages . . . " (Czerniak, *ibid*, p. 32).

The first of these aspects implies delimitation of subsystems according to range and scope of interactions: in space and time, in terms of institutional and organizational hierarchies, leading to the concepts of micro, macro, and mezzo approaches. The second imples delimitation according to the nature of activities, interactions, their goals (economic, social, political, cultural, technical, etc.); we

27) In other words we are interested only in some outcomes of our especially delimited system in respect to its environment and with some inputs coming from the environment.

28) Along these lines one finds criticism levelled at the General Systems Theory that it has failed to specify precisely what is meant by a "system" and to be useful in its predictive value (compare e.g. the review and analysis offered by D.C. Phillips, 1971).

can say – in other words – to the dimensions of behaviour and development of the whole complex system.

The border assigned to such subsystems, let us call their two categories "hierarchical" and "dimensional" respectively,[29] can result from historical conditions (especially in respect to hierarchical subsystems), regions, organizations, institutions; or they can reflect a desire to understand the patterns of specific interactions from the viewpoint of specific criteria usually related to some type of goals and to some type of a model assumed to represent the relationships between the goals and the means for their implementation. The borders are overlapping: every hierarchical subsystem includes activities of various dimensions and correspondingly classified otherwise into many dimensional subsystems although in some hierarchical subsystems a certain type of activities is dominant.[30] Similarly every dimensional subsystem includes activities from various hierarchical subsystems, although some of the latter are the most representative as a given dimension of activities is mainly concentrated there. These borderlines are changing in time.

System's characteristics according to the preceding typology of subsystems is important for an understanding of development processes and of mechanisms which shape development patterns.

Development processes are taking place through actions and interactions of hierarchical subsystems, but these actions are driven by forces which are formed and put in motion within a framework of dimensional subsystems (each of them and their interconnections). Within dimensional subsystems there are corresponding specific modes of behaviour, motivations and criteria of evaluation, all related to the respective nature of goals and of conditions and ways of their implementation. As is known, the "economic" dimension is peculiar in that respect as the notion of an economic subsystem has been extended and in some theoretical and analytical approaches assumed to be representative for a description of the whole system, of its behaviour and development.[31] It would be beyond the scope of this review to discuss various reasons which are brought in to explain this tendency as well as various theoretical approaches in the history of economic and social sciences characterized by more or less comprehensive essays to enrich the conceptual apparatus used to explain the functioning and development of socio-economic systems.[32]

29) By using the term "hierarchical" we are not implying that a complete hierarchy in a strict sense (as discussed e.g., by Koopmans & Montias) is prevailing. Perhaps another name, such as organizational subsystems, would fit better.

30) Thus we are assuming certain organizations or institutions to be economic, social, political, educational, etc. expressing their dominant nature although almost all other types of activities are present and are exerting some influence.

31) Examples are discussed in the review by G. Rist (1977) of some development theories.

32) An analytical review of this can be found e.g. in a study by W. G. Afanasjew (1973 a).

It seems that one of the major issues follows from the fact that hierarchical subsystems act and interact under the simultaneous influence of several dimensional criteria and modes of behaviour. As a consequence, the resulting mechanisms regulating development processes become much more complex than those assumed within an economic framework. It does not help much if parallel explanations of such a mechanism are offered, based within a framework of sociological or political dimensions, as long as they are not closely connected with an economic context. But then arises the issue of adequate conceptual apparatus and analytical techniques for problems of so complex and interdisciplinary nature which seems to elude any clear-cut and comprehensive solution.[33]

3.2 The dominant role of human factors

The crucial characteristics of socio-economic systems, and consequently of their behaviour and development, follows from the dominant role of the human factors, i.e. human work being the basic factor contributing to all activities and actions; satisfaction of human needs being identified with the ultimate aims of development; human motivations and qualifications playing a decisive role in shaping the goals and patterns of development within the framework of control processes. The role of human preferences, value judgements and motivations gives a specific trait to the nature of the goal-seeking property in a system's growth It creates the possibilities of a conscious harmonization of development processes aimed at the attainment of consciously predetermined goals. However this does not imply any kind of control device which could be prescribed and implanted from outside (as may be the case in respect to man-made technical systems). Consciously concerted actions have to be worked out and implemented within the system itself (Pietrakow, 1974). When we consider the people, acting within families (households), productive and service rendering organizations, local communities, institutions, etc., we have to see their activities as being shaped simultaneously by:

(a) conscious identification, recognition, acceptance of objectives;

(b) prevailing conditions and capacities to strive for such objectives (including economic, material, technological, organizational and skill-determined conditions);

33) An issue of this type seems to be one of those referred to by K.Boulding in his observations cited above. There is a well-known controversy around the legitimacy and usefulness of applying the methods of "hard" sciences. One finds observations that "The mathematizing of economics was no doubt a heroic achievement, but, by the values of science, profoundly retrograde" (R. A. Solo, 1972). The concepts of "lower economics" (as opposed to "high-brow") are being introduced (see e.g., M. E. Sharpe, 1974). There are interesting attempts to form a typology of phenomena and problems demanding respectively different analytical tools (compare J. W. Sutherland, 1973).

(c) motivations to utilize the capacities efficiently in order to attain the objectives.

The outcomes depend on the concurrence of all these factors representing various dimensions of societal development processes. One may note that at a given time all these factors will be a function of the so-called state variables of the system at that time (resulting from the system's history) and of the recognized objectives, expectations, challenges and constraints – i.e. future-oriented variables which in turn are a function of information stocks and flows referring to wider sets of interrelated activities, up to a systemic level. The paths of development processes depend on the concurrence of respective partial (micro and mezzo) triads of objectives – capacities – motivations, and of the above-mentioned two sets of factors, i.e. the shape of state-level variables, configurations (in consecutive intervals) and the shape of systemic information processes.

These are also the issues essential for the tasks of over-all systemic planning, policy making, control. Such tasks are conceived differently in various socio-economic systems and the differences result primarily from the nature of particular socio-economic and political formation characteristic of a given nation-state. The conceptions seem to vary along a spectrum at the one end of which there would be an assumption that the interactions among "micro-triads" are primarily regulated by certain autonomous mechanisms within a corresponding legislative framework meant to adequately keep such mechanisms in motion, whereas at the other end there would be an assumption that all these interactions can be consciously scheduled and concerted in advance within certain hierarchic institutional arrangements. These are, of course, too simplified descriptions, and moreover concrete conceptions, as well as solutions found in practice, will be always somewhere in between, nearer to one end or the other. It does not fall into the scope of this review to discuss respective approaches and even less to attempt their comparative evaluation.[34]

Our aim is mainly to draw attention to the following characteristics:

(a) that development processes are effected by people acting within certain organizational and institutional frameworks, which take the forms of various subsystems (called "hierarchical");

(b) that these actions are influenced by prevailing conditions (capacities) formed partly by the outcomes of actions implemented in the past and partly by environmental factors;

34) This would not be possible as the discussion would be hardly meaningful if detached from the basic differences in societal structural features related to the modes of production (see e.g., Afanasjew, 1973 b).

(c) that an important feature of these actions being consciously undertaken is their dependence on future-oriented information.

The role of development indicators will have to be considered against this background. But before we attempt it there are still two observations to be made.

On the one hand, our understanding of a systemic structure would not be correct if it were based only on hierarchical subsystems and their interconnections, because there are still the people to be considered, not as elements of these subsystems but as various individuals forming the population. This is emphasized by e.g. Liebiediew (1976) who in consideration of societal interactions as objects of conscious control makes a distinction between: (a) institutionalized actions (which correspond to our hierarchical subsystems) with certain common goals and their subsystemic control centres; (b) individual actions of people; (c) social processes being a general outcome of interactions among numerous individuals and also institutionalized subsystems. The latter two can be identified and described only by means of statistical characteristics related to meaningfully classified population groups. Various features can be chosen as relevant for such characteristics (satisfaction of needs and rights being here important examples). According to one suggestion (Gawrilec, 1974) it is important to have characteristics related to the following four types of features: (a) demographic features and related to objective (material) conditions of human life; (b) the access to information an individual has about his environment; (c) his subjective attitude towards his surrounding conditions; (d) his behaviour (related to his individual way of life as well as to his participation in various forms of societal activities).

On the other hand, it is necessary to note that there are specific hierarchical subsystems specializing in dealing with information processes and control functions, i.e. respective public bodies and institutions at the local, regional and central level. They are operating with information which pertains to other hierarchical subsystems and to statistical characteristics of population and social processes. In this capacity they are operating also with dimensional subsystems (in the sense outlined above) with a view to putting in motion various instruments in order to achieve development goals and objectives (related respectively to their scope of action).

Against this background we shall be concerned with development indicators as an important category of information useful for public bodies and institutions primarily at the central level.[35]

35) This is done in order to limit the scope of discussion and not to imply that indicators are less relevant at other levels.

3.3 The structure of regulatory processes

In order to be more specific we have, however, to bring into the picture some of the more general aspects of informational and control processes. We shall refer here to a conceptual scheme[36] suggested by S. Beer (1972) in respect to control and management in complex viable systems. The scheme includes five interrelated levels of control functions (starting from the lowest one):

Level one – direct control of real processes (mainly by means of predetermined algorithms);

Level two – setting operational objectives and control algorithms for level-one units;

Level three – tactical and operational co-ordination of multiple level-two units, based on comprehension of goals set by level four and on considerations of constraints;

Level four – systemic staff analysis, formulation of optional strategies and tactical policies related to the whole system, its goals, structural and organizational adaptations;

Level five – assumed to be "the conscience" for the whole system, taking care of its survival and future destiny, its strategic issues, based on the comprehension of internal systemic aims and of environmental influences.

This five-level scheme does not imply a completely hierarchical structure for the whole socio-economic system which would mean that particular micro-agents (i.e. firms or regional/local institutions) were concerned only with short-term routine operations whereas all the developmental issues would have to be solved and decided upon at a central government level. Following S. Beer's arguments we have to assume that the five levels correspond to functions performed within "an organization" and that organizations are of varying scope and nature (from respective micro-units up to whole nation-systems).

In this sense a sectoral organization is a partial system having its own subsystems but being at the same time a subsystem in respect of a system of a wider scope. The premises and criteria for action, as well as the languages used, vary among organizations of different scope, being relatively more specialized for smaller units and more multidimensional for the larger.

36) The scheme was conceived to apply to viable organizations-organisms of various scope (a firm as well as a nation-state) with an obvious qualification that the interpretations would differ depending on the nature of the organism in question.

Different kinds of information are needed for different types of decisions,[37] (either routine, concerned with short-term actions or reflective, future-oriented, concerned with development of an organization). At the same time, there are various types of information channels involved (horizontal, vertical) and various types of information forms (ranging from more specific economic and technological parameters up to more aggregated and/or derived indicators).

It should be added that adaptive control algorithms applicable to particular levels are not similar. The higher the level concerned the more important becomes an ability to introduce reflective modifications into previously conceived goals and their implementation patterns. In complex systems, it becomes difficult to schedule a network of objectives necessary to achieve fully identified and specified lists of goals. According to S. Beer one has to rely then rather on an approach called "heuristic",

> i.e.,"a method of behaving which will tend towards a goal which cannot be previously specified because we know *what* it is but not *where* it is".

We can now make a point that the more important it is to use reflective control procedures or heuristic modes, the more relevant become such information types which promote a better comprehension of strategic factors for an assessment of a situation and for an option to be made.

In general terms this seems to be the major field of relevance for development indicators as a specific type of information.[38]

3.4 Development indicators as a type of information

By their nature, the indicators are not conceived as direct information about specific actions performed by specific subsystems, so they are not meant to be used directly in monitoring such actions and in assessing specific performances.

At the same time, the nature of development indicators may predispose them to be useful also for particular subsystems (even at a micro-level) as information promoting an attitude one may call that of "societal consciousness", helping to get a feel of societal issues as well as to see one's own actions against the background of such issues.

From the viewpoint of a central, systemic level the set of development indicators does not include all information relevant for that level. Referring to the five-level scheme of S. Beer, the indicators will serve primarily for the functions performed

37) This is emphasized by Kornai (1971).

38) T. Koopmans and J. Montias (1971) see the role of indicators as that of proxies for desiderata or odiosa, i.e. for outcomes related directly to fundamental notions of norms and evaluation functions for a given system.

by the fifth (highest) level as well as by the fourth ("general staff") level in its links with the top level. The indicators are conceived thus as information especially relevant for strategic assessments and options. In this sense, their set would not include information relevant for partial (sectoral) assessments of performance nor for the corresponding operational decision making (which in S. Beer's scheme would correspond to the links between the fourth and the third levels and to the operations related to still lower levels).[39] Furthermore, one may note that at the central, systemic level there is a demand for data which are required as inputs into various models and computational procedures necessary to produce information.[40] The attribute of information can be associated only with such types of (usually processed and derived) data which do change the state of knowledge and decrease the uncertainty of the user with respect to his tasks.

It follows from the arguments presented above that the development indicators (at the central, systemic level) would have to refer to development aims, goals and objectives as well as to certain basic characteristics of the capacity and potential to achieve the former.

In this context we shall assume the following.

(a) There are general "aims" of human development, the list of which can be (in principle) agreed upon to apply to all the types of socio-economic systems. Their comprehension contributes to the formation of societal norms in the sense conceived by Koopmans and Montias (1971) to have a more universal "supra-systemic" nature.[41] In some cases their translation into norms prevailing in a particular system may involve certain different interpretations, depending on historical cultural and socio-political conditions. Indicators are related to desiderata corresponding to the norms shaped by the perception of general aims.

(b) Development "objectives" are assumed to differ from the aims in the following manner:

  (i) they are related to certain time horizons;

  (ii) their scope and specification may be wider as the result of including certain human and social values specific for some kinds of systems;

39) Let us remember that we are considering now a central, systemic perspective. If the viewpoint is changed, becoming that of a sectoral, subsystemic institution, then the same type of information which is not considered as a development indicator for the whole system may become a development indicator for the subsystem in question.

40) These models and procedures are used just in order to organize data and to filter out relevant information (see e.g., J. Czerniak, 1974).

41) Not all the norms and related desiderata will be directly linked to the aims.

(iii) they include also objectives pertaining to the development of a system's potential (especially in a sense of preparing the potential for a more distant future); and

(iv) there are certain priorities or relative weights attached to particular objectives, which differ among the systems; systemic objectives are formed under the influence of perception of their relative urgency as well as of environmental factors.

It is assumed that both aims and objectives refer primarily to particular types of human needs and rights (compare J. Galtung, 1977) as seen in the societal context. This context means not only the inclusion of distributional and intertemporal correlation aspects (compare J. Galtung, Hoivik, 1971) with corresponding equity objectives related to distribution and/or to opportunities, but it means also the necessity to include such features of social life which pertain to the attitudes of an individual towards the society. They depend heavily on the nature of the modes of production (and consequently on the patterns of distribution) leading either to predominantly individualistic and defensive attitudes or to the apprehension of the possibility of fulfiling individualistic objectives through creative and offensive societal attitudes. The latter forms a basis for considering the category of obligations towards a society as one of equity characteristics.

(c) Development goals are understood as defining the outcomes of specific policies or actions, related to specific time horizons.

They differ from the objectives in the following manner:

(i) by specifying more detailed characteristics of a given objective;

(ii) by being derived from a "final" goal (directly related to an objective) and forming a "lower order" goal;[42]

(iii) by being associated with a corresponding set of actions instrumental for the achievement of a goal.

If we assume that sequential relationships are included in the formation of goals and objectives then it will follow that the list of goals includes important tasks related to the reshaping of a system's potential. In this sense, the set of development indicators will have to be associated with all the objectives and certain goals, such as will be considered crucial for the achievement of objectives. Moreover, as we have said earlier, it will have to include indicators related to historical.

42) In the sense used in a "relevance tree" scheme.

state-level variables and to environmental impacts which are the most essential for goals' and objectives' formation.[43]

Some aspects of development indicators' construction and utilization will be discussed in the subsequent chapters. However, let us still recall our limited conceptual and factual knowledge of development patterns as well as limited abilities to model and measure their characteristic features. In this sense, it was argued earlier that processes of learning should be considered as inherent to development. They are essential both for those engaged in systemic control activities, hopefully improving their understanding of a complex system's dynamics, and for those engaged directly in interactions among particular subsystems, hopefully improving such important system's properties as self-modelling and self-organization. Thus, considering the role of development indicators, one should assume two simultaneous perspectives:

(a) on the one hand, indicators which can be used at present, reflecting the state of knowledge we have already accumulated;

(b) on the other hand, indicators, the study of which is conceived as a part of learning processes, are aimed at subsequent improvements in the system's capacities to generate and use information directly for practical purposes.

4. An international viewpoint

As far as the "international, comparative perspective" of development is concerned, one is inclined to start with an observation that it is hardly possible to apply at this level fully systemic, comprehensive approaches to understanding and treatment of development. Is there a global, world-wide socio-economic system? In what way would one have to consider its development goals and objectives as well as the texture of interlinked development processes? It seems too big a task to try shedding some light on such issues in this review and possibly they will deserve special considerations in the future. Anyway, it is perhaps legitimate and relevant to note a dominant role of interconnections effected through some institutionalized channels related to the existence and specific internal features of separate socio-economic systems and separate nation-states. These interconnections are primarily of economic and political nature. They are certainly related to and influenced by wider patterns of socio-economic relations characteristic of particular types of socio-political formations, which in turn depend heavily on prevailing modes of production. Nevertheless, the latter type of network, among multidimensional processes, with corresponding feedback loops, cannot be identified as a characteristic attribute of globally conceived development processes, whereas it is such an attribute in the case of development

43) If considered within the framework of a continuous process the indicators related respectively to state-levels and flows will be interconnected.

patterns within respective nation-states (and also, to some degree, within certain groups of nation-states).

These tentative observations have been offered from a very limited viewpoint, viz. that of their possible relevance to a discussion of the nature of an international, comparative approach to the issue of development indicators.

The points seemingly relevant to discuss are the following:

(a) Is it at all necessary and justified to strive for a composite indicator of development applicable to particular (and so different) socio-economic systems? Were it to be conceived in a more comprehensively systemic manner, then the task would be clearly unfeasible. This objection may be raised by limiting the scope of interest to certain aspects, e.g., to a selected list of welfare indicators (as J. Drewnowski, 1972, does) composed into presumably comprehensive indices by means of arbitrarily chosen weights (which, according to this proposal, can be made more objective by being induced from preferences revealed in respective national plans). Such an operation is feasible, at least potentially, as one would have to be supplied with a sufficiently representative list of respectively comparable partial indicators and with corresponding national plans so formulated that the weights could be derived. But whether and how would it help to promote development if such composite indicators were available? Disputable points refer to an argument that comparisons of aggregates supposed to represent objectives are not very helpful, especially for more practical policy purposes, if the logic behind the formation of aggregates is not such that it may be connected with instruments of action. Weight-representing preferences have to be conceived then in an active manner as relative values reflecting substitution possibilities among partial goals and influencing in some manner allocation mechanisms in utilization of resources. In theoretical considerations such mechanisms (see Gawrilec, 1974) are related either to general equilibrium, game-theoretical constructs, or to theoretical premises of conscious control in large and complex systems. But would it be justified to assign the meaning of "objective functions" to the contents of categories described and measured by a composite welfare indicator? The answer seems to be negative, at least until it can be more clearly shown whether and how such indicators could be built into some kind of international mechanism.

(b) In what sense should the attribute of multidimensionality of development be emphasized for international purposes? It seems there is not much use in drawing a conclusion that all dimensions should be brought somehow simultaneously into the analysis and that corresponding indicators of development should be "all-embracing".

Taking into consideration too many facts and symptoms related to particular human needs and rights may detract attention from the most urgent and crucial issues related to certain fundamental needs on the one hand and to basic conditions of development on the other. As one possible way, one could see an assumption that for purposes of international analysis attention should be centred on a limited list of goals (or aims) indicators based, for instance, on Dudley Seers' suggestion (rights to: adequate food, work, equity)with possible additions related, e.g., to health and education. Such indicators would be considered as related to universally applicable criteria comparatively less conditioned by specific intrasystemic features of particular countries (in terms of needs perception as well as of influences of historical, cultural and socio-structural factors).[44] At the same time, much attention would be devoted to indicators reflecting selected features of "development potential". In this category one could envisage more "traditional" indicators of GNP (*per capita*) type, as well as such which would somehow reflect the attributes of "self-reliance" and also some exogenous (externally determined) factors influencing development potential of particular countries.

Comparative analyses of wider information sets concerned with more detailed specifications of final demand structure (related to satisfaction of more detailed needs) as well as with characteristics of respective structural patterns may have valuable merits of their own. They can be treated however rather as basic research demanding careful examination and their conclusions must be presented in a very careful manner. As has been pointed out on many occasions.

There are no well-grounded reasons to assume that countries with relatively smaller development potential and lower goal-achievement performance will have to assume all or most of the features and patterns characterizing another country which has already achieved a higher level of development. The following arguments are usually used to back up this viewpoint.

(a) General aims, related to a universal comprehension of human needs and rights, can be differently identified and specified, leading to different systemic norms, desiderata[45] and different specific goals and objectives.

(b) Environmental and historical factors may necessitate various configurations of policies expected to lead to the achievement of respective systemic goals, and as a consequence there can be a marked difference in specific structural objectives.

44) Development symptoms related to other types of needs and rights (those more differentiated in respect to various systems) would be, of course, considered as important but more so from the intrasystemic viewpoint of respective countries concerned.

45) Using again a term suggested by Koopmans and Montias (1971).

(c) The dynamics of development processes as well as the instruments available to promote development are different depending on mechanisms of functioning and control within respective systems.[46]

As a consequence of different conditions and different issues, actions and policies get corresponding priorities in consideration of strategic, tactical and operational goals and objectives as well as of the means and ways of their implementation.[47]

There is another aspect of internationally oriented development studies (with corresponding development indicators): that of making and/or keeping them operationally useful and applicable. We have already touched on this issue while making an observation that the usage of aggregates and their relations is operationally meaningful if the weights behind the aggregates correspond to the logic of evaluation and choices. If that is not the case, then selected, more detailed phenomena and their indicators are more advisable, but then the problem of selection has to be faced. Intuitively, one would be inclined to strive for selection of strategically most crucial indicators, which implies a hope of identifying the shape of those phenomena and processes which exert the strongest influence on many other parts of the system in question (a suggestion in this direction has been made by McGranahan , (1972 a), who indicated also that a strategically important element may seem *per se* negligible). It seems that further research should concentrate attention in this direction. The lines of research initiated and conducted by the UNRISD (McGranahan *et al*, 1972 b) and made under the auspices of UNESCO (compare e.g., Hellwig, 1971) may seem promising in that respect. Similar research aims characterize the "System Dynamics" approach (compare J. Forrester, 1971) although the usage of this method seems to have been conceived in a somewhat different manner. Generally speaking, one could envisage considerable usefulness of "simulation models" (employing various techniques) from a specific viewpoint, i.e., that of a sensitivity analysis helping to identify the most crucial types of information.[48]

46) i.e. the distribution of decision potential including its economic, informational, institutional aspects, the nature of motivations associated with particular individuals, social groups, organizations, the patterns of interactions among such entities.

47) This diversity of systemic conditions and development patterns leads to very difficult problems in efforts at global model construction and utilization for purposes of projecting or simulating future development at the world level. This has not been taken into account in, e.g., a recent structural development model study made by Leontieff and his associates (1976) which has led to serious doubts concerning the conclusions.

48) From the viewpoint of models application for projections and/or policy purposes this may be conceived as a part of a learning process. Many models applied so far have been subject to objections related to the reliability of partial information inputs and to the fact that in modelling complex interrelations, there are so many factors influencing final results that it is difficult to evaluate the validity of conclusions.

86. Simultaneously, there is the point that the studies in question, in order to be operationally useful, have to be closely related to the institutional framework of the United Nations agencies specializing in particular aspects of development. If one agrees that there is a need for cross-dimensional approaches it should not follow that the latter may neglect such an institutional framework which remains essential from an operational viewpoint. Within each field covered respectively by the specialized agencies, there are certain more "internally-oriented" sets of interlinked development processes as well as certain important mutual linkages with other fields (in a sense of mutual interdependence) so at least two parallel approaches can be combined:

(a) one inspired by the premises of each separate field of development and leading to an identification and analysis of internally specific indicators (for a respective field) as well as of most important indicators for relevant exogenous factors, especially those which pertain to exogenously determined conditions for a given field in question; and

(b) the second concentrating on cross-dimensional linkages and being inspired by respective field-oriented approaches and simultaneously by comprehensive, interdisciplinary approaches with a condition that they are conceptually linked to the former.

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III. DEVELOPMENT INDICATORS IN NATIONAL PLANNING AND POLICY-MAKING (IN DEVELOPED ECONOMIES)

By Krzysztof Porwit

It would be hardly possible to discuss the relevance and role of development indicators in national planning if the nature and functions of the latter were not defined. This point has been emphasized by, among others, J. I. de Neufville in a recent study (1975) who explained her approach as follows:

> "The analysis is based in large part on the notion that you can have no meaningful measure without a theory. In science this means one must at least have a hypothesis about how the phenomenon one wants to measure is related to its environment and to the things we observe directly. In public policy it becomes an issue of how to decide whose theory to use, as a measure based on one analysis suggests one policy and one based on another an entirely different policy.
>
> "The intended purpose of making a measurement then has to play a role in the process of designing it, and the design process becomes part of a political process. In fact, for successful indicators there is an interaction between design and use, and therefore such measures can and should evolve over time, and, when used for public decisions will often be controversial as they represent a particular perspective and theory."

Taking this viewpoint it would not be sufficient to assume that national planning and policy making are just one specific type of decision-making procedure, characterized by corresponding technological features of data-collecting and processing. The concepts of national planning and policy making are primarily of a societal nature, being related to the manner in which the interactions of various subjects within the whole system, are supposed to be motivated, regulated. harmonized, directed towards certain societal goals. These premises determine the essence of national planning and policy making, whereas the procedural aspects are also very important but as a reflection of fundamental notions about the functions of national, system-wide control/management processes. Inter-

relations between these two types of aspects are reflected in a network of societal information processes which exert an influence on the behaviour of people engaged in activities in all the links and levels of a system's structure.

1. The nature of national planning

It would lead us far beyond the scope of this review to discuss in depth the manifold functions of national planning in various types of socio-economic systems.

We shall concentrate on those aspects of planning and policy making which are usually identified with an issue of "integration" between social and economic planning.[1] These integrating trends in planning and policy making are in fact the result of a growing awareness of the close interdimensional links existing in the life of a society. They are meant thus to recover this unity in endeavours to rationalize and control development and not to create it. The following forms of integration are considered:

(a) vertical – "a hierarchy of needs, ends and means related to a given, precise policy", United Nations, 1973 a, p. 4;
(b) horizontal – implying comprehensive treatment of various policy components and factors within a sector, among sectors, within the whole systems;
(c) in time – implying explicit treatment of relationships among policies and programmes related to long-medium- and short-term respectively.

The experiences of various countries indicate integration strategies of different scope (United Nations, 1973 a, pp. 5–6), i.e.:

(a) sectoral integration;
(b) intersectoral goal-oriented integration;
(c) global integration.

The scope of integration strategy reflects in a way the differences in meaning attached to a concept of social planning, varying between that restricted to sectors and processes where market regulation and general economic policies are not applicable[2] and – at the other extreme – that of a comprehensive

1) The main references in this respect are United Nations, 1973 a, document ECE/EC. AD/3 on "Approaches and methods used in long-term social planning and policy making" and United Nations, 1973 b, document ECE/EC. AD/6 on "Distribution policies in long-term planning".
2) as in some developed market economies

treatment of the whole development of a society and a socio-economic system, where the term "societal" planning is applicable.[3] However, this is not only a problem of perception and corresponding attitudes among planners, as there is a close relationship between sociological and technical, operational meanings of integration; one being related to multidimensional aspects of systems structures and patterns of behaviour, the other to forms and procedural aspects of informational regulatory processes. Consequently, there are several simultaneous conditions for the progressive application of integrated planning and for an effective implementation of related policies, in a wider, societal sense.[4] They can be listed, as follows:

(a) a wide-spread perception and comprehension of intereimensional dependencies characterizing societal patterns of behaviour, change and development; a striving for identification and understanding of fundamental reasons and forces promoting or counteracting societal integration;[5]

(b) socio-political conditions conducive to the transformation of a perception into a political will;

(c) adequate institutional arrangements, which concern the structures of the organizations involved as well as the behaviour of individuals and groups;

(d) technological abilities and capacities to organize planning and control procedures, to construct and apply adequate models; and

(e) the access to information available in scope and forms corresponding to the needs of planning and control (results of scientific research being one information source).

Configurations of these conditions differ among countries and an attempt to discuss them in more detail would lead us too far. Let us draw attention however to

3) as in centrally planned economies
4) Most of them were emphasized in United Nations, 1973 a, pp. 12–13.
5) The rationale for approaches adopted in centrally planned economies will be commented upon later on in this chapter. Research "on the integration of social indicators in models of social change" related to the wide concept of "social reproduction" took place in Grenoble, France (see report in United Nations, 1973 a, pp. 245–263). A penetrating analysis of some essential issues in that respect has been offered by A. E. Anderson in his paper on "Redistribution and Social Policy in Market Economies", United Nations, 1973 b, pp. 3–13. The crucial issue was formulated in the following sentence: "The main cause behind the maldistribution of welfare is the maldistribution of individual real capital in the form of material capital—including natural resources under individual control—and human capital, which could be purely physiological, psychological and in the form of information", *ibid.* p. 4.

some views expressed in relation to the nature of planning in developed market economies and in socialist socio-economic systems respectively.

In Mrs. C. Girardeau's paper on "The Medium-term and Long-term Approach in the Planning and Preparation of Social Policies" (United Nations, 1973 a, pp. 15–36) one finds the conclusion that:

(a) in the countries of western Europe, social planning is mainly concerned with State action associated with public expenditure, in the form either of transfer or the provision of community goods and services; and

(b) in the countries of eastern Europe, social planning is concerned with the various aspects of consumption (private and public consumption, employment and resources) and with expenditure in the form of unproductive capital accumulation.

It is noted further (p. 20) that in some countries, the USSR being quoted as a prominent example, there is an emphasis not to restrict the concern to a narrower scope of consumption (related to the term "level of living") but to cover the wider scope of the comprehensively considered economic and social situation of the people (related to the term "way of living").[6]

In the countries of western Europe, according to Mrs. Girardeau's review:

> "The authorities are induced to take particular fields (health, education, housing) or problems (the elderly, the environment) into consideration when there are:
>
> (i) legal obligations . . . which tend to grow heavier with time because population growth increases the number of potential beneficiaries;
>
> (ii) developments which, if ignored, might set up strains (urban concentration, pollution, etc.);
>
> (iii) tendencies among people to establish an ever closer link between the taxes paid and the public services provided."[7]

The approach to national planning (its scope and functions) in the developed market economies seems to have certain common features. On the one hand, it presupposes a predominance of individualistic actions regulated primarily by relatively autonomous market mechanisms (subject to more or less extended

6) *"obraz shizni"* in Russian; compare also: S. G. Strumilin and E. J. Pisarenko (1974).
7) Scandinavian countries are described as taking a broader and more active approach towards equalization policies (*ibid.* p. 21).

governmental policy instruments in the sphere) whereas, on the other hand, it cognizes the need for intervention and control based presumably on societal premises in respect to non-economic dimensions of development. As a consequence one would have to assume (implicitly or explicitly) that some conflicts will keep emerging and remedial actions will be continuously attempted while the sources of such conflicts remain intact.

The attitude described by Ackoff as that of the interactivists seems to recognize this difficulty. They want planning to be: (a) participative, i.e. *by* an organization not to or for it; (b) co-ordinative, i.e. interdimensional; (c) integrated, i.e. multilevel; (d) continuous, i.e. taking into account various time horizons and shifting along the time axis as well as including regulatory information feedbacks (Ackoff, 1974, p. 28–29).

It is difficult to conceive, however, how such goals could be attained without far-reaching changes in the whole system, in its fundamental socio-economic characteristics. Consequently the representatives of this approach argue in favour of what was called the "stakeholder theory" for the firm and its objectives (I.H. Ansoff, 1965)[8] with an assumption that it should maximize the" net social consumption "it produces. In this manner it would be presumably possible to strengthen concern over social responsibility in particular firms and hopefully co-ordinate their activities with societally-minded public actions.

According to E. Jantsch's (1969) views, related to the United States: "the outstanding feature of the 1970's will be the emergence of industry as a 'planner for society' on an equal level with government" (p. 486) and also: "the overall national planning scheme . . . rests on the two 'pillars', government and industry, both of which concentrate their planning on those areas where their power of subsequent implementation is greatest – government on national and international security and industry on the joint systems which society forms with technology" (p. 488). The nature of such "joint systems" remains, however, outside the scope of national planning, and, under these conditions, it does not seem possible to envisage national socio-economic planning and control characterized by the attributes listed above. System-wide planning and policy-making activities differ among the developed market economies in their scope and nature, nevertheless they are all facing difficulties in attempting to integrate human and social development aims and objectives with multidimensional (economic and non-economic) measures and actions. In this context societal objectives cannot be considered as ultimate, other objectives and goals being derived, but – when formulated – they usually have a remedial nature.[9]

8) cited after Ackoff *(op. cit.)*.

9) In the sense of identifying undesirable phenomena and counteracting them (unemployment, poverty, crime, etc.) rather than considering the possibility of shaping development patterns according to positively formulated ultimate goals.

The list of phenomena and processes subject to measurement and analysis is of course much wider, as is reflected in the "social indicator movement". Questions are raised however regarding operational influences exerted by an availability of indicators if their design and presentation are not built into a consciously devised institutional framework of decision making and "implementation" (compare: J.I. de Neufville, 1975, Chapter XIII).[10]

There is also a widespread practice of making and publishing "Social Reports," the general relevance of which should not be underrated, but there seems to be an agreement that a number of other factors must be taken into account in assessing their operational contribution to integrated development planning (United Nations, 1976) and that ". . . the distance between reporting and planning is a long one, that many different bridges can be built to bridge the gap, but that none of them guarantees an easy passage from the analysis of social problems to the shaping of social policies and development planning" (*op. cit.*, p. 86).

Before commenting on the most relevant features of national and socio-economic planning in the centrally planned socialist countries let us emphasize that this report is not concerned with value judgements, with whether comprehensive, system-wide planning and control are or are not good for particular countries and societies. The choice does not pertain to forms and ways of control but to fundamental characteristics of socio-economic and political formation and the arguments in that respect are beyond the scope of this report. However, it is necessary to note that the basic differences between national planning in the two types of countries under discussion do not result from different approaches to procedural aspects of planning and management, but are a consequence of different fundamental features of socio-economic structures, institutions and prevailing criteria of evaluation.

The most important characteristics shaping the nature of societal, system-wide planning and control are the creation and strengthening of socialist modes of production based on social (national and co-operative) ownership of the means

10) These remarks are not meant to question the relevance and importance of social indicators from the viewpoints of cognitive processes in a society and as having an indirect influence on socio-political processes. They reflect rather a view of objective conditions forming specific constraints on the nature of societal goal-seeking, planning, policy making and control.
In a footnote commenting on the difficulty of committing resources in longer-term governmental programmes, Koniya (1975) quotes the following questions formulated by J. E. Meade (1970): "Moreover, what is the legitimate use which, in a democratic society, one government may make of its own social welfare function? Should it rigidly commit resources to uses which will satisfy its own ideas about future social welfare without leaving any flexibility for them to be turned to the satisfaction of alternative objectives favoured by the opposition party which may well in turn become the government — presumably because of some changes of social values among the electorate itself?"

of production. This is considered as fundamental as it constitutes the basis for such changes in attitudes and motivations, in organizational and institutional structures, in patterns of interactions among individuals, organizations and institutions which form processes subdued to the so-called law of planned, proportional development (compare e.g., Afanasjew, 1976, p. 138). It is emphasized that a "possibility" of a harmonious development is created and the utilization of this possibility is not ensured automatically but depends on the abilities of the society to understand the mechanism of this law and to act accordingly. There is a gradual process of mastering this possibility which involves difficulties and conflicts, but the latter can be resolved as there are no fundamental sources for self-perpetuating controversies within the socio-economic system.

In Afanasjew's (*ibid.* p. 139) words:

> "Societal laws manifest themselves always as the laws of behaviour and action of the masses in concrete specific behaviour of individuals. As a result of interactions among individuals there arises a general tendency, a common ultimate outcome of interactions which forms a law. In pre-socialist formation each individual was acting according to his own goals which were not consistent with general and ultimate outcomes, with an overall tendency and law. As a consequence, there were some spontaneous forces mastering the people. There was no possibility for the society, as a whole, to set a common goal and to mobilize all its members around the task of its implementation.
>
> "In principle there are no inherent conflicts between individual goals in a socialist society and the general outcome. Consequently there is no dominance of any exogenous spontaneous forces but the ultimate outcome can be shaped according to goals previously chosen and planned."

This seems to be the essence of the nature and rationale for national socio-economic planning under socialist conditions.

What this implies is the necessity to strive for an understanding of societal laws, to see them in an interdimensional framework, to consider national, system-wide planning and control as a major, organizing and co-ordinating force used to integrate intrasystemic actions around the tasks of implementing societal goals.

The abilities and capacities to form and implement national planning are not exogenously given, they have to be attained in a laborious historical process. Neither can it be expected that an ideal, ahistorical prescription would be available for a final pattern of all procedures, informational and decision-making, and the regulatory processes involved. There are certain specific conditions and reasons which may justify a specific sequence of stages in which relative priorities are given to different dimensions of development, to different types of interlevel ties,

in planning and control, to different methods and techniques used in informational and decision-making procedures.[11]

As a consequence there is a gradual learning process which proceeds in particular countries in a manner similar in its fundamental features and is characterized in its recent stage by the following developments.[12]

(a) Interdimensional links are brought more explicitly into an analytical and procedural framework of national planning (Pajestka (1975), Secomski (1977), Czyzowska (1975), Fiederenko (1974), Szatalin (1976))[13].

(b) A growing emphasis is placed on medium- and long-term planning within the context of respective roles and functions of strategic and tactical planning as the background for operational planning and control (e.g., Fiederenko (1976), Secomski (1977), Porwit (1976), Hetenyi (1976)).

(c) There is a growing comprehension of the fact that the quality and validity of planistic procedures depend very much on the availability of corresponding analytical, diagnostic studies as well as future-oriented prognostic studies (Secomski (1971), (1977), Kiriczenko (1974), Danecki (1974),[14] Czyzowska (1975).

(d) The framework of national planning, especially in its short- and medium-term operational aspects, becomes gradually more explicitly connected with self-regulatory mechanisms characteristic of current planning and management, in particular of micro-organizations, and horizontal ties among them. This is done mainly in terms of economic and financial mechanisms in the

11) It would lead us beyond the scope of this review to discuss such conditions and reasons in detail. They are mainly related to the following fields: (a) state level and structure of the economic potential; (b) external international conditions; (c) the extent to which the socialist modes of production have matured and are influencing consciousness and attitudes of society members; (d) educational and cultural factors; (e) qualifications, skills and technnical capacities in the field of information processes.

12) In what follows we shall indicate only certain more relevant and general directions, refraining from a discussion of particular issues involved as well as of some different views expressed and approaches adopted in respective countries. Such a discussion will perhaps be useful at a later stage as it will help to analyze more concrete problems.

13) According to the intention explained in the preceding footnote, we are indicating only some representative references.

14) This is only one of the series of publications by the Committee "Poland 2000" of the Polish Academy of Sciences. It should be added that most of the official methodological instructions issued in the socialist countries in respect to central-planning procedures indicate specific analytical and prognostic studies expected to form the background to respective proposals formed within planistic procedures. This is a principal way of linking scientific research and academic institutions more directly with those engaged in planning procedures.

sense of a planned influence on corresponding parameters and normatives regulating behaviour of economic organizations (prices, wages, credit and related interest, taxes, rules for repartition and utilization of profits, etc.) as well as in terms of selected output, sales targets, and/or allocations of resources (Glinski (1975), Kubiczek (1976), Morva (1975), Porwit (1975)).

(e) Social-planning aspects are introduced not only in considerations of intersectoral and sectoral proportions of development but also – to a large extent – in spatial and regional planning, and furthermore, in terms of comprehensive socio-economic development plans related to enterprises and their respective work collectives (Pajestka (1975), Przeciszewski (1976), Rajkiewicz (1973), Miedwiediew (1976), Mikulski (1976), Secomski (1977)).

(f) Much emphasis is placed on improvement of procedural and technological aspects of planning, in two interrelated directions: development and use of various mathematical models, and of computerized data-processing and information-producing techniques (Majminas (1971), (1974), Aganbegian et al. (1972), Fiedorenko (1975), Augustinovics (1975), Gluszkow (1975), Dabkowski (1976)).

2. A general pattern of planning procedures

Notwithstanding essential differences in the nature of national planning between developed market and centrally planned economies, there are certain relatively similar aspects which pertain to the formal structure of planning procedures. Such aspects may be relevant for this review as they are directly related to information demand and supply. This is where indicators explicitly enter the field of planning.

As a rule planning involves choices to be made in respect to:

(a) the composition of goals and objectives;

(b) the manner in which available capacities will be utilized in order to attain the objectives, which involves deployment of resources within existing constraints; and

(c) the conditions which should be formed or reshaped in order to implement actions leading to objectives.[15]

A process of choice has to be adequately organized by means of corresponding

15) Ackoff (1975, p. 29–30), specifies the following five phases of interdependent planning activities: (a) ends planning; (b) means planning; (c) resource planning; (d) organizational planning; (e) implementation and control planning.

models, procedures and computational algorithms. However, in national planning, the subject matter is far too complex to be covered by any comprehensive model, algorithms and predetermined set of formally interlinked procedures. Using terms suggested by M. Mesarovic (1973) one is inclined rather to see the structure of national planning as a stratified one. In this sense, the following types of strata can be specified, each of them corresponding to a different kind of issue and employing different kinds of language and procedure.[16]

(a) The first is devoted to sources and premises for evaluation criteria and functions; here normative value judgements are formed and used to assess the aims and goals and their relative priorities.

(b) The second deals with quantifiable objectives and targets, their identification and a tentative appraisal of their feasibility; here the basis is formed for comprehensive efficiency evaluations.

(c) The third specifies various projects, programmes and policies considered necessary from the viewpoint of desired objectives (targets); here there are more detailed feasibility studies wherein the choices are made with evaluation and efficiency critieria derived from the previous two strata.

(d) The fourth involves recognition and analysis of specific conditions expected to be prevailing in respective organizations engaged in implementation of projects, programmes and policies; correspondingly adequate instruments are set and expected to promote more favourable conditions.

The first stratum involves analytical and prognostic studies which form societal consciousness for the whole structure of planning. They are concentrated on human and social aims, on the extent of their comparative urgency in the conditions prevailing in a given society. As a rule, they have to employ various categories identified in languages specific for respective spheres of human and social life and needs. Monetary measurement does play, however, a very important role. Specific threshold levels for the satisfaction of needs are used which represent judgements on minimal, adequate and desirable standards for a given period of time.

Within the second stratum attempts are made to assess the feasibility of certain configurations of objectives from the viewpoint of available flows of final products, goods and services. Investment and intermediate demand as well as exports and imports are taken into account in general comprehensive considerations

16) This approach is discussed in more detail by Czerwinski and Porwit (1977). The notion of a "stratum" denotes a separate type of analyses, forecasts and programming calculations which are performed for a specific purpose in a given phase of planning. The latter term could be used instead of "stratum" with an understanding that the phases are not necessarily distinct in time.

of internal consistency and rational utilization of resources. This is usually done by means of multisectoral models and does not include intrasectoral feasibility and efficiency studies. Nevertheless, important insights can be gained in this manner concerning alternative structural macro-proportions of development (e.g., Dadayan (1975), Almon (1974), Daniel *et al.* (1971), Marciniak (1976)) as well as interrelations between real terms and pricing proportions (e.g. Brody (1970), Kornai (1967), Porwit (1967)). In short-term considerations, emphasis is shifted towards value terms and financial relations, where econometric models are found useful.

The third stratum differs from the previous two in that it deals with partial, subsystemic issues and it considers plans for action in a more literal and direct way (i.e., what should be done, when, where and how?). The scope of such actions considered explicitly within the national plan, as well as their nature, differ depending on the functions national planning is supposed to perform in a given type of socio-economic system. The following subsystemic approaches are usually applied in action-oriented policies, programmes, projects: (a) functional, i.e., related to specific aspects or types of activities, e.g., employment, wages and income, investments, education, etc.; (b) branch-wise; (c) regional; (d) problem-oriented or function-oriented[17], i.e., an interbranch set of activities and projects linked by a common type of final goals. From an operational viewpoint the contents of the third stratum may be considered as the most important. Nevertheless it should be recognized that in order to evaluate practical subsystemic actions and to make adequate choices there is a need for a wider background[18] which is supplied by the first two strata.[19]

Finally, the fourth stratum is needed as it is essential to recognize that planned actions will be implemented if they correspond to actual capacities and motivations of respective organizations, communities, institutions, social groups which are expected to be the actors. This means that the national planners have to look at corresponding issues from the viewpoint of respective "micro-agents" taking into consideration: (a) their inherited capacities; (b) information sets they will be using; (c) motivations expected to influence their behaviour. An analysis of this type may shed some light on conditions promoting convergence between the outcome of respective "micro-actions" and the patterns expected by a national plan. Consequently some measures may be devised and taken towards improvement of such conditions. These measures are manifold: organizational, informational,

17) This term is used by G. Martin (1976) in his analysis of French planning experience.
18) Wider on two counts: of a comprehensive, system-wide scope, and of a longer time horizon.
19) In this context there arises a well-known and much discussed issue of theoretical foundations and practical conditions for partial decisions to be "optimal" in conformance with comprehensive system-wide criteria of optimization (e.g., Kantorovisch (1963), Kornai and Liptak (1965), Heal (1973), Fiedorenko (1975)).

motivation-oriented, etc. It may be a matter of differing opinions whether the latter type of consideration and related procedures should be treated as a part of planning or rather as representing more general managerial functions. According to this author's opinion, there are strong arguments in favour of the former standpoint as there are close links between the questions "what" and "for what purpose" on the one hand and the questions "how", "by whom", "in what conditions" on the other. In this sense, an important concept of "capacitation" postulated within the "Unified Approach to Planning", United Nations (1974), would be considered as an essential attribute of planning rather than a substitute for the latter.[20]

All the strata pertain to dynamically changing processes. Thus they have to be seen as corresponding to a time-axis with particular considerations being related to time horizons of various length. There is a twofold merit to plans concerned with relatively longer time horizons. They help to set in motion programmes demanding longer implementation cycles and simultaneously they provide an anticipatory, future-oriented framework for programmes and projects with relatively shorter gestation periods. In both ways, their essence consists in shaping the near future from the viewpoint of more distant challenges. In this sense, it may be hoped that they would exert a stabilizing influence an control of dynamic development processes.[21] At the same time, one can argue that planning for various time horizons should attempt to evolve, in consecutive time periods, a relatively large "decision potential" allowing for gradual adaptations. By avoiding, as far as possible, premature decisions and by choosing solutions which leave still wider options open, it may be possible to counteract a tendency to perpetuate existing structures.

3. Indicators as information for planning procedures

In the previous section, we were discussing the main types of planning procedures classified from the viewpoint of their contents and of the categories of problems which have to be dealt with in national planning. It will be useful to introduce a still more concise classification which is more directly related to the nature of planistic procedures seen in the light of information processes.

(a) Exploratory procedures are meant to provide information concerning: evaluation criteria, exogenous constraining factors, the range of technologi-

20) Similarly it would be hardly possible to share C. Lindblom's (1975) distinction between "conventional" and "strategic" planning, the former concentrating on objectives and schedules for implementing actions, and the latter on conditions which would make and help particular agents to proceed towards objectives. The issue is not "either/or" but one of linking planning with the whole spectrum of management/control functions.

21) Stabilizing in the sense of ergodic processes (Lange, 1962) in which disturbances and deviations from time-conditioned, consciously devised and changing patterns are subject to control and counteraction.

cal possibilities (in a wide sense of characteristics for technically feasible activities), motivational and institutional conditions influencing behaviour or particular agents and descriptions of statistically probable behaviour.

(b) Normative procedures are meant to devise interlinked patterns of goals (objectives) and schedules for deployment of resources which are considered desirable and controllable. These procedures produce information for agents engaged in implementation of development processes. Such information may be either obligatory or indicative.

(c) Control procedures are meant to identify deviations from the patterns determined by a plan and to set in motion adequate corrective instruments (in order to bring back respective processes to a desired trajectory or, still better, to counteract deviations).

(d) Meta-planning procedures are meant to identify advisable patterns for the future directions for change in institutional and organizational set-ups, as well as procedural patterns of regulation, planning and control within the system, and to design and initiate actions which will promote such changes. Special types of information are needed for these purposes, and the main source of such information comes from the social sciences (including theory, empirical research and forecasts).

Against the background of national planning structures and of the types of procedures, it seems possible to see the following categories of indicators.

(a) "Strategic development indicators" are conceived here as information carriers serving primarily the purposes of exploratory procedures which are linked with the first and second strata of a planning structure. Their function is to form systemic criteria of evaluation and to promote societal awareness in the consciousness of the people involved in planning and policy making, by means of concentrating their attention on cross-dimensional, cross-sectoral, cross-regional, cross-population (see United Nations, 1974) features of development processes. As such they pertain to intertemporal change dealing with challenges, opportunities and obstacles. They are involved then in the perception of human and social aims in close relationships with interlinked economic, social and cultural patterns of conditions which simultaneously contribute to identification and specification of goals and objectives and – at the same time – to the implementation of the latter. In this sense, they have to contribute to an awareness of feedback loops which manifest themselves in such a way that the manner of goals perception does influence societal patterns of a potential "capacitating" goals implementation, whereas the level of capacities and their changes exerts an impact on goals perception and specification.

Looking at strategic development indicators through a time perspective it is possible to see that they may influence the minds of their recipients and users in a twofold manner:

(i) to form evaluation criteria for actions to be undertaken within existing societal mechanisms of the system's functioning; and

(ii) to form awareness of a need to change such mechanisms, i.e., to promote "self-organizing" processes and eventually to contribute to consciously organized "meta-control" (if adequate institutional conditions prevail).

(b) "Normative/planning and policy/indicators" are conceived here as serving primarily the normative procedures related to the third stratum of a planning structure. Indicators of this kind are closely related to an institutional set-up prevailing in a given country. In many cases, they indicate objectives as well as resources linked with specific subjects (institutions, organizations, etc.) charged with a responsibility for implementation. This is not a rule, however, as policy (programme) objectives and instruments may be not specified in respect to separate subjects but may pertain to wider groups of subjects (e.g. in terms of income distribution, pricing, financial and fiscal policies). Contents areas of normative indicators may be similar to those of development indicators but the former are characterized by different features. They are oriented towards intrasystemic actions, being concerned with the questions: what is to be done? how? by whom? when?

Within a full cycle of control there are several functions of normative indicators:

(i) respective agents (public bodies, institutions, organizations) obtain information about systemic conditions and how they are expected to act; and

(ii) planning agencies and administrators of respective policies and programmes get relevant benchmarks, helping them to monitor and assess the performance in implementation.

In this context, there are two interrelated forms of normative indicators in consecutive time periods, i.e., "ex ante" planistic indicators[22] and "ex post" performance indicators.

22) Some of such indicators are related to a notion of norms, i.e., justified and desirable standards; compare United Nations, 1973 a, p. 23–24.

(c) "Indicators of locally specific capacities and behavioural patterns" are relevant for exploratory procedures linked primarily with the fourth stratum of a planning structure. Simultaneously they are important for respective teams of people engaged in field actions, where programmes and policies are implemented.

(d) "Operational control indicators" will have to be taken into account (in the context of our review) if the tasks of systemic planning and control are assumed to include situations in which direct regulatory algorithms are employed. This may be necessary if a programme is designed and implemented which involves many co-operating units and it is important to ensure particular actions be implemented within prescribed time schedules. Should such situations occur then there will be a need to identify deviations between prescribed and actual paths of respective processes in order to counteract them. In such a case, the indicators in question will anticipate and/or register significant deviations, i.e., having an order of magnitude justifying corresponding counteractions.[23]

It may be noted that the four types of indicators function in different types of "regulatory feedback loops" from the viewpoint of time dimensions and of the scope of interactions. In this context, it seems useful to see the following types of loops:

(a) macro-systemic, interdimensional feedback loops which manifest themselves in relatively long time periods[24];

(b) macro-systemic, intradimensional feedback loops (e.g., within the fields of economic, educational, health-protecting activities respectively) which take place in a medium-term perspective;

(c) intrasystemic action-oriented feedback loops taking place within particular subsystems usually within, a medium-term perspective and related to specific subsystemic objectives;

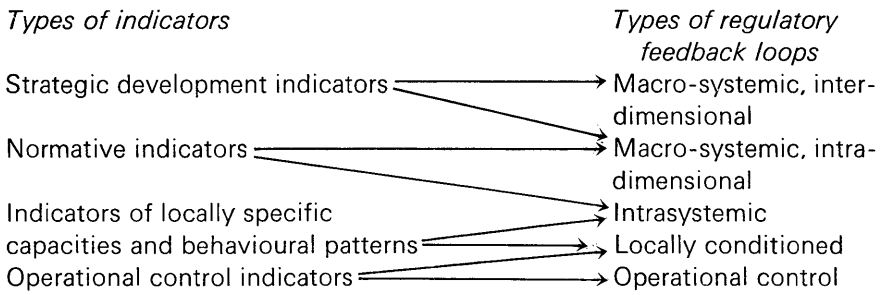
(d) locally conditioned feedback loops which are related to endogenous development capacities of respective micro-units and the possibilities of their efficient utilization; there are various time-cycles involved here; and

23) Usually this will have to be linked with a hierarchical structure of control functions (Beer 1975) which implies that relatively higher levels will filter out such deviations as cannot be tackled by lower levels of control and will concentrate their counteractions in such directions.

24) This is emphasized in United Nations, 1973 a, in connection with the growing interest in long-term planning observed in many countries.

(e) operational control feedback loops which are mainly short-term and are functioning usually at micro-levels, although in certain situations they are also relevant to larger programmes implemented by many interlinked units and subject to hierarchically structured control functions.

It would not be possible to identify a strict (one-to-one) correspondence for particular types of indicators and the types of regulatory feedback loops. Their fields are partly overlapping. Approximately the following scheme can be suggested, the aim of which is to attempt an organizing step towards a proliferating variety of indicators.



There are obvious differences in the manner of perception of regulatory feedback loops in particular types of socio-economic systems and also in particular countries and societies. There are also different conclusions drawn from such a perception in respect to the nature of regulatory mechanisms and to the nature of societal control which can and/or should be exerted. Consequently there are also different interpretations of the meaning, scope and applicability of particular types of planistic procedures. This in turn leads to differences in emphasis being placed on particular types of indicators. Thus it would be meaningless to discuss any ideal set and configuration of indicators. The review offered below does not pretend to include any qualitative judgements and implications of this nature.

3.1 Centrally planned economies

There are three main groups of problems around which the most relevant and important development indicators are clustered.[25]

The first is concerned with the level of living of the population and its particular groups. It includes the following main issues: (a) identification and perception of

25) We shall discuss here mainly indicators defined in the preceding section as development indicators in the area of integration of social and economic aspects of development. It is assumed that characteristics of many specific indicators belonging to other groups and areas of planning do not fall into the scope of this report.

manifold kinds of needs; (b) the extent of their satisfaction; (c) basic conditions formed by the society in order to satisfy the needs.[26]

Within the second, attention is concentrated on specific areas of concern such as: (a) social care for children and youth; (b) education; (c) social care for elderly people; (d) social care for disabled and war victims; (e) development of health protection; (f) housing; (g) satisfaction of cultural and intellectual needs; (h) development of physical culture, tourism and recreational facilities.[27]

The third is related to employment characteristics of the people employed from the viewpoint of their professions, skills, qualifications and types of occupation, to the length of working week and conditions of work. These features are considered in connection with the structural, organizational and technological characteristics of the potential of respective productive branches and those rendering services.

The first of these approaches is primarily directed towards the following cognitive and control functions:

(a) to appraise attained level and structure of consumption in comparison to certain standards or desirable patterns, to set time-conditioned goals and to monitor performance in relation to the goals;

(b) to appraise balancing, demand-supply and conditions necessary for implementation of goals and, consequently, to identify actions needed to prepare a supply corresponding to the demand which expresses the goals;

(c) to analyse distributional characteristics of income according to: source of income, population groups and regions, and to prepare actions corresponding to income creation and redistribution with an aim to form the basis for desirable consumption in conformance to specified equity objectives;

(d) to consider proportions related to the manner of satisfying consumption needs, payable/non-payable, in kind, individual/collective, in order to prepare adequate actions related either to income distribution and redistribution or to the organization of supply channels; and

(e) to consider substitution possibilities in certain fields, from the viewpoints

26) Compare e.g. F. Hronsky 1976.

27) Within each of these areas there is a set of indicators characterizing its various features. A list of such indicators considered to be useful for long-term planning and projections has been agreed upon by a group of experts from the CMEA countries (see Z. Czyzowska 1975, p. 290–299). This list is characterized in more detail in Annex E to Chapter V of this report.

of efficiency and of respective consumers preferences, as well as complementarities, in order to initiate corresponding structural changes in the potential or supply.

All these functions are not related directly to operational programmes, which determine or outline the manner and time schedules for particular implementing actions,[28] but they are meant to form the core of a basic organizing and evaluating stratum for the whole plan. The nature and specification of indicators employed differ according to specific aspects of these functions, as listed above.

At (a) and (b) specific physical and value indicators are used for particular main kinds of goods and services included in consumers' budgets (for respective types of households) and – in aggregates – into the total consumption fund. Simultaneously, specific (usually physical) indicators serve to identify selected symptoms of performance for sectors rendering social services (primarily in kind). In aggregates, money values of outlays for these sectors are taken as proxies.[29]

Important here is the role of specific prognostic development studies prepared for main areas of social needs and related sectors of activities, which form substantial background and basis for composition of comprehensive programmes and plans linking the elements from such areas into a pattern related to particular population groups and regions.[30] Methodical regulations for planning in the GDR specify a number of areas in which scientific research and future-oriented studies should be especially used as a background for planning (*Gesetzblatt der DDR, 1974*), viz: (a) main types of human needs; (b) consumer's demand for main goods and services; (c) sociological aspects of structural changes of the society; (d) housing; (e) living conditions of newly married couples and those with children; (f) living conditions of elderly and disabled persons; (g) family budgets according to social groups; (h) savings processes; (i) time-budgets for work and leisure time; (j) recreation, physical culture, tourism; (k) education, culture, participation in societal activities; (l) health protection and social care; (m) work conditions (safety and health protection aspects).

Standards are used either for selected types of consumption needs (mainly nutrition) or for the whole bundle of goods and service, in the form of the so-called

28) The latter are dealt with by other types of procedures where other kinds of indicators are used.

29) There are individual studies in which imputed prices were used to evaluate and compare a "global welfare index" (comp. Rakowski, 1976).

30) A more detailed account of such studies conducted in Poland presented by Mrs. Z. Czyzowska (1975) pertains to the following areas: demography, education, culture, health, social assistance, social security, leisure time, recreation, tourism, regional development (with a special emphasis on social infrastructure). Specific types of indicators are used in each of these areas.

"reasonable consumers' budgets".[31] The latter are elaborated by research institutes and are meant to represent a composite justified by objective needs of human beings of particular age, living in particular climatic conditions, engaged in particular kinds of occupation, etc. Thus they are considered not directly as representing planned goals,[32] but as forming benchmark patterns for such goals, the latter approaching the former but being constrained by feasibility considerations for a period in question.

Important here is the role of "cross-population" analysis of consumption structure for particular social groups and for households representing various income brackets. This type of analysis (compare L. Beskid, 1974) sheds some light on the issues: (a) how far the differences in consumption and expenditure patterns are conditioned not only by income differentials but also by other factors; (b) how far changes of such patterns registered in time are functions of economic and other factors respectively; (c) what is the share of a relatively "free decision fund" in corresponding types of family budgets.

All these issues are relevant for planning as the consumption patterns envisaged for the future will have to conform to consumers' future decisions. The problem then is to create conditions conducive to rationalization of such decisions and to implementation of equity objectives.[33]

Conclusions are multidirectional: (a) indicating desirable structural and qualitative changes in future supply patterns; (b) relating to income distribution and redistribution; (c) concerning cultural and other motivational factors, which may be subject to indirect influence.

Simultaneously there are two parallel issues subject to analysis in planning[34]: (a) one of them is related to respective weights attached to individual and collective forms (channels) of consumption, in such fields where choice is possible; (b) the other pertains to the relative weights of individual incomes accruing as remuneration for labour and those resulting from distribution of the social consumption fund (the latter being based on premises of social security and equity of opportunities, and taking the form of money payments or benefits in kind). The criteria for analysis and solutions for these issues differ. In the first case, they are related to individual and social motivations attached to the manner of satisfaction of needs as well as to relative merits from the viewpoint of perception of needs and access to their satisfaction. In the second case, this is the issue of

31) See "Standard of living indicators" paper by the Economic Research Institute of the USSR State Planning Commission (in United Nations, 1973 a).
32) A notion of "planned consumers' budget" is used. Compare W. F. Maier, (1976) for planned goals related to respective periods.
33) These problems are discussed in the paper presented by the Hungarian Economic Planning Institute in United Nations, 1973 a, p. 88–91.
34) Compare M. Pohorille 1975.

sources and forms of titles which give individuals direct rights to claim their share in consumption, to be realized either in individual or collective manner.

In all the aspects discussed so far, there is a very important feature of planning, i.e. the manner in which options for choice are formed, evaluated and in which criteria for making the choices are gathered and transformed into policies. There are three interrelated channels serving for implementation of such processes, each of them having different properties and consequently using also different kinds of indicators.

The first is based on specialized scientific research; it involves relatively more specific, "technical" sets of categories, analytical tools and, also, corresponding indicators. Its basic tasks are to form a background for identification of issues and corresponding conditions and parameters for possible options.

The second pertains to public-planning agencies (central and regional) where the attention is concentrated mainly on interconnections among the elements of respective various issues from the viewpoints of relative proportions as well as comprehensive feasibility studies, which include also some over-all efficiency aspects.[35] Implications of respective options are subject to analysis made in terms of planistic categories and related indicators, whereas some relevant issues for choice, considered as feasible from the comprehensive viewpoint, are formulated in terms suitable for consideration by the general public, by respective party organizations, the trade unions, collectives of workers in particular enterprises, especially relatively big plants and by representatives of the people in respective regional "People's Councils".

Popular discussions[36] of the issues involved, opinions expressed and suggestions made, form the third channel of the processes of choice, which exerts a feedback influence on ultimate formation of respective parts of the plan.

Basic aggregate indicators for "level of living" planning form a separate, substantial part of the whole plan structure. Thus a corrsponding chapter in the "Methodical rules for the construction of national plans for the development of national economy in the USSR"[37] includes the following types of accounts.

(a) A global analysis of variants for the increments of consumption and personal incomes corresponding to variants of feasible supply of goods and service; total feasible increments are analysed in respective parts related to:

    (i) a growing demand in conditions of the base period; and

35) We comment below on the nature of the latter.
36) Compare e.g., M. Kabaj in United Nations, 1973 a.
37) *Gosplan USSR* (State Planning Commission of the USSR) 1974, p. 451–490.

(ii) particular main measures to be undertaken in order to improve these conditions (raising of minimum wages and pensions, decrease of taxes and retail prices, etc.).

(b) Balancing accounts which confront money income of the population (accruing from various sources, separately listed) with expenditures, being the sum of various items (such accounts are made in aggregates related to the population of the whole Union, for particular republics and regions, as well as for main social groups).

(c) Accounts of the population's real income.

(d) Planning of social consumption funds from the viewpoint of their destination and sources of financing.[38]

(e) Planning of services.

(f) Comprehensive accounts for consumers' budgets (related to balancing accounts as under item (b)).

(g) Comprehensive accounts for the consumption of goods and services (related to individual income and to social funds).[39]

Of great importance is the role of sociological research concerned with the class structure of the society and especially with the sociological problems of the working class (comp. J. Szczepanski (1971)) which fall within the scope of the following four fields of research, concerned respectively with: (a) individual workers as members of the class; (b) the class as a whole; (c) its relations to other classes, strata and social groups; (d) the role of workers and the working class in the functioning of the State, the economy and in other institutional structures.

Sociological research of this kind serves as a basis for prognostic studies of social development which, in turn, from an essential reference plane for development programmes and plans. These problems are discussed in more detail by Kirischenko (1974) who makes an observation that social prognostic studies have a comparatively shorter tradition than those dealing with demographic problems, with natural resources and with changes in science and technology. This observation does not apply, however, to aspects of social development which pertain to material needs of the population, to demand and supply for consumers' goods and services and to income distribution, aspects which have been built for a longer

38) Various types of activities are considered as related to the fields of (a) education; (b) universities and professional training; (c) health and recreation; (d) social care for elderly and disabled persons; (e) cultural facilities.

39) The elements of functions listed above under (iii) and (iv) are included into such accounts.

time into the framework of economic planning and forecasting. Kirischenko points out the following two, comparatively more recent, lines of development studies: (a) one concerned with the class structure and other stratification aspects within the society, as well as with related factors which cause diversity in the patterns of life and work conditions; (b) the other related to the concept of the socialist way of life and to the paths of its achievement. Discussing the first of these lines, Kirischenko refers directly to the issues of Szczepanski's study; he shows also their close linkage to the second line of studies which concentrates attention on the satisfaction of material and non-material human needs, corresponding to all the aspects of human nature and encompassed by the notion of "the socialist way of life". The following kinds of problems are tackled in this context in relation to particular social groups in respective regions, and with consideration of specific conditions of urban and rural areas: (a) housing; (b) availability of consumers' durables satisfying cultural needs within the households; (c) development of collective services and other facilities aimed at the satisfaction of cultural needs; (d) development of other services in all the respective sectors; (e) conditions promoting a wider participation of people in societal activities in their economic and socio-political aspects; (f) time budgets and utilization of time free from work.

From the viewpoint of measurements and indicators used, the following approaches are mentioned:

(a) pertaining to specific and differentiated effects in respective fields of human needs (effect indicators in such fields as housing, education, nutrition, health, etc.);

(b) concerned with a comprehensive treatment of the means for the satisfaction of needs for respective social groups (the so-called reasonable, rational consumers' budgets are developed and used in this context);

(c) calculations of final demand which are linked to economic development models and which are related to differentiated types of consumers with corresponding coefficients reflecting their demand patterns; and

(d) related to the development of the economic potential in respective branch sectors and involving the allocation of resources (in terms of labour, capital and material inputs).

In this way, linkages are introduced both to aggregate national accounts and to those based on structural, input-output models. The latter form a way to consider certain derived indicators in terms of full input coefficients of primary inputs in relation to particular elements of the final demand. This in turn allows the estimation of approximate values for "accounting prices" and their intersectoral proportions. The latter are useful in analyses concerned with substitution possibilities

as well as with other consequences of partial, intersectoral and intrasectoral, structural changes. This helps to introduce criteria of societal economic effectiveness.[40] Such considerations cannot lead to conclusions that final demand structures should be tailored according to short-term criteria of effectiveness, but they indicate directions for twofold future-oriented actions: (a) to concentrate attention on possible increases of efficiency in final demand components which are expected to gain in relative share and importance; (b) to look for such ways of influencing conditions and forming final demand structures as will relatively decrease[41] the weight of components with especially unfavourable efficiency prospects.

These kinds of derived, indirect indicators seem to be essential from the viewpoint of the economic potential of the system and its development as the basic conditions for implementation of human and social development aims and corresponding policies and programmes.[42]

One may note however that the intersectoral framework is too rigid to elucidate certain relevant dependencies between socially oriented goals and the capacities needed to attain them. Consequently there is a growing emphasis on utilization of goal-oriented intersectoral programmes, which involve networks of interrelated measures and projects. Essays are made to identify, on this basis, critical resources a rational utilization of which (in the consecutive time periods) becomes of crucial importance for the implementation of these programmes (comp. Gluschkov 1975). H. Koziolek (1976) presented the experiences gained in the GDR in the field of comprehensive programmes concerned with basic areas of human needs. Thus, e.g., in the case of a housing programme the comprehensive approach means the following: (a) within the set of final goals for this programme there is a comprehensive treatment of various types of dwellings, as well as pensioners' and nursing homes which correspond to the apprehension of the pattern of needs in particular regions and in respect of population groups; (b) this is linked to such facilities as medical, schooling and preschooling, sports, etc., and also to the network of services such as retail trade, household services, catering, social and cultural centres, etc.; (c) the set of interrelated goals is connected in turn with basic implementation subsets, i.e., (i) construction activities with related problems of energy and water supply, transport and communication, etc.; (ii) the activities in industrial branches expected to procure supplies; (iii) related measures in the fields of management, planning, organization, personnel training, etc.

40) For a more detailed discussion of these approaches, see e.g. K., Porwit 1967, 1969.

41) Obviously within constraints which follow from the primordial role of non-economic structural factors.

42) We are considering here the simplest types of approaches, relatively the easiest for practical use. There are numerous theoretical studies and related attempts at empirical research which tackle these issues in a more complex manner. Their review would lead us however beyond the scope of this report. A. Brody's 1970 work may be quoted as one example.

Referring to Polish experiences, one can add that there are also important issues of linking the above listed aspects of a housing programme with the channels of financing as well as of the economic mechanism in this field (including specialized savings accounts, bank credit, rents, etc.). There are also relevant urbanistic aspects related both to the criteria for economic efficiency,[43] and to the cultural and socio-psychological implications of urban structures in respect of the way of life of the inhabitants.[44]

Employment problems are treated from three viewpoints[45] i.e., (a) as the factor of economic growth; (b) as the main source of income; (c) as the realization of the constitutional right to work and an important context in which human aspirations are fulfilled.

The principle of full employment is basic to all the countries under discussion; as such it has been implemented in practice. A growing emphasis is given to the objective of full and rational employment,[46] the latter being understood as the full and efficient utilization of labour resources, their adequate allocation in view of professional skills and the aspirations of the people involved.

The indicators used in this field reflect the following main processes and their interactions:

(a) the growth of labour resources depending on: (i) demographic factors; (ii) changes in the share of professionally active population; (iii) shifts from agricultural to other occupations; (iv) qualitative changes resulting from education and training; (v) changes in the length of work-week;

(b) sectoral demand for labour related to output and productivity indicators, the latter being considered in correspondence with the indicators of capital intensity of labour inputs (i.e. capital/labour ratios);

(c) demand and supply for highly trained specialists of respective professions, related to the development of corresponding educational and training facilities;

(d) interactions between changes in the number of the professionally active population and corresponding lines of social policy (related to family allow-

43) These criteria influence views on the desirable size of towns by taking into account non-linear threshold relations between certain social costs and the size of the towns. (See e.g., M. Malisz and J. Zurkowski (1971)).
44) These aspects were emphasized by J. Gorynski (1974).
45) Compare, e.g., an analysis of these aspects and of the manner in which they are considered in planning in Poland presented by M. Kabaj (1974).
46) Compare also L. S. Diegtiar (1976).

ances, maternity leaves, various facilities related to child-care, the duration of education, etc.); and

(e) interactions between the changes in labour productivity and wages (their levels and structures), as well as the indirect influence of income and consumption growth and distribution.

Most of these phenomena have to be considered in respect to particular regions, (as previously outlined problems related to various aspects of the level-of-living). This is expressed in the areas of development planning related to spatial (regional) proportions, which are subject to the goals of equalization of relative level of living conditions for the population of particular regions, and to creating opportunities for further progress. In this context, the elements of economic (material) potential are closely linked to development patterns for human settlements (towns of various sizes, rural settlements) and the related locations of the developing social infrastructure.[47]

Although we are dealing in this report mainly with national (system-wide) planning, we should nevertheless note that there is a widening concern for integrated socio-economic planning at the enterprise level which includes actions grouped into the following four main parts:[48]

(a) changes in the social and occupational structure of the work crew;

(b) improvements in work conditions and in health-protection measures;

(c) changes in the wage-rates, the use of bonuses and the utilization of social funds accumulated at the enterprise level, improvement of housing conditions and of social services; and

(d) changes in motivations and attitudes, in socio-psychological relations.

Summing up the approaches to socio-economic planning in the centrally planned economies, as well as to corresponding research activities, and to the scope and

47) See S. M. Zawadzki (1974), Z. Czyzowska (1975) for a discussion of interconnections between general socio-economic and spatial planning; see also United Nations (1970) p. 121–134.

48) See e.g. T. Przeciszewski (1976). Some experiences in that field in the USSR are discussed in a volume edited by W. A. Miedwiediew (1976). Methodical regulations on planning in the GDR (*Gesetzblatt der DDR, 1974*) indicate the following aspects of social planning at an enterprise level: (a) rational conditions of work; (b) health care; (c) social assistance, (d) cultural services; (e) child care; (f) recreation and vacation facilities; (g) housing conditions; (g) rotation of the crew. There is also an emphasis on linkages between social planning and action at an enterprise level on the one hand and at a micro-regional (territorial) level on the other.

nature of indicators used in these contexts, one should point out the following three simultaneous streams of activities.

(a) The first consists of planning and implementing actions with relatively short-term (or medium-short) time horizons. Although it is important they conform to the pattern of societal aims and objectives, they are nevertheless influenced by various constraints and other conditions prevailing in a given time period. Consequently there is relatively less room for considerations of major programmes and projects in that context. In this perspective it is hardly possible to undertake wider-reaching structural transformations of an economic and social nature. On the other hand, it is essential to plan and implement such actions with a direct and full participation of respective micro-agents, i.e. the people, organizations and institutions directly involved. To this category belong all the decisions and actions concerning current production and distribution of goods and services, as well as adaptive transformations of capacities in respective economic branches and sectors of social services. Higher levels of central and regional government are concerned with planning and with influencing certain general proportions, and in this context they need respective indicators, usually aggregate in their scope and nature. The research and analysis, as well as planning and monitoring, must concentrate, however, on various locally conditioned features of the processes under consideration. Such activities are predominantly located in corresponding lower-level organizations and institutions directly involved in the issues in question.

(b) The second category of planning activities is concerned with structural, economic and social transformations seen in their medium-term (and long-medium) perspective. These actions can and should be planned with an explicit consideration of the goals derived from the pattern of societal objectives chosen for a given stage of the socio-economic development of the whole system. The structural transformations, when implemented, will shape the conditions for the current activities discussed above. In this sense, they are reached in consultation with the people, organizations and institutions at the respective lower (micro and/or local) levels. Nevertheless it is essential that they be analyzed and decided upon within a comprehensive framework, i.e. at the central level (for basic intersectoral and interregional transformations) or at the level of wider, sectoral and macro-regional, planning institutions. Operationally this category of planning activities deals primarily with manifold aspects of investment, conceived in a large sense, i.e. related to quantitative and qualitative changes in human, material and informational capacities. If these aspects are to be considered in a comprehensive manner they must be nevertheless linked to many other features, especially to the patterns of societal objectives as well as to environmental and technological factors. One of the important view-

points is that of the spatial distribution of human settlements, of productive capacities and of the infrastructure (social and technical alike). It is essential that planning activities of this kind be based on research, on analytical and prognostic studies done not from the viewpoint of locally determined, sectoral premises, but from a wider perspective, from the viewpoint both of the scope of interlinked processes and of the time horizon. The language applicable to such an approach, and also the nature of indicators used in assessment and choice, must differ from that pertaining to relatively short-term and lower-level operations. The studies of this kind are performed not only in governmental agencies and institutions (central and regional) directly charged with responsibility for planning, but to a large extent in specialized research institutes (which act within the institutional framework of corresponding ministries, of the National Academies of Science (in respective countries) and also of the universities).

(c) Finally, there is the third category of future-oriented activities concerned with long-term structural, quantitative and especially qualitative, transformations which are related mainly to such aspects of socio-economic development as: (i) structural changes within the society seen from the viewpoints of social classes, strata and groups; (ii) material and non-material features characterizing the way of life of the society, and its groups, as well as relevant factors for the achievement of objectives identified with the notion of the socialist way of life; (iii) socio-political, institutional and informational aspects of the processes characteristic for the development stage in which the mature socialist society is formed and strengthened; (iv) economic, technological and environmental factors seen from the viewpoint of their relevance to the above-mentioned processes.

The activities falling within the scope of this category do not involve planning procedures in a more direct, i.e. decision-making and action-oriented, sense. These are rather the studies concerned with the options and challenges of the future but done in a way which would enable them to be used as an important background and source of inspiration for strategic planning considerations. The latter will be partly specified in terms of long-term plans and will form an institutional link with the second category of planning activities outlined above.

The nature of these long-term studies predisposes them to be dealt with in a system-wide context; consequently they are predominantly linked to central planning institutions (involving however a wide network of research bodies).

3.2 Developed market economies

As is well-known, since 1945 economic planning at the national (system-wide) level has been gradually introduced in many developed market economies, al-

though with marked differences in scope and in approach to its functions as well as in its institutional and procedural aspects. In a report on "Economic Planning in Europe" prepared by the Secretariat of the ECE (United Nations, 1965) the opinion was expressed that: ". . . in the market economies of western Europe the gradual acceptance of the idea of economic planning is the product of the convergence of four important trends in economic thinking and policies" (p. 1), which were identified as:

(a) ". . . gradual adoption of a global view of the economy, thanks to the considerable progress made by macro-economic theory and analysis, and its practical applications in national accounting, input-output analysis and projection techniques" (*ibid.*, p. 1);

(b) ". . . gradual recognition of the need for a more active role of the government" (*ibid.*, p.1) identified with the perception of deficiencies of the market mechanisms;

(c) a trend which ". . . concerns the growing preoccupation with long-term objectives" (*ibid.*, p.2) which results from the viewpoint that market deficiencies manifest themselves primarily in the fields of long-term investment decisions and in the sectors assumed traditionally to fall into the scope of the "public sector" of the economy; and

(d) a trend, observable in several countries ". . . towards widening participation in the shaping of medium- and long-term economic policies" (*ibid.*, p.2) which has two aspects: one more political and psychological, the other more operational, i.e., meant to solicit consensus and co-operation from various agents involved in the implementation of policies envisaged and adopted in plans.

According to the same report (p.2),

> "Logically, 'economic planning' in a predominantly market economy could be defined as a process in which, as a minimum, attempts are made:
>
> (a) to establish the major objectives of economic policy and to indicate their relative priorities;
>
> (b) to translate these objectives, as far as possible, into a complex of explicit, and consistent, quantitative targets for economic development over a stated period . . .
>
> (c) to select and apply, as necessary, in the light of the results of (b) and of

the social and economic structure of the country, measures designed to achieve these plan targets and policy objectives."

In discussion about the nature of objectives, a distinction is made (*ibid.*, Chapter II) between the ultimate aims (such as full employment, more equitable income distribution, rapid rate of growth of national income) and certain "second order" goals or targets of a more instrumental character. The aims are few and they are usually declared in a similar manner. Thus, e.g. in Jan Tinbergen's study on "Central Planning" (J, Tinbergen, 1964). it was found that France, Japan, the Netherlands and Norway[49] identified a similar list of six main aims of economic policy of the government (*op. cit.*, p. 118):

(a) to increase national income;
(b) to improve the employment situation;
(c) to achieve and maintain balance of payment equilibrium;
(d) to achieve and maintain price stability;[50]
(e) to obtain a more equal distribution of income between individuals; and
(f) to obtain a balanced regional economic development.

The process of translating ultimate aims into objectives and targets, as well as of identifying and setting corresponding policy instruments and measures for achievement of targets, seems to be much more diversified. This results presumably from different perceptions of the nature and scope and of the extent of possibility and desirability for "the active role of the government" in relation to spontaneous, self-regulatory market mechanisms.

Consequently the "second order" objectives, and instruments for their implementation, vary within a wide spectrum of approaches, between those based mainly on macro-variables and their interrelations[51] and those involving much more detailed intersectoral and interregional relations.[52]

In the United Nations (1965) report an observation was made that "two broadly distinct approaches can be identified" (Chapter III):

"The first approach which is essentially an outgrowth of national budgeting

49) These were the developed market economies covered by the report.
50) In Norway aims (c) and (d) were formulated somewhat differently—i.e., prevention of inflation, long-term external balance of the economy. A seventh aim was formulated in France: "To produce resources for aid to under-developed countries" and in Japan: "To achieve economic self-support."
51) See e.g., K. Sato (1972) "Applications of macro-economic models in national planning and projections."
52) See e.g. descriptions of French experiences in United Nations (1970), P. Dubois (1972), C. Seibel (1975), R. Courbis (1975).

procedures and has been developed mainly by the Dutch planners, conceives of the plan as a technique for policy making in respect of the principal aggregates of the economy, chiefly serving the purpose of maintaining a high level of activity."

"The second approach of which French planning is particularly representative . . . aims at the achievement of predefined structural changes, with sustained long-term economic growth as its ultimate object" and further: ". . . in contrast with the first approach,[53] the formulation of policies for key sectors of the economy represents an important feature of the planning process."

It can be argued that social aims and policies are clearly implied by the notions and variables used within the framework of economic planning and that the indicators corresponding to economic development are also relevant for social aspects of development. There is no reason to question the relevance of economic indicators. However, there is a growing concern about more specified patterns of societal structures and interactions which cannot be expressed in terms of economic planning and its indicators, so that the performance planned and reported in these terms can have very different meanings from the viewpoints of the structural and distributional characteristics of the socio-economic system.

Such issues have been tackled most extensively in the field of "public sector", especially related to government expenditure (central and local alike) concerned with social sectors (education, health, housing, social security) and with certain problem areas (the elderly, the environment).[54] Within this context, one can consider planning in this field as supplementing the basic area of economic development, and as being mainly concerned with economically rational utilization of resources devoted to such purposes through governmental funds and actions. Such methodical approaches as the "planning-programming-budgeting system" in the USA[55] and cost-benefit or structural cost-benefit techniques[56] were developed and used. The use of "standards" is widely accepted.[57] Some of such standards have an operational importance, being minimum-standard norms which are used to define where and when State help should be

53) Judging from the Netherlands note on "Medium-term planning model and consultations" (United Nations, 1970) sectoral approaches were gaining in importance in that country. Nevertheless the differences between the two types of approaches seem to be prevailing, especially if one takes into consideration other developed market economies, which seem to enter, more or less, the path characterized by the first approach.

54) See United Nations 1973 a, p. 20.

55) See United Nations 1970, p. 151–164.

56) See the review by A. O. Anderson in United Nations 1973 a, p. 73.

57) According to Anderson, *ibid.*, p. 68, "Social planning is thus normally built on a chain of standards of a technical, institutional or political character."

unblocked.[58] There is much emphasis on regional characteristics of the issues involved, on the important role of local government and on the manner in which central government controls local actions, mainly by means of grants and of indirect control of borrowing from the capital market.[59] Important in that context is the legal status which defines the obligations of respective public bodies to render services and other benefits to specific kinds of beneficiaries.[60]

In all such approaches, notwithstanding their practical importance, the issues of social planning and of its integration within the whole planning framework are treated in a somewhat limited and one-sided manner. They seem to "fill the gaps" which cannot be tackled by the economic mechanism, the latter being considered as the predominant one. Within this framework there is not much room for feedback loops between economic and non-economic aspects of development, nor for deriving explicit policy implications from comprehensive socio-economic considerations (with an emphasis on social or societal aspects).

Some steps have been made in several countries in the direction of overcoming these difficulties. According to the review by Mrs. G. Girardeau (United Nations, 1973 a, p. 25–28) they are of the following nature:

(a) balance sheets are drawn up to show the beneficiaries of public and private activities, i.e. respective socio-professional or income groups;[61]

(b) satellite accounts are made which attempt to describe in schematic form, or in a consolidated table, the mechanisms of objectives, production, costs, distribution and financing related to particular fields and to corresponding institutions;[62] and

(c) social indicators are constructed and linked with planning; they cover two quite different approaches, as

> "The first is directed towards the preparation of reports on the social situation (social surveys); while the second involves using the social indicators as substitutes for more detailed research either in particular

58) See Mrs. C. Girardeau (United Nations, 1973 a, p. 24), who gives as examples: French norms for low-cost housing loans and Swedish norms for income or pension.
59) The mechanism in this field is analysed e.g. in a paper submitted by the United Kingdom on "Control by the central government of local authorities expenditure" (United Nations, 1970, p. 113–120).
60) See the above-mentioned paper and also the paper related to the needs of the aged, submitted by Denmark (United Nations, 1973 a, p. 154–171).
61) Scandinavian countries are cited as those where this approach, long used in eastern Europe, was introduced.
62) Examples from France and Finland are cited.

fields or in general on the deeply rooted mechanisms of development."

From the viewpoint of planning, there are no clear-cut demarcation lines between social indicators and some of the indicators (or standards, or norms) used in the previously discussed approaches. Some of the social indicators may correspond to indicators used explicitly in planning and in monitoring performance of planned targets and actions, others may not.

In general, it seems that the extent and scope of social surveys show that the aims of social indicators are not identified with those of social planning.[63] At least not directly and explicitly, as it may be argued that they are meant to create a general background for perception of issues of relevant social concern. Attempts to reshape and to supplement the framework of national economic planning, in such a manner that social aims would explicitly influence comprehensive socio-economic policies, have been started in France (compare G. Martin 1976) but have proved to be quite difficult in implementation.

Within the framework of the Sixth Plan (1971–75) two major approaches were attempted: one concentrating on chosen "target population groups", the second on function-oriented planning related to the so-called "collective functions" (being outside the scope of the market and therefore subject to guidance and regulation by means of plan instruments). In the first of these areas indicators were devised to describe the following features: (a) average situation of a given target population group in comparison with the averages for the total population, e.g.,employment rate, income, housing and working conditions; (b) the fraction of a given group below certain threshold standards in respect to relevant elements of living conditions; (c) disparities between members of the same group with regard to one aspect of their situation. It seems there were difficulties, in this area, in identifying and scheduling dynamic processes of action which would link objectives with the means of achieving them. (The objectives were related to the aim of lessening potential tensions among groups and within them.)

In the area of collective functions there was an intent to devise and use indicators related to "ultimate aims" in respective fields of collective functions, and moreover, to basic objectives and the means of their implementation. The tasks proved to be too complex to be mastered by the planners who "went too far and fast in their assumptions" (G. Martin, op.cit.).

Consequently, a policy was decided upon of proceeding farther in two parallel

63) Such surveys are published in most of the developed countries. Extensive studies directed towards improvements in their coverage and quality are underway in the OECD. According to G. Martin (1976) social reports provide some implications for policies and State action, but they are not directly linked to planning efforts.

lines: (a) to include more social concerns in economic models and tools (economic aspects being considered then as the "hard core"); (b) to develop more systematically, on the basis of wider research, a more systematic grid of indicators linked to planistic procedures.[64]

It seems there are two basic types of indicators and their interconnections, one of which is relatively easier and the other, more difficult to handle. The first pertains to means and results (outputs) of certain administrative actions, where the interconnections are meant to reflect an internal efficiency of a given action. The other attempts to express "social states" and the interconnections between output flows and state indicators.

According to another study by G. Martin (1976 b) there are still two major difficulties in closing open linkages on the way to more integrated socio-economic planning: it is difficult to identify the impact of exogenous social conditions on the contents of economic models; and, on the other hand, difficult to identify implicit social consequences of actions generated by economic models and policies.

According to C. Seibel (1975) there are twofold difficulties: those related to political will and determination on the one hand, and methodological, procedural difficulties on the other.

In his words:

> "French planning has always accorded a privileged position to production, and economic growth has been one of its main themes. Can the planners now reverse their customary order of priorities? And if so, will they be able to make these new aims acceptable to the ruling classes of French society and will it all lead to appropriate political choices?" (*op.cit.*, p.179)

Similar notes, although from a different position, are struck in R. Komiya's (1975) paper "Planning in Japan", where the role of national plans is questioned[65], with an emphasis placed on the importance of industrial policies based on co-operation between respective governmental agencies and private companies.

Finally, one should give attention to some important lines of research being done in developed market economies. They seem to be related to certain fundamental concepts underlying the perceptions of the nature of planning and its functions. According to A. E. Anderson (1973 a):

64) More recent developments in this field, in France and some other developed market economies, are covered in Chapter VI written by Mrs. Nancy Baster.

65) As is that of forecasts without much operational bearing.

"A deeper form of integration or unification of social and economic planning does not seem possible, until the economic planners have been accustomed to the concept of needs and until they have broadened the concepts of resources to include all aspects of human capital, including decisional capacity.

"A corresponding focus on the resource concept and a more complete analysis of the relations between needs and preferences seems on the other hand to be needed, if social planning should get in balance with economic planning within an integrated or unified societal planning." (p.61)

It is argued in the same source that indicators related to inequalities and the so-called "welfare controlling factors" should not be limited to income distribution aspects, as of paramount importance are inequalities in the distribution of more fundamental resources and decisional power.

A wide research programme has been developed in France, the aims of which were formulated as follows:[66]

(a) to develop the theory of social model-building (it is based on the "social reproduction" concept);

(b) to arrive at an understanding, in each field studied, of the conditions and sources of social change, and to define the role of government policy makers in that process; and

(c) to fashion tools for use in devising medium-term policies.

The research is based on the premises of a systems approach[67] which offers possibilities of tracing relevant interrelations and interactions, and, in this way, forming a better background for constructing relevant and valid indicators.[68] There must be, usually, a learning process involved as, at the start, the structures

66) See the paper on "The methodology of the analysis of various social problems" by the French Commissariate Général du Plan d'Equipment et de la Productivité," United Nations, 1973 a, p. 133–135.

67) Which corresponds, it seems, to the analytical framework outlined in Chapter 2 of this report.

68) This is important in view of the intention that indicators should be able to express indirectly a number of quantitative and qualitative features of the field in question. According to the French source (*ibid*, p. 135–136): "The indicator is the direct numerical expression of a quantifiable and variable phenomenon, the evolution of which takes account of the evolution of another phenomenon which is not quantifiable, but which it is desired to express numerically. The second phenomenon . . . is associated with several other . . . quantifiable variables, and hence with several indicators.
The crucial is the problem of identification of the structure of a given area, which helps in a choice of correct indicators."

of interdimensional interactions in a given field are not known. Hypotheses have to be made and subsequently checked, which eventually may lead to a deeper understanding of the field and its indicators.[69]

The need for a wider, systemic approach to planning was clearly recognized in "The Bellagio Declaration on Planning" agreed on by the participants of the OECD Working Symposium on Long-Range Forecasting and Planning in 1968 (E. Jantsch (1969)) where the following statements can be found:

> "The need for planning is not generally recognized. Further, the pursuance of orthodox planning is quite insufficient, in that it seldom does more than touch a system through changes of the variables. Planning must be concerned with the structural design of the system itself and involved in the formation of policy. Mere modification of policies already proved to be inadequate will not result in what is right. Science in planning today is too often used to make situations which are inherently bad, more efficiently bad.
>
> "The need is to plan systems as a whole, to understand the totality of factors involved and to intervene in the structural design to achieve more integrated operation. All large, complex systems are capable of some degree of self-adaptation. But in the face of immense technological, political, social and economic stresses, they will have to develop new structures. This can easily lead to grave social disturbances if the adaptation is not deliberately planned, but merely allowed to happen."

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69) This process is analyzed in more detail by J. Sutherland (1973).

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IV. CONCEPT, SCOPE AND METHODOLOGY OF DEVELOPMENT INDICATORS

by M.V.S. Rao

Although the term "indicator" has been in use for a long time now, it has not apparently been defined in a precise manner. It has no place in statistical theory but has often been used in practice to denote summary series presented mainly to indicate current trends. It has, however, of late, become a fashionable word and acquired new connotations.

Whereas in the past, the focus was mainly on what were commonly known as economic indicators, interest has in recent years spread to various types of social and socio-economic indicators, including indicators of levels of living, quality of life, welfare or well-being, human development, social development, social change, social attitudes, etc. So much has in fact been written in recent years on social indicators that this growing activity has come to be known as the "Social Indicators Movement".

1. The concept of indicators

Raymond A. Bauer, regarded as the father of the social indicators movement, refers to social indicators as statistics, statistical series and all other forms of evidence that enable us to assess where we stand and are going with respect to our goals, and to evaluate specific programmes and determine their impact. He declares that the purpose of social indicators is not primarily to record historical events but to provide the basis of planning for future policies.[1]

Albert D. Biderman, who contributed a paper to the volume *Social Indicators* edited by Raymond Bauer, however, defines social indicators merely as quantitative data that serve as indices of socially important conditions of the society.[2] He looks at the existing social indicators from the point of view of their relation-

1) *Social Indicators,* edited by Raymond A. Bauer, MIT Press, 1966.
2) *ibid.*

ship to those national goals which have been set forth, the ways in which such statistical series originate and the uses to which they are put.

Eleanor B. Sheldon and Gilbert E. Moore in their work on indicators of social change[3] refer to social change as the significant alteration of social structures (i.e. patterns of action and interaction), including consequences and manifestations of such structures embodied in norms (rules of conduct), values and cultural products and symbols. They expect social indicators to give a reading both on the current state of some segment of the social universe and on past and future trends, whether progressive or regressive, according to some normative criteria.

Martin T. Katzman views social indicators as measurements of social phenomena whose movements indicate whether a particular problem is getting better or worse relative to some goal, while Doris Holleb describes social indicators as social measurements involving an assessment of social change in terms of explicit specific goals.[4] Angus Campbell and Philip E. Converse emphasize the descriptive nature of the measurement, which is much more dynamic than most social science research has been, and the heavy stress on policy relevance associated with the definition of social indicators.[5] Kenneth C. Land, however, distinguishes descriptive indicators from analytical indicators and describes the former as measures of the end-products of social processes or of the social conditions of human existence and the changes taking place therein. He defines analytical indicators as components of explicit conceptual models of the social processes which result in the values of the descriptive indicators of output.[6]

In its pioneering work, *Toward a Social Report,* the US Department of Health, Education and Welfare defined social indicators as statistics of direct normative interest which facilitated concise, comprehensive and balanced judgements about the conditions of major aspects of society. A social indicator "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'. Thus, statistics on the number of doctors or policemen could not be social indicators, whereas figures on health or crime rates could be."[7] This concept has, however, been criticized as too restrictive in its emphasis on

3) *Indicators of Social Change, Concepts and Measurements,* by E. B. Sheldon and W. E. Moore, Russel Sage Foundation, 1968.
4) *Social Indicators and Societal Monitoring, an annotated bibliography,* by Wilcox, etc. See introduction by Ralph M. Braks.
5) *The Human Meaning of Social Change,* edited by Angus Campbell and Philip E. Converse, Russel Sage Foundation, 1972.
6) *Social Indicator Models,* edited by Kenneth C. Land and Seymour Spilerman, Russell Sage Foundation, 1975.
7) US Department of Health, Education and Welfare, *Toward a Social Report,* 1969.

normative interest and exclusion of many variables relevant to an evaluation of social conditions, and vague insofar as it does not distinguish social indicators from any other social statistics.[8]

A recent document of the United Nations Secretariat on Social Indicators observed: "Since the last half of the 1960's, many governments, research institutions and international organizations have been engaged in systematic efforts to improve the information basis of decision making and social policy. These efforts, although embracing such clearly different undertakings as the preparation of social reports and an elaboration of socio-demographic accounts, are commonly regarded as being part of the social indicators movement."[9] A subsequent paper, however, recognized clearly the distinction between social reports and social indicators and referred, inter alia, to the role of social indicators in social reporting: "the attempt to conceptualize and measure particular indicators is closely related to efforts to quantify objectives and targets and to evaluate progress in achieving them;. . . Nevertheless, indicators to quantify developmental objectives and targets are only one aspect of a larger need for a wide variety of data on social policy, inputs, processes, outputs and institutions, as well as 'subjective' information on attitudes and motivations."[10]

Without attempting a precise definition of the term social indicators, the UN report "Towards a System of Social and Demographic Statistics" describes social indicators as "constructs, based on observations and usually quantitative, which tell us something about an aspect of social life in which we are interested or about changes that are taking place".[11] The main purposes of social indicators have been identified by the UN Statistical Office in its Draft Guidelines on Social Indicators as: (a) monitoring levels and distribution of well-being; (b) monitoring the provision, distribution, inputs and outputs of social services; and (c) summarization of basic statistical series.[12]

UNESCO on the other hand quotes Stuart Rice: "Social indicators are needed to find pathways through the maze of society's interconnections. They delineate social status, define social problems and trace social trends, which by social engineering may hopefully be guided towards social goals formulated by social

8) E. B. Sheldon and H. E. Freeman, "Notes on Social Indicators: Promises and Potential," *Policy Sciences,* Vol. V, April 1970.
9) UN: "Social Indicators: Report of the Secretary-General to the Commission for Social Development, "24th Session, (January 1975) E/CN.5/518.
10) UN: "Social Reporting and Social Indicators in Developing Countries: Report of the Secretary-General to the Commission for Social Development," 25th Session (January-February 1977) E/CN.5/541.
11) UN: "Towards a System of Social and Demographic Statistics", ST/ESA/SER.F/18 (1975).
12) UN: "Draft Guidelines on Social Indicators: Report of the Secretary-General to the Statistical Commission," 19th Session (November 1976), E/CN.3/488.

planning."[13] Three main purposes are thus identified, viz.: (a) the descriptive function, i.e. description of social status and trends in social change; (b) their interconnections, suggesting a system approach; and (c) the analytical function, i.e., providing tools to the social planner for the monitoring of social change.

In another paper, the UN Statistical Office described economic and social indicators from a broader viewpoint as "summary series of data in respect of stocks and flows which are designed to measure the aspects of economic and social conditions that are important for analysis and policy decisions . . . The series in respect of stocks portray the economic or social structure or situation at a given point of time. The series concerning flows deal with the changes that take place during a period of time."[14] An economic or social indicator may be called a "development indicator", according to Donald McGranahan, Director of the UN Research Institute for Social Development, if "it represents some factor that is part of the process of development. This in turn implies a definition or theory as to what constitutes development. Since development tends to be an interdependent process, a good indicator in fact reflects, in varying degree, many more things than it directly measures."[15]

Development, as commonly understood, is progress towards a set of predetermined economic and social goals, and planned development implies an organized effort or process to achieve those goals. Development indicators are thus directly or indirectly related to the goals and processes of development, and often confined to economic and social aspects amenable to the process of planned development. Indicators of economic and social changes unrelated to development may well be described as indicators of change rather than as indicators of development. While all indicators of development, so defined, may be regarded as indicators of change, not all indicators of change can be regarded as indicators of development. Development indicators may thus be regarded as a subset of a system of economic and social indicators, whose relevance is established mainly in terms of their relationship to the goals and process of development.

With this definition of development indicators in view, the conceptual variations in the purpose and nature of indicators may be reviewed and reformulated as follows.

(a) The main purpose of development indicators may be regarded as the mon-

13) UNESCO: "Social Indicators: Problems of Definition and of Selection. Part I" (Paper by Surge Fanchette) SS/CH.30.

14) ECAFE: Joint Meeting of Planners and Statisticians (August-September 1972), Economic and Social Indicators prepared by the Statistical Office of the United Nations ASTAT/JMPS/14.

15) Donald McGranahan: "Development Indicators and Development Models," *The Journal of Development Studies,* vol. 8, no. 3, April 1972.

itoring and measurement of progress towards the goals of development, and quantification of the goals for the future. These may also provide the basis for the study and establishment of interrelationships between the different factors which influence the development process.

(b) There seems to be general agreement that the indicators should be quantitative measures. That does not, however, mean that qualitative changes are not to be measured. Quantitative measures based on qualitative observations may also serve as useful indicators.

(c) There is apparently no reason why one should be dogmatic about the nature of indicators: that they should be direct measures of ultimate welfare or well-being, and that no half-way measures will do. If the main purpose of development indicators is to monitor and measure the progress towards the goals of development, the nature of the indicator needed for the purpose would obviously depend on the nature of the goal. A structural change may itself be a goal of development and hence structural or stock indicators are as necessary as flow indicators. And since the efficient operation of institutional arrangements providing services to the people is an essential feature of the development process, indicators concerning the inputs, outputs and distribution of benefits are as essential as indicators of the ultimate impact of such services. However, if a few key indicators are to be selected, those most effectively reflecting the goals of development are to be preferred.

(d) For the main purposes in view, indicators must be available in the form of summary measures. The demand for disaggregation, however, runs counter to the need for summary measures. Indicators should not therefore be regarded as information based on a detailed study and analysis of the situation, for which statistical and non-statistical information would otherwise be available in as much detail as possible. Indicators are not a substitute for such information and admittedly not a synonym for statistics; they cannot, obviously, perform the descriptive function adequately, however disaggregated they may be. However, to be more useful and meaningful, indicators may be compiled not only at the national level but also at the regional and subregional levels and in respect of significant groups and classes.

(e) The term indicator should not be misused for all sorts of statistical and non-statistical reports, accounts and analytical activities, which are more appropriately described in terms of established terminology. The term is sometimes loosely used with reference to facts, features, phenomena, events and other forms of evidence indicative of current trends, which are not quantitative measures and hence not indicators as defined above. They

may more appropriately be described as "indications" rather than as "indicators".

Attempts have been made to use social indicators in the same way as economic indicators for the establishment of input-output relationships, cost-benefit ratios and inter-variable linkages, and social indicators have sometimes been considered as components of social accounts systems. Bertram Gross developed a general model for a system of social accounts which he called a structure-performance model.[16] Kenneth C. Land suggested generation of social-system models of poverty, health, leisure, the family, education, religion and other related topics.[17] Richard Stone worked out for the UN Statistical Office a framework for a System of Social and Demographic Statistics.[18] Claus Moser also prefers social indicators to be part of a structure or system.[19]

Judith Innes de Neufville observes in this connection: "All these approaches share certain virtues and difficulties. It is true that one cannot interpret individual pieces of data without some further framework nor rationally decide what information out of the infinite possibilities to collect without some general guide. However, to posit a completed framework first can put an unrealistic strain on data production capacity. If one has to wait for this for any analysis, the wait may be very long indeed. Moreover, theorizing about structure without much application of data to problems may lead an author astray from a realistic or useful approach. While my view is that such efforts are important for the long run, it is also possible that genuine, if not halting, progress may be made in a more interactive way. Some partial models using available data may help us to reach the full models and more respectable levels of analysis."[20] Otis D. Duncan also prefers the empirical approach and suggests that we measure what we can without worrying about the framework. He suggests that we focus attention in the immediate future on how to measure" changes in the measurable variables."[21] This approach seems to be practical and commendable.

2. Indicators of human and social development

The UNU Expert Group on Human and Social Development (November 1975) redefined development as "about, by and for human beings". The objective of development is to raise the level of living of the masses of people and to pro-

16) *Social Indicators,* edited by Raymond A. Bauer, MIT Press, 1966.
17) *ibid.*
18) UN: "Towards a System of Social and Demographic Statistics", 1975.
19) Social Indicators—Systems, Methods and Problems, *The Review of Income and Wealth,* Income and Wealth, Series 19, No. 2, June 1973.
20) *Social Indicators and Public Policy,* Elsevier Scientific Publishing Co., 1975.
21) *Social Indicators & Societal Monitoring,* Elsevier. See introduction by Ralph M. Brooks.

vide all human beings with the opportunity to develop their potential. This means meeting not only such material needs as continuing employment, income and adequate livelihood, more and better schooling, better medical services, inexpensive transport and a higher level of income, but also such non-material needs as desire for self-determination, self-reliance, political freedom and security, participation in making the decisions that affect workers and citizens, national and cultural identity, and a sense of purpose in life and work. Human and social development is to be conceived of more broadly than the eradication of poverty, even with due regard to the national environment as a requirement of future generations, and must include efforts to overcome violence and the threat of violence, and the fight against repression, injustice and violation of human rights.

Past international efforts towards the development of indicators of human and social development have been dealt with in another chapter of this report. The aspects covered in the various proposals may be recounted as follows:

UN – Indicators of Levels of Living: health; food consumption and nutrition; education; employment and conditions of work; housing; social security; clothing; recreation; human freedoms.

Basic Information: population and labour force; income and expenditure; communications and transportation.

UNESCO – Indicators of Human Resources: educational systems; youth employment; high level manpower; educational attainment; labour force utilization; health and nutrition; modernization.

UN – Social Indicators: population; family formation; earning activities and the inactive; distribution of income, consumption and accumulation; social security and welfare services; health and health services; housing and its environment; public order and safety; allocation of time and use of leisure; social stratification and mobility.

OECD – Social Indicators: health; individual development and learning; employment and quality of working life; time and leisure; personal economic situation; physical environment; social environment; personal safety and administration of justice; social opportunity and participation.

Council of Europe – Social Indicators: population; income, consumption and wealth; housing; leisure activities; social security and welfare; learning; earning; health; public order and safety; physical environment; civil rights and social participation.

CMEA – Social Indicators: population; family; social class; income; consumption; housing; leisure; social welfare; education; employment and working conditions; health services.

ESCAP – Indicators of Social Development: population; health; housing; nutrition; education and culture; employment and social security; personal security; consumption, wealth and social welfare.

In a paper on "Human Needs, Human Rights and the Theories of Development" submitted to UNESCO, Johan Galtung and Andres Wirak[22] have suggested a needs-oriented theory of development and presented in an Appendix an approach "Towards New Indicators of Development".[23] It suggests that "if development is to be identified with such components as:

- satisfaction of human needs, for all;
- equality of social justice;
- level of autonomy or self-reliance, with participation of all, and
- ecological balance,

then development indicators will have to reflect exactly this, as directly as possible." It defines and classifies human needs as:

(a) basic: food and water; shelter and clothing; health; education;

(b) others: work; freedom of impression or expression (of ideas); freedom of movement (of persons); politics.

It also refers to the need for togetherness, friendship and love; need for respect; need for joy and to be a source of joy for others; happiness; self-realization; and the need for a sense of meaning of life, which "could be mentioned". Among the aspects of satisfaction of human needs, the paper mentions:

(a) level of satisfaction;
(b) distribution of satisfaction;
(c) structure of satisfaction; and
(d) ecology of satisfaction.

These aspects would have to be considered in respect of each of the above listed human needs.

While the basic human needs of food, shelter, clothing, health and education,

22) UNESCO: SHC. 75/WS/55, January 1976.
23) This appendix appeared earlier in the name of Johan Galtung in the proceedings of the First Conference of the International Development Centre held at Algiers in June 1975. It also appears as an appendix to the programme proposal submitted by Johan Galtung to the UN University in January 1977.

and even work, not regarded as basic in the above approach, have been covered in most of the international social indicator proposals referred to above, the others, which may broadly be described as human freedoms, have been mentioned as an important component among the level-of-living indicators, but no effort has been made to develop the appropriate indicators, as it was considerd "impracticable at the present time from an international point of view, to recommend specific indicators".[24] Needs such as togetherness, friendship and love have apparently never been thought of in connection with the development of indicators, presumably as they are far too intractable. Even in regard to the needs covered in the international proposals, it is doubtful whether all the aspects of satisfaction mentioned by Galtung have been adequately covered. An attempt has no doubt been made, especially in the UN proposals, to deal with the distribution as well as the level of satisfaction. As to the structure of satisfaction Galtung himself concedes that "indicators in this field are problematic" but suggests that they should reflect the level of self-reliance. As to the ecology of satisfaction, "the key here is to what extent our 'only one world' will be able to sustain not only the present generation, but also future generations of a reasonable size". This is not merely a question of developing indicators of what has happened or is happening, but a projection based on the relevant factors. The UN Statistical Office is at present seized of the problem of developing a comprehensive system of environmental statistics, which may be helpful in the type of analysis envisaged.

In proposing a draft system of social and demographic statistics for the developing countries, Prof. S. Chakravarty (Member of the Indian Planning Commission) has identified population, education, employment, health, housing and the distribution of income, consumption, and wealth as the six social aspects of primary interest to developing countries.[25] These include besides the four basic human needs mentioned by Galtung, employment (or work, mentioned among the other needs) and the distribution of income, consumption and wealth, which covers the distributive aspect of satisfaction. Population has been included as information concerning the structure and changes of population is basic to any consideration of social conditions. This emphasis has been broadly endorsed by the UN Statistical Commission and may well be adopted in determining the priorities for the development of indicators of human and social development in developing countries.

3. Characteristics of indicators

The literal meaning of the word "indicator" is something that indicates, shows or

24) UN: "International Definition and Measurement of Levels of Living"
25) UN Statistical Commission, nineteenth session: "Framework for the integration of social and demographic statistics in developing countries," E/CN.3/490 (April 1976).

points out. It reminds one of a pointed arrow which shows the direction and makes one think of an equally sharp, well-defined measure or figure which can be plotted to show the trend of what is happening. It has a wider connotation than the "index number" which has been defined in statistics as "a quantity which shows by its variations the changes over time or space of magnitude which is not susceptible of direct measurement in itself or direct observation in practice".[26] While the index number generally conforms to a set form or certain well-defined forms, the indicator has apparently no such formulation. The latter, however, shares with the former the distinction of measuring by its variations the changes of a magnitude which is not susceptible to direct measurement. Like the index number, it also usually "reflects more than what it represents".[27]

As McGranahan points out, when a variable is used as an indicator, it is not an indicator of itself, and it is not also an operational definition of that to which it points. In other words, indicators are not simply statistics and statistics are not ipso facto indicators, unless some theory or assumption makes them so by relating the indicator variable to a phenomenon that is not what it directly and fully measures.

"A statistic is not by itself an indicator and a statistical system is not a system of indicators," adds McGranahan. "Of course, the statistical systems will define the scope of available data for development indicators and should take account of indicator needs".[28] The distinction between basic statistics and indicators is therefore important.

The UN Committee of Experts on International Definition and Measurement of Standards and Levels of Living, which recommended the use of "indicators to measure levels of living", included among them macro-indicators as well as micro-indicators, some which are direct indicators of actual conditions and some others which are less direct indicators of services or facilities, some of personal reference and some others of collective reference, most of them measuring what exists, but a few expressing tendencies. The indicators were generally in the form of averages, proportions, ratios, rates, indices and other synthetic functions.[29]

The UN Statistical Office in its tentative draft of "A System of Demographic,

26) M.G. Kendall and W.R. Buckland: *A Dictionary of Statistical Terms,* published for the International Statistical Institute, Oliver and Boyd.
27) M.V.S. Rao, "Socio-economic Indicators for Development Planning", *International Social Science Journal,* UNESCO, Vol. XXVII, 1975.
28) D. McGranahan, *op. cit.*
29) UN: "Report on International Definition and Measurement of Standards and Levels of Living," E/CN. 3/179, E/CN. 5/299, (1954).

Manpower and Social Statistics: Series, Classifications and Social Indicators"[30], distinguished primary and derived series, the former being described as basic data collected from censuses, surveys and administrative records and the latter as those calculated from the primary data, usually in the form of averages, percentages, ratios, expected life time etc. It defined social indicators as "derived summary series designed to portray the state and trends in social conditions that are, or are likely to become, the subject of public action or concern".

The document which finally emerged in printed form, *Towards a System of Social and Demographic Statistics*,[31] however, summed up the criteria for defining social indicators thus: "Social indicators relate to some area of social concern and they may serve the purposes of curiosity, understanding or action. They may take the form of simple data series or they may be synthetic series obtained by applying a greater or lesser amount of processing to data series. At any particular time, it may not be possible to construct all the indicators that would be desirable and this limitation should be kept in mind. Social indicators form a sub-set of the data series and constructs actually or potentially available and are thus distinguished from other statistics only by their suitability and relevance for one of the purposes mentioned."

Notwithstanding this relaxation to include even simple data series as indicators, the indicators presented in the document were invariably derived series, whereas in the earlier document the distinction between basic statistics and indicators was not always followed.

The latest document on "Draft Guidelines for Social Indicators,"[32] while following the definition adopted in "Towards SSDS," has deviated completely from the practice adopted in that document, and treated indicators literally as subsets of data series and constructs, so that both the basic series and the indicators include primary data as well as secondary constructs.

In contrast, OECD's social indicators, to the extent that they are defined, are all in the nature of derived figures. And so are UNESCO's human resources indicators. FAO's economic and social indicators are also mostly in the nature of derived figures but a few basic series also appear in the list. Some indicators have in fact been expressed in the form of distributions. The social indicators compiled by the Council of Europe and the CMEA include both basic and derived series. On the other hand, the indicators of social development recommended by the Conference of Asian Statisticians are all in the form of derived series.

In general, it seems to be a good principle that indicators should be in the

30) UN: Statistical Office, ST/STAT. 49, (April 1971).
31) *ibid.*
32) *ibid.*

form of derived figures rather than basic data. "A basic measure by itself does not indicate much. For instance, the population count of a country at a given point of time does not indicate much to one who is not acquainted with other related facts. If it is to indicate the density of the population of the given country, it must be related to the area. If it is to indicate the growth of the population, it must be related to a similar measure for a preceding date. If it is to indicate the size of the country in relation to other countries, it is to be related to similar measures of other countries. On the other hand, a derived figure such as the density of the population, the population growth rate, or the rank of the country in terms of the population among the countries of the world, or of a continent, indicates something. The use of a basic measure is meaningful only when it is presented as a part of a time series, or of an array of comparable or related figures, in which case, it is tantamount to leaving the relationship to be derived by the reader, without being explicitly indicated."[33]

4. Construction of indicators

The construction of indicators is essentially a craft and the way an indicator is constructed depends largely on what it is expected to convey. It has been noted above that, generally, indicators should be in a form of derived figures, which could be simple statistical measures such as averages, rates, ratios, proportions, percentages, quartiles or deciles, or more synthetic statistical functions such as index numbers, concentration co-efficients, and longitudinal expectations. Composite indicators, which combine a series of indicators in an appropriate manner, or are compiled by putting together a variety of data on various aspects through a process of detailed fabrication, are a class by themselves. Indicators may thus be classified in terms of methods of construction as:

(a) simple statistical measures;
(b) synthetic indicators; and
(c) composite indicators.

Among the simple statistical measures, averages are the most commonly used but the most criticized. In particular, arithmetic means are the most easily computed, most widely understood and most convenient for estimation and statistical manipulation. They are, however, unsatisfactory in certain respects, especially in depicting central tendency in highly skew distributions. Geometric and harmonic means are rarely used and so too are modes. Medians are sometimes preferred to means as they depict not only the central tendency but also the distributive aspect. They are, however, difficult to obtain except through sample surveys. Quartiles, quintiles, deciles, percentiles or fractiles, as they are generally referred to, belong to the same category and help to describe the nature of the distribution.

33) M.V.S. Rao, *op. cit.*

Averages are criticized in general on the ground that they do not indicate the distributive aspect. Yet measures of dispersion are rarely used. On the other hand, simpler measures such as proportions above or below a point are sometimes advocated. Such measures can also be misleading, when compared over time, over space or over groups, as they provide no indication of the variations below the point or above the point. Suggestions that averages should be abandoned in favour of such simplistic distributive measures are therefore to be viewed with caution. In general, it would be desirable to supplement a measure of central tendency by an appropriate measure of dispersion.

Rates are usually of several types, e.g.:

(a) rates of flow which depict the magnitude of a flow per unit of time;

(b) rates of change which depict the magnitude of the change of a given stock over a period of time;

(c) rates of incidence or occurence which depict the relationship of a flow in a given period of time to the relevant stock;

(d) rates of frequency which depict the size of the stock possessing a certain characteristic to the total stock; and

(e) rates of relative flow which depict the relationship of one flow to another related flow.

Ratios may be of any two related variables: a flow to another flow, a flow to a stock or a stock to another stock. When one of these related variables is a part of the other, the ratio is sometimes referred to as a rate. In such a situation, however, it may better be referred to as a proportion. Rates, ratios and proportions can all be expressed as percentages if so desired.

Index numbers are generally used to indicate variations over time, but can also be used to indicate other types of variations, such as interregional or intergroup variations. Usually they seek to sum up variations in a series of independent variables by the use of appropriate weights, but can also be used in their simpler form to depict variations in any single variable. In summing up variations, index number are expressed either as weighted averages of a series of individual indices (or relatives as they are called) or as ratios of weighted aggregates. It is possible to use different types of weighting systems depending on the nature of the index desired but the one most commonly used is the fixed-weights system.

Indicators of inequality or concentration are generally expressed in terms of Gini or Pareto co-efficients. These are, however, sometimes criticized on the ground

that they are too complicated and do not give enough information about the absolute distance between the high and low in society.[34] Yet nothing better has been evolved, although a variety of simpler indicators such as those expressing the extent of concentration in the top 5 or 10 per cent or the ratio between the absolute levels of a given percentage at the top and a similar or a different percentage at the bottom are often suggested and used.[35]

Indicators of longitudinal expectations such as the expectation of life at birth and at various points of age have generally been in use for long. Certain demographic measures such as the total fertility, gross reproduction rates and the net reproduction rate also indicate longitudinal expectations. An entirely new range of longitudinal expectations such as expectation of educational attainment at school entrance, expectation of working life, expectation of health life, etc. are being thought of and even being tried out. The main limitation of these measures, however, is that they are mostly based on cross-sectional data and rarely, if at all, on longitudinal data.

5. Composite indicators

The feasibility of constructing composite indicators of social welfare or well-being, comparable to composite economic indicators such as the gross national product or the net national product, has attracted considerable attention from research workers over the past several years. Notwithstanding the rejection of such a possibility by the UN Committee of Experts on the International Definition and Measurement of Standards and Levels of Living,[36] international efforts towards that end have also continued. The work of the United Nations Research Institute for Social Development in the measurement of socio-economic development,[37] which attempted inter alia the construction of a general index of development by putting together a series of highly correlated indicators of economic and social development through a system of weights representing the average correlation of each indicators with other selected indicators, has been referred to elsewhere in this report. The main limitation of this approach seems to be that, in picking up highly correlated indicators to indicate the level of development, one may be accused of rejecting the inconvenient ones which show the other side of the picture. The bias towards correlated indicators has been further accentuated by the weightage given to each indicator in accordance with its average correlation. And, finally, while rejecting the GNP as a development

34) J. Galtung, *op. cit.*
35) M.V.S. Rao, *op. cit.*
36) UN: "Report on International Definition and Measurement of Standards and Levels of Living," *op. cit.*
37) UNRISD: "Contents and Measurement of Socio-economic Development," op. cit. Reference may also be made to an earlier report No. 4 of the UNRISD entitled "The Level of Living Index", by J. Drewnowski and W. Scott, 1966.

indicator, the general index has been validated by its broad conformity with the levels indicated by the GNP.

The main problem in constructing composite indicators has been found to be the choice of weights. Writing for UNESCO "On the Problem of Weighting in International Comparisons", Ladzislaw Hellwig[38] observes that a solution of the problem depends on the selection of a criterion for expressing the relative importance of the variables and the choice of an appropriate method for obtaining the weights. The criterion should be liable to a convincing interpretation and based on an easy mathematical technique. The method of obtaining weights should allow reducing the set of variables to an adequate size by elimination of superfluous variables, a possibility of obtaining conditional as well as unconditional weights and measurement of undetermined factors. Three possible methods have been recommended for consideration: (a) a method based on regression co-efficients; (b) a method based on the capacity of information; (c) a method based on mean correlation co-efficients and co-efficients of variation. The third has been supported as the most adequate.

In a paper on "The feasibility of welfare-oriented measures to complement the national accounts and balances,"[39] the UN Statistical Office refers to recent experimental efforts to construct, in theory as well as in figures, a set of national accounts leading to an aggregated measure of welfare in monetary terms. It refers, in particular, to the "measure of economic welfare" constructed for the United States of America by Nordhans and Tobin, and to the "measurement of net national welfare" attempted by a Committee set up by the Economic Council of Japan. Reference has also been made to a project of the National Bureau of Economic Research, New York, which concerns the measurement of economic and social performance in the United States. While not aiming at an aggregate described as a measure of welfare, the project introduces the concept of "extended gross national product" incorporating a number of welfare-related imputations, both positive and negative.

According to the Report of the NNW Measurement Committee (Japan), [40]net national welfare (NNW) is designed to provide a better indicator of the welfare of the people in comparison with that of national income. However, it includes factors which do not reflect any effective demand at all (e.g., leisure hours, non-market activities of housewives, etc.) and hence, may not provide an adequate tool for analytical purposes to be used in econometric models in order to measure the effects of changes in effective demand. It cannot, therefore, take the

38) UN: "Towards a System of Human Resources Indicators for Less Developed Countries," *op. cit.*

39) UN: Statistical Commission, nineteenth session, E/CN. 3/477 November 1976.

40) Economic Council of Japan: "Measuring Net National Welfare in Japan," Report of the NNW Measurement Committee, 1973.

place of GNP but should be used along with GNP. Although it is a measure of "economic welfare" of the people, the concept of welfare is not easy to define as it involves subjective factors. It should therefore be supplemented by social indicators.

NNW consists of the following nine items:

(a) NNW-government consumption, which excludes the consumption of judicial, police and general administrative services;

(b) NNW-private consumption, which excludes the purchase of consumer durables, commuting expenditures, and personal business expenditures;

(c) services from government capital stock;

(d) services from personal consumer durables;

(e) leisure hours;

(f) non-market activities;

(g) environmental pollution;

(h) environmental maintenance costs; and

(i) losses due to urbanization.

The last three items are taken as negative.

6. Choice of indicators

In its "Draft Guidelines on Social Indicators", the UN Statistical Office mentions six criteria for delineating social indicators: (a) appropriateness (may be direct or indirect, i.e. proxy; the greater the correlation, the better); (b) summarization (i.e., capacity to summarize as much information as possible without obscuring information on the major facets); (c) co-ordination and structuring (i.e., its relationship with other indicators and its role in the general framework of system); (d) accuracy and comparability; (e) timeliness and frequency; and (f) feasibility.

In a paper on "The Construction of Social Indicators",[41] Ramakrishna Mukherjee theorizes on the content, validity, relevance, efficiency and sufficiency of social indicators. At the outset, he argues that social indicators cannot be constructed

41) UNESCO: "The Use of Socio-Economic Indicators in Development Planning," 1976

without a clarification of what is "social" and what they "indicate" beyond their intrinsic properties. The content of a social indicator has thus two aspects: its "constituent" and "contingent" variables. Its validity depends on the selection and treatment of constituent variables; its relevance on the association between the constituent and contingent variables. Its efficiency is conditional on the intensity of the associations, and it may attain sufficiency if it can depict the properties of some other indicators and thus replace them. The utility of a tool, he adds, depends on (a) whether it is so constructed as to meet its purpose; and (b) how best it meets that purpose. Since a social indicator is a tool to be employed by the social scientists to appraise one or more facets of the social reality in a given space-time dimension, the validity, relevance, efficiency and sufficiency of one or a set of social indicators will depend on whether (a) it satisfies the basic conditions necessary to evolve indicators; and (b), the extent to which it does that in the specified context of being labelled "social".

Hellwig, in his paper "On the Optimal Choice of Predictors",[42] has suggested a mathematical method for the identification of variables which has significant capacity for explaining the selected criterion of relevance. The method depends essentially on linear regression. It describes a variable as a pure information bearer if it is uncorrelated with any other variable, and as an impure information bearer if it is correlated. It defines the degree of impurity and the capacity of an information bearer in such a way that the capacity increases according to the square of the co-efficient of correlation and decreases with an increase in the degree of impurity. The sum of the capacities of individual information bearers is defined as the integral capacity of a set of information bearers. The optimal set of predictors is determined as the one whose integral capacity of information is the maximum. It is recognized that finding the optimal combination of predictors when the number of variables is large is almost impossible, but it is suggested that satisfactory results can be obtained by a heuristic method which may help finding an approximate solution.

Richard Stone, in his work *Towards a System of Social and Demographic Statistics,*[43] refers to the method of factor analysis for exploring systematically the common components of variability in a set of variables and arranging the results in an ordered manner. In this method of calculating factors, or principal components as they are called, the first factor is chosen in such a way as to account for as large a part as possible of the sum of squares of observations; the second, orthogonal to the first, is then chosen so as to account for as large a part as possible of the residual sum of squares left after the first factor has been removed; and so on until the sum of squares is exhausted.

42) Hellwig, *op. cit.*
43) United Nations ST/ESA/STAT/SER. F/18, *op. cit.*

7. Non-quantitative indicators

In considering indicators of human and social development, we are concerned with the structures, conditions, behaviours, phenomena, welfare and well-being of individuals, families, and institutions in general or in groups. The indicators are based on individual interviews, observations and measurements, summed up by the usual statistical methods. A measurement is always quantitative, but an observation is generally qualitative. An interview can provide information on subjective attitudes, opinions, aspirations and perceptions as well as objective data concerning the individual, his family or his environment. The basic data can thus be either quantitative or qualitative. However, when summed up over a number of individuals, families or institutions, the indicators become a statistical measure, expressed in numerical form. Thus, all indicators, whether they are based on quantitative measures or qualitative observations, objective data or subjective expressions, are generally statistical in nature and numerical in form. Non-quantitative indicators can thus be distinguished from quantitative indicators only in terms of the nature of the basic data. The simplest example of a non-quantitative indicator is the sex-ratio.

Quantitative indicators do not usually reflect the qualitative aspects of life. Attempts are, therefore, sometimes made to measure the qualitative aspects of life by non-quantitative indicators. Among the more common aspects of quality sought to be so measured are the quality of education, quality of health services, quality of housing, quality of working life and the quality of life in general.

In a paper on "Quality-of-Life Models"[44] presented to a UNESCO Meeting of Experts, Elemer Hankiss describes quality of life (QOL) as the process of social production, distribution and perception of certain values, and suggests that special efforts be made to clarify the role of individuals, social groups and social institutions in the production of positive and negative QOL values. The paper suggests further that, for the purpose of monitoring and predicting changes in the quality of life, indices be developed to measure such aspects as the influence which the father's occupation has on the son's societal, emotional and moral vaues, the influences which one's regional origin has on one's QOL values, and the social and political factors which influence the production and distribution of QOL values.

An empirical discussion of "Indicators of the quality of working life" is contained in a paper by Stanley E. Seashore presented to the same UNESCO meeting.[45] Based on a study of contemporary practice in Australia, Sweden and USA, the

44) UNESCO: "Meeting of Experts on Indicators of the Quality of Life and the Environment", December 1976, SS. 76/CONF. 629/5.

45) UNESCO: "Meeting of Experts on Indicators of Quality of Life and the Environment", December 1976, SS.76/CONF.629/3.

paper suggests two complementary definitions of the quality of working life: one based on the established socio-economic system and related to manpower availability, labour cost, and societal allocations of advantages and resources; and the other based on humanistic values and related to the maximization of the experienced quality of life for individual workers, with components of job satisfaction, health, self-esteem, self-development, and fit to the worker's life style. The paper lists among the commonly used indicator topics:

(a) objective characteristics of job and job environment;

(b) experienced characteristics of job and job environment;

(c) outcome measures from three value perspectives;
  (i) workers' perspective;
  (ii) employer's perspective;
  (iii) societal perspective;

(d) analytic variables for sub-population comparisons.

The OECD's social indicators programme has devoted special attention to the development of indicators concerning the quality of health care and working life, the individual's satisfaction with the learning process and working life, perceptions of economic and personal security, etc.[46] Since an objective measurement of quality is difficult in most cases, resort to surveys of individual perception is considered necessary. Indicators resulting from such surveys are "subjective indicators" as opposed to the "objective indicators" based on hard facts. Reference is often made in this connection to a report on "The Quality of Life in Metropolitan Washington, D.C."[47] which has set a new trend in this direction.

Writing on "Subjective Social Indicators" in the *Social Trends* (UK),[48] Mark Abrams presents a series of subjective indicators derived from a couple of pilot surveys conducted in the UK in 1971. These cover such topics as housing, neighbourhood, health, job, financial situation (later described as standard of living), leisure, family life, friendships, education, police courts, welfare services, marriage, religion, democracy and being a housewife. The respondent was asked about his satisfaction/dissatisfaction on a given scale and the resulting data were presented in percentage distributions and mean ratings. Some further data obtained in subsequent surveys (1971, 1973, 1975) have been reported briefly in Social Trends 1975.

46) OECD: Special Studies – No. 1 "Towards the Measurement of Work Satisfaction;" No. 2, "Approaches to the Development of Health Indicators"; No. 3 "Data Sources for Social Indicators of Victimization Suffered by Individuals"(76).
47) Urban Institute, 1970.
48) UK: *Social Trends* No. 4, 1973.

8. Non-numerical indicators

Whether they are quantitative or qualitative, objective or subjective, the indicators referred to above are all statistical and numerical. Can there be non-statistical or non-numerical indicators? One has to strain one's imagination to find some examples. In describing the housing condition of a family, one may find greater meaning in drawing up the layout than in describing it in terms of the number of rooms and their measurements. But how does one sum up such descriptions to provide an indicator in respect of a group? The main purpose of an indicator is to provide a means to indicate variations over time and space and between groups. The change over time in the housing condition of a family may be depicted by putting the layouts at different points of time together for comparison. But how many such comparisons can be made, and how can such comparisons be made the basis for a general assessment of the changes?

At the group level, a non-numerical depiction of two correlated variables can be attempted through a scatter diagram. A look at such a diagram may give greater satisfaction to some than a look at the correlation co-efficient or at a regression equation. A few such scatters relating to different groups or relating to the same group at different times may help comparison, but there is a limit to what the eye can behold and absorb.

A non-statistical example of such depiction is the plotting on a geographical map of the locations of institutions such as universities in a country. Such maps relating to times may indicate the changes better than the mere number of univerisities at times can. But here again, one can not see at one time more than a small number of such maps and grasp the significance visually.

Statistical charts and graphs help non-statisticians understand the relationships between different magnitudes, variations over space and trends over time, better than the underlying statistics do, and there is much to be said in their support, if they are done imaginatively and accurately. But they have, after all, a quantitative basis.

One may thus think of other examples of non-qualitative, non-statistical or non-numerical indicators – if they can be called indicators – but, while there may be something to be said in favour of such presentations from the viewpoint of non-statistical readers, the biggest drawback of such presentations is that they are not amenable to summarization and manipulation when dealing with a large number of observations. They may be useful for presentations as illustrations but perhaps not for assimilation as indicators.

9. Sources of data for the construction of indicators

Much of the basic information required for the construction of indicators of

human and social development can be gathered from censuses, sample surveys, registration systems, current official statistics and administrative records. Some information may also be available from research studies of a local nature. Not all the aspects of human and social life are, however, the subject of current administrative interest, and are hence usually ignored in the current sources of statistics. Special enquiries for other arrangements may, therefore, be needed for the collection of such information.[49]

Censuses of population and housing provide the basic information on the size, structure and distribution of the population, its demographic, ethnic, social and socio-economic characteristics and its housing and living conditions. Apart from providing tabulations of the data directly collected, the censuses also constitute the statistical basis for a variety of analytical studies and estimations such as life-tables, indicators of fertility and mortality, and expectations of working life. As censuses involve complete enumeration, they are capable of providing information in maximum detail, both geographic and classificatory, and facilitate a variety of cross-tabulations that could provide linkages between demographic, ethnic, cultural, social and socio-economic characteristics of the population. The main disadvantages of the census, however, are (a) its high cost; (b) infrequent occurence; and (c) limited item coverage. Being a mass operation of gigantic magnitude, it cannot usually provide data of quality, and generally avoids particulars involving complicated concepts, definitions and recording procedures.

Censuses of establishments and institutions, which provide information on various aspects of their working, including inputs, outputs, costs and benefits, constitute an important source of information for the construction of indicators concerning the operation of social services. They also provide information on employment, wages and working conditions of the persons employed in such establishments or institutions.

Sample surveys are generally of two types: surveys of population (individuals, families or households) and surveys of establishments and institutions. They may be ad hoc, periodic or continuous. Some are conducted by field investigation and some by mail. Surveys of population cover demographic, labour force, family budget, housing, health and morbidity, nutrition and other related aspects. While uni-subject surveys are common in practice, multi-subject surveys, covering more than one aspect are often conducted with advantage. Surveys of establishments usually cover industrial, commercial and financial establishments and generally deal with economic aspects. Surveys of institutions cover educational,

49) The "Role of Censuses, Surveys and Administrative Records in Social Statistics" has been discussed in an excellent paper of that title presented by the ECAGE Secretariat to the Working Group on Social Statistics held at Bangkok in September-October 1971, vide ASTAT/W9SS/1. The paper has since been published in the *Quarterly Bulletin of Statistics for Asia and Pacific* (UN) Vol. 1, No. 2, December 1971.

cultural, health, medical, and welfare services and often provide operational data on the services provided and their utilization.

Another type of survey occasionally conducted may be described as community surveys, in which the unit of enquiry is a local area, community or settlement such as a village, hamlet, township or an urban block. Information is usually collected in such surveys on the social, economic, cultural and other facilities available to the community, such as educational, health and medical services, recreation and entertainment facilities and provisions for transportation and communication. Surveys of this type are comparatively inexpensive, easy to conduct and extremely useful as a source of development indicators.

Opinion surveys are distinguished from other sample surveys mainly in terms of the content of the survey, which concentrates on the attitudes, aspirations, perceptions, beliefs and views of the people on questions of public policy, environmental and socio-economic conditions, and the quality of life in general. While social scientists generally lay great emphasis on these type of surveys, statisticians often question the efficacy of such surveys on various grounds: it is difficult to ensure that the questions in such surveys are understood in the same manner by all the respondents; the respondents may not have well-considered views on many such issues and may respond in a casual manner; much depends in any case on the way the questions are posed; it is quite likely that the responses of the same respondent may be different at different times and in different situations; the responses of different respondents may depend on their respective circumstances, and what may be good for one may be bad for another; the interpretation of such responses and comparison of the results over time and space may not be realistic, meaningful and useful. Nonetheless opinion surveys are often conducted. While the utility of opinion surveys cannot be dismissed altogether, it is important that the questionnaires used in such surveys should be such as could be reasonably expected to elicit realistic, meaningful and valid responses from the target respondents.

Sample surveys are operationally more convenient and less expensive than censuses. They also facilitate more intensive investigations than those possible in the censuses and are generally preferred for collection of data in some detail. The main disadvantage, however, is that because of limitations of sample size and the attendant sampling errors, estimates cannot generally be provided in great detail – either geographic or classificatory. Sample surveys are, however, sometimes combined with censuses to supplement the census data and facilitate better estimation of data collected by sampling.

Sample surveys are in many cases conducted continuously or at regular intervals to provide a time series. Such surveys are generally based on fixed samples, often

subject to partial replacement and maintain continuity in concepts, definitions, questionnaires, classifications and procedures of investigations. Surveys conducted from time to time on different samples usually make comparisons difficult. Sampling errors apart, non-sampling errors, which are difficult to control in surveys conducted at long intervals, add materially to the problems of comparison. Even apparently minor variations in the wording and sequence of questions, definitions, classifications and analytical procedures may affect comparability. Nonetheless, replicated surveys are often suggested as the only means of providing comparable data for studies in trends over time on aspects not covered by regular time series.

The concept of replication has in fact been extended to a variety of studies in an effort to develop social indicators. Discussing the concept of replicated studies, Judith Innes de Neufville observes: "In these studies topics involved are those which interest the researchers and seem amenable to quantitative study. There is no deliberate effort to fit the indicators into a whole set of social indicators. The disciplines themselves provide a sufficient framework for the efforts. The precise selection of indicators is less important than the study of the results over time and the design of indicators is likely to be more pragmatic than ideal . . . The method seems an unexceptionable way to build a foundation for future indicator collection and analysis methods."[50]

Registration systems such as those concerned with births, deaths, marriages, divorces, physically or mentally handicapped persons, persons affected by certain diseases, recipients of social security and social welfare benefits, the unemployed, migrants, etc. provide valuable information for the development of useful indicators. The registration systems, however, suffer from various limitations and deficiencies such as incomplete registration, fraudulent registration and duplication, which affect the validity and reliability of the indicators. Registration of births and deaths, for instance, is incomplete in most developing countries. Registration of the unemployed, on the other hand, is often swelled up by the inclusion of the under-employed, casually employed and unemployed already registered elsewhere. Fraudulent registrations for securing economic benefits are not uncommon.

Countries in which the registration of vital events is grossly deficient have in some cases developed sample registration and model registration systems for the production of usable estimates of vital rates. In the sample registration system, which is operated in a random sample of rural and urban areas, current registration of

50) Judith Innes de Neufville, *Social Indicators and Public Policy,* Elsevier Scientific Publishing Co., 1975. See also Otis D. Duncan, *Towards Social Reporting, Next Steps.* Russel Sage Foundation, 1969.

vital events is checked by a periodic retrospective survey, and the events independently recorded in the two sources are matched to ensure completeness.

Current official statistics are often collected as a by-product of the routine administrative processes and compiled from returns submitted by individuals, establishments and institutions under the law in vogue, under executive orders or under voluntary arrangements. They are usually meant to help administration and hence are tied up with the administrative definitions, classifications, procedures and provisions. Since they are gathered as a by-product, they do not cost much and since they are usually based on complete coverage, subject only to the limitations of the scope of the administrative provisions, they can be tabulated in the geographic and classificatory detail needed. The limitations of scope and the possibilities of non-response which remain uncorrected, however, render the statistics technically deficient, and the administrative definitions and classifications may not be the most suitable for substantive analysis. Further, the link with administrative provisions usually tends to corrupt the information filed and affect its validity for analytical purposes. Even so, the data can be put to various uses, provided that the limitations are kept in view.

Apart from the data thus gathered for statistical purposes, even the operational records maintained by establishments, institutions and local administrative agencies can be utilized for a searching analysis of the situation and trends. A good deal of useful information is not usually processed and remains untapped for analytical purposes. The information thus available may if necessary be supplemented by other relevant data gathered on the spot for a meaningful analysis. Such an analysis can, however, be attempted only in localized research. Studies conducted over a cross-section of areas can provide useful information of wider validity.

Considering the limitations of the censuses, sample surveys, current official statistics and other national and regional sources of data, UNRISD has recently initiated a project for the measurement of real progress at the local level. It involves essentially establishment of a set of "socio-economic observatories" or "development outposts" in a representative sample of areas, continuous collection of relevant information on local progress, and analysis of the data at the national and regional levels. Reference has been made to the details of this scheme elsewhere in this report. While the approach suggested is useful as a supplementary method of research, its validity and utility as a statistical method for building up statistics at the national or regional levels seems to be limited, because, (a) the number of localities in which such studies can be conducted would be limited; (b) if the data gathered at the local level are to be merely assembled, tabulated and analyzed at the national or regional levels, the approach would be no different from the usual sample survey approach; (c) if on the other hand the data are to be used for intensive cross-sectional and longitudinal analysis at the local level, the means

and methods of assembling and assimilating such analysis at the national or regional levels are limited; and (d) if the progress is to be measured on the basis of reports received from a predetermined sample of areas, administrators may be tempted to concentrate their resources and efforts in those very areas to influence the outcome of such a progress report.

In an effort to develop social indicators one has to look into the various sources of information and make the best possible use of the data. Even localized research studies which do not form part of a national or a regional system may be useful to a limited extent. Analysis of newspaper reports, interviews with well-informed administrative functionaries and popular leaders and dialogues with various sections of the people are also sometime suggested, but such methods lack objectivity and scientific validity. One would, therefore, be well-advised to examine the scope, content and limitations of the available statistical sources, identify the gaps, and design appropriate means of developing supplementary sources of information in a scientific manner.

V. INTERNATIONAL WORK ON DEVELOPMENT INDICATORS

by M.V.S. Rao

One of the earliest international attempts to define and delineate a set of socio-economic indicators related to human and social development was made by a United Nations Committee of Experts in its "Report on International Definition and Measurement of Standards and Levels of Living" (1954).[1] Commissioned jointly by the United Nations and some of the specialized agencies in pursuance of a resolution of the General Assembly of the United Nations, the Committee distinguished between standard of living and level of living, the latter representing the actual conditions of life as distinct from the former representing aspirations or expectations of the people, and attempted to describe level of living in terms of a series of "components" representing clearly delimited aspects of life, reflecting accepted values, and "indicators" designed to measure the status. Based on the Committee's report and a series of further discussions which followed under the auspices of the specialized agencies and at interagency meetings, an Interim Guide entitled "International Definition and Measurement of Levels of Living" was issued by the United Nations in 1961.[2] The indicators of levels of living thus delineated attracted considerable attention from social planners as those indicators were in many cases the same as those used in formulating the aims of social development programmes and in evaluating social progress.

The twelve components suggested by the Committee of Experts were as follows:

(a) health, including demographic conditions;
(b) food and nutrition;
(c) education, including literacy and skills;
(d) conditions of work;
(e) employment situation;

1) United Nations: E/CN.3/179, E/CN.5/299 (1954) Sale No. 1954. IX.5.
2) United Nations: E/CN.3/270 Rev.1, E/CN.5/353 (1961) Sale No. 61.IV.7.

(f) aggregate consumption and savings;
(g) transportation;
(h) housing, including household facilities;
(i) clothing;
(j) recreation and entertainment;
(k) social security; and
(l) human freedom.

The Committee listed under the first seven of these components some forty indicators and suggested that for the other five components various types of quantitative and descriptive materials be used to provide some indication of differences and changes in the factors to which they referred. It considered the feasibility of a single unified index which would present a picture of the level of living as a whole and agreed that such an index was neither possible nor desirable.

The Interim Guide brought out by the United Nations excluded from among the components aggregate consumption and savings as they were not considered to be direct measures of the levels of living. It also excluded transportation which was regarded primarily as a means to the achievement of other goals, and hence, in some circumstances, a social cost. It added, however, three categories of "basic information" necessary for the interpretation of levels of living and reorganized the various components as in the following list.

(a) Components of levels of living
  (i) health (3)
  (ii) food consumption and nutrition (4)
  (iii) education (3+2)
  (iv) employment and conditions of work (2)
  (v) housing (4+4)
  (vi) social security
  (vii) clothing
  (viii) recreation
  (ix) human freedoms
  (x) general (3)

(b) Basic Information
  (i) population and labour force (4+6)
  (ii) income and expenditure (2+3)
  (iii) communications and transportation
    a. mass communications (2)
    b. post and telecommunications (1)
    c. transportation (3).

The list of indicators has also been revised and in all 46 indicators including 15

supplementary indicators have been recommended as indicated above in parentheses. No suitable indicators could be found for social security, clothing, recreation and human freedoms. In the following, we will examine the work of a number of international agencies along these same lines.

United Nations Research Institute for Social Development (UNRISD)

The major limitations of the per capita national income as an indicator of socio-economic development have been succinctly mentioned in a subsequent study by the United Nations Research Institute of Social Development (UNRISD) entitled "Contents and Measurement of Socio-Economic Development"[3] as follows:

(a) as an aggregate concept, it does not reflect structure and distribution;

(b) as a monetary concept, it does not take account of the values that lie outside the monetary sphere, nor of social values or real values of things that may differ from their prices; and

(c) as a market-based concept, it does not apply readily to the centrally planned socialist economies, subsistence economies, or partly market economies.

Other difficulties that affect the use of the per capita national income as an international measure of development arise from technical problems of pricing the product in an inflating market; problems of comparing countries that have different patterns of consumption and valuation; and problems of converting the income of the different countries into a single international monetary scale.

The Institute, therefore, proceeded more or less on the lines suggested by the UN Committee of Experts (1954) and did commendable work in the application of a series of social and economic indicators for the measurement and inter-country comparison of socio-economic development. The work, as reported in the above-mentioned study, consists essentially of an empirical investigation of the inter-correlations of a set of 73 indicators covering health, nutrition, education, housing, communications, transportation, agriculture, industry, trade and general economy; selection of high-correlate key indicators through a two-stage process of elimination by the application of combined statistical procedures and seasoned judgement; establishment of a correspondence system between the 18 core variables thus selected through a series of validation tests and cross-temporal comparisons; and preparation of correspondence charts, which show, as it were, "a still photograph of the countries in the world as they move in respect of the 19

3) UNRISD: Report No. 70.10 (1970)

indicators (including the *per capita* gross national product) as a whole in 1960", along with country profiles which show how the country's pattern of development differs from the usual pattern.

The study also attempts to construct, on the basis of the correspondence points, a unitary index of development covering both economic and social factors. For this purpose, the 18 core indicators have been reduced to a common scale by an appropriate fixation of the 0 and 100 points for each indicator and the calibrating of the intermediate points. Each indicator thus adjusted has been weighted "according to its importance within the total entity of development" as reflected by its average correlation with the other indicators. The general index thus constructed shows a high correlation with the *per capita* GNP, which is perhaps to be expected considering the manner in which the indicators have been selected, but is found to be "clearly superior to the *per capita* GNP in the sense that it is more closely correlated with the individual indicators, both economic and social, than is the *per capita* GNP".[4]

UNRISD has since been engaged in updating and expanding its data bank of development indicators and refining its analytical methods. The 1970 data bank would cover, besides those included in the 1960 data bank, indicators of three kinds not correlated earlier, viz., (a) indicators of distribution, especially income; (b) indicators of qualitative factors, such as quality of education, and (c) indicators of environmental conditions. The efforts so far made in this direction have not, however, been very successful.

The Institute has also been trying to refine its methods of quantitative analysis in socio-economic development and has brought out a study of methods of analyzing the quantitative relations between different economic and social factors of development.[5] The study is aimed at building up techniques that can be employed, in the context of the "unified approach" to development, for determining regularities in the relations of variables; for helping to identify patterns of styles of development of individual countries, or regions, and their changes over time, and for providing a basis for "typological analysis" and "cross-sectional diagnosis". The study assumes that in the development process the variables are related because they are parts of a system characterized by multiple determination and very often by interdependency rather than one-way dependency or causality; that the causal relations are generally unknown; and that the forces affecting the behaviour of a variable are not only complex and multiple but also include factors not quantifiable. It "therefore rejects the usual regression approach" and seeks to

4) UNRISD: Research Notes, No. 4, June 1974.
5) UNRISD: Research Notes, No. 4, June 1974. For further details see "Methods of Estimation", "Prediction in Socio-Economic Development Regression" and "The Best-Fitting Line", UNRISD Report No. 73.2 (1973).

determine the "best-fftting line" as a line that minimizes the sum of absolute deviations of the two variables, reduced to a comparable relative scale. (An alternative tried out was to minimize the product of the sums of the absolute deviations of the two variables—which gave almost identical results.) The study has apparently justified the idea of consistency in all directions as a viable basis for relating variables in a developmental system by an analytical line.

UNRISD has also taken up a project for the development of appropriate methodology for the measurement of real progress at the local level.[6] The aim is to provide a better picture of social progress through a systematic examination and mapping of real progress at the local level and facilitate a closer study of the interrelations between economic and social factors as they operate at the local level. The project thus seeks to use the locality (a) as a basis for regular and systematic reporting of progress, and (b) as a laboratory or test-bed for a concrete study of interrelations of factors. A fairly large and representative sample of localities is envisaged, and a simple and standardized list of indicators is proposed to facilitate data collection and transmission. A pilot study in two Cretan villages was conducted and a few country case studies were commissioned to test the feasibility of establishing local-level reporting systems. A workshop was organized in 1973 to discuss the scope, objectives, design and methods of the proposed system. The meeting agreed that the existing data sources in the developing countries were inadequate to measure progress for policy-making and planning purposes and emphasized the lack of integration of social with economic, environmental and other data. It criticized the "superficiality" of the existing means of data collection and the long delays in reporting results.

The first country case study, conducted in India, recommended establishment of a number of "socio-economic observatories" in each State, a Progress Monitoring Cell at the national level, and an advisory committee to supervise the work of the cell. The observatories would each cover a cluster of villages with a total population of ten thousand and equivalent "localities" in urban areas. A preliminary report on the first phase of a similar case study in Mexico has suggested, inter alia, the need for a well-defined list of significant indicators operational within the local context; for the construction of simple "matrices", measuring the level of development at the local level; for the determination of variables which change rapidly from one local context to another; and for the detection of causal relationships.

A related proposal for research concerns the testing of scalogram analysis of distribution and change of levels of living, which aims at the use of community level data by Guttman scaling in the measurement of the distribution and change of

6) UNRISD: Research Notes No. 4, June 1974. For further details see "The Measurement of Real Progress at the Local Levels", UNRISD Report No. 73.3 (1973).

levels of living. It is proposed to carry out research under this project in three countries, possibly in Asia.[7]

Another related proposal is to monitor changes in the conditions of women through (a) collection of existing data; (b) in-depth studies of situations at the local level; and (c) evaluation of suitable indicators and data collection methods on the basis of the preceding steps to be carried out in a few selected countries.[8]

Extending its interest to the improvement of development statistics from the viewpoint of users, UNRISD convened in 1975 a group of experts to assess the present situation, identify deficiencies and provide guidelines for future activities. The group, which included planners, social scientists and statisticians, considered it important to relate the improvement of statistics to a unified approach to development analysis and planning and recommended that a programme of research and conceptual review be undertaken by the Institute to provide the lead for an eventual revision of statistical programmes with particular attention to the needs of users and the relations of statistical data to other forms of information. It also suggested strengthening the UN Development Advisory Teams and regional advisory services in statistics, and emphasized the need for better training in statistics for development with due regard to the interrelations of statistics, analysis and planning. It urged further that the United Nations University be involved in the training efforts in statistics for development and assume leadership in the building up of teaching materials on development statistics and dissemination of related research publications.[9]

United Nations Statistical Office

The Statistical Office of the United Nations, working under the guidance of the Statistical Commission, has the primary responsibility for the development of statistics, setting international statistical standards and providing international guidelines for the development of statistics. Over the last quarter of a century, it has done valuable service in promoting population and housing censuses, household surveys and civil registration systems as a means of developing a wide variety of demographic and social statistics. In recent years, it has done considerable work towards the development of an integrated system of demographic, manpower and social statistics as a parallel to the System of National Accounts which dealt mainly with economic statistics. The first phase of the work, carried out assiduously in collaboration with the specialized agencies and the regional commis-

7) UNRISD: "Testing Scalogram Analysis of Distribution and Change of Levels of Living", UNRISD 76/C.36 (August 1976).
8) UNRISD: "Monitoring Changes in the Conditions of Women", UNRISD 76/C.36 (August 1976)
9) UNRISD: "Improvement of Development Statistics, Report of a Group of Experts", (UNRISD/76/C.10 (June 1976)).

sions of the United Nations, has culminated in the publication of an interim report "Towards a System of Social and Demographic Statistics".[10] The publication has been described in its preface as "a comprehensive technical report on the progress thus far attained in the design and delineation of a system of social and demographic statistics". The introduction to the report clarifies that "the final stage of this endeavour has not yet been reached and in what follows the system is presented as it stood at the end of 1973" and that the report is thus "a statement of progress, designed to indicate the nature of the new proposals before they reach a final form" for comment and criticism.

The purpose of the SSDS is "to show what data are desirable on human beings, both individually and in groups, and on the institutions with which they are connected and how these data should be organized in order to provide an information system which will be useful for description, analysis and policy making in the different fields of social life". Different types of information are envisaged concerning (a) individuals, families and households; (b) institutions such as schools and places of work; (c) economic transactions; (d) distribution of benefits, and (e) time disposition. Information on stocks and flows is envisaged in matrix form. Economic information on inputs and costs is envisaged in the accounting form.

The proposed system is divided into a number of sub-systems viz.:

(a) size and structure of the population;
(b) family formation, families and households;
(c) social class, stratification and mobility;
(d) distribution of income, consumption, accumulation and net worth;
(e) housing and its environment;
(f) allocation of time and the use of leisure;
(g) social security and welfare services;
(h) learning activities and educational services;
(i) earning activities, employment services and the inactive;
(j) health and health services; and
(k) public order and safety, offenders and their victims.

Uniform definitions and classifications are envisaged to permit inter-subsystem linkages. The document lists under each subsystem the required series of basic data, the proposed classifications and a suggested set of indicators.

"Social indicators" have been described as "constructs, based on observations and usually quantitative, which tell us something about an aspect of social life in which we are interested or about changes that are taking place in it". They may serve the needs of curiosity, understanding and action, or any combination of

10) United Nations: "Studies in Methods" Series F No. 18 ST/ESA/STAT/Series F/18 Sale No.E.74.XVII 8 (1975).

these. Leaving curiosity and understanding aside, the document seeks to identify the information useful in formulating policy, taking action and reviewing the consequences of action. Such useful information may take the form of a simple data series, the elementary processing of two or more series, or a more complicated form of processing. The document distinguishes between simple indicators, that is, data series; and synthetic indicators, that is, constructs from data series involving a greater or lesser amount of processing, but admits that a social indicator may be of either kind. It concludes that social indicators form a subset of the data series and constructs actually or potentially available and are thus distinguished from other statistics only by their suitability and relevance for one of the purposes mentioned.

Among the methods of constructing social indicators mentioned in the document are: (a) factor analysis (a method of exploring systematically the common components of variability in a set of variables and of arranging the results in an ordered manner); (b) index numbers; (c) life expectancies; and (d) opinion surveys. The 186 indicators listed are, however, mostly in the nature of averages, ratios, rates, proportions, index numbers, vectors, probabilities, expectancies, and other synthetic indicators which differ clearly from the basic data series. A large majority of the indicators can be classified into the following categories:

(a) measures relating two stocks;

(b) measures relating two flows; and

(c) measures relating stocks and flows.

They include structural indicators as well as indicators of change; input indicators as well as output indicators; and indicators of benefits as well as of their distribution. They thus constitute a comprehensive set of social indicators linked to the proposed system of social and demographic statistics. The items of data and social indicators concerning the size, structure and changes in population are shown for illustration in Table 1., page 110

Since 1973, however, a good deal of further work has been done towards the development of social indicators and the series presented in "Towards SSDS" has been substantially modified and a new set of "Draft Guidelines on Social Indicators"[11] has been presented to the Statistical Commission at its nineteenth session (November 1976). It provides a review of concepts of social indicators which have been advanced in national and international work and discusses the way in which social indicators may be selected and defined within a framework for the integration of social and demographic statistics. It also includes illustrative series and classifications for selecting social indicators and illustrative examples of social indicators for different types of countries.

11) United Nations: E/CN.3/488

Table 1: Items of data and social indicators concerning size, structure and changes in population (Source: Towards SSDS: 1975)

Hours of data*	Social indicators
1. Population stocks	
Number of human beings	Average annual rate of growth
	Average age
	Dependency ratio
	Sex ratio
2. Population flows	
(a) Births	Crude birth rate
(i) Number of births	General fertility rate
(ii) Number of live births	Gross reproduction rate
	Net reproduction rate
	Still births as proportion of total birth
	Illegitimate births as proportion of total births
(b) Deaths	
(i) Number of deaths	Crude death rate
	Standardized death rate
	Expectation of life at birth, 30, 60
(c) Migration	
(i) Number of immigrants from the rest of the world	Crude immigration rate
(ii) Number of emigrants to the rest of the world	Crude emigration rate
	Crude net external migration rate
(iii) Number of internal migrants	Crude international migration rates

* To be classified according to certain specified characteristics.

From the unambiguous, though not definitive, position taken in regard to social indicators in "Towards SSDS", the "Draft Guidelines" seem to be a step down. "They recognize that there is no international consensus on the nature, scope, purposes or definition of social indicators; hence, various approaches which may be considered by countries are featured." They are, therefore, meant to be "interpreted as an aid to countries and interested international agencies in considering how to proceed with their own work on social indicators, pursuant to their own priorities and interests, and not as a recommendation". They provide for a flexible approach to the formulation and selection of indicators pertaining to the subjects of social concern set out in "Towards SSDS", encouraging countries to select and adapt according to their needs and priorities.

The indicators are intended to serve the following purposes:

(a) monitoring levels and distribution of well-being;

(b) monitoring the provision, distribution and inputs and outputs of social services; and

(c) summarization of basic statistical series relating to the subjects of social concern.

For purposes of (a), indicators are designed to measure the levels of living of various categories of population as well as of the society as a whole, and use is made of moderately disaggregated as well as of highly aggregated indicators of well-being. The indicators designed for purposes of (b) cover the availability, use, inputs and outputs of the facilities and activities of society which are related to living conditions, and include both quantity and quality indicators. A few performance indicators are also included. Indicators of type (c) are restricted to those required to monitor and assess the state of affairs which is the subject of the social concerns in question.

The criteria used for the selection of indicators are:

(a) appropriateness: the measurements may be direct or indirect (proxy);

(b) summarization: should incorporate as much information about the social concern as possible;

(c) co-ordination and structuring: should be based on co-ordinated basic statistics;

(d) accuracy and comparability;

(e) timeliness and frequency; and

(f) feasibility.

In terms of techniques, the indicators include:

(a) simple indicators such as averages, proportions, rates, ratios, distributions, and related statistical measures–in some cases even basic series are used without any processing;

(b) synthetic index numbers; and

(c) life expectancies.

Whereas in "Towards SSDS" the social indicators proposed are clearly distin-

guishable from the items of data as derived series, the illustrative series and illustrative indicators listed in the "Draft Guidelines" are prima facie indistinguishable. The illustrative series are no longer series of basic data and include very often derived figures such as rates and percentage distributions. The illustrative indicators are no longer derived series and often include basic data. The principle followed is apparently the one quoted from "Towards SSDS" that "social indicators form a subset of the data series and constructs actually or potentially available and are thus distinguished from other statistics only by their suitability and relevance for one of the purposes mentioned". The illustrative series and social indicators presented in the "Draft Guidelines" are reproduced in Annex A, pages 135–55.

The differences in the indicators proposed for the least developed, developing and developed countries seem to concern mainly the frequency of production and the extent of detail in disaggregation, and no serious attempt has apparently been made to identify the problems of the least developed and developing countries as distinct from those of the developed countries.

Another document presented to the same session of the Statistical Commission, however, outlines "a draft framework for the integration of social and demographic statistics for developing countries",[12] independent of the "Draft Guidelines". Based on a paper prepared by Professor S. Chakravarty (India) as Consultant to the United Nations, the document presents an adaptation of the system proposed in "Towards SSDS" as guidance to developing countries on approaches to the integration of social statistics. The methodologies, concepts, classifications, etc. presented in "Towards SSDS" have been reviewed with a view to their adaptation and application in developing countries, consonant with their statistical and social circumstances and their priorities for improving the welfare and living conditions. The approach presented is one of step-by-step integration and systematization of social statistics and social indicators. The emphasis is on a flexible framework rather than on a rigid system.

The document identifies six major areas of social concern from the viewpoint of developing countries, viz., (a) demographic situation, (b) education; (c) employment; (d) health and nutrition; (e) distribution of income, consumption and accumulation; (f) housing and its environment. The other social concerns of "Towards SSDS" have been regarded as of lower priority. Time disposition in developing countries, it is emphasized, is fundamentally different from that in developed countries and it is not necessary to deal with it as an independent field of social statistics. It has, however, been taken up as an aspect for measurement wherever necessary, such as in employment and access to social services.

In regard to social indicators the document follows, more or less, the approach

12) United Nations: E/CN. 3/490.

adopted in "Towards SSDS", but warns: "the definition of social indicators in "Towards a System of Social and Demographic Statistics" is rather wide and if not used with caution may lead to a great deal of proliferation of social indicators. The need for selectivity has, therefore, been emphasized. For countries with diverse social conditions, development of social indicators on a regional basis has been suggested so as to facilitate diagnosis of regional problems and formulation of remedial policies." The illustrative series and social indicators presented in this document in respect of size and structure of the population are shown in Table 2 as an illustration.

Table 2: Illustrative series and social indicators concerning size and structure of the population
(Source: Draft Framework for the Developing Countries)

Series*	Social indicators
1. Size of the population (annually) and percentage distribution (infrequently)	Percentage of the population under age 15 National and ethnic groups as percentages of the total population
2. Population flows, number and rates per 1000 persons (annually)	
(a) Net changes in population (estimated; classifications for bench-mark years only)	Percentage rate of net change in population
(b) Births	Live births per 1000 females of child-bearing age Gross or net reproduction rate
(c) Deaths	Deaths per 1000 persons
(d) Net international migration (estimated)	Net international migration per 1000 average population

* To be classified according to certain specified characteristics.

The above presentation is evidently different from that of either Table 1 or Annex A, and is apparently based on an earlier version of the "Draft Guidelines". As the "Draft Guidelines" supersedes the presentation of social indicators in "Towards SSDS", it is presumed that the presentation in the "Draft Framework for the Developing Countries" will also be eventually be revised to fall in line with the presentation in the "Draft Guidelines".

A strategy for further work on a system of social and demographic statistics has been outlined in another document[13] presented to the nineteenth session of the Statistical Commission. It envisages work in two different directions: (a) develop-

13) United Nations: E/CN.3.489.

ment of common classifications, definitions and linkages; (b) empirical testing of the system. Among the areas where further experimentation is suggested are: (a) application in specific fields (client groups, social welfare accounts, time budgets); (b) specialized constructs (social indicators, welfare-oriented measures, life expectancies); (c) techniques of analysis (Markov process analysis, regression models, simulation, component analysis, path analysis).

A paper on "The feasibility of welfare-oriented measures to complement the national accounts and balances"[14] presented to the same session of the Statistical Commission reviews the concepts, methodologies and empirical applications of monetary measures of welfare, and discusses the implications of the various activities for the measurement of assets and income flows, not with a view to reshaping the national accounts, but to setting the major aggregates of the national accounts in a broader perspective. While the feasibility of constructing different aggregates designed to measure in monetary terms either "welfare" or some estimate of total production embracing both market and non-market activities is not questioned, the paper concludes that the difficulties in finding agreement on the concept and measurement of any such aggregate are likely to render it inappropriate for official and especially international use. The basic problem would be to define just what is being measured. The other course would be to encourage the open-ended presentation of a number of welfare-related measures, whether or not included in the national accounts themselves, which could aid the interpretation and assessemnt of the familiar national accounting aggregates for policy formation, for economic and social analysis and for international comparisons.

United Nations Educational, Scientific and Cultural Organization (UNESCO)

Among the specialized agencies of the United Nations, UNESCO has had the most ambitious programme on development indicators, one which transcends its primary interest in education, science and culture. In 1966 it took up a research project for the identification and selection of indicators of human resources and their aggregation into a general index. The project continued for over four years and three expert meetings were held during that period to consider the problems involved. A series of methodological papers were considered and certain recommendations were made.[15] A selection of the papers has since been published by the Polish Academy of Sciences.[16] It includes a list of 74 human resources indicators.

14) United Nations: E/CN.3.477.
15) UNESCO: Report of the First Meeting of the Panel of Experts on Methodology of Human Resources Indicators (Com/Conf. 2413): Report of the Second Meeting of the Panel of Experts on Methodology of Human Resources Indicators (COM/CONF. 26/3).
16) *Towards a System of Human Resources Indicators for Less Developed Countries,* The Polish Academy of Sciences Inst. of Philosophy and Sociology.

The concept of human resources used in this project was basically limited to the relevance of the human resources to economic growth, but included not only skills, abilities and attitudes, but also social, cultural and welfare elements. The seven fields delineated for the purpose are:

(a) structure, modernization and efficiency of the educational system;
(b) youth employment;
(c) stock of high-level manpower;
(d) educational attainment of the labour force;
(e) utilization of the labour force;
(f) health and nutrition status; and
(g) modernization of society.

The indicators of Field 1 are mostly in the nature of enrolment ratios, attendance, repetition and drop-out rates, pupil-teacher ratios, proportion of qualified teachers, percentage distributions of third-level students and graduates by subject of study, female education, and hours devoted to science. Fields 2 to 5 concern manpower and its utilization. Field 6 includes, besides the usual indicators of health and nutrition, an aggregate indicator of housing conditions for which four sub-indicators have been suggested. Field 7 includes indicators of literacy, mass communication, modern transport, labour force in agriculture and industry, urbanization, access to electricity and water, and the standardized birth rate. The list of indicators has apparently not been finalized and adopted by UNESCO. It is, however, reproduced in Annex B, pages 156–61.

The other papers presented in the above-mentioned collection provide mathematical approaches to the elimination of superfluous indicators and derivation of weights for a composite index, applications of the Wroclaw taxonomy, and indicator-based typologies and methods of indicator-based analysis of development phenomena.

UNESCO has since widened its interest to include the entire field of socio-economic development. The final meeting of the group of experts on human resources indicators took stock of the results thus far achieved and considered the implications of that research to the new project taken up by UNESCO, which is oriented mainly towards the application of socio-economic indicators to development planning. UNESCO's efforts in this project are designed to complement the work of the United Nations and other international organizations and directed mainly to the requirements of developing countries. The activities have so far included:

(a) two informal meetings (1973 and 1974) and a formal expert meeting (1976) at the global level;

(b) two regional meetings (Bangkok, 1974 and Montevideo, 1976); and

(c) a number of country studies (Thailand, the Philippines, Kenya, Sudan) followed by country-level discussions.

The Meeting of Experts (1976) recommended[17] that the main emphasis should be on the development of indicators related to social development and social change. On the research side, the main aim should be to develop indicators of well-being and indicators of social structure in order to explore the interrelations between levels of living and changes in economic and social structure, and to test hypotheses about the relation between economic growth and dependency, equality, etc. The main focus might be on general levels of well-being, paying special attention to equity, autonomy, solidarity and participation. Special attention must also be focused on the development of personality and the satisfaction of material and nonmaterial needs. The work should be linked with more "operational" projects on the use of indicators in social planning in correspondence with economic planning. This would involve country studies, regional discussions, international consultations and information exchange. In addition, the work should seek conceptual clarification of the relationships between "statistics" and "indicators" and seek appropriate terminology for various types of indicators (e.g. institutional, behavioural, structural, perceptual, resources, results, means, ends, goals, input, output, etc.).

As in the case of human resources indicators, UNESCO has recently brought out another volume of papers on the use of socio-economic indicators in developing planning.[18] These include a theoretical and methodological paper on social indicators, one focused on practical problems, two case studies on the use of socio-economic indicators in development planning, three case studies on the development of indicators of distribution and one on a new approach to the construction of social models. Earlier, UNESCO had also issued a set of papers on the problems of definition and selection of social indicators.[19] It contains a paper on problems of methodology and selection, one on a method for the selection of a compact set of variables and another on a method of establishing a list of development indicators. Another publication including certain unpublished papers and the two studies recently conducted in Thailand and the Philippines is expected soon.

The work of UNESCO in this regard has thus so far been directed towards the promotion of theoretical and applied research. Its efforts are reportedly directed towards the requirements of developing countries, not only for the definition of con-

17) UNESCO: Meeting of Experts on Indicators of Social and Economic Change, Final Report (April 1976) SHC-76/CONF. 607/1.
18) UNESCO: "The Use of Socio-Economic Indicators in Development Planning" (1976).
19) UNESCO: "Social Indicators: Problems of Definition & of Selection, Reports and Papers" in Social Sciences Series No. 30 (1974)

cerns and the identification of indicators for descriptive purposes, but also how to apply indicators as an input in the development planning process of these countries. No conclusions, however, seem to have emerged so far either in regard to the social concerns or in regard to the indicators applicable to developing countries.

Another direction in which work has recently been initiated is towards the development of indicators of the quality of life and environment. The first meeting of experts on this subject was held in December 1976. In a background paper submitted to the meeting, UNESCO observes: "The concept of 'quality of life' which is now a subject of universal concern, seems to have developed, if not to have originated, in industrialized countries with a high standard of living in reaction to an economic growth which no longer seemed to be justified. Even more strongly, this concern with quality represented a reaction against a number of negative consequences of a type of socio-economic and cultural development which was dictated in the main by the dynamics of economic growth."[20] It recognizes, therefore, that it may lead to controversy "(a) in countries which, not being materially as developed as those already referred to, were wary of a concept which was associated, at best very dubiously, with a certain level of material wealth and might thus be seen as a 'rich man's problem' which only affected certain affluent societies; (b) in the vast majority of developing countries, where a large proportion of the population were more concerned by the problem of survival than by any problem of quality of life".

In view of the ambiguity of the very concept "quality of life," it raises certain fundamental questions for consideration.

(a) Should the quality of life be defined in terms of individual perception?

(b) Is "societal" quality of life the sum of all the individual qualities of life?

(c) Is satisfaction a yardstick of quality of life?

(d) Can the quality of life be divided into component parts?

(e) What additional contribution does the concept of "quality of life" make to social analysis and the understanding of social change?

(f) Is it possible, and under what circumstances, to consider establishing a relationship between objective and subjective indicators?

(g) What role might the notion of quality of life play in determining social policies?

20) UNESCO: SS.76/CONF. 629/2

A round-table meeting organized earlier (November 1975) by the European Co-ordination Centre for Research and Documentation in Social Sciences, Vienna, had agreed that "quality of life" was an evaluation concept ultimately concerned with the good life for individuals rather than with some state of society and that it involved both subjective and objective characteristics of individual existence. It was described as a specific perspective with a focused concern on the individual, from which data, such as social indicators, were evaluated in an interrelated system, The development of a value frame from the various value systems empirically or theoretically available was seen as a crucial task for making the concept of quality of life operational to decision makers. Its definitive evaluative approach and its system context were seen as two distinctive features, which did not necessarily apply to social indicators. The concept of quality of life for a given context was shaped by the values, social structure, and social organization characterizing that context. The relevance of the context for planning was considered with specific reference to subjective indicators and it was agreed that no direct translation of people's preferences into goals for planning was possible because individual preferences were mostly not integrated into a long-term and system perspective.

Apart from its general interest in the development of social indicators, UNESCO is also engaged specifically in the development of indicators in its own fields of primary interest, that is, education, science and culture. In this effort, it has been collaborating with the UN Statistical Office and the Economic Commission for Europe. At the third meeting on statistics in education, convened in April 1976 under the auspices of the Conference of European Statisticians, UNESCO presented a paper on Current Social Indicators in the field of Education[21] in which the relative merits of the educational indicators published by UNESCO vis-a-vis those published or proposed by other international or national agencies were discussed. UNESCO publishes in its Statistical Year Book, besides the usual basic statistical series on education, a series of 17 derived indicators concerning enrolments, teachers finance and facilities and educational attainments as against 14 suggested by United Nations (SSDS) and eight used by UNRISD in its work. These include gross, net and age-specific enrolment ratios at various levels; female enrolment; enrolment in private institutions; foreign students; pupil-teacher ratios; female teaching staff; public expenditure on education in relation to GNP; national budget; and pupils literacy and educational attainment. New indicators based on flow analysis which takes into account the sequential stages of the educational process, educational wastage and educational manpower are being developed.

UNESCO also compiles a series of indicators covering manpower engaged in scientific and technological work and expenditure on research and development. These show the number of scientists, engineers and technicians in relation to the

21) UNESCO: UNESCO/CES/AC.23/21

total as also to the economically active population, and those engaged in research and development; the ratio of technicians to scientists and engineers; the number of science graduates in relation to population; and expenditure on research and development in relation to GNP, population and the number of scientists and engineers engaged in such work.[22]

The various departments of UNESCO are reported to be working on the further development of indicators relating to education, science and technology, culture and mass communication.[23] A meeting on cultural statistics was held in September 1974, under the joint auspices of UNESCO and the Conference of European Statisticians. It discussed the objectives and systematization of cultural statistics; the distribution of cultural facilities and activities among regions and population groups, time-budgets and the role of sample surveys in cultural statistics.[24] UNESCO also presented a paper on cultural statistics to the ESCAP Committee on Statistics[25] which indicated the present and future programme of UNESCO in this field. The present statistical coverage includes cultural facilities; production diffusion and content of cultural goods and services; popular participation in cultural activities; cultural expenditures; and the staff employed in cultural institutions. In view of the oft-repeated criticism that the present coverage and content of cultural statistics does not reflect the cultural traditions and life of many of the developing countries, UNESCO has, in recent years, been exploring the possibilities of extending the scope of its cultural statistics programme to such unexplored fields as oral traditions and has plans to take up theatres, musical activities, sports, languages, etc. It is hoped that the new statistical programme will lead to the development of a realistic system of cultural indicators.

World Health Organization (WHO)

A WHO Study Group on Measurement of Levels of Health had in 1955[26] put forward many ideas that are now regarded as of great practical importance in the planning and evaluation of health services. It had, *inter alia,* laid down six criteria for the selection of health indicators: availability, coverage, quality of basic data, comprehensiveness, simplicity and discriminatory power. These six have apparently been taken into consideration in evolving the health indicators for the measurement of levels of living.

22) Conference of European Statisticians: Working Party on a System of Social and Demographic Statistics, Comparative Study of the Work of International Organizations on Social Indicators, CES/WP. 34/13.
23) *ibid.*
24) Conference of European Statisticians and UNESCO: Meeting on Cultural Statistics, First Session, September 1974, "Report of the Meeting Held in Geneva". UNESCO: CES/AC. 44/6.
25) ESCAP: Committee on Statistics, First Session, November, 1974, Statistics in the Field of Culture E/CN. 11/STAT/L.2.
26) WHO: "Measurement of Level of Health, Report of a Study Group (1957)", Techn. Rep Sr. No. 137

Statistical collections in relation to health planning were considered at the Eighteenth World Health Assembly (1965) and it was established that the basic data requirements for an analytical approach to the provision of health services included demographic and vital statistics, morbidity data, inventories of institutions and manpower, and data on health expenditures. It was reiterated at the Nineteenth World Health Assembly (1966) that statistics would play a growing and essential role in the planning, organization, surveillance and evaluation of health services. In 1968, an Expert Committee on Health Statistics considered the types of statistics required for the planning, administration and evaluation of health services and pointed out the need for a systematic approach to the production of statistics.[27] Given the range of pertinent data covering all aspects of health, establishment of meaningful relationships between sets of data remained a problem, which was left for further review in view of the fact that the complexity of modern health services made it difficult to provide any specific guidelines as to the indices that could be produced for planning and evaluation purposes.

Another Expert Committee on Health Statistics, which met in 1970, produced a report on "Statistical Indicators for the Planning and Evaluation of Public Health Programmes."[28] The Committee addressed itself to (a) the relationship between health statistics and health planning, and (b) the identification of health information systems required (and capable of being developed) if the process of planning and evaluation were to be fully effective. The Committee suggested that the full range of components required to produce integrated national, regional and local statistics should ultimately cover:

(a) vital statistics and demography;
(b) environment in relation to health;
(c) morbidity, including subjective and objective aspects;
(d) utilization and non-utilization of services;
(e) drug production and consumption;
(f) facilities and equipment;
(g) manpower and training;
(h) expenditure and finance; and
(i) social aspects of health.

Dealing specifically with social indicators, the Committee observed that among the groups of indicators considered to have an effect on health were those related to physical development, food consumption, education, working conditions, housing, transportation, employment, clothing, recreation and social insurance coverage. The Committee opined that data on morbidity, disability and functional impairment were probably much more sensitive indicators of health, well-being

27) WHO: Techn. Rep. Sr. No. 429 (1969)
28) WHO: Techn. Rep. Sr. No. 472 (1971)

and productivity, than mortality data. Once these indicators were available, the use of correlational analysis and factor analysis should suggest associations between these data and social and level-of-living indicators.

Over the last several years WHO has been collaborating with the UN Statistical Office and the Economic Commission for Europe (ECE) in the development of the System of Social and Demographic Statistics. In the latest contribution on "Social Indicators in the Field of Health" submitted to the second Joint ECE/WHO Meeting on Health Statistics, held in October 1976, WHO reviewed the UN proposal for international guidelines for social indicators in the light of comments received from the health departments of a number of European countries. It pointed out inter alia that an unfortunate confusion still persisted with regard to the definitions of terms such as health statistics, health indicators and health index, and suggested that, in general:

(a) "health statistics" should include data compiled in a numerical form required for the administration of health services;

(b) "health indicator" refers to a single measure which summarizes data concerning the health status of an individual or a population or the health services (their activity or outcome); and

(c) "health index" may be defined as a composite measure, e.g., a functional relationship between two or more indicators, which purports to reflect the health status of an individual of a defined group.

The paper also pointed out that the health services of a country were a complex functional system including a large group of social and economic services and activities beyond those of the traditional health-care services. A comprehensive system of health indicators should, therefore, include not only those indicators directly related to the specific health-care services and their activities but also take into consideration the impact on health of those other services and programmes. An independent project recently taken up by WHO concerns the development of statistical indices of family health. In 1971, WHO, with the support of UNFPA, convened a consultative meeting of experts on statistical aspects of the family as a unit in health studies (a) to review various approaches to the study of family health in order to obtain guidelines for the translation of the concept of family health into an operational tool suitable for the collection and analysis of relevant data; (b) to discuss possible sources of information for the study of health and disease with particular emphasis on the possibilities of better utilization of existing information; (c) to discuss the various types of statistical study and survey required to enlarge knowledge of the family regarding health status and patterns, etc. The meeting explored the demographic, epidemiological (medical), social and economic approaches to the study of the family as a basic unit of health care research and recommended that the economic approach to family health should

be urgently pursued on the national as well as the international level. It observed in this connection that the demographica pproach was a long-term approach, while the social approach was methodologically difficult. In the medical approach the central problem was the search for an index or series of indicators that could measure the health status of the family based on medical and other data.

The consultative meeting was followed by a Study Group on Statistical Indices of Family Health set up in 1975.[29] The Group identified the two main problems in the search for a set of indicators of family health as: those of measurement, and those of information collection and treatment. It emphasized, in particular, the need to develop indicators for (a) the identification of families that might be considered to be at high risk of physical and mental illness, and (b) the compilation of the number and/or proportion of such families in the general population, and suggested some possible indicators under the following heads and sub-heads.

A. Demographic indicators

(a) General
  (1) Mortality (2) Fertility (3) Abortion
  (4) Childlessness (5) Premature retirement and disability
(b) Background
  (1) Age structure (2) Household or family structure
  (3) Family size (4) Urban/rural residence
  (5) Population density
(c) Additional
  (1) Duration of married/family life
  (2) Widowhood (3) Person-years of life generated by marriage
  (4) Survival (5) Orphanhood

B. Mental health indicators

(a) Individual indicators
(b) Family indicators
  (1) Characteristics
  (2) Events
  (3) Psycho-social characteristics
(c) Family disfunction
(d) Mental health service utilization

C. Physical and organic health indicators

(a) Indices of ill-health

29) WHO: "Statistical Indices of Family Health", Report of a WHO Study Group (1976) Technical Report Series No. 587.

(b) Indices of health
(c) Indices of at-risk status

D. Social indicators

(a) Division of labour
(b) Stress conditions
(c) Quality of life

E. Family-planning indicators

(a) F.P. service indices
(b) F.P. impact indices

The Group also made a series of recommendations outlining the role of WHO in the development of family health indices.

In pursuance of a resolution of the World Food Conference held at Rome in 1974, an Expert Committee, convened jointly by the Food and Agriculture Organization of the United Nations (FAO), the United Nations Children's Emergency Fund (UNICEF) and the World Health Organization (WHO), met in October 1975 at Geneva and submitted a report on the Methodology of Nutritional Surveillance.[30] The aim of the report was to provide guidelines on the nature of a surveillance system, on the methods for setting it up, and on the principles for its operation. The Committee was particularly concerned with the surveillance of nutritional problems in developing countries. Surveillance was seen as providing at one and the same time an early-warning system for nutritional disasters and a method of monitoring trends in a situation of chronic deprivation. It would be based on the regular collection of data, which would be analyzed to give indicators of present or future change of nutritional status. The information from which indicators could be devised covered a broad range including nutritional status and disease pattern:

(a) ecology, demography and infrastructure;
(b) resources and production; and
(c) income and consumption.

The Committee considered indicators useful for nutritional surveillance under two broad heads: (a) agricultural and socio-economic variables; and (b) health and dietary indicators. Under the former indicators have been suggested separately for each type of food supply, viz., subsistence cropping, subsistence livestock, subsistence fishing, cash cropping, commercial livestock, and wage employment. a simplified list of agricultural and socio-economic indicators Table 3 shows.

30) WHO: "Methodology of Nutritional Surveillance," Report of a Joint FAO/UNICEF/WHO Expert Committee (1976), Technical Report Series No. 593.

Table 3: Simplified list of agricultural and socio-economic indicators for a nutritional surveillance system

Subsistence cropping		
Early indicators		Later indicators
Rainfall patterns		
Major crop pests	Crop areas	Harvested outputs
Major crop diseases	Crop yields	
Upstream river flows	Flooded areas	
Subsistence livestock		
Early indicators		Later indicators
Rainfall patterns		
Positive pests	Pasture availability	Livestock productivity
Animal diseases	Water availability	Livestock numbers
Market-dependent food consumption		
Formal sector employment		
cost of adequate diet or	)	
cost of adequate quantity of staples	)	in relation to
Numbers employed by wage class	)	minimum wage rates
Informal sector employment		
Cost of adequate diet or	)	in relation to incomes
cost of adequate quantity of staples	)	

Under the category of health and dietary indicators, several have been suggested on growth and body dimensions, sexual development, nutritional status, sex-ratio, mortality, morbidity, and health services. An abbreviated list is given below.

Table 4: Abbreviated list of indicators of nutritional status

Phenomenon	Indicator
Maternal nutrition	Birth weight
Infant and pre-school child nutrition	Proportion being breast-fed and proportion on weaning food, by age in months
	Mortality rates in children aged 1, 2, 3 and 4 years, with emphasis on 2-year-olds
	If age known
	weight-for-height
	weight-for-age
	If age not known
	weight-for-height
	arm circumference
	clinical signs and syndromes

School-child nutrition	Height-for-age, and weight-for-height at 7 years or school admission Clinical signs

The Committee has also suggested further research on causal relationships, significance of health indicators and operational problems. It recommended establishment of nutritional surveillance systems, primarily concerned with vulnerable population groups, based on selected indicators and standardized procedures. They should be of a multisectoral nature, functional at regional and local levels, under central direction from the national level.

Food and Agriculture Organization of the United Nations (FAO)

Apart from collaborating with WHO and UNICEF in the Nutritional Surveillance Programme, FAO has also developed its own programme of economic and social indicators pertaining to food and agriculture. In a paper submitted to the Statistics Advisory Committee at its sixth session[31] (1973), FAO outlined a programme to serve the needs of review, appraisal and development planning, closely coordinated with its activities for improvement of basic statistics and linked up with the development of indicators by other international agencies in their respective fields of responsibilities. It defines an "indicator" as "a numerical measure or set of numerical measures which briefly indicates the state of society in an important aspect of certain given fields of interest or problem areas of concern, and changes in the state over time and space". The use of indicators which are not quantified or quantifiable is thus excluded by the definition. The indicators have been divided into two groups, economic and social, although it has been recognized that the dividing line is not particularly clear. Economic indicators have been defined as those which relate directly to economic activities in the agricultural sector. The social indicators proposed have been designed to meet the information needs in some widely recognized social concerns which directly relate to the goals or objectives of FAO as laid down in the preamble to its constitution, viz.:

(a) raising levels of nutrition and standards of living of the peoples in member countries;
(b) securing improvements in the efficiency of the production and distribution of all food and agricultural products; and
(c) bettering the conditions of rural populations.

Broadly, the economic indicators proposed relate to objective (b), and the social indicators to (a) and (c).

31) FAO: Statistics Advisory Committee of Experts, Sixth Session (October 1973): "Towards a Work Programme of Economic and Social Indicators Pertaining to Food and Agriculture", ESS: SAC/73/3.

In all, 104 economic indicators and 20 social indicators are proposed. These may be grouped as follows.

Economic indicators

(a) Over-all position of agriculture in national economy (3)

(b) Growth-rate of output of agriculture, forestry and fishery (4)

(c) Growth-rate of agricultural output and its components (6)

(d) Growth-rate of contribution to gross domestic product (4)

(e) Importance of fishery and forests to agriculture and its components (7)

(f) Land productivity (10)

(g) Livestock numbers and productivity (6)

(h) Means of pro uction and productivity (5)

(i) Irrigation (4)

(j) Modernization of agriculture sector (6)

(k) Agricultural service and infrastructure (3)

(l) Agricultural structure (9)

(m) Land use (12)

(n) Trade and prices (25)

Social indicators

(o) Average levels of nutrition and living (4)

(p) Inequality in distribution of food (2)

(q) Indicator of poverty (1)

(r) Dependence of population on agriculture and intersector distribution of manpower and labour force (5)

(s) Extent of unemployment and underemployment (4)

(t) Income and productivity indicators (2)

(u) Over-all indicators of dependency (2)

The social indicators proposed are reproduced in Annex C, pages 161–65.

The work programme has apparently been approved by the Statistical Advisory Commitee and efforts are being made to build up the indicators with the help of FAO's interlinked computer system. The next issue of the World Food Survey, the fourth in the series, is expected to include most of the indicators to the extent possible. In the meantime, it continues to publish some of its regular series such as index numbers of agricultural production, per-capita availability of calories and proteins, etc.

International Labour Organization (ILO)

The ILO has for long been collecting, compiling and publishing statistics in a standardized manner on the economically active population, employment and unemployment, wages, hours of work, consumer prices, incomes and expenditures, industrial disputes, employment injuries and social security. These statistics provide a variety of socio-economic indicators of considerable value.

Like other specialized agencies, the ILO has also been co-operating with the UN Statistical Office and the Economic Commission for Europe in the development of the System of Social and Demographic Statistics. It has been stated: "In addition to work on social indicators relating to the distribution of income and consumption expenditure (with particular reference to the measurement of mass poverty), manpower, occupational health and safety, general working conditions and social security, the ILO is planning to undertake work on indicators of human resources development with the aim of developing a system to help match labour potential with job requirements. The project will involve work in several fields, in particular, education and training; manpower, including the quality of employment life and employment services, and services relating to educational guidance and career orientation; and social stratification and social mobility."[32] No evidence of completed research in this direction is yet available.

In a paper on "Employment Indicators for the International Development Strategy," an ILO consultant (Robert V. Horn) in 1974 presented certain proposals, which include certain statistical tabulations as well as derived indicators,

32) Conference of European Statisticians CES/WP. 34/13

designed to measure the progress towards the goals of the International Development Strategy. They may be grouped under the following heads:

(a) Population;
(b) Labour force participation and structure;
(c) Occupational distribution and status;
(d) Unemployment;
(e) Underemployment;
(f) Income; and
(g) Production.

The indicators proposed are those usually available, with the possible exception of the one on income which calls for data on earners below a standard line of low income or expenditure needs, by urban—rural or similar division, size of household, industry and other available characteristics.

The ILO has an extensive research programme under its World Employment Programme.[33] Although it is not specifically designed for or directed towards the development of any indicators, the research projects are of some relevance in so far as they produce or use a variety of indicators. The research programme which commenced in 1972 has had two main components. Firstly a series of studies, mostly at the national level, have been initiated and many of them have been completed. These include analysis of labour-force participation, fertility, internal migration, population pressure in agriculture, demographic factors in consumption and savings, etc. Secondly, these studies, together with other relevant data, have served as the basis for building large-scale, economic-demographic planning (BACHUE) models. These models facilitate evaluation of the impact of a variety of policies on employment, income distribution, population size and structure and related issues. Two new components of the research programme concern migration and the relationship of labour policies to family size.

Regional Commissions of the United Nations

Among the regional commissions, the Economic Commission for Europe (ECE) has been closely associated with the work of the United Nations Statistical Office in the development of the System of Social and Demographic Statistics and guidelines on social indicators. A working party on SSDS set up by the Conference of European Statisticians has so far had six sessions to consider the various aspects of the system. The Conference has also convened several meetings with specialized agencies to discuss special aspects such as educational, cultural,

33) Also referred to variously as Population and Employment Programme, Population and Labour Policies Programme, Labour & Population Programme.

health and manpower statistics. The Draft Guidelines on Social Indicators prepared by the UN Statistical Office have been considered by the Conference of European Statisticians and its Working Party on SSDS, and their views have been taken into account in finalizing the Draft.[34]

The Economic and Social Commission for Asia and the Pacific (ESCAP, formerly ECAFE) had in an independent effort, unrelated to the SSDS, formulated a set of indicators of social development in pursuance of a recommendation of its Working Group on Social Statistics (1971). The indicators were discussed at the Second ECAFE Conference on Social Development and at the eleventh and twelfth Sessions of the Conference of Asian Statisticians. The indicators are development-oriented and related to the major goals of social development as perceived in the developing countries of Asia and the Pacific. The list of 47 indicators finally approved at the 12th Session of the Conference of Asian Statisticians have been classified as follows:[35]

(a) Population (5);
(b) Health (6);
(c) Housing (5);
(d) Nutrition (5);
(e) Education and culture (12);
(f) Employment and social security (2);
(g) Personal security (2); and
(h) Consumption, wealth and social welfare (6).

ESCAP has given consideration to the SSDS and some of its subsystems at the meetings of its Working Groups on Social Statistics, Current Demographic Statistics and Manpower and Labour Statistics.

The Conference of African Statisticians convened by the Economic Commission for Africa (ECA) also gave consideration to the SSDS at its seventh session held in 1971.

Other UN bodies

An *Ad Hoc* Expert Group on Indicators of the Quality of Urban Development, convened at New York in December 1975[36] described urban indicators as integrative in so far as they measure the multidimensional character of the process of urban growth and development. They encompass selected segments of a comprehen-

34) UN Statistical Commission, Nineteenth Session (November 1976), "Strategy for Further Work on a System of Social and Demographic Statistics". E/CN. 3/489.
35) ECAFE: Conference of Asian Statisticians, twelfth session (Dec. 1973) Indicators of Social Development, E/CN. 11/ASTAT/Conf.12/L.11 and Add.1.
36) UN: "Report of the *Ad Hoc* Expert Group Meeting on Indicators of the Quality of Urban Development" (Dec. 1975).

sive social organization, which is to say, a complex network of interrelated and open subsystems. They have been classified as:

(a) fundamental indicators which demonstrate the conditions and the evaluation of the environment, including the many aspects of the quality of urban living;

(b) instrumental indicators, which measure variables likely to be affected by government policies; and

(c) normative indicators, which are used to measure the extent of, and to evaluate the effects of government actions either ex ante or ex post.

The Group argued that emphasis on numerical quantitative indicators could be misleading and emphasized that value-reflecting qualitative indicators were indispensable supplements to quantitative indices of the nature and magnitude of changes in urban areas. The basic components recommended for the formulation of indicators include population, land, shelter, urban services, employment and income.

The UN Centre for Housing, Building and Planning, which organized the above-mentioned Ad Hoc Expert Group, has also taken up for consideration the formulation of social indicators for housing. Following the recommendations of an *Ad Hoc* Expert Group Meeting on Social Indicators for Housing and Urban Development[37] held in 1971, the Centre has prepared a preliminary draft of social indicators for housing. Getting away from the concept of level-of-living indicators, used at present in statistics of housing, the paper presents an expanded notion of housing as a process affecting the lives of its users and including not only the dwelling but also its immediate neighbourhood and its location. It distinguishes the statistical approach which implies the improvement of the statistical indicators used today in order to reflect better the social aspects, and the normative approach which implies identification of social goals and concerns in housing and translation of the goals into indicators to reflect some aspect of social concern. It proceeds to identify the following social concerns: (a) health, (b) safety, (c) activity and family life support, (d) work productivity and school performance, (e) access to services, recreation and employment, (f) participation in the planning, construction and management of housing, and (g) dwelling and neighbourhood satisfaction. A number of indicators have been suggested in respect of each of these concerns.

Organization for Economic Co-operation and Development (OECD)

Outside the UN system, the most comprehensive, scientific and systematic work

37) UN: "Social Indicators for Housing and Urban Development" (1971) ST/ECA/173

towards the development of social indicators has been carried out by OECD, a body comprising 24 industrially advanced nations ranging from Japan and Australia in the East, to Western Europe, Canada and USA. In 1970, OECD declared at the ministerial level that growth should be considered as "an instrument for creating better conditions of life" and that hence "increased attention must be given to the qualitative aspects of growth, and to the formulation of policies with respect to social choices in the allocation of growth resources". Accordingly, the Manpower and Social Affairs Committee of the Organization established in 1971 a Working Party on Social Indicators with the general objectives of (a) identifying the social demands, aspirations and problems which are, or will be, likely major concerns of socio-economic planning processes; (b) measuring and reporting change relative to those concerns; thus (c) better focusing and enlightening public discussion and governmental decision making.[38]

Phase I of the Social Indicators Development Programme resulted in agreement among member governments on a list of 24 fundamental social concerns and associated sub-concerns grouped under eight Primary Goal Areas;[39]

(a) Health;
(b) Individual development through learning;
(c) Employment and quality of working life;
(d) Time and leisure;
(e) Command over goods and services;
(f) Physical environment;
(g) Personal safety and the administration of justice; and
(h) Social opportunity and participation.

This list of concerns, structured around the concept of social well-being, has been adopted by the OECD Council as the basis for Phase II of the programme, the objective of which has been defined as follows:

> "To develop and to seek agreement on the specifications for a set of social indicators designed explicitly to reveal, with validity, the level of well-being for each social concern in the list common to most member countries and to monitor changes in those levels and time."[40]

Phase II has so far concentrated on the specification of the indicators, leaving matters of definition, disaggregations, etc. to a later stage. A comprehensive report covering (a) the scope, content and approach in each area of social concern, (b)

38) OECD: "Social Indicators—The OECD Experience" by David E. Christian, June 1974.
39) OECD: Social Indicator Programme, Vol. I, "List of Social Concerns Common to most OECD Countries", 1973.
40) OECD: "Social Indicators: Progress Report on Phase II—Plan for Future Activities" MAS (76) 18, June 1976.

the results achieved, and (c) the outstanding issues and possible ways of tackling these, has recently been circulated to the Manpower and Social Affairs Committee, and is now in publication.[41]

Work on indicator specification has been undertaken in some twenty areas of the social concerns, and indicators have been developed for about one half of them. Incidentally some refinements and modifications of the 1973 list of social concerns and sub-concerns have been made, resulting in a redesignation of 23 social concerns. The Goal Area designated as "Command over goods and services" has been redesignated as "Personal economic situation", and following the Goal Area called "Physical environment", a new Goal Area called "Social environment" has been introduced, thus making a total of nine Primary Goal Areas in all. The concerns, sub-concerns and indicators so far developed are indicated in Annex D, pages 165–77.

On the basis of this work, and with a view to establishing social indicators in the regular data collection and reporting procedures of OECD countries as soon as possible, new methods of work and a slightly different orientation have been adopted. Firstly, a selection has been made from the full list of social concerns for priority attention. Secondly, the advanced expertise and specific interest in particular areas that exist in OECD countries has been brought together in so-called "Common Development Efforts" (CDEs). In these CDEs, groups of OECD countries work together with the OECD Secretariat on specific, well-defined problems from within the social concerns on the full list. It is anticipated that in this way a working list of social indicators can begin to be implemented within the next two years.

The actual work within these CDEs will, therefore, extend from mere specification of indicators to precise statistical definitions and disaggregations and recommendations on appropriate methods of data collection. In addition, a number of CDEs have been established with a co-ordinating role vis-a-vis the general problems of data collection and reporting and for ensuring the applicability of the concerns and indicators to different national contexts. A total of 16 projects is presently underway.

In these activities the OECD works closely with experts from other international organizations. The United Nations Statistical Office monitors the programme with respect to its statistical implications and participates directly in some of the CDEs. Similarly, the project on Health Indicators is co-ordinated with WHO, those on employment indicators with ILO, the one on learning with UNESCO, etc.[42]

41) OECD: "Measuring Social Well-being: A Progress Report on the Development of Social Indicators", MAS/WPI (76) 2, 1976.
42) Communication dated 16 November, 1976 from the Social Indicators Section, OECD.

David E. Christian, formerly of the OECD and responsible for this programme in its first phase, explains[43] that the term "well-being" has been used in the OECD work in order to avoid confusion with the concepts of welfare economics, and that it does not differ materially in concept from "quality of life". The OECD's emphasis is on establishing a limited number of indicators which together would provide a more meaningful perspective (than GNP) on changes in over-all welfare, which means indicators of well-being achieved, not of means or causes. The effort is thus limited to a fairly narrow, albeit vital, segment of the wide range of what are called social indicators. The concept of well-being is also limited, in the main, to that recognizable at the level of the individual and it is assumed that the well-being of social institutions, organizations or processes takes on significance mainly as it affects the quality of life of individuals. Indicators of well-being are seen as a first step towards a much more comprehensive and satisfying system of data for monitoring social policies and issues.

The term "social concern" has been defined as "an identifiable aspiration or concern of fundamental and direct importance to human well-being" as opposed to a matter of instrumental or indirect importance to well-being. The concept has been further limited to concerns of present or potential interest to governments, thus further distinguishing it from the broader range of problems of concern to social science. It has been explicitly clarified that the objective at this stage is not a comprehensive conceptual system of social concerns based on a possible social welfare function applicable to all member countries. The list of concerns is based squarely on political judgement.

"Social indicator" has been defined as a "direct valid statistical measure which monitors levels and changes over time in a fundamental social concern". Rejecting the idea of an over-all index of well-being, the OECD programme seeks to achieve an over-all perspective as to how measurable well-being changes from year to year. This requires the smallest possible number of indicators (ideally one) for each social concern. Thus the emphasis on maximum aggregation or synthesis —with the vital understanding that component data as well as distributional data will be available for analytical uses. However, some amount of disaggregation has been indicated in the specification of indicators.

Other international organizations

Several other international organizations, including the European Economic Community (EEC), the Council of Europe, the Council for Mutual Economic Assistance (CMEA) and the Inter-American Statistical Institute, are reported to be active in the study of social indicators. The Statistical Office of the European Community has constituted a Working Party on Statistics for Social Indicators, which is con-

43) *ibid.*

centrating in the first stage on the selection of a minimum of meaningful and available data. The Inter-American Statistical Institute has an annual publication on social statistics (published in collaboration with the Organization of American States) and is working on a programme of social indicators.[44]

The Council of Europe and CMEA have wide-ranging social indicators programmes.[45] Both are engaged in development of guidelines for their respective member countries, as also in the compilation of social indicators for purposes of appraising progress towards the social goals of the Second Development Decade. The Council of Europe is working on a blueprint setting out the social indicators and other information in specific fields to be included in national social reports to be drawn up by member countries at regular intervals. It is also collecting and compiling selected social indicators for a regular review of the extent to which countries are complying with the European social charter and the European code of social security. The CMEA Standing Committee on Statistics has approved a number of indicators and further work is in progress. The social indicators recommended for long-term prognostic studies and plans include indicators related to social care of children and youth, education, care of the aged, care of the disabled and war victims, health, housing, intellectual and cultural needs, physical culture, tourism and recreation. A list of the indicators is presented in Annex E.

Conclusion

The above review, though not comprehensive, and possibly not complete, indicates broadly the scope, nature and direction of work being carried out by various international organization in regard to social indicators. The main directions may be summed up as follows:

(a) social indicators linked with the system of Social and Demographic Statistics formulated by the UN Statistical Office in collaboration with the specialized agencies and regional commissions;

(b) indicators of well-being related to the goals of social policy as perceived by the policy makers, developed by OECD;

(c) sectoral indicators developed by the specialized agencies in their respective fields of interest; and

(d) methodological and applied research on the development and use of indicators, promoted by UNESCO and UNRISD.

44) United Nations: Statistical Commission, nineteenth session (November 1976), "Draft Guidelines on Social Indicators", E/CN.3/488.

45) Conference of European Statisticians Working Party on a SSDS, Comparative Study of the Work of International Organizations on Social Indicators CES/WP.34/13 (1974).

The approach of the Statistical Office is mainly statistical, aimed at catering to the general needs and is the most comprehensive, but it is apparently somewhat unsure of its ground. The approach of the OECD, on the other hand, seems to be purposive and user-oriented with a clear direction, but apparently there are practical difficulties in finding suitable indicators. The approaches of the specialized agencies in elaborating indicators in their respective fields of interest seem to be based on felt needs, although in some cases they appear to be too ambitious. As between the approaches of UNESCO and UNRISD, while the latter is demonstrably practical the former seems to be somewhat academic. Although UNESCO views its programme as complementary to that of the OECD insofar as it seeks to do for the developing countries what the OECD has been doing for the developing countries, it has not so far shown an equally clear direction.

Annex A

Illustrative examples of social indicators for different types of countries (UN Statistical Commission)

A least-developed country[a]	A developing country[b]	A developed country
	I. Population	
A. Size, structure and changes in population		
1. Size of the population (benchmark and annual estimates): Total and percentage under age 15	Size of the population (annually): Total and percentage under age 15	Size of the population (annually): Total and percentage under age 15 and over age 65
2.	Selected national or ethnic groups as percentages of the total population (infrequently)	Selected national or ethnic groups as percentages of the total population (infrequently)
3. Selected socio-economic classes as percentages of the total population (benchmark)	Selected socio-economic classes as percentages of the total population (infrequently)	Selected socio-economic classes as percentages of the total population (infrequently)
4. Number and rate of net change in total population (benchmark and annual estimates)	Number and rate of net change in population (annually): Total and under age 15	Number and rate of net change in population (annually): Under age 15, over age 65 and total
5. Rate of live births: Total (annual estimates) and for females of selected age classes (less than annual estimates)	Rate of live births (annually): Total; for females ages 20–24, 25–29, 30–34; and for selected national or ethnic groups	Rate of live births (annually): Total and for selected national or ethnic groups

6. Gross or net reproduction rate (infrequently)	Gross or net reproduction rate (annually)	Gross or net reproduction rate (annually)
7. Number of deaths and rate per 1,000 population (annual estimates)	Number of deaths and rate per 1,000 population (annually)	Number of deaths and rate per 1,000 population (annually)
8. Net international migration, number and rates per 1,000 population (infrequent estimates)	Net international migration, number and rates per 1,000 population (annual estimates): Own-account workers in the professional, technical and similar fields; Managers, supervisors and professional workers (employees outside agriculture) Selected national or ethnic groups	Net international migration, number and rates per 1,000 population (annual estimates): Own-account workers in the professional, technical and similar fields; Managers, supervisors and professional workers (employees outside agriculture) Selected national or ethnic groups Total
B. Geographical distribution of population		
1. Number, percentage and density of the population (infrequently): Urban, rural and total large places Geographical areas	Number, percentage and density of the population (annually or less frequently): Urban, rural and total Large places Geographical areas	Number, percentage and density of the population (annually): Urban, rural and total Large places Geographical areas
2. Number and rate of net change per 1,000 population (infrequent estimates): Urban, rural and total Large places; Geographical areas	Number and rate of net change per 1,000 population (annual or less frequent estimates): Urban, rural and total Large places Geographical areas	Number and rate of net change per 1,000 population (annual estimates): Urban, rural and total Large places Geographical areas
3.	Gross reproduction rate (annual estimates): Urban, rural and total Geographical areas	Gross reproduction rate (annually): Urban, rural and total Geographical areas
4.	Number and rate of net internal migration per 1,000 population (infrequent estimates): Between rural, urban Into large places Out of or into selected geographical areas	Number and rate of net internal migration per 1,000 population (infrequent estimates): Between rural, urban Into large places Out of or into selected geographical areas

II. Family formation, families and households

A. Family formation and stability		
1.	Number and percentage of family nuclei with lone parent, urban, rural and total (infrequently)	Number and percentage of family nuclei with lone parent, urban, rural and total (infrequently)
2.	Percentage of family nuclei with more than two children, urban, rural and total (infrequently)	Percentage of family nuclei with more than two children, urban, rural and total (infrequently)
3.	Percentage of population living in family nuclei, urban, rural and total (infrequently)	Percentage of population living in family nuclei, urban, rural and total (infrequently)
4.	Percentage of the population living alone (infrequently): Male, female Urban, rural and total	Percentage of the population living alone (infrequently): Male, female Urban, rural and total
5.	Ratio of family nuclei to households (exclusive of persons living alone), urban, rural and total (infrequently)	Ratio of family nuclei to households (exclusive of persons living alone), urban, rural and total (infrequently)
6.	Average age at first marriage (infrequent estimates): Male, female Urban, rural and total	Average age at first marriage (infrequently): Male, female Urban, rural and total
7.	Proportion of the population ever married, selected ages (infrequently): Male, female Urban, rural and total	Proportion of the population ever married, selected ages (infrequently): Male, female Urban, rural and total
8.		Number and rate of marriages broken by divorce (annually)

III. Learning and the educational services

A. Educational attainments of the population		
1. Percentage of literates (infrequently): Male, female Ages 15–24, 25 and over; Urban, rural and total	Percentage of literates (infrequently): Male, female Ages 15–24, 25 and over Urban, rural and total Geographical areas	
2. Median years of schooling completed (infrequently): Male, female	Median years of schooling completed (infrequently): Male, female Ages 15–24, 25 and over	Median years of schooling completed (infrequently): Male, female Ages 25–29, 30 and over

Ages 15–24, 25 and over; Urban, rural and total	Urban, rural and total Selected national or ethnic groups Geographical areas	Urban, rural and total Selected national or ethnic groups Geographical areas
3. Proportion who have completed schooling (infrequently): First level, second level Male, female Ages 15–24, 25 and over; Urban, rural and total	Proportion who have completed schooling (infrequently): First level, second level, third level Ages 15–24, 25 and over Urban, rural and total Geographical areas	Proportion who have completed schooling (infrequently): Second level, third level Ages 25–29, 30 and over Urban, rural and total Geographical areas
B. Use and distribution of educational services		
1. Proportion of population enrolled full-time (annually or annual estimates): Male, female Ages 5–9, 10–14, 15–19; Urban, rural and total	Proportion of population enrolled full-time (annually or annual estimates): Male, female Ages 5–9, 10–14, 15–19, 20–24 Urban, rural and total	Proportion of population enrolled full-time (annually or annual estimates): Male, female Ages 5–9, 10–14, 15–19, 20–24, 25–29 Urban, rural and total
2.	Proportions of population enrolled part-time (infrequently): Male, female Urban, rural and total Ages 10–19, 20–29, 30+	Proportions of population enrolled part-time (infrequently): Male, female Urban, rural and total Ages 10–19, 20–29, 30+
C. Educational achievement		
1.	Rate of change in test scores (infrequently): Selected ages and subjects Urban, rural and total	Rate of change in test scores (infrequently): Selected ages and subjects Urban, rural and total Geographical areas Selected national or ethnic groups
D. Inputs, outputs and performance of educational services		
1. Ratio of students per teacher (annually): Urban, rural and total First level, second level	Ratio of students per teacher (annually): Urban, rural and total First level, second level	Ratio of students per teacher (annually): Urban, rural and total First level, second level, third level (national only)
2. Median level completed by teachers (infrequently):	Median level completed by teachers (infrequently): Urban, rural and total	Median level completed by teachers (infrequently): Urban, rural and total

Urban, rural and total First level, second level	First level, second level	First level, second level, third level (national only)
3. Total consumption expenditures on education per fulltime enrollee (annually or less frequently): First level (urban, rural) Second level	Total consumption expenditures on education per fulltime enrollee (annually): First level (urban, rural) Second level Third level	Total consumption expenditure on education per fulltime enrollee (annually): First level (urban, rural) Second level Third level
4. Total consumption expenditures on education as a percentage of GDP (annually or less frequently)	Total consumption expenditures on education as a percentage of GDP (annually)	Total consumption expenditures on education as a percentage of GDP (annually)
5. Gross fixed capital formation in education as a percentage of total gross fixed capital formation (annually or less frequently)	Gross fixed capital formation in education as a percentage of total gross fixed capital formation (annually): First level (urban, rural) Second level Third level	Gross fixed capital formation in education as a percentage of total gross fixed capital formation (annually): First level (urban, rural) Second level Third level
6.	Unrequited current transfers to institutions and hcuseholds for educational purposes as a percentage of total government outlays for educational purposes (annually or less frequently): First and second levels Third level	Unrequited current transfers to institutions and households for educational purposes as a percentage of total government outlays for educational purposes (annually). First and second levels Third level
7. Proportion of enrollees who successfully complete their year (annually or less frequently): Urban, rural and total First level only	Proportion of enrollees who successfully complete their year (annually or less frequently): Urban, rural and total First level, second level	Proportion of enrollees who successfully complete their year (annually or less frequently): Urban, rural and total First level, second level, third level
8.	Expectation of level or grade of attainment at school entrance age (infrequently): Male, female Urban, rural and total Geographical areas	Expectation of level or grade of attainment at school entrance age (infrequently): Male, female Urban, rural and total Geographical areas
IV. Earning activities and the inactive		
A. Labour force participation		
1. Rates of labour force participation, (annually or less frequently):	Rates of labour force partici-tion, (annually or less frequently):	Rates of labour force participation, (annually): Male, female

	Male, female Ages 15–19, 20+ Urban, rural and total	Male, female Ages 15–19, 20–24, 25— Urban, rural and total	Ages 15–19, 20–24, 25–29, 60–64 Urban, rural and total
2.		Expected years of working life, school-leaving age (infrequently): Male, female Urban only	Expected years of working life (infrequently): Male, female School-leaving age and age 45 Urban, rural and total
3.		Proportion of the population inactive, (annually or less frequently): Male, female Ages 15–24, 25— Urban only	Proportion of the population inactive, (annually): Male, female Ages 15–24, 25–29, 60–64 Urban, rural and total
4.		Proportion of labour force who are first-time entrants (annual or less frequent estimates): Male, female Ages 15–24, 25–44 Urban, rural and total	Proportion of labour force who are first-time entrants (annual estimates): Male, female Ages 15–24, 25–44 Urban, rural and total
5.		Proportion of labour force who die or retire (annual or less frequent estimates): Male, female	Proportion of labour force who die or retire (annual or less frequent estimates): Male, female
6. Proportion of labour force who emigrate (infrequent estimates): Male, female		Proportion of labour force who emigrate (annual or less frequent estimates): Male, female	
B. Employment opportunities and mobility			
1. Proportion of labour force unemployed, specified periods (annually or less frequently): Male, female Urban only		Proportion of labour force unemployed, specified periods (annually or more frequently) Male, female Ages 15–24, 25+ Urban only	Proportion of labour force unemployed, specified periods (annually or more frequently): Male, female Ages 15–24, 25+ Urban, rural and total Geographical areas
2. Proportion of heads of households unemployed, specified periods (annually or less frequently): Urban only		Proportion of heads of households unemployed, specified periods (annually or more frequently): Urban only	Proportion of heads of households unemployed (annually or more frequently): Urban, rural and total Geographical areas
3. Average number of weeks worked during		Average number of weeks worked during year, all mem-	Average number of weeks worked during year, all mem-

year, all members of labour force (annually or less frequently): Male, female Ages 10–14, 15–19, 20 and over Urban, rural and total	bers of labour force (annually or less frequently): Male, female Ages 10–14, 15–19, 20 and over Urban, rural and total	bers of labour force (annually or more frequently): Male, female Ages 15–19, 20–24, 25 and over Urban, rural and total
4.	Index number of accessions to employment (annually or more frequently): Urban only	Index number of accessions to employment (annually or more frequently): Male, female Urban only
5.	Index number of separations from employment (annually or more frequently): Urban only	Index number of separations from employment (annually or more frequently): Male, female Urban only
C. Employment compensation		
1. Mean or median hourly wage rate (annually or specified periods): Male, female Selected categories of economic activity	Mean or median hourly wage rate (annually or quarterly): Male, female Total and selected categories of economic activity Urban, rural and total Geographical areas	Mean or median hourly wage rate (annually or quarterly): Male, female Total and selected categories of economic activity Urban, rural and total Geographical areas
2. Mean or median weekly or monthly earnings (annually or specified periods): Male, female Selected categories of economic activity	Mean or median weekly or monthly earnings (annually or more frequently): Male, female Total and selected categories of economic activity Urban, rural and total Geographical areas	Mean or median weekly or monthly earnings (annually or more frequently): Male, female Total and selected categories of economic activity Urban, rural and total Geographical areas
3.	Employers contributions to benefits as a percentage of earnings (annually): Total and selected categories of economic activity	Employers contributions to benefits as a percentage of earnings (annually): Total and selected categories of economic activity
D. Working conditions		
1.	Average hours worked per week (annually or more frequently): Male, female Urban only Total and selected categories of economic activity Full-time workers, full-time	Average hours worked per week (quarterly): Male, female Urban, rural and total Total and selected categories of economic activity Full-time workers, full-time employees, seasonal and

	employees, seasonal and part-time workers	part-time workers
2.	Rate, per 10,000 man-hours worked, of temporary disabling injuries, selected categories of economic activity (annually)	Rate, per 10,000 man-hours worked, of temporary disabling injuries, selected categories of economic activity (annually)
3.	Rate, per 100,000 man-hours worked, permanently disabling injuries and deaths, selected categories of economic activity (annually)	Rate, per 100,000 man-hours worked, permanently disabling injuries and deaths, selected categories of economic activity (annually)
4.	Proportion employed covered by social security and private pension, insurance and similar welfare schemes, specified dates, (annually or less frequently): Male, female Urban only	Proportion employed covered by social security and private pension, insurance and similar welfare schemes, specified dates (annually): Male, female Urban, rural and total
5.	Average number of days of paid vacations, holidays and sick leaves per employee (annually or less frequently): Male, female Urban only	Average number of days of paid vacations, holidays and sick leaves per employee (annually): Male, female
E. Availability and performance of manpower services		
1.	Proportion of unemployed registered at employment exchanges during specified periods (annually or less frequently): Male, female Urban only	Proportion of unemployed registered at employment exchanges during specified periods (annually or more frequently): Male, female Urban, rural and total
2.	Proportion of economically active enrolled in public retraining programmes during specified periods (annually): Male, female Urban only	Proportion of economically active enrolled in public retraining programmes during specified periods (annually): Male, female Urban, rural and total
3.	Expenditures on public retraining programmes as a percentage of GDP (annually)	Expenditures on public retraining programmes as a percentage of GDP (annually)

V. Distribution of income, consumption and accumulation

A. Levels and growth of household income and accumulation

1. Per capita primary income (benchmark years and infrequent estimates): Urban, rural and total	Per capita primary income (benchmark years and infrequent estimates): Urban, rural and total Geographical areas	Per capita primary income (annually): Urban, rural and total Geographical areas
2.	Annual rate of change, per capita primary income in constant prices: (benchmark estimates) Urban, rural and total	Annual rate of change, per capita primary income in constant prices (annually) Urban, rural and total
3. Per capita property income (benchmark): Urban, rural and total	Per capita property income (benchmark years and infrequent estimates): Urban, rural and total	Per capita property income (annually): Urban, rural and total
4.	Annual rate of change, per capita property income in constant prices (benchmark estimates): Urban, rural and total	Annual rate of change, per capita property income in constant prices (benchmark estimates): Urban, rural and total
5. Available income (or distributed factor income less direct taxes) per capita (benchmark years and annual or less frequent estimates): Urban, rural and total	Available income (or distributed factor income less direct taxes) per capita (annually of less frequently): Urban, rural and total Geographical areas	Available income (or distributed factor income less direct taxes) per capita (annually): Urban, rural and total Geographical areas
6. Annual rate of change, available income (or distributed factor income less direct taxes) per capita in constant prices (infrequent estimates): Urban, rural and total	Annual rate of change, available income (or distributed factor income less direct taxes) per capita in constant prices (annually or less frequently): Urban, rural and total	Annual rate of change, available income (or distributed factor income less direct taxes) per capita in constant prices (annually): Urban, rural and total
7. Primary income as a percentage of available income (benchmark estimates): Urban, rural and total	Primary income as a percentage of available income (infrequent estimates): Urban, rural and total	Primary income as a percentage of available income (infrequent estimates): Urban, rural and total
8. Property income as a percentage of available income (benchmark estimates):	Property income as a percentage of available income (infrequent estimates): Urban, rural and total	Property income as a percentage of available income (infrequent estimates): Urban, rural and total

Urban, rural and total		
9. Gross capital formation in households as a percentage of available income (benchmark estimates): Urban, rural and total	Gross capital formation in households as a percentage of available income (infrequent estimates): Urban, rural and total	Gross capital formation in households as a percentage of available income (infrequent estimates): Urban, rural and total
B. Level and growth of consumption		
1. Per capita final consumption of households (every 2 or 3 years): Urban, rural and total	Per capita final consumption of households (annually or less frequently) Urban, rural and total; Geographical areas	Per capita final consumption of households (annually): Urban, rural and total; Geographical areas
2. Annual rate of change, per capita final consumption of households in constant prices (benchmark or more frequent estimates): Urban, rural and total	Annual rate of change, per capita final consumption of households in constant prices (annually or less frequently): Urban, rural and total	Annual rate of change, per capita final consumption of households in constant prices (annually): Urban, rural and total
3. Total consumption of the population per capita (benchmark or more frequent estimates)	Total consumption of the population per capita (annually or less frequently): Urban, rural and total	Total consumption of the population per capita (annually): Urban, rural and total
4. Annual rate of change, total consumption of the population per capita in constant prices (benchmark or more frequent estimates)	Annual rate of change, total consumption of the population per capita in constant prices (annually or less frequently)	Annual rate of change, total consumption of the population per capita in constant prices (annually)
5. Government expenditures in total consumption of the population as percentage of total consumption of the population (benchmark or more frequent estimates)	Government expenditures in total consumption of the population as percentage of total consumption of the population (annually or less frequently)	Government expenditures in total consumption of the population as percentage of total consumption of the population (annually)
6. Quantity index of food consumption or food supplies per capita (annually or annual estimates): Urban, rural and total	Quantity index of food consumption or food supplies per capita (annually or annual estimates): Urban, rural and total; Geographical areas	Quantity index of food consumption or food supplies per capita (annually or annual estimates): Urban, rural and total Geographical areas
7. Quantity index of	Quantity index of clothing	Quantity index of clothing

clothing consumption per capita (annually or annual estimates): Urban, rural and total	consumption per capita (annually or annual estimates): Urban, rural and total Geographical areas	consumption per capital (annually or annual estimates): Urban, rural and total Geographical areas
8.	Percentage of households owning a car (annually or less frequently): Urban, rural and total Geographical areas	Percentage of households owning a car (annually): Urban, rural and total Geographical areas
9. Percentage of the population with adequate energy (calorie) intake (infrequently): Ages 0–1, with pregnant women and nursing mothers, 1–4, 5–14, 15+ Urban, rural and total; Geographical areas	Percentage of the population with adequate energy (calorie) intake (infrequently): Ages 0–1, with pregnant women and nursing mothers, 1–4, 5–14, 15+ Urban, rural and total Geographical areas	Percentage of the population with adequate energy (calorie) intake (infrequently): Ages 0–1, with pregnant women and nursing mothers, 1–4, 5–14, 15+ Urban, rural and total Geographical areas
10. Per capita supply of energy (calories), specified periods (annually or less frequently)	Per capita supply of energy (calories), specified periods (annually or less frequently): Urban, rural and total Geographical areas	
C. Redistribution of income and consumption		
1. Ratio of household available income to household distributed factor income (benchmark estimates)	Ratio of household available income to household distributed factor income (infrequent estimates)	Ratio of household available income to household distributed factor income (annually or less frequently)
2. Ratio of household personal consumption to total consumption of the population (benchmark estimates)	Ratio of household personal consumption to total consumption of the population (infrequent estimates)	Ratio of household personal consumption to total consumption of the population (annually or less frequently)
3. Receipts of unrequited current transfers by households as a percentage of household available income benchmark estimates):	Receipts of unrequired current transfers by households as a percentage of household available income (infrequent estimates): Urban, rural and total	Receipts of unrequired current transfers by households as a percentage of household available income (annually or less frequently): Urban, rural and total
D. Inequality in the distribution of income and consumption		
1. Gini ratio, household	Gini ratio, household avail-	Gini ratio, household avail-

available income (benchmark estimates): Urban, rural and total	able income (infrequent estimates): Urban, rural and total	able income (annually or less frequently): Urban, rural and total
2. Gini ratio, consumption expenditures of households (benchmark estimates): Urban, rural and total	Gini ratio, consumption expenditures of households (infrequent estimates): Urban, rural and total	Gini ratio, consumption expenditures of households (annually or less frequently): Urban, rural and total
3. Percentage of household available income accruing to fractiles of households (benchmark estimates): Fractiles (lower to upper) 0–50, 50–100, 95–100	Percentage of household available income accruing to fractiles of households (infrequent estimates): Fractiles (lower to upper) 0–50, 50–100, 95–100	Percentage of household available income accruing to fractiles of households (annually or less frequently): Fractiles (lower to upper) 0–50, 50–100, 95–100

VI. Social security and welfare services

A. Scope of protection against loss of income and other hazards		
1.	Percentage of the labour force covered by unemployment insurance or similar schemes (annually or less frequently): Male, female Urban only	Percentage of the labour force covered by unemployment insurance or similar schemes (annually): Male, female Urban, rural and total
2.	Percentage of the labour force covered by old age insurance or similar pension schemes (annually or less frequently): Male, female Urban only	Percentage of the labour force covered by old age insurance or similar pension schemes (annually): Male, female Urban, rural and total
B. Use and magnitude of protection against loss of income and other hazards		
1.	Percentage of the labour force receiving unemployment or similar benefits (annually or less frequently): Male, female Urban only	Percentage of the labour force receiving unemployment or similar benefits (annually): Male, female Urban, rural and total
2.	Percentage of the population aged 65 receiving old age pensions or similar assistance (annually or less frequently):	Percentage of the population aged 65 receiving old age pensions or similar assistance (annually): Male, female

	Male, female Urban, rural and total	Urban, rural and total
3.	Expenditures for social insurance, social assistance and similar benefits as a percentage of GDP (annually or less frequently)	Expenditures for social insurance, social assistance and similar benefits as a percentage of GDP (annually)
4.	Ratio of social insurance, social assistance and similar benefits to available income of households receiving benefits (annually or annual estimates): Urban, rural and total	Ratio of social insurance, social assistance and similar benefits to available income of households receiving benefits (annually): Urban, rural and total
5.	Proportion of population resident in welfare institutions (annually or less frequently): Male, female	Proportion of population resident in welfare institutions (annually): Male, female
6.	Expenditures per resident in welfare institutions as a percentage of per capita GDP (annually or less frequently): Geographical areas	Expenditures per resident in welfare institutions as a percentage of per capita GDP (annually): Geographical areas

VII. Health and health services

A. State of health

1. Rates per 1,000 live births of infant and maternal deaths (annually or annual estimates): Urban, rural and total	Rates per 1,000 live births of infant and maternal deaths (annually or annual estimates): Urban, rural and total Geographical areas	Rates per 1,000 live births of neo-natal and post-neo-natal and maternal deaths (annually): Urban, rural and total Geographical areas
2. Rates of death per 1,000 persons (infrequently): Age 1–5, 5–14 Male, female, ages 15–24, 25–44 Urban, rural and total	Rates of death per 1,000 persons (annually or less frequently): Ages 1–4, 5–14 Male, female, ages 15–24, 25–44 Urban, rural and total	Rates of death per 1,000 persons (annually): Ages 1–4, 5–14 Male, female, ages 15–24, 25–44, 45–64, 65–74 Urban, rural and total
3. Expectation of life at birth (infrequently): Male, female Urban, rural and total	Expectation of life (infrequently): Male, female Ages 0, 1, 15, 45 Urban, rural and total	Expectation of life (infrequently): Male, female Ages 0, 1, 15, 45 Urban, rural and total
4. Number and/or incidence per 100,000 population of selected communicable dis-	Number and/or incidence per 100,000 population of selected communicable diseases of public health importance	Number and/or incidence per 100,000 population of selected communicable diseases of public health importance

eases of public health importance (annually or less frequently)	(annually or less frequently)	(annually or less frequently)
5.	Rate per 100,000 population of blindness, one or more limbs missing, etc. (annually or less frequently): Male, female Urban, rural and total	Rate per 100,000 population of blindness, one or more limbs missing, etc. (annually or less frequently): Male, female Urban, rural and total
6.		Proportion of the population with chronic functional disabilities (annually or less frequently). Male, female Urban, rural and total
7.		Proportion of the population with spells of bed disability exceeding 7 days per year (annually or less frequently): Male, female Urban, rural and total Geographical areas
8. Percentage of children with sub-clinical protein-calorie malnutrition (infrequently): Urban, rural and total	Percentage of children with sub-clinical protein-calorie malnutrition (infrequently): Urban, rural and total Geographical areas	Percentage of children with sub-clinical protein-calorie malnutrition (infrequently): Urban, rural and total Geographical areas
B. Availability and use of health services		
1. Proportion of births attended by physicians or trained auxiliary personnel (annually or less frequently): Urban, rural and total	Proportion of births attended by physicians or trained auxiliary personnel (annually): Urban, rural and total Geographical areas	Proportion of births attended by physicians or trained auxiliary personnel (annually): Urban, rural and total Geographical areas
2.	Ratio per 100,000 persons of health services personnel (annually or less frequently) Geographical areas	Ratio per 100,000 persons of health services personnel (annually): Geographical areas
3.		Ratio per 1,000 persons of hospital beds (annually): Geographical areas
4.	Proportion of the population visiting trained health personnel (annually or less frequently): Urban, rural and total Geographical areas	Proportion of the population visiting trained health personnel (annually): Urban, rural and total Geographical areas

5.	Proportion aged 5–14 immunized against diptheria, pertussis, tetanus, poliomyelitis, measles (examples; annually or less frequently): Urban, rural and total Geographical areas	
6. Percentage of the population served by primary health service posts (infrequently): Urban, rural and total	Percentage of the population served by primary health service posts (infrequently): Urban, rural and total Geographical areas	
7. Total consumption expenditures for health goods and services as a percentage of GDP (annually or less frequently)	Total consumption expenditures for health goods and services as a percentage of GDP (annually or less frequently)	Total consumption expenditures for health goods and services as a percentage of GDP (annually)
8. Gross fixed capital formation in the health field as a percentage of total gross fixed capital formation (annually or less frequently)	Gross fixed capital formation in the health field as a percentage of total gross fixed capital formation (annually or less frequently)	Gross fixed capital formation in the health field as a percentage of total gross fixed capital formation (annually)
VIII. Housing and its environment		
A. State and distribution of housing		
1. Percentage of persons living in squatter or shanty housing (infrequently): Urban only Large places	Percentage of persons living in squatter or shanty housing (annually or less frequently): Urban only Large places	
2. Percentage of the population occupying living quarters at densities of 3 or more persons per room (infrequently): Urban, rural and total Large places	Percentage of the population occupying living quarters at densities of 3 or more persons per room (infrequently): Urban, rural and total Large places Geographical areas	Percentage of the population occupying living quarters at densities of one or more persons per room (infrequently): Urban, rural and total Large places Geographical areas
3. Percentage of the population homeless (infrequently): Urban, rural and total	Percentage of the population homeless (infrequently) Urban, rural and total Geographical areas Large places	
4. Percentage of the population in living	Percentage of the population in living quarters other than	Percentage of the population in living quarters other than

quarters other than conventional permanent or semi-permanent dwellings (infrequently): Urban only	conventional permanent or semi-permanent dwellings (infrequently): Urban, rural and total Geographical areas	conventional permanent or semi-permanent dwellings (infrequently): Urban, rural and total Geographical areas
B. Adequacy of supply of housing		
1.	Percentage of conventional dwelling units vacant (annually or less frequently): Urban only Large places	Percentage of conventional dwelling units vacant (annually): Urban, rural and total Large places Geographical areas
2. Gross rate of additions to stock of conventional dwellings (annually): Urban only Large places	Gross rate of additions to stock of conventional dwellings (annually): Urban, rural and total Large places Geographical areas	Gross rate of additions to stock of conventional dwellings (annually): Urban, rural and total Large places Geographical areas
3. Gross rate of additions to stock of non-conventional dwellings (annually or less frequently): Rural only Geographical areas	Gross rate of additions to stock of non-conventional dwellings (annually or less frequently): Rural only Geographical areas	
4. Ratio of family nuclei to households (benchmark): Urban, rural and total	Ratio of family nuclei to households (infrequently): Urban, rural and total	Ratio of family nuclei to households (infrequently): Urban, rural and total
C. Tenure and outlays on housing		
1. Percentage of households in owner-occupied living quarters (infrequently): Urban, rural and total Geographical areas	Percentage of households in owner-occupied living quarters (infrequently): Urban, rural and total Geographical areas	Percentage of households in owner-occupied living quarters (infrequently): Urban, rural and total Geographical areas Large places
2. Household consumption expenditure on housing as a percentage of total household consumption expenditure (benchmark): Urban only	Household consumption expenditure on housing as a percentage of total household consumption expenditure (infrequently): Urban, rural and total Geographical areas Large places	Household consumption expenditure on housing as a percentage of total household consumption expenditure (annually): Urban, rural and total Geographical areas Large places

3.	Gross fixed capital formation in residential buildings as a percentage of total gross fixed capital formation (infrequently)	Gross fixed capital formation in residential buildings as a percentage of total gross fixed capital formation (annually or less frequently)
4.	Ratio of household consumption expenditure for housing to total consumption expenditures for housing (infrequently) Geographical areas Large places	Ratio of household consumption expenditure for housing to total consumption expenditures for housing (annually or less frequently): Geographical areas Large places
5.	Ratio of government capital transfers and capital expenditures for housing to total gross fixed capital formation in residential buildings infrequently): Geographical areas Large places	Ratio of government capital transfers and capital expenditures for housing to total gross fixed capital formation in residential buildings (annually or less frequently): Geographical areas Large places
D. State of the housing environment		
1. Percentage of the population with indoor piped water supply or with access to a piped water supply within 100 meters (infrequently): Urban, rural and total	Percentage of the population with indoor piped water supply or with access to a piped water supply within 100 meters (infrequently): Urban, rural and total Geographical areas	
2. Percentage of the population occupying living quarters with toilets (infrequently): Urban only	Percentage of the population occupying living quarters with toilets (infrequently): Urban, rural and total Geographical areas	Percentage of the population occupying living quarters with toilets (infrequently): Urban, rural and total Geographical areas
3.	Percentage of the population occupying living quarters with flush toilets (infrequently): Urban only	Percentage of the population occupying living quarters with flush toilets (infrequently): Urban, rural and total Geographical areas Large places
4. Percentage of the population in living quarters with electric lighting (infrequently): Urban only	Percentage of the population in living quarters with electric lighting (infrequently): Urban, rural and total Geographical areas	Percentage of the population in living quarters with electric lighting (infrequently): Urban, rural and total Geographical areas
5. Domestic household	Domestic household energy	Domestic household energy

energy consumption per capita (infrequent estimates): Urban, rural and total	consumption per capita (annually or less frequently): Urban, rural and total Large places	consumption per capita (annually): Urban, rural and total Large places
IX. Public order and safety		
A. Frequency and severity of offences and victimization		
1.	Rate of homicides per 100,000 population (annually): Urban only Large places	Rate of homicides per 100,000 population (annually): Urban, rural and total Large places
2.	Rate of assaults and robberies per 100,000 population (annually): Large places only	Rate of assaults and robberies per 100,000 population (annually): Urban, rural and total Large places
3.		Rate of burglaries in homes per 100,000 dwellings (annually): Urban, rural and total Large places
4.	Rate of persons injured from criminal violence per 1,000 population (annually): Large places only	Rate of persons injured from criminal violence per 1,000 population (annually): Urban, rural and total Large places
5.		Proportion of households with property loss and average value of loss (annually or less frequently): Urban, rural and total Large places
B. Characteristics and treatment of offenders		
1.	Offenders charged per 1,000 population (annually): Male, female Large places only	Offenders charged per 1,000 population (annually): Urban, rural and total Large places
2. Inmates in correctional institutions per 1,000 population (annually): Male, female	Inmates in correctional in-institutions per 1,000 population (annually): Male, female Geographical areas	Inmates in correctional institutions per 1,000 population (annually): Male, female Selected national or ethnic groups Geographical areas
3.		Persons on probation per

		1,000 population (annually): Male, female Selected national or ethnic groups Geographical areas
C. Inputs, outputs and performance of institutions		
1.		Proportion of homicides cleared up (annually): Urban, rural and total Large places
2		Proportion of assaults and robberies cleared up (annually): Urban, rural and total Large places
3.	Average elapsed time from charge to initial judicial verdict, criminal offenses (annually): Urban only Large places	Average elapsed time from charge to initial judicial verdict, criminal offenses (annually): Urban, rural and total Large places
4.		Average number of inmates per cell or room, detention institutions (annually): Male, female Juveniles, adults Large places
5.	Expenditures for public order and safety as a percentage of GDP (annually or less frequently): Geographical areas	Expenditures for public order and safety as a percentage of GDP (annually): Geographical areas
X. Allocation of time and use of leisure		
A. Use of time		
1. Proportion of time working (infrequently): Male, female Ages 10–14, 15+ Urban, rural and total	Proportion of time working (infrequently): Male, female Ages 10–14, 15–19, 20+ Urban, rural and total	Proportion of time working (infrequently): Male, female Ages 15–19, 20–24, 25–59 Urban, rural and total
2. Proportion of time spent in household and child care (infrequently): Male, female Ages 10–14, 15+ Urban, rural and total	Proportion of time spent in household and child care (infrequently): Male, female Ages 10–14, 15–19, 20+ Urban, rural and total	Proportion of time spent in household and child care (infrequently): Male, female Ages 15–19, 20–24, 25–59 Urban, rural and total
3.		Proportion of time free

		(infrequently): Male, female Ages 15–19, 20–24, 25–59 Urban, rural and total
4.		Average days of vacation per person (annually): Male, female Ages 15–19, 20–24, 25–59 Urban, rural and total
B. Use of leisure		
1.	Average hours per week per person (a) Study and training, (b) TV viewing, (c) Reading, radio, cinema, (d) Active sports and outdoors (infrequently): Male, female Ages 10–14, 15–19, 20+ Urban only	Average hours per week per person (a) Study and training, (b) TV viewing, (c) Reading, radio, cinema, (d) Active sports and outdoors (infrequently): Male, female Ages 15–19, 20–24, 25–59 Urban, rural and total
C. Availability and use of leisure-time facilities		
1. Cinema and sporting admissions per 1,000 population (annually): Urban only	Cinema and sporting admissions per 1,000 population (annually): Urban only Large places	Cinema and sporting admissions per 1,000 population (annually): Urban, rural and total Large places Geographical areas
2. Daily or weekly newspaper circulation per 1,000 population (annually)	Daily or weekly newspaper circulation per 1,000 population (annually): Urban, rural and total	Daily or weekly newspaper circulation per 1,000 population (annually): Urban, rural and total
3.	Number of books available per 1,000 population in public libraries (infrequently): Urban only Geographical areas	Number of books available per 1,000 population in public libraries (infrequently): Urban, rural and total Large places Geographical areas
4.	Area of public open space per 1,000 population (infrequently): Urban only Large places	Area of public open space per 1,000 population (infrequently): Urban only Large places
5. Proportion of households with radios (infrequently): Urban, rural and total	Proportion of households with radios (infrequently): Urban, rural and total Geographical areas	

6.	Proportion of households with television sets (infrequently): Urban, rural and total Large places Geographical areas	Proportion of households with television sets (infrequent)y: Urban, rural and total Large places Geographical areas
XI. Social stratification and mobility		
A. Social stratification		
1. Percentage distribution of households by socio-economic class (infrequently): Urban, rural and total	Percentage distribution of households by socio-economic class (infrequently): Urban, rural and total Geographical areas	Percentage distribution of households by socio-economic class (infrequently): Urban, rural and total Geographical areas
B Intra-generational mobility		
1.	Proportion of an identical cohort with major occupational shifts between two dates (infrequently): Urban, rural and total	Proportion of an identical cohort with major occupational shifts between two dates(infrequently): Urban, rural and total Geographical areas
C. Inter-generational mobility		
1.	Proportion of sons 21 years of age and over with different socio-economic class from their fathers at the same age (infrequently): Urban, rural and total	Proportion of sons 21 years of age and over with different socio-economic class from their fathers at the same age (frequently): Urban, rural and total Geographical areas

a) Identification and special measures for the least developed among developing countries were considered by the United Nations Committee for Development Planning at its seventh session 22 March-1 April 1971, Official Records of the Economic and Social Council, Fifty-first Session, Supplement No. 7, paras. 41–83.

b) Developing countries differ widely in their social circumstances, and these illustrative examples would be accorded differing emphases according to these circumstances and the social concerns in each country. Many differences among developing countries are correlated to differences in degree of urbanization, while many of the examples of indicators would be applicable to urban areas and populations only. These indicators would therefore automatically receive less emphasis in less urbanized developing countries.

Annex B

List of Human Resources Indicators Recommended for a UNESCO Research Project

(Note: The Roman figures are placed only alongside indicators for which data are practically unavailable. [I], [II], [III] are the priorities for collection of these data, not available from international compendia, but which may be available from yearbooks, country reports and national administrative files.

(Some indicators appear in more than one field. This is intentional, as composite indices may be constructed for each individual field separately, and the components may appear in more than one field. For each of the indicators on the list, which are indicators of country averages, it was recommended that indicators of dispersion be computed. One way of doing this would be to make data available by regions and compute the regional variation. It was recommended not to use the standard deviation, but some measures based on the Lorenz curve—either the Gini index or the relative weighted mean deviation. The latter, particularly easy to compute, might be given priority.)

Field I. Indicators of Structure, Modernization and Efficiency in the Educational System

1. Enrolments:
   (a) combined primary and secondary enrolments as percentage of age group 5–19,
   (b) third-level enrolment per 10,000 aged 20–24.

2. Percentage, within entire secondary level, of:
   (a) general secondary,
   (b) vocational and technical,
   (c) teacher training.

3. Grade-specific enrolment ratios at critical points of educational flow.
   A. In the primary:
      (a) first graders' enrolment ratio (entry),
      (b) fifth graders' enrolment ratio (relevant to literacy).
      (c) terminal graders' enrolment ratio.

   B. In all secondary schools:
      (a) first graders' enrolment ratio,
      (b) terminal graders' enrolment ratio.

4. Indicator of school attendance at primary level. [I]

5. Repetition and drop-out rates, by grade, at first and second levels.

6. Teachers per number of school-age population (first and second levels combined).

7. Pupil/teacher ratio for primary (distinction urban/rural).

8. Pupil/teacher ratio for secondary (distinction urban/rural).

9. Percentage of qualified teachers at primary level.

10. Percentage of qualified teachers at secondary level.

11. Percentage of third-level students in science and technology.

12. Percentage of third-level students in medical sciences.

13. Percentage of third-level students in agriculture.

14. Percentage of third-level graduates in science and technology. [II]

15. Percentage of third-level graduates in medical sciences. [II]

16. Percentage of third-level graduates in agriculture. [II]

17. Percentage of females among all third-level students.

18. Percentage of females among all secondary-level students.

19. Percentage of females among all primary enrolment.

20. Percentage of teaching hours devoted to scientific subjects in curricula in second level (general). [III]

Field II. Youth Employment

1. Percentage of employed among out-of-school youth (aged 15–24). A rough indicator of the external efficiency of the educational system. [I]

Field III. Stock of High-Level Manpower

1. Class "A" manpower per 10,000 population.[1] [II]

1) This category—as well as the subsequent classes "B" and "C"—are categories of high-level manpower based on the "International Classification of Occupations" (ISCO), prepared by the International Labour Office (Geneva, 1958. The new version of ISCO ap-

2. Teachers (second and third level) per 10,000 population.

3. Scientists and engineers per 10,000 population. [I]

4. Physicians and dentists per 10,000 population.

5. Pharmacists per 10,000 population.

6. Class "B" manpower per 10,000 population.[2] [II]

7. Qualified teachers (primary level) per 10,000 population.

8. Midwives and nurses per 10,000 population.

9. Class "C" manpower per 10,000 population.[3] [II]

Field IV. Educational Attainment of the Labour Force (the following indicators are expressed as a percentage of population 15–64)

1. Adult population literate (literacy as measured by minimal educational attainment, i.e. 5 grades completed, rather than by self-evaluation). [I]

2. Population with primary level completed (6 to 18 years of school). [II]

3. Population with secondary level completed. [II]

4. Population with third level completed. [II]

Field V. Utilization of the Labour Force

1. Open unemployment. [I]

2. Underemployment. [II]

3. Disguised unemployment [III]

peared in 1969). The categories were distinguished according to various levels of education, by Herbert S. Parnes in the document: "Forecasting Educational Needs for Economic and Social Development, OECD, Mediterranean Regional Project" (October 1962). Thus class "A" embraces those ISCO occupations "for which a university education or an advanced teachers's college degree, or its equivalent, would normally be required". For a discussion of the definitions of high-level manpower, see the UNESCO document entitled "Pilot Study for the Development of an Estimating Formula for the Total Stock of High-Level Manpower: Manpower Components Approach", (1966, WS/0466.37-SS).

2) Class "B" manpower includes "occupations for which two or three years of education beyond the secondary level (12 years) may be required".

3) Class 'C' manpower includes "occupations for which a secondary school education (either technical or academic), or its equivalent, would normally be required".

4. Mal-employment. [II]

5. Unemployment rate among young people out-of-school (aged 15–24). [I]

6. Percentage of labour force in manufacturing industries. [I]

7. Percentage of economically active population in working-age population (i.e., aged 15–64). [I]

8. Percentage of working-age population in total population. [I]

Field VI. Health and Nutrition Status

1. Infant and child mortality.[4] (I)

2. Proportional mortality rate.[5] [I]

3. Life expectancy at age 15 (sex specific). [I]

4. Animal protein intake. [I]

5. Children's protein intake (9 months to 3 years). [II]

6. Percentage of calories derived from starches. [III]

7. Aggregate indicator of housing conditions.[6] [II]

4) A health indicator must satisfy two conditions: (a) it should be available with a fair degree of accuracy; (b) it should be sensitive to changes in the living conditions of the population. For mortality rates, sensitivity is higher in younger age groups. One can consider the rates which are usually given, viz., infant mortality (0), pre-school mortality (1–4), 5–9 and 10–14 mortality rates, according to these criteria:

Rate	Sensitivity	Error
0	fairly high	very high
1–4	very high	high
5–9	fairly high	moderate
10–14	moderate	moderate

For single-country studies one should be guided in choosing the rate of the quality of data collection. The 1–4 rate would be recommended for a country with good statistics, while for large sample studies and in a single country over time one would have to use the 5–9, 10–14 (or 5–14) rates as the best compromise. All four rates should be published so as to make various choices possible.

5) It is the proportion of the deaths in age 64+, within all the deaths. It shows the degree to which deaths are due to old age rather than to other causes (such as premature ill health, under-nourishment, etc.).

6) The following components may be considered for aggregation: (a) average number of persons per room; (b) dwellings with pipe water as percentage of all dwellings; (c) dwellings with electricity as percentage of all dwellings; (d) housing deficiency rate (urban/rural).

8. Physicians and dentists per 10,000 population.

9. Pharmacists per 10,000 population.

10. Midwives and nurses per 10,000 population.

11. Hospital beds per 10,000 population.

12. Percentage of deaths with reported causes(indicated indirectly the level of health services). [III]

Field VII. Modernization of Society

1. Adults literate (15+) per adult population (15+).[7] [I]

2. Daily newspaper circulation per adult population (15+).

3. Radio receivers and television sets per population.

4. Telephones per adult population (15+).

5. Annual cinema attendance per population.

6. Passenger cars and commercial vehicles per total population

7. Percentage of labour force in agriculture.

8. Percentage of labour force in modern manufacturing sector. [II]

9. Circulation of written communication (letters) per adult population (15+). [III]

10. Sex-age adjusted birth rate. [II]

7) In this case, as well as in the subsequent indicators 2, 4 and 9, an effort should be made to adjust particular indicators to the relevant population category. Thus, for example, relating the literates to all population would underrate the countries where children constitute a high proportion. Likewise, it would not be reasonable to relate newspapers, telephones and letters to the total population, including children, who do not use these media of communications. It seemed, however, justified to relate cars and commercial vehicles to the total population, as transport facilities are needed for everybody. Also radio, TV and movie are used at a very early age and therefore should be related to the total population. Of course, it was not possible to avoid a certain arbitrariness in deciding on such solutions.

11. Percentage of population living in towns over 20,000 [I]

12. Percentage of houses with electric light and running water.

Annex C

Social Indicators (FAO)

A. Average Levels of Nutrition and Living

1. *Per capita* availability of food

	Average content of daily diet Calories Grams No.	%	Availability Requirement x 100
Protein			
Animal prot.			
Fats			
Carbohydrate			
Total			100

2. Availability of milk*) *per capita*
) per child

3. Relative importance of major food groups in average diet

	Calories No.	%	Protein Grams	%	Economic Grain Equivalent
1. Cereals					
2. Starchy roots					
3. Sugar					
4. Pulses, nuts and seeds					
5. Fruits					
6. Vegetables					
7. Meat					
8. Eggs					
9. Fish					
10. Milk					

7 — 8 — 9 — 10		
11. Fats and Oils		
Total	100	100

4. Share of food consumption in per capita income or expenditure

   — *per capita* availability of food valued at retail price / *per capita* Gross Domestic Product or *per capita* Private Consumption Expenditure

Source: Food Balance Sheets and National Accounts Statistics
*Includes milk equivalent of milk products.

B. Inequality in Distribution of Food

5. Distribution of households by calorie and protein supply

Calories	900	900— 1300	1300— 1700	1700— 2100....4500	TOTAL %
Protein					
0–5					
5–10					
⋮					
100–105					
Total %					

6. Percentage of protein- and calorie- deficient households

	Protein deficient	Non-protein deficient	% sub-total
Calorie defic.			
Non-calorie defic.			
% Sub-total			

Source: Household Food Consumption Survey

C. Indicator of Poverty

7. Distribution of households by expenditure, calories and protein consumption

Per capita total expenditure or income	No. of households	Av. size of household	*Per capita* expend. on food as % of total expenditure	*Per capita* Calorie	Supply Prot.
(class interval)					
Less than x_1					

x_1 — x_2
x_2 — x_3
⋮
over x_n

Source: Household Food Consumption and Expenditure Survey

D. Dependence of Population on Agriculture and Inter-Sectoral Distribution of Manpower and Labour Force

8. Change in inter-sectoral distribution of population

	Rural	Urban	Total
Agriculture	N_{1t} %	N_{2t} %	$(N_{1\%}+N_{2t})$
Non-agriculture	N_{3t} %	N_{4t} %	$(N_{3\%}+N)_{4t}$
Total	$N_{1\%}+N_3)_t$	$N_{2\%}+N_4)_t$	$N+_{100\%}$

9. Degree of "deagrarianization" $= \dfrac{N_{1t}}{(N_1 + N_3)_t}$

10. Change in working-age population

	Rural		Urban	
Age-groups	Male	Female	Male	Female
0–9	%	%	%	%
10–14	%	%	%	%
15–64	%	%	%	%
65+	%	%	%	%
All ages	% +	% +	% +	% + 100%

11. Change in population economically active in agriculture

	Male		Female		Total	
	Number	%	Number	%	Number	%
Economically active in:						
Agriculture						
Non-agricluture						
TOTAL						

12. Change in activity rate (economically active population/population)

Econ. Active Male (M)	Econ. Active Female (F)	Econ. Active Total (M + F)

Agriculture	%of agri. pop(M)	%of agri. pop(F)	%of agri. pop(M)
Non-agriculture	%of non-agri pop(M)	%of non-agri pop(F)	%of non-agri. pop(M)
Total	%of total pop(M)	%of total pop(F)	%of total pop (M + F)

Source: Population census, labour force surveys and other related surveys.

E. Extent of Unemployment and Underemployment

13. Outright unemployment section of labour force

	Agriculture Number %	Non-agriculture Number %
Unemployed but seeking work		
Employed, fully or partially		
TOTAL (+ Econ. active)	100	100

14. Change in the distribution of labour force by hours of work

Hours of work per week	% of economically active in Agriculture	Non-agriculture
Less than 15		
15–34		
35–39		
40–47		
48 and over		
	100%	100%

15. Measures of uemployment and underemployment

	Agriculture Number % of total Econ. Active	Non-agriculture Number % of total Econ. Active
Unemployed (i.e., without work but seeking it)		
Unemployed equivalent of under employed[1]		
Fully employed		

[1]Based on a norm defined in terms of hours work

16. Index of un- and under-employment in agriculture

$$= \frac{\text{Unemployed equivalent of unemployed and underemployed}}{\text{Economically active in agriculture}}$$

Source: Population census, labour force surveys and other related surveys

F. Income and Productivity Indicators

17. Indicator of average income of agricultural labour

$$= \frac{\text{Contribution of agriculture to GDP}}{\text{Economically active in agriculture (EAA)}}$$

18. Labour productivity in agriculture

$$= \frac{\text{Contribution of agriculture to GDP}}{\text{EAA} - \text{unemployed equiv. of unempl. and under-empl. in agriculture}}$$

Source: Population census, labour force and national accounts statistics

G. Overall Indicator of Dependency

19. Apparent dependency ratio

$$= \frac{\text{Agricultural population measured in consuming units}}{\text{Economically active in agriculture (EAA)}}$$

20. Effective dependency ratio

$$= \frac{\text{Agricultural population measured in consuming units}}{\text{EAA} - \text{unempl. equiv. of the unempl. and under-empl.}}$$

Source: Population census and labour force surveys

Annex D

Provisional Working List of Social Concerns and Indicators (OECD)

OECD Provisional Working List comprises X1, X2, and X3 as follows:

X1 — Working party proposes a Common Development Effort.
X2 — No Common Development Effort is planned but the indicators are relatively valid and data to match the indicators is regularly available in most or all OECD countries.
X3 — No Common Development Effort is planned but the indicators are relatively valid and data to match some of the indicators is regularly available in most of the OECD countries.

Goal Area "A": Health

1	2	3
Provisional working list of social concerns and indicators	Concerns and sub-concerns	Indicators
	A-1 The probability of a healthy life through all stages of the life cycle	
X2	A-1-a Length of life	(1) Life expectancy at age 1, (20, 40, 60) (A)*
		(2) Perinatal mortality (A)
X1	A-1-b Healthfulness of life	(3) Proportion of predicted future life to be spent in a state of disability, on the part of those individuals not disabled as a result of a permanent impairment; at ages 1, 20, 40, 60 (B)
		(4) Proportion of persons disabled as a result of a permanent impairment; in selected age brackets (B)
	A-2 The impact of health impairments on individuals	
	A-2-a The quality of health care in terms of reducing pain and restoring functional capabilities	(5) Maternal mortality (C)
	A-2-b The extent of universal distribution in the delivery of health care	(6) Physical accessibility: average delay between occurence of an emergency event (e.g. accident, heart attack) and appropriate treatment (B)
		(7) Physical accessibility:

		average delay between awareness of functional disturbance of a non-emergency nature and appropriate treatment (B)
		(8) Economic Accessibility:
	Disposable income	Net expenditure on health insurance by households; Full cost of health services consumed by households
	Disposable income	Net expenditure on health insurance by households; Net expenditure by households on health services (B)

*Validity ratings—"Guidelines for social indicator development and disaggregations".

(A) – the indicator, by itself or together with other indicators proposed, corresponds to the social concern, sub-concern or aspect

(B) – the indicator, by itself or together with other indicators proposed, corresponds to only part of the social concern, sub-concern or aspect

(C) – the indicator is an approximation

Goal Area "B": Individual Development and Learning

1	2	3
Provisional working list of social concerns and indicators	Concerns and sub-concerns	Indicators

X1	B-1	The attainment, maintenance and development by individuals of basic and further knowledge, skills and values necessary for their individual development and successful functioning as citizens in society.	(1) The proportion of individuals (in specific age cohorts) who have obtained specified results on specific measures related to basic and further knowledge, skills and and values (A)
X3	B-2	The organized opportunities available to individuals to acquire, maintain and develop the knowledge and skills necessary for their individual development and successful functioning as citzens in their society and the propensity of individuals to use these organized opportunities.	(2) Regular education: average years of regular educational experience of the population (B)
			(3) Adult education: the percentage of the total population that has participated in organized non-regular learning opportunities during the past year (B).
			(4) Physical accessibility: the percentage of the population living within an agreed reasonable distance from the various types of learning opportunities (B)
X1			(5) Economic accessibility: Disposable income grants and scholarships received – full cost of post-compulsory education
			Disposable income – Net expenditure by households

		on post-compulsory education (B).
	B-3 The individual's satisfaction with the process of individual development through learning while he is in the process.	
	B-4 The maintenance and development of cultural heritage relative to its positive contribution to the well-being of the members of various social groups.	

Goal Area "C": Employment and Quality of Working Life

1	2	3
Provisional working list of social concerns and indicators	Concerns and sub-concerns	Indicators
X1	C-1 The availability of gainful employment for those who desire it.	(1) Average number unemployed Average number employed + average number unemployed(B)
		(2) Average number seeking employment other than full-time
		Average number employed other than full-time + average number seeking employment other than full-time(B)
X1	C-2 The quality of working life	
	C-2-a Working conditions	(3a) Industrial fatal accident rate (B)
		(3b) Industrial permanent impairment rate (B)

		(3c) Industrial short-term disabilities rate (B)
	C-2-b Earnings and fringe benefits	(4a) Dispersion of weekly earnings of employees (B)
		(4b) Average weekly earnings of employees in industry "X" or occupation "X"
		Average weekly earnings of all employees (B)
	C-2-c Employment-time, employment-related time and paid holidays	(5) Average number of hours worked per week per paid employee
		(6) Average total time per day of travel and from work, per employee (A)
		(7) Average number of paid holidays and vacation days per year per employee (A)
C-3 Individual satisfaction with the experience of working life C-3-a Working conditions C-3-b Earnings and fringe benefits C-3-c Employment-time, employment-related time and paid holidays C-3-d Relations among and participation by employees C-3-e Supervision, autonomy and job challenge		

Goal Area "D": Time and Leisure

1	2	3
Provisional working list of social concerns and indicators	Concerns and sub-concerns	Indicators
XI	D-1 The availability of effective choice for the use of time	
	D-1-a The flexibility of pattern of working time	
	D-1-b Accessibility and quality of leisure-time opportunities	
	D-1-c Time available for personal development, family and social obligations, and social participation	

Goal Area "E": Personal Economic Situation

1	2	3
Provisional working list of social concerns and indicators	Concerns and sub-concerns	Indicators
XI	E-1 Personal income and wealth	Level of income aspect:
	E-1-a Level and distribution of income	(1) Average disposable income per person at constant prices (A)
		Distribution of income aspects:
		(2) Gini coefficient of disposable income per member of household (B)
		(3) Share of the sum of all disposable income in hand of the bottom: 1,5,20

			per cent; top: 1,5,20 per cent (B)
	E-1-b	Level and distribution of wealth	(4) Gini coefficient of individual disposable wealth (B)
			(5) Share of the sum of all individual disposable wealth owned by the top 1,5,20 per cent (B)
XI	E-2	Number of individuals experiencing material deprivation	
	E-3	The consumers position in society	
	E-3-a	Availability to individuals of information on which to base effective consumer choices	
	E-3-b	Safety and quality of goods and services	
	E-4	The protection of individuals and families against economic hazards	
	E-4-a	The extent to which individuals and families obtain insurance or other compensation for adverse changes in their economic status	(6) Compensation received gross loss (A)
			(6a) Unemployment compensation received
			Gross loss in earnings due to total and partial unemployment over a year (supplemented by three other indicators—see part III (B)
			(6b) Sickness compensation in the last year
			Gross loss in earnings

			due to sickness absence for up to one year (B)
			(6c) Sickness compensation in the last year Gross loss in last years earnings due to long term or permanent disability resulting from sickness (supplemented by four other indicators—see Part III (B))
		E-4-b The extent to which individuals and families perceive themselves as secure against adverse changes in their economic status	

Goal Area "F": Physical Environment

1	2	3
Provisional working list of social concerns and indicators	Concerns and Sub-concerns	Indicators
XI	F-1 The man-made environment	(1) Percentage of individuals living in dwellings with less than X persons per room (indoor space) (A)
	F-1-a Housing conditions	(2) Access to usable private and public outdoor space for recreation (outdoor space) (B)
		(3) Percentage of dwellings with a private bath or shower (amenties) (B)
		(4) Percentage of households (or individuals) enjoying effective security from eviction for period of time X (security of tenure) (A)

			(5) Disposable–Income: Marker rents of(estimated) dwellings
			Disposable–Income: Net expenditure on rents and (partly imputed) outlay for owner-occupied dwelling (economic accessibility) (B)
	F-1-b	Physical accessibility to employment and services	For example: (6) Percentage of population with access to a food-store within a given walking distance (B)
XI	F-1-c	Environmental nuisances	Air pollution aspect: (7) Percentage of population exposed to concentration of given air pollutants in excess of specified levels over specified periods (A) Noise aspect: (8) Percentage of population exposed to noise levels expressed in terms of Leq. in excess of specified levels over specified periods (A)
X1	F-2	The Natural Environment	

Goal Area "G": The Social Environment

1	2	3
Provisional working list of social concerns and indicators	Concerns and Sub-concerns	Indicators

XI	G-1 Primary and secondary social attachments	

Goal Area "H": Personal Safety and the Administration of Justice

1	2	3
Provisional working list of social concerns and indicators	Concerns and Sub-concerns	Indicators
XI	H-1 Actual victimization of individuals	
	H-1-a Resulting in death or physical injuries	(1) Deaths from unexpected events (A)
		(2) Number of permanent impairments arising from unexpected events per million in any year (A)
		(3) Days of bed disability as a result of injuries from unexpected events which do not result in permanent impairments (A)
	H-1-b Resulting in intimidation or harassment	
XI	H-2 Perceived threat of victimization	
	H-2-a From other individuals	
	H-2-b From social institutions	
	H-2-c From the environment	
	H-3 Administration of justice	
	H-3-a Equality before the criminal law	(4) Proportion of detainees not allowed access to legally competent advice within 6,12,24,48 hours of arrest (B)
		(5) Proportion of chargees who spent more than one

			week/one month/three months/one year in prison while awaiting trial (B)
			(5a) Ratios of proportion of individuals on remand in custody who are subsequently imprisoned to those remanded on bail(B)
			(5b) Proportion of persons remanded in custody who are subsequently found innocent/not subsequently committed to prison(B)
	H-3-b	Minimal safeguards and maximal exposures in criminal proceedings	(6) The penal quantum expressed as the total effective length of imprisonment imposed *per capita* per year. Indicators (4), (5), (6) can be ubsed for H-3-a and H-3-b (B)
	H-3-c	Accessibility to legal services	(7) Time elapsing between issue of all proceedings and final judgement
			Number of proceedings receiving final judgement (Indicator (7) can be used for H-3-a and H-3-b (B)
	H-3-d	Discretion in legal proceedings	
H-4	Extent of confidence in the administration of justice		
	H-4-a	In the administration of criminal law	
	H-4-b	In the administration of civil law	
	H-4-c	In the administrative practice	

Goal Area "I": Social Opportunity and Participation

1	2		3
Provisional working list of social concerns and indicators	Concerns and Sub-concerns		Indicators
XI	I-1	The degree of social inequality	
	I-1-a	The degree of inequality among social strata	(Indicators for this social concern are not given here, but will be derived from disaggregations of other indicators)
	I-1-b	The extent of opportunity for social mobility	
	I-1-c	The position of disadvantaged group	
	I-2	The extent of opportunities for participation in institutions and decision making	

Note: In addition, Common Development Efforts dealing with Data Collection Mechanisms and Data Presentation are proposed. These will assist specification in indicators throughout the above list.

Annex E

Indicators of Social Development (CMEA)

This annex characterizes the indicators (in the field of social development) which were chosen by a group of experts from the CMEA countries as the most appropriate for long-term prognostic studies and plans.[1]

I. Indicators aimed at a unified analysis of problems related to social care extended to children and youth

1. The share of social consumption funds related to family assistance within the total money income of population (*per capita*); the share of outlays related directly to child care.

1) *Source:* Z. Czyzowska (1975), pp. 290–299. We are giving here not a literal translation but more concise characteristics.

2. Assistance related to infants (indicators pertain to (a) the share of births effected in hospitals, (b) child-birth allowances, (c) the length of maternity leave (with a full and partial pay respectively), (d) the ratio of social security allowance during the maternity leave to the average monthly money income).

3. Assistance for bringing up the children ((a) monthly allowances for the first and subsequent children, their ratio to the average monthly net income, (b) the number of days taken from work for the care of such children, with full and partial pay respectively, (c) the number of places available in kindergartens, etc. in relation to the number of children of a corresponding age, (d) the share of pupils receiving school meals).

4. Assistance for families with many children ((a) the number of children which gives title for assistance, (b) the allowance for non-employed mother in relation to an average monthly income).

II. Indicators related to education

1. Pre-school education ((a) age limits for this type of education, (b) the share of children encompassed to the totals in corresponding age brackets; absolute numbers).

2. The compulsory basic education.[2]

3. Middle-level schools with a full programme (the completion of which entitles one to enter university studies).

4. Schools for professional education of skilled workers.

5. Schools for middle-level technical personnel (these are specialized schools with a full programme, the completion of which entitles one to enter technical university studies).

6. Universities (of all respective kinds).

III. Social care for the aged

1. Indicators related to pensions (characterizing the population of post-productive age, the share of pension funds in the national income and in the total wages, the average pension in relation to income from work).

2) A set of indicators is used for each of the educational levels (items 2–6).

2. Statutory age level and the number of years in employment (for men and women) necessary for the old-age pensions.

IV. Social care for disabled and war-victims (indicators characterizing this group of the population, the allowances received, the number of places available in respective social assistance institutions and homes for the aged).

V. Health protection. Indicators are related to (a) number of hospital beds (per 10,000 inhabitants) for particular types of hospitals and sanatoria (b) number of doctors, dental doctors, middle-level personnel (per 10,000 inhabitants), (c) the share of people employed in the health service to the total employment, (d) the share of investment for health protection in the total investment outlays;, in the national income, (e) the annual rate of growth of current expenditure on health protection.

VI. Housing conditions of the society

1. Housing conditions: (a) number of households per 100 flats, (b) housing area (sq. meters) per one inhabitant, (c) the share of flats with respective installations and facilities, (d) number of flats per 1000 inhabitants, (e) the average number of inhabitants per one flat, per one room, (f) the average area of a flat, (g) the average number of rooms in a flat.

2. Housing construction (the number of flats completed per 1000 inhabitants; the respective shares of co-operative, state and individual financing, the average area of flats completed in these respective forms of housing construction).

3. The share of housing investment outlays in (a) total investments, (b) total non-productive investments, (c) the national income.

VII. Satisfaction of intellectual and cultural needs: the number of places and the attendance in particular types of theaters, professional musical institutions, concert halls, etc., in the cinemas, the number of places in local cultural facilities, the attendance in museums,[3] the number of books *per capita*, the total number of copies published *per capita* (books, daily newspapers, periodicals), the number of public libraries per 10,000 inhabitants, the number of volumes in public libraries per 1000 inhabitants, the number of radio and TV sets registered per 1000 households, the number of radio and TV hours in main types of programmes, the percentage of the total area

3) All these indicators per 1000 inhabitants.

of the country covered by the I and II TV programme respectively, the share of the population receiving these programmes, the share of people employed in the sector of cultural services within the total employment.

VIII. Physical culture, tourism, recreation

1. Physical culture (particular types of facilities, the number of specialists employed).

2. Tourist and recreational facilities.

VI. WORK ON DEVELOPMENT INDICATORS BY NATIONAL GOVERNMENTS, RESEARCH INSTITUTES AND INDIVIDUAL SCHOLARS: A SELECTIVE REVIEW AND DISCUSSION OF ISSUES AND PROBLEMS

by Nancy Baster

1. Introduction

Work on development indicators, and particularly on social indicators, has expanded both in developed and developing countries. In the developed countries concern about environmental pollution, problems of unbanization, the persistence of poverty in the midst of affluence, social tensions arising from technological developments, and changes in socio-professional structure, have focused attention on the quality of life and conditions of social progress. In developing countries the awareness of growing disparities and mass poverty, problems of population growth and unemployment, the pressure to satisfy basic material needs, have resulted in an increased emphasis on social development. In both rich and poor countries there is pressure on policy makers and planners to take into account both social and economic aspects of development. There is an increasing need for information both to understand the process of socio-economic development and to monitor changes and the impact of government programmes. Work on indicators is one response to this need.

It would be quite impossible in this review to cover in any comprehensive way recent academic and government research. A glance at ongoing work in a number of developed countries, and increasingly, in some developing countries, shows the enormity of the task. A few illustrations, showing the wide range of governmental and non-governmental institutions involved, can be given. In Canada, for example, there has been a steady expansion of work on social indicators. At the federal government level the Economic Council has played an important rôle in the development of social indicators. A report by D.W. Henderson (1974) presented a framework for research on social indicators and studies on social indicators have been included, in particular, as part of the Eleventh and Twelfth *Annual Review* put out by the Council.[1] Statistics Canada have been involved in

1) See particularly the Eleventh *Annual Review* (Economic Council of Canada, 1974).

social indicator development for some time, and produced the first social report, *Perspective Canada,* in 1974. The Canadian Council on Social Development has also played an active role, by promoting seminar discussions and in their publications (Framboise, 1975). Work on the development and use of social indicators has been carried on by the Social and Human Analysis Branch of the Department of Regional Economic Expansion, and by the Regional Planning and Manpower Section, Economic Staff Group of the Department of Indian Affairs and Northern Development, which has been concerned with social reporting for the Canadian North. A number of provincial and municipal governments are involved in the development of social indicators and social reports. Universities are engaged in particular aspects of indicator research.[2]

It would be a large job to catalogue ongoing work in the United States. Since the now classical research of Bauer, Gross, Sheldon and Moore, and others in the 1960s, and the publication of *Towards a Social Report* in 1969, work on social indicators in the United States has continued along a number of lines, including work on social accounts and social reports, the development of social indicator models,[3] and a large volume of work on subjective indicators of the quality of life.[4] At the federal government level, work on social reports has been continued by the Office of Statistical Policy of the Office of Management and Budget, which produced the report *Social Indicators* (1973) and other government departments, particularly the Department of Health, Education and Welfare (which was responsible for the first *Towards a Social Report*). Social reports have been produced at the state, metropolitan and country level by both public and private institutions. Significant research on social indicators has been carried out by private foundations, research institutes and universities, particularly by the Russel Sage Foundation, the Urban Institute, the National Planning Association, the University of Michigan,[5] Iowa State University,[6] the University of Illinois and others. Major funding and support for research on social indicators have come from the National Science Foundation and from the Center for Co-ordination of Research on Social Indicators[7] set up under the Social Science Research Council. New

2) This review of work in Canada draws partly on Henderson's study (1974) so there may well have been new developments since then.
3) See, particularly, Land and Spilerman, eds. (1974).
4) See, for example, Andrews and Withey (1976), Campbell, Converse and Rodgers (1976), Campbell and Converse, eds. (1972).
5) At least three major projects on quality-of-life indicators were produced during 1976 alone at the University of Michigan: Andrews and Withey (1976), Campbell, Converse and Rodgers (1976) and Strumpel (1976).
6) Iowa State University has long been one of the centres of indicator research in the USA. It is now the home of an extensive research project on methodological and practical aspects of the development of social indicators financed by the US Aid programme. A series of reports have been sent out by L.D. Wilcox and his colleagues in the Department of Sociology and Anthropology.
7) It is this Center which is responsible for the quarterly publication, *Social Indicators Newsletter.*

developments sponsored by the Center include the development of indicators on crime, the development of a survey data bank, work on cohort analysis, the replication of opinion surveys and the development of new models for analysing time series.

Since the pioneering work of J. Delors (1971) a considerable amount of research on social indicators has been carried out in France in connexion with the preparatory work for both the sixth (1970–75) and seventh (1975–80) plans. The main thrust came from the Commissariat du Plan and INSEE (Institut National de la Statistique et des Etudes Economiques), supported by research carried out at a number of universities, particularly Grenoble and Aix-en-Provence, and a number of specialized research institutes, such as CREDOC.[8] Y. Barel (1973) and his colleagues at Grenoble were responsible for developing a theoretical framework for social indicators, while work at INSEE was focused on methodological problems, and other institutes were involved in developing indicators in particular areas.[9] INSEE was also responsible for the production of the French social report, *Données Sociales,* the first number of which appeared in 1973. More recently the focus of research interest at Grenoble has shifted towards the development of urban indicators.[10] At the national level there has been a continued emphasis on the construction of analytic indicators for particular concerns or sectors, and on the development of a set of economic and social indicators in the context of the seventh plan.[11]

These examples are in no way intended to provide a comprehensive inventory of ongoing research on indicators,[12] but simply to illustrate the way in which the organization of research may vary from country to country, depending on a number of institutional factors. The situation is very different in France, for example, where the central planning agency has played a major role in fostering research on social indicators, from that found in the United States, where work is more widely dispersed and universities tend to play a more independent role. The situation in the socialist developed countries is again rather different. There, some of the work on indicators which in the western industrialized countries has gone under the label of social indicators has already been institutionalized as part of the planning process. Taking Poland as an example, there are three main centres of

8) CREDOC (Centre de Recherches et de Documentation sur la Consommation) has been carrying out an extensive study of inequality in France (CREDOC, 1974).
9) For a description of this early work in France see United Nations (1972) and the two papers by G. Martin in UNESCO (1976).
10) See G. Martin (1975).
11) Commissariat Général du Plan (1976).
12) For those interested, two accounts of social indicator work in European countries were included in recent numbers of the *Social Indicators Newsletter,* the first an account of social indicator research in Nordic countries (Ringen, 1976), the second a description of the extent of "institutionalization" of social reporting activities in West Germany, Austria and Switzerland (Zapf, 1976).

research on indicators: work is done by statistical agencies, including the collection and analysis of statistics and development of indicators; applied research is carried on at research institutes closely linked with government departments; and finally, more basic research is carried on at a number of specialized research institutes coming under the National Academy of Science. From the point of view of social indicators, the most important of these is the Institute of Philosophy and Sociology which is the centre for work on the long-term development of Polish society. Universities tend to have a teaching rather than a research role.

The situation in the developing countries is again conditioned by a number of institutional factors. In most, such work as there is on indicators is likely to be concentrated in the central planning agency, the central statistical agency, government departments concerned with social programmes, and closely related research institutes. In India, for example, much of the work on indicators is carried on under the auspices of the Planning Commission, the Central Statistical Organization, and the Indian Statistical Institute, which works with the Planning Commission on studies related to planning, although recently the Central Statistical Organization and the Indian Council of Social Science Research have organized a major project on the analysis of long-term social trends, based on existing material from a wide variety of sources. In Malaysia, the Centre for Development Research, which at the time came under the Office of the Prime Minister, played an initial role in co-ordinating work of various government departments on social indicators. In the Philippines, the Development Academy of the Philippines, a government institution established to promote and support the developmental efforts of the country, has taken a lead in devising a set of development indicators. In Sudan, the National Research Council took the initial step in sponsoring work on social indicators. Thus again, in the developing countries, work on indicators is likely to vary from country to country, depending on the institutional set-up, the nature of the planning process, the degree of interest shown by different participants in the planning process. The volume of work is likely to be limited, both because of more limited resources in terms of money and people, and the relative lack of data, but also because the supporting research network is likely to be relatively undeveloped.

There are a few general points arising from this brief look at the range of work on development indicators, and particularly on social indicators. The first is that it is difficult to separate work on social indicators from work on development indicators, since what comes under one label in one country may come under a different label in another. A second point is that it is not easy to separate research done by national governments and research institutes from questions relating to the use of indicators. Questions will continually arise in this review as to who is responsible for work on indicators, what is the purpose of the work and how far it is utilized. A final point is that any review of work on indicators is bound to draw heavily on developed country material, and to be open to the criticism that much

of this is not relevant to the needs of developing countries. There is a need for a continual reinterpretation in this sense.

A distinction could perhaps be made between basic research on indicators and more applied research. The emphasis in this review will be more towards the applied end and the chapters have been arranged to reflect different areas of application. In Section 2 there is a discussion of some recent work on indicators of socio-economic development which raises issues relating to the conceptual framework, the choice of categories, selection of indicators, different methods of deriving summary measures, and the extent to which the work is operational. Section 3 focuses particularly on a welfare approach to development strategy, and on different proposals for developing indicators of levels of living, quality of life and basic needs, particularly the distributional aspects. Section 4 is concerned with various approaches to the development of indicators relating to particular social concerns or to particular areas of social need. Section 5 gives some examples of recent work on the development of indicators at the regional or local level. Important areas of recent work on social indicators, such as the growing number of social reports, and the recent work on subjective indicators, are not dealt with separately (or only to a limited extent) but can be seen as cutting across all these four areas.

2. Socio-economic development

Although the emphasis of this paper as a whole is on social development indicators, these are closely linked with demographic, economic and environmental indicators. In this section a number of studies will be discussed which include all these aspects, as distinct from studies focused more directly on individual welfare and quality of life, which will be dealt with in the next section. There is, as we shall see, a good deal of overlap between the two, but they do reflect two fairly distinct approaches to the development of indicators.

An interesting example of a broad approach to the development of social indicators which sees them as part of an interrelated socio-economic system is provided by the ambitious research programme proposed by D.W. Henderson (1974). The report refers to the increase in social tensions resulting from economic, social and technological changes, and the need to take into account a wider range of more socially-oriented factors, both in order to obtain a better understanding of social processes, and to monitor progress towards policy objectives.

Three basic societal goals are recognized (which in turn are related to individual needs). These are (a) material well-being, which depends on the output of various systems related to nutrition, transport, health care, shelter, etc.; (b) social-cultural well-being, which is regarded as the opposite of alienation, and includes goals relating to the development of personal and group identity, communication

and interaction, participation in decision making, self-actualization through job satisfaction, adequacy and effectiveness of leisure activities; and (c) equity, which includes both inequality between population groups and absence of discrimination.

To provide a framework for the development of indicators, these broad goals are disaggregated into the following nine goal areas or subsystems.

(a) Individual rights and responsibilities
e.g., legal rights and participation in public decision making

(b) Social rights and national identity
e.g., domestic social rights and international relations

(c) Health
e.g., mortality, morbidity and positive health

(d) Command over knowledge and skills
e.g., basic and higher education and other training, artistic creativity, research and development, information networks

(e) Natural environment
e.g., soil, air and water

(f) Man-made environment
e.g., social and physical

(g) Production and consumption of final goods and services
e.g., inputs, outputs and efficiency

(h) Employment
e.g., market for labour, labour-management relations, job security and satisfaction, and occupational mobility

(i) Financial status
e.g., income and assets

These goal areas are defined in such a way that they have some relationship to existing institutional structures and to major policy areas. The goal areas are further disaggregated and are intended to provide the framework for developing indicators, and for research in depth on interrelations within each goal area, and eventually between goal areas and the three basic goals. But the main emphasis is put on developing indicators within each subsystem.

Together with this long-term research programme, the Canadian report has some interesting proposals for developing "approximate" indicators of the most critical areas of social concern for more immediate use. The approach taken is to identify what appear to be the most important long-term social trends in developed countries, such as the trend towards social and economic equity, the shift towards more socially-oriented objectives, the growth of research and knowledge and of related professions, the growing conflict between the collective needs of a more complex society and individual needs. Each of the nine social concerns is then looked at through the filter of these trends, and weighted according to the likely impact of the trends on each area of social concern (using four categories ranging from little impact to small but notable impact). Five priority areas were identified (employment, natural environment, physical aspects of man-made environment, health, education including training and research and development) where a set of core or principal social indicators should be developed.

A second, and rather different example is provided by the work on indicators done in France in connexion with the seventh plan (Commissariat Général du Plan, 1976). The main guidelines of the plan were published in June 1975 and at the end of the year a working group on Social and Economic Indicators was set up which included a number of social scientists, indicator "experts", administrators from INSEE and other interested departments. The Group was asked to recommend indicators to complement national income figures with economic and social indicators which "faithfully express the direction and extent of progress in society". The terms of reference reflected the concern expressed in the orientations of the seventh plan: to have a view of development less restricted than that provided by current growth measures, and to provide instruments to monitor progress towards the objectives of the seventh plan.

The group considered various alternative approaches, and rejected the possibility of developing a global measure based on an enlarged system of social accounts, or an index of real level of living, and proposed instead what they called an analytical approach to the definition of indicators within particular domains or concerns. Within each domain three sorts of indicators were needed—indicators of the situation, to measure the situation and trends in each concern; indicators of results, to monitor the performance of government policies; and indicators of action, reflecting explanatory or causal factors. This approach would help to identify indicators needed both to understand the situation and to suggest different possibilities of action.

The group argued that it was not necessary, and might not even be desirable, to have a global model defining the interrelations between the various domains, at least at the present stage of knowledge. In the absence of a global model some way had to be found to select the most important domains or concerns, which would be likely to vary from country to country, and over time, depending on the

actual situation and the predominant political and social preoccupations. The Commissariat du Plan had made a preliminary list of possible themes, based on both long-term preoccupations about employment, the effectiveness of education, and current preoccupations concerning such questions as inequality, access to and quality of public services, conditions of work. The domains finally selected reflected the guiding principles proposed in the preliminary orientations of the plan.

Since the main purpose of the indicators was to monitor the results of the plan, no attempt was made to include all kinds of indicators, but only those needed to assess the impact of different policies. In some cases the indicators proposed provided concrete objectives (e.g., in the case of employment), in other cases indicators were suggested which could provide an indication of how far evolution conformed to the wished-for direction. In other cases, in relation to population for example, indicators were needed to grasp the situation and to make extrapolations.

The indicators proposed fell under the following main headings.

(a) Assuring the economic conditions for full employment, social progress and liberty of decision
  (i) demographic trends
  (ii) educational system as adapted to modern society
  (iii) strengthening the productive apparatus

(b) Improving the quality of life
  (i) working life
  (ii) family life
  (iii) living conditions (*cadre de vie*)
  (iv) regional (territorial) conditions

(c) Reducing inequalities
  (i) income and wealth
  (ii) utilization and supply of public services

(d) Distribution of responsibilities
  (i) participation in social life

In all, about forty indicators were proposed.

Since the indicators were intended to be used to monitor the plan, the group was concerned with the question of availability of data, and pointed out that, in some cases, the indicators already existed, in other cases the data were available but needed analyzing, in other cases it was a question of developing new instruments

of data collection. The main gaps in information were considered to be on conditions of work, income of self-employed, distribution of wealth, information about vulnerable groups, and the distribution of services and the extent of utilization by locality.

A third example of an approach to the development of indicators is provided by the report on "Socio-economic indicators and national policy in Malaysia" prepared by the Statistical Office in Malaysia (Chander, 1975) which included a set of socio-economic indicators for two benchmark dates (Table 1 and Table 1a). The indicators were selected in order to throw light on the extent to which the aims of government policy, set out in the New Economic Policy, were being met.

Table 1: Socio-economic indicators and national policy: Malaysia

Indicators for 1957 and 1970

Demographic:

- Infant mortality
- Life expectancy
- Total fertility rate
- Natural increase
- Average (mean) age at first marriage
- Percentage of urban population

Health:

- Physicians and dentists per 100,000 population
- Nurses per 100,000 population
- Government expenditure on medical services *per capita*

Education:

- Literacy
- Secondary education
- Government expenditures on education *per capita*

Housing:

- Persons per living quarter
- Per cent of housing 30 or more years of age
- Per cent of dwellings with electricity
- Per cent of dwellings with flush toilets

Communications:

Hard-surfaced roads
Motor vehicles per mile of hard-surfaced road
Telephones per 1,000 population
Mail delivered: pieces *per capita* per year

The economy:

Power consumed kwt. hours per 1,000 population
Manufacturing product as per cent of gross domestic product
Employment in non-extractive industries as per cent of all employment
Per cent of work force employed in unpaid family work
Gross national product *per capita* per year
Medium monthly income per household
Per cent of households with incomes below $120 per month

Source: Chander (1975)

Table 1a

Indicators of equalization of opportunity*

Demographic:

Infant mortality rate
Life expectancy
Total fertility
Natural increase
Average age at first marriage
Per cent of urban population

Education:

Per cent over 15 years of age completed secondary education

Economy:

Per cent in non-extractive employment
Industrial distribution
Unpaid family workers
Medium monthly income per household
Per cent of households with incomes below $120 per month

* In each case differences between the Malay, Chinese and Indian populations were expressed either as a mean deviation of all comunities from the average value for each characteristic, or, where possible, as a Gini ratio, for the two years 1957 and 1970.

Source: Chander (1975)

These examples raise a number of questions about the purpose, scope and use of indicator studies.

First, it can be seen that there are considerable differences in the purposes of these three studies. The main purpose of the Canadian study was to provide a conceptual framework for research on social indicators, which could be used both to analyze and understand the process of socio-economic change and to monitor progress towards policy objectives. A second purpose was to propose a method for selecting priority indicators in the short term. But on the whole the study is research-oriented. The report of the French working party was also concerned with longer-term research issues, but its main purpose was to recommend a set of socio-economic indicators which could be used to monitor progress within the framework of the seventh plan, i.e. the study was directly related to policy. The purpose of the Malaysian study was to provide a set of socio-economic indicators at two points of time in order to assess progress towards the achievement of national goals as set out in the plan.

These different purposes affect the criteria for the selection of goal areas, domains, or dimensions for which indicators are sought. The Canadian study puts more emphasis on developing a theoretical rationale for the selection of goal areas. These criteria are considered, in the first place, as the goal areas which are linked with three main societal goals (material well-being, socio-cultural well-being and equity), and ultimately with individual needs.[13] In the second place they are defined in such a way that they can be linked with the main institutional characteristics of society.[14] Thirdly, they relate to major policy areas. A glance at the list of goal areas shows that they include economic, social and environmental goals. Although they cover many of the same areas as the OECD list of social concerns, many reflect societal goals rather than individual needs. The particularly innovative feature in the approach of the Canadian study is the attempt to define priority goal areas with reference to a wider framework of economic and social change.[15] The themes or domains used in the French plan reflect the strategic orientations of the seventh plan. They include economic, social and environmental aspects, and are interesting because they break away from an essentially institutional breakdown to focus on themes which cut across more conventional listings. The

13) Reference is made to Maslow's work on human needs, which we shall come back to in the next section.

14) Reference is made in the report to the framework proposed in Sheldon and Land (1972) and Land (1975).

15) This has some similarities with the proposals put forward by Y. Barel to operationalize a broad social change model by identifying the main elements in the change process and breaking these down into measurable phenomena. See the paper by G. Martin in UNESCO (1976) and the present writer's introduction to the collection.

Malaysian study on the other hand includes a set of components, demographic, social and economic, which corresponds fairly closely to international guidelines.

The Canadian study proposes a framework for indicators, but not indicators themselves. However, the report proposes a fairly technical social-accounting approach within each goal area to define output indicators, to derive input indicators, using multiple regression analysis, correlation analyses, etc., and indicators to evaluate the effects of particular programmes on the outputs of a given system. The study notes that this approach comes up against two main limitations, i.e. the lack of knowledge about the relevant interrelations, and lack of appropriate data,[16] and argues that a better understanding of goal areas will only come from long-term research. In the meantime, it is suggested that approximate output indicators should be developed in each priority concern. The French report, as has already been pointed out, puts a major emphasis on the long-term development of indicators through analytical studies in each domain.[17] This is in line with the methodological studies in INSEE mentioned earlier, and with the emphasis put in earlier work in connexion with the sixth plan in France on what G. Martin (1976) has called "collective functions". But the report does also propose a list of about forty indicators under the nine domains. The Malaysian study includes twenty-seven indicators under the nine dimensions, making no distinction between different kinds of indicators.

The most interesting feature in the Malaysian study is the inclusion of indicators reflecting changes in distribution among the three racial groups between the two benchmark years with respect to twelve variables (Table 1a). Two measures of distribution were used, the first, the average deviation, or mean deviation of all communities from the average value for each characteristic; the second, the Gini ratio. By providing information on, for example, changes in the proportion of Malay, Chinese and Indian households with incomes below $120 per month compared with the average deviation between 1957–70, and similarly with other dimensions, some indication of trends in national integration can be obtained.

The French study proposes a number of indicators of distribution of income and wealth (under household income, wages, income of independent workers, and assets (*patromie*)), and indicators relating to inequalities in the utilization and

16) *Perspective Canada* (1976) has this to say about indicators of results: "We would have liked to concentrate our data on the 'results' of the various social processes in question. In most cases, this turned out to be impossible, not only because much of the material does not lend itself to this treatment, but mainly because there is a general paucity of operational concepts to measure results . . . . There exist, however, precious few data on actual results achieved. These can be described as the improvement, enjoyment, welfare, or utilities that goods or services render to the final beneficiaries . . . ".

17) This will be developed later in Section 3.

supply of public services, particularly inequalities in education and health (and puts in a strong plea for more indicators relating to geographical distribution).[18]

This leads to a final point about the actual operational use of these indicators. It seems that only in the French example are indicators along the lines proposed actually included as part of the follow-up of the plan. A set of social and economic indicators (about half the number proposed) are included in the "Rapport d'Exécution du VIIe Plan" for monitoring purposes.

The conclusion seems to be that at the "over-all strategic level" which includes various dimensions of development, social, economic, spatial or environmental, the main emphasis is on a limited number of key indicators reflecting priority areas. There is no suggestion in these studies that aggregation into a global measure would either be possible at the present time or desirable. Two interrelated sets of indicators are suggested in these studies: one related to the main institutional features of society (or subsystems), the other related to priority policy areas. The first would include indicators needed for the analysis of the situation, the second for monitoring the results of programmes and policies.

3. Welfare, quality of life and basic needs

In general, work on social indicators has centred on such concepts as levels of living, welfare, well-being, quality of life–that is, on the results of the process discussed in the last section in terms of satisfaction of individual needs. This is reflected in the international work on definition and measurement of levels of living, and more recently, in the OECD work on measuring social well-being. It is reflected in the current emphasis in international thinking about development strategy on meeting basic needs and providing the conditions necessary for the development of human potential. It is reflected at the national level in the increasing weight given to social and distributional goals. There is also a considerable volume of ongoing research in this area. It is difficult in a short review even to sort out basic concepts, let alone indicate the most significant new approaches.

It is proposed to discuss different approaches under four main headings: (a) monetary indicators of welfare; (b) level-of-living indicators; (c) quality-of-life indicators; and (d) subjective, or perceptual indicators of well-being or satisfaction (or even happiness). Some of these terms are used interchangeably in the literature and they are intended here only as convenient labels. The sequence tends to move from applied research at one end to more basic research at the other

18) Some of this information can be found in the French social reports, *Données Sociales*. The interaction between the development of social indicators and social reports is something that will be discussed later.

end. Measures of distribution and correlation are an essential part of these indicators, and this is discussed separately.

Monetary measures of welfare

A variety of monetary measures derived from national accounting concepts are useful, if incomplete, indicators of economic welfare. Such measures include various measures of income and output, disposable income, consumption expenditure, value of total consumption per capita, per household, per worker, etc. Two directions of current work are of interest in the context of this review (apart from work on distribution and poverty, which will be considered later). The first is the extension of the concept of GNP to include a range of non-marketed costs and benefits which affect people's welfare. The second is the use of the money value of total consumption as an indicator of welfare.

A.W. Sametz (1968) wrote a paper advocating a "welfare-output" indicator which would take into account some of the unaccounted social costs of economic growth, such as travel to work and environmental pollution, and which would include some of the unaccounted benefits such as increased leisure time. Research along these lines has continued and has been reviweed in a recent paper (United Nations, 1976), with particular reference to two studies, one in the United States (Nordhaus and Tobin, 1973) and one in Japan (Economic Council of Japan, 1973).

To summarize briefly, the main categories considered in these studies are:

(a) productive activities of households falling outside the market including (i) own-production of food and other goods for consumption, including net rental values for dwellings; and (ii) value of unpaid services in the household, particularly the services of housewives;

(b) leisure time;

(c) instrumental household expenditure (covering such things as commuting costs, personal business expenditure, and, in the Japanese case, estimates of ceremonial expenditure);

(d) treatment of durable goods as assets rather than consumption;

(e) government expenditure—proposals for treating some items as intermediate expenditure; and

(f) environmental conditions and pollution. The Japanese study, for ex-

ample, estimated the expenditure necessary to restore air and water quality to an assumed 'normal' physical environment level in the base year.

The UN review advocates the open-ended presentation of a number of welfare-related measures, including both monetary and physical indicators, to cover these areas, complementing rather than enlarging on the present national accounting system. There is a useful discussion of the data requirements needed for these additional "accounts". The application in developing countries is only briefly touched on, but many comparable problems arise; for example, the question of developing appropriate monetary and physical indicators of household activities in the informal urban and rural sectors or the question of giving a value to the time spent by women on various activities.

The same UN report recommends that priority should be given to developing a monetary indicator of total consumption, which would include:

(a) consumer expenditure on goods and services;

(b) current expenditure on goods and services of general government attributable to households;

(c) value of subsidies paid by general government on goods and services attributable to households; and

(d) current expenditure on goods and services by enterprises and non-profit-making bodies attributable to households.

Monetary indicators of the total of consumption have played an important role in planning in socialist countries,[19] and are being developed fairly widely. In France, for example, CREDOC has been working on an indicator of total real consumption disaggregated by socio-professional groups. The measure includes the imputed value of housing services, the value of benefits in kind, the cost of divisible public services, the imputed value of services of durable goods. Imputing a value to public services always presents a difficulty, particularly if disaggregated by socio-economic group or by locality.

Levels of living

This represents the central core of work on social indicators. It is closely related to the international work on social indicators described in an earlier chapter of this report, particularly the UN report on international definition and measurement of levels of living (UN, 1954), and the OECD report on measuring social well-being (OECD, 1976). The concept of levels of living has also provided the framework

19) See the chapter on "Standard-of-living indicators in the USSR" (United Nations, 1973).

for many of the social reports which are now appearing regularly in an increasing number of countries.[20]

There are a number of common features characterizing the work on indicators of level of living, or welfare. Welfare is seen as made up of a number of dimensions or components, and indicators are sought for these components. The selection of components reflects a pragmatic rather than theoretical approach, and there is an emphasis on components related to major policy areas (and therefore to major institutional divisions). The main emphasis is on the quantifiable aspects of levels of living, and measurement is in physical units rather than monetary units. The concept of level of living is related to the satisfaction of individual needs, but is also seen in terms of access to resources.

The common aspects in the approach are reflected in the list of components in a number of studies (Table 2, page 198.). Some of the differences will be discussed later with reference to particular studies. The coverage of the social reports is rather broader (Table 3, page 200.) but there tends to be a concentration around a common core of central social policy concerns.

Selected studies from those listed in Table 2 can be taken to illustrate a number of different approaches and methodologies. For example, Drewnowski's well-known studies[21] of the level of living and level of welfare were intended to provide a measure of the welfare aspect of social conditions. The improvement of level of living and welfare in terms of the satisfaction of human needs, was seen as the final aim of economic development. He followed the general component approach advocated by the UN expert group on definition and measurement levels of living. A distinction was made between the flow of welfare, the satisfaction of needs over time (the level of living), and the stock or state of welfare and the main focus of the study was the construction of a set of level-of-living indicators which could be aggregated into component indices and if desired into a single level-of-living index. A limited number of indicators were selected a priori under each component, and a system of scaling was used based on four critical

20) A very useful discussion on social reports, including a detailed review of reports in twelve countries, is contained in the report of a recent seminar on "Social reports: their contribution to integrated development planning" organized by the European Social Development Programme (United Naticns, 1976). See also a recent report on "Social reporting and social indicators in developing countries" (United Nations, 1977). The main factor distinguishing social indicators from social reports is that the former attempt (and it is still only an attempt) to present in a systematic fashion a representative and relevant selection of indicators on social conditions which can be used for analysing the situation, for diagnosing problems, for making comparisons over time, and for monitoring progress towards policy goals. But social indicators and social reports are closely complementary. Work on social indicators provides a framework for work on social reports, and social reports in turn help to provide the data base needed for the further development of social indicators.

21) See Drewnowski (1974). The studies originally appeared as UNRISD reports.

points: "affluent", "adequate", "inadequate", "intolerable". Ideally each indicator would be adjusted by a coefficient of inequality obtained by estimating the number or proportion of the population falling within each range of the scale. He also discussed the implications of using alternative weighting methods, e.g. statistical methods, equal weights, or political preferences.[22]

An example of an empirical study following this method is provided by a study made in Poland by A. Luszniewicz (1972) in order to compare the level of living between 1960 and 1970 with respect of the different components. (A later study was made by comparing regions and major urban agglomerations.) Luszniewicz defined levels of living as the extent of satisfaction of material needs through private goods and services as well as public consumption. Particular indicators were calculated on the basis of corresponding empirical observations as well as of chosen threshold values, minimal and optimal. Distance weights were used for computing composite indices for each of the seven kinds of needs and for the total.

A rather different approach was used in the Swedish level-of-living survey which was carried out in 1968 following recommendations of the Low Income Committee set up in 1965 (Table 2 (7)).[23] The survey was intended to provide information for a general assessment of living conditions, going beyond an earlier analysis of employment and income, and to provide a base for a continuous assessment of levels of living. The survey was structured around the level-of-living concept and was based on four considerations: (a) the information was organized according to agreed social policy areas and unitary measures of welfare were rejected in favour of separate indicators to be weighted by the political process; (b) areas and measures were chosen to reflect the individual's command over resources rather than individual need satisfaction. This meant a shift from a consumption focus to a wider range of resources including health, knowledge, work, family, social and civil rights; (c) political resources were included as a level-of-living component, reflecting the ability of the individual to influence other goals (measured by such indicators as the right to vote in general elections, the right to contribute to public opinion, the right of protection against erroneous administrative decision); and (4) emphasis was put on a problem approach rather than a goal-oriented approach (largely because of the difficulty of obtaining a consensus about goals).

The shift away from a consumption-oriented approach to a broader resources approach, including economic resources and a broader range of "societal" resources, including political resources, is typical of a number of recent studies.

22) For a list of components and selected indicators see Table 2 (2) and Table 3 (2).

23) See the discussion in S. Johansson (1973). The results of the survey have appeared in 15 reports submitted to the Low Income Committee, and the statistics have been summarized in a compendium.

Table 2: Levels of living: categories/components in selected studies

International definition and measurement of levels of living	Drewnowski's level of living and welfare	OECD: Measuring social well-being: social consensus	Philippines: Measuring the quality of life
(1)	(2)	(3)	(4)
Health	Nutrition	Health	Health and nutrition
Food consumption and nutrition	Clothing	Individual development through learning	Learning
Education	Shelter	Employment and quality of working life	Income and consumption
Employment conditions of work	Health	Time and leisure	Employment
Housing	Education	Personal economic situation	Non-human productive resources
Social security	Leisure	Physical environment	Housing utilities and the environment
Clothing	Social security	Social environment	Public safety and justice
Recreation	Social environment	Personal safety and administration of justice	Political values
Human freedoms	Physical environment	Social opportunity and participation	Social mobility
Population and labour force	Welfare Somatic status Educational status Social status		
Income and expenditure			
Communications and transportation			

Sources: (1) United Nations, "International definition and measurement of levels of living", E/CN. 3/179, New York, 1954.
(2) J. Drewnowski, *On Measuring and Planning the Quality of Life*, Mouton, The Hague, 1974.
(3) OECD "Measuring social well-being: a progress report on the development of social indicators", Paris, 1976.
(4) *Measuring the Quality of Life: Philippine Social Indicators*, Development Academy of the Philippines, 1975.

Japan: Social indicators of Japan	Finland: Quality of life: social goals and measurement	Sweden: Level-of-living survey
(5)	(6)	(7)
Health	Health	Work and working conditions
Education, learning and culture	Education	Economic resources
Employment and quality of working life	Man's physical environment	Political resources
Leisure	Inequality	Schooling
Income and spending	Housing and human habitat	Health and medical care
Material environment	Working conditions	Family origin and family relations
Crimes and execution of laws		Housing
Family		Nutrition
Community life		Leisure time and pursuits
Class and social mobility		

Sources: (5) *Social Indicators of Japan,* Research Committee, Council of National Living (in collaboration with Economic Planning Agency), 1974.
(6) "Quality of life: Social goals and measurement. Summary of a study of social indicators made by a Division of the Economic Council of Finland", Helsinki, 1973.
(7) S. Johansson "The level of living survey: a presentation", *Acta Sociologica* No. 3, 1973.

Table 3: Major areas included in recent social reports

Income, consumption and wealth
Population
Socio-economic structure
Regional problems
Employment and unemployment
Industrial relations and labour conflicts
Working conditions
Social security
Social mobility
Migration
Leisure
Education
Family
Health
Housing
Public safety and crime
Environmental problems
Others

Source: "National social reports: contents, methods and aims", United Nations, (SOA/ESDP/1976/add 1), New York, 1976.

Table 4: Proposed indicators of overall Philippine well-being

Recommended Indicators	Recommended Frequency
Health and nutrition	
1. Infant mortality rate	Annual
2. Expectation of life at birth	Quinquennial
3. Days disabled due to illness *per capita* per year in disability-days equivalent, by membership in the labour force, and by family status (experimental)	Annual
3.1 Proportion of persons who are ill (prevalence), by degree of disability and by occupation	Semestral
3.2 Proportion of persons who became ill during the period (incidence), by type of disease and by occupation	Semestral
4. Available supply of calories *per capita* per day	Annual
4.1 Proportion of children under 7 who are under-	

Table 4 (cont'd): Proposed indicators of overall Philippine well-being

Recommended Indicators	Recommended Frequency
weight, by degree of undernourishment	Annual
5. Available supply of proteins *per capita* per day, by origin (animal or vegetable)	Annual
Learning	
6. School enrolment ratio, per level of schooling (primary, secondary, tertiary)	Annual
7. Value of human capital stock created by schooling (experimental)	Annual
7.1 Ratio of mean educational capital in the most educated quintile to mean educational capital in the least educated quintile	Annual
Income and consumption	
8. Net Beneficial Product per capita (experimental)	Annual
9. Proportion and number of families below the poverty threshold (experimental)	Annual
9.1 Proportion and number of families below the total poverty threshold (experimental)	Annual
10. Ratio of mean income of richest quintile to mean income of poorest quintile	Annual
11. Rate of inflation of consumer prices	Monthly
Employment	
12. Unemployment rate of the totally unemployed, by occupation and by educational attainment	Quarterly
12.1 Underemployment rate, in totally unemployed equivalent, by occupation and by educational attainment	Quarterly
13. Real wage rate index, skilled vs. unskilled workers, by occupation	Monthly
Non-human productive resources	
14. Reproducible capital stock	Annual
15. Arable land	
15.1 Concentration ratio of agricultural land ownership	Annual

Table 4 (cont'd): **Proposed indicators of overall Philippine well-being**

Recommended Indicators	Recommended Frequency
16. Forested land	Annual
17. Mineral reserves, by type of mineral	Annual
Housing, utilities, and the environment	
18. Proportion of occupied dwelling units adequately served with water	Biennial
18.1 Proportion of the population served by electricity at home	Annual
19. Index of housing adquacy (experimental)	Annual
19.1 Proportion of households with 1.5 persons or less per room	Annual
19.2 Proportion of occupied dwelling units made of strong materials	Annual
19.3 Proportion of occupied dwelling units with toilets	Annual
20. Air pollution index for Greater Manila (experimental)	Quarterly
20.1 Pollution concentration levels, by type of pollutant, by station	Quarterly
21. Proportion of river-lengths polluted by river, by degree of pollution	Biennial
Public safety and justice	
22. Crime incidence rate, by type of crime	Monthly
22.1 Index of citizens perception of public safety and justice (experimental)	Annual
23. Backlog of judicial cases	Annual
23.1 Ratio of judicial cases disposed to total cases needing disposition, by court of jurisdiction	Annual
24. Number admitted to penal institutions	Annual
24.1 Number confined in penal institutions	Annual
Political values	
25. Ratio of votes cast to registered voters	Every election
25.1 Ratio of registered voters to population aged 21 and over	Every election
26. Index of political mobility (experimental)	Biennial

Table 4 (cont'd): Proposed indicators of overall Philippine well-being

27.	Index of political participation (experimental)	Biennial
	27.1 Index of political awareness (experimental)	Biennial
	27.2 Index of freedom of political dissent (experimental)	Biennial
28.	Index of political efficacy (experimental)	Biennial
Social mobility		
29.	Index of occupational mobility (gross mobility) (experimental)	Quinquennial
30.	Index of perceived social mobility (experimental)	Quinquennial

Note: Many of the indicators are already being prepared by the present Philippine statistical system, although in some cases not as often as would be desired. Other indicators are labeled experimental. Some of the experimental ones are derivable from existing data by new estimation methods, while others require entirely new data. The project conducted a multi-purpose survey in Batangas in June 1974 to determine whether the new data are feasible to collect. Batangas was chosen because it contains a wide range of municipalities, from the very poor to the affluent.

Source: *Measuring the Quality of Life: Philippine Social Indicators,* Development Academy of the Philippines, 1975.

Other studies are more closely oriented towards a "goal" approach to the selection of components and indicators. The Philippines' study (Table 2 (4)), for example, is concerned with measuring national well-being, and the components are seen as basic social concerns which comprise the widely accepted and more or less permanent goals of Philippine society, which although not unique to the Philippines are related to national aspirations. The Finnish study (Table 2 (6)), which is a methodological, not an empirical study, takes as its terms of reference "the main social policy goals emerging in the society".

What can be said about the criteria for the selection of indicators from these studies? The original UN expert group recommended a range of indicators under each component, including in some cases indicators of expenditure and facilities, but the main emphasis was put on the actual situation in terms of calorie consumption, housing conditions, mortality and morbidity rates, etc. The recommendations took into account the availability or non-availability of the data in most developing countries. OECD started by developing concepts rather than specifying indicators, and at the present time indicators have been suggested for less than half of the 24 common concerns. The Philippines' study selected intuitively a limited number of indicators under each component, (Table 4, page

200) drawing on those that were currently available, and also indicating, on the basis of a pilot survey, others that might be obtained from a national survey. The Japanese study on the other hand included over three hundred indicators under the different components, and adopted a variety of methods for developing synthetic indicators in different goal area. Under the sub-concern "degree of health impairment", an indicator of the average healthy life was calculated by deducting from the average life span the average life-long functional loss evaluated for each set of factors impairing health. Under education the indicators were aggregated using a standardized value for each indicator. Under the area of employment and quality of working life, indicators were combined by using as weights the figures obtained through perceptual surveys. In the comparative analysis comparing three benchmark years separate indices were constructed for each social concern, based on simple averages of each (unstandardized ?) indicator. The Finnish study, like the Swedish level-of-living survey, is not concerned with the question of aggregation, but presents a simple model based on a systems, or social accounting, approach, which relates social indicators to the goals of society on the one hand, and to various accounting systems on the other. (A similar approach was suggested in an earlier paper by G. Martin on the use of indicators in French planning.)

Welfare and quality of life

A third, quite different, approach to the measurement of levels of living or welfare, which takes its starting point from the concept of human needs, can be illustrated by the work of E. Allardt (1973, 1975) at the University of Helsinki. His interpretation of welfare provided the conceptual framework for a comparative study of welfare in Scandinavian countries (1973), and in many ways his approach comes close to the work on subjective indicators discussed later. His concept of basic needs goes back to the work of Maslow (1954), who established five categories of human needs, ranked in ascending order: (a) survival and safety; (b) security; (c) belongingness; (d) esteem; and (e) self-actualization. Allardt uses three main dimensions of needs: having, loving and being (Table 5, page 205). "Having" corresponds to what is usually meant by levels of living – income, education, health, etc. "Loving" refers to conditions such as companionship, affection, belongingness and solidarity (the opposite of anomie). "Being" is related to such concepts as personal growth, satisfaction of growth needs, self-individualization and self-actualization (the opposite of alienation). This approach was used in a comparative survey of welfare in the four Scandinavian countries carried out in spring, 1972. A number of measures, or indicators, were proposed under each dimension, and the questionnaire was designed to obtain information on these items, as well as on a number of attitudinal measures and background variables.

The data collected were analyzed:

(a) to compare the distribution of each item in the four countries;

(b) to explore the relations between the different variables in each of the countries (using factor analysis and multiple classification analysis);

(c) to see how well the welfare values explained each other (in particular whether there was any ground for assuming a hierarchical relation between the values, for example whether the "loving" and "being" dimensions were dependent on the "having" dimensions);

(d) to look at the relation between the welfare variables and the attitude (happiness variables); and

(e) to identify groups with low-value realization by relating the welfare variables to the background variables.

Thus, by going back to psychological theories of human needs, Allardt and others have widened the concept of welfare to include dimensions outside the more traditional concept of welfare in terms of access to resources and have experimented with a new range of indicators.

Table 5: Allardt: Summary chart of basic welfare values

	The over-all level of individual need – satisfaction	Dispersion reflecting structural patterns	Correlations reflecting structural patterns
Having	Level of living	Economic equality	Economic justice
	e.g. GNP/capita; averages, rates or percentages of the level-of-living components	e.g. dispersion of level-of-living components	e.g. percentage differences between regions, races, etc. on the level-of-living components
Loving	The amount of loving or of reciprocal human relationships	A low degree of coercion (a low degree of pressure toward conformity)	
	The number of persons having somebody to care for and love, the amount of solidarity (the amount of "community")	Possibilities of deciding on human relations by one's own choice	
Being	The amount of being	Equality in political resources	Political justice

Table 5. (con't): Allardt

e.g. indices indicating lack of alienation, feeling of being a person, of having a place in the world	e.g. measures of power differences and variations in abilities to influence decisions	measures of discrimination, e.g. measures of isolation from public life

Source: Allardt (1973).

Quality of life: subjective or perceptual indicators

Work on perceptual indicators of the quality of life in terms of people's satisfaction with their lives has been one of the growth areas of social indicator research in recent years.[24] The general aim of the studies is the same – to develop indicators of people's experience and satisfaction with different aspects of their life, and with their life as a whole, and to obtain a more comprehensive and accurate picture of people's reaction to social change than can be obtained from indicators of objective conditions.

A rough distinction may be made between two major directions of research. One is concerned with empirical analysis of the different dimensions which go to make up the quality of life in terms of individual satisfaction, the second with the relation between objective conditions and people's perception of or satisfaction with these conditions.

The first direction is exemplified by the recent study of Andrews and Withey (1976). This study of the quality of life in the United States was based on the findings of three national sample surveys of American adults carried out in 1972. The aim was "to develop a battery of items for inclusion in a survey questionnaire . . . which will be modest in number, broad in coverage, of substantial validity, and which will provide a statistically efficient means of assessing perceived life quality in the diverse domains most important for predicting people's general satisfaction with their lives". Respondents were asked to use a seven-point scale to describe their feelings on 123 items (selected from an original list of 800). The 123 items were reduced by MCA (multiple-classification analysis) to 30 semi-independent clusters of domains, and it was found that 50 per cent of global life satisfaction could be explained by the level of satisfaction in 12 life domains which included job, health, family, money, fun, time to do things, spare-time activities, housing, satisfaction with government.

24) Major research projects have been carried out in the United States (particularly at the Institute of Social Research, University of Michigan), in the United Kingdom (by the Social Science Research Council Survey Unit under M. Abrams and J. Hall), in France (at the Centre de Recherche sur le Bien-Etre under P. d'Iribarne), in Israel (at the Israel Institute of Applied Research under Professor Guttman), to mention only a few.

The second direction of research lies in exploring the complex relation between objective conditions and individual satisfaction, which will be influenced both by the way people perceive the objective condition, and by their evaluation, which will in turn be influenced by aspirations, expectations, reference groups, etc. For example, surveys in the United Kingdom carried out by the SSRC Survey Unit (Hall, 1976) over the period 1971–75 concentrated on developing indicators in well-defined policy areas, and particularly in those areas where objective indicators were well developed. (These included job, dwelling, town, health, district, leisure, standard of living, education, political institutions, financial position, family life). Information was obtained on (a) the level of satisfaction with each domain; (b) which domain was considered the most important; (c) satisfaction with life as a whole at different periods and the level of satisfaction entitled to; (d) various subjective phenomena such as worry, anxiety, etc.; and (e) values. This made it possible to explore such questions as differences in levels of satisfaction of different socio-economic groups concerning the various domains, the gap between the present level of satisfaction and the level to which the respondent felt entitled, the relation between subjective indicators and objective phenomena.

From a more operational point of view there seems to be fairly widespread agreement that subjective or perceptual indicators provide a useful form of additional information for policy makers. Surveys of individual attitudes and preferences serve a number of purposes. They can be used to suggest new indicators or help to correct existing indicators. For example, it was pointed out at a recent OECD seminar that indicators of the quality of working life usually relate to wages, houses, holidays and retirement, while surveys show that (in the United States at any rate) job satisfaction is rated according to its comfort, its challenge, its financial rewards, relations with co-workers, and its resources. Subjective indicators can be used to complement indicators of objective conditions, for example, the perception of inequality. They can also be used to evaluate the impact of programmes, particularly at the community level. In the United Kingdom, for example, such surveys have been used in a number of towns to evaluate people's satisfaction with a variety of public services. Campbell pointed out in an OECD seminar that there was an increasing use of sample surveys in the United States to evaluate the way people see their city and the extent of satisfaction with community services. "It is likely to be at the local level that measurement of community quality will move most rapidly . . . It is also at this level that community actions intended to improve the quality of life may be most realistic." (OECD, 1974).

Inequality, poverty and basic needs

A review of indicators of inequality, poverty and basic needs would call for another chapter as long as this one. Each of the approaches to the measurement

of levels of living just discussed implies corresponding measures of inequality, minimum levels of living and equity. Concepts themselves are often ambiguous. Inequality usually refers to the distribution of material resources, or access to material resources. It may equally refer to the whole range of social concerns. Poverty may be interpreted in absolute terms, traditionally defined in terms of a level of income sufficient to meet some minimum standard of needs, or in relative terms defined as those falling within the lowest income ranges, or those with incomes falling appreciably below the average. It may also be defined in cultural or perceptual terms – how far do those who are called poor see themselves as poor? The concept of basic needs is even more ambiguous. It may mean a "minimum basket of necessities", and as such comes close to the minimum poverty line concept. It may refer to particular categories of need derived from (mainly psychological) theory, as reflected, for example, in Allardt's work discussed above. Or it may simply refer to categories of needs (food, clothing, shelter, etc.), which are generally accepted as in some way basic. In much of the current discussion of basic needs there seems to be a combination of the first and the last interpretation.

This is reflected, for example, in one ILO publication, (ILO, 1976) where basic needs are defined as "the minimum standard of living which a society should set for the poorest groups of the people. The satisfaction of basic needs means meeting the minimum requirements of a family for personal consumption: food, shelter, clothing; it implies access to essential services, such as drinking water, sanitation, transport, health and education; it implies that each person available for and willing to work should have an adequately remunerated job. It should further imply the satisfaction of needs of a more qualitative nature; a healthy, humane and satisfactory environment, and popular participation in the making of decisions that affect the lives and livelihoods of the people, and individual freedoms." Although it is recognized that basic needs are largely a relative concept, "there are also minimum levels of personal consumption and access to social services which should be universally regarded as essential to a decent life, and which should therefore be looked upon as minimum targets for raising the living standards of the very poor for the entire international community".

There are also a wide variety of measures of dispersion and disparities, all with different meanings and uses, cutting across the different approaches. Broadly speaking, there are measures of distribution, (e.g., the Gini coefficients, percentile differences, concentration ratios, etc.), there are norms or cut-off points calling for the definition of critical points, and there are correlations between indicators of levels of living and different population characteristics which provide indicators of equity.

The main distinction is perhaps between monetary measures of distribution and minimum levels (or poverty) and broader measures of distribution of levels of

living, or access to resources. Only a passing reference can be made to the growing volume of research on indicators of distribution. The methodology in this area is fairly well established, even though the application, particularly in the poorer countries (but not only in the poorer countries), is fraught with well-known difficulties. Poverty can be measured in relative terms, i.e. the proportion of the population or households with incomes at the lower end of the range (e.g., the lowest decile or quartile) or in "absolute" terms as reflected in some minimum norm.[25]

Traditionally a poverty line is based on an estimate of the income required to enable a household to meet the cost of a minimum "basket" of goods and services considered necessary for physical efficiency and social participation. The main steps in the construction of a poverty line involve the selection of items to be included in the "basket", and costing these items. Additional information is needed on household size and composition and on the distribution of household income. In practice, each of these steps raises a number of conceptual and practical data problems, particularly in rural areas in less-developed countries. The items included in a poverty budget may vary from a single basic item – food – to a wider range usually including at least food, housing (including fuel and lighting), clothing, and miscellaneous expenditure (such as taxes). For example, the well-known poverty studies carried out in India in the 1960s and 1970s by Minhas, Bardhan, Dandekar and Rath,[26] used an income level which was related to minimum levels of food consumption, making an allowance for urban/rural price differentials. The food item is usually established according to nutritional criteria, but the criteria for establishing quantities of the remaining items may depend on a variety of social and economic criteria, as well as on local circumstances.

A good illustration of the practical difficulties is provided by a recent study of poverty in Lesotho (Marres, 1975).[27] The purpose of this study was to estimate the extent of poverty in Maseru, the capital of Lesotho. Information on income and expenditure and on household size and structure was available from a recent urban household budget survey. The poverty budget was consrtructed for an average "reference" family, and included a wide range of items (food, clothing, cleansing materials, fuel and lighting, household equipment, accommodation, medical care, education, tax). For food, the minimum calorie intake and safe level of protein were calculated with reference to age, sex and work activity. This was then converted into a diet corresponding to traditional Basotho feeding habits. Clothing items were related to "physiological, social and working requirements".

25) In fact, as has been often pointed out in the literature, "absolute" measures in practice tend to become relative.
26) Accounts of these and other studies can be found in Srinivasan and Bardhan, eds. (1974)
27) It is interesting that the writer intended originally to use Drewnowski's approach, but there were insufficient data.

The remaining items were calculated mainly with reference to the consumption pattern found in the household survey. Prices for food and other items were then collected in different areas of the city. The average monthly cost of the minimum was computed, and related to families of different size and composition. Given the cost of the minimum budget and the income distribution, the proportion of Maseru households below the poverty line could be calculated.

Distribution of levels of living more widely defined should be the central focus of work on social indicators and again there is a need for a wider review than can be made here. Ideally what are needed are indicators of the proportion of the population falling below defined levels with respect to employment income, health, nutrition, housing, environmental conditions, social and political participation, etc. One conceptual frame for obtaining distribution coefficients for level-of-living indicators by calculating the proportion of the population falling above and below two critical points is contained in the Drewnowski proposals discussed above. An alternative method which does not depend on scaling is used in the Allardt study mentioned earlier. He used multiple classification analysis to identify population groups which were particularly low in the values included in his study. Population groups were defined in terms of centre-periphery, social class, income, political preference. For each variable used in the analysis, the national arithmetic mean, as well as the arithmetical mean for all groups distringuished in the analysis, was automatically computed. The standard error was used as a measure and groups with an arithmetical mean three times the standard error lower than the national mean were considered low in value realization, or in other words, high in value deprivation. The purpose of the measure is to provide a systematic yardstick for spotting deprived groups.

A further example comes from the latest Netherlands *Social and Cultural Report* (1976) which includes a report of a study of the distribution and concentration of aspects of welfare. The study was a statistical analysis of data from the 1974 Survey of Living Conditions. Sixteen indicators were chosen under six components: housing, health, spending power, employment, leisure, education. Under housing, three indicators were selected: (a) owner or tenant; (b) type of building; (c) structural condition of building. Under health, the three indicators selected were: (a) long-standing illness; number; (b) stress: high, low; (c) whether or not at home ill during the past three months, and so on. Component analysis was used to derive a component of general well-being, and indicators were weighted by the coefficient of correlation with the component. Clusters of deprivation were noted among particular population groups.

Such measures of distribution and deprivation are limited by the availability of survey data. Comprehensive level-of-living surveys have proved complex and expensive to carry out, particularly in developing countries. The alternative is to focus on particular population groups, urban and rural, and particular areas, where

it is possible to combine indicators of household levels of living, with indicators of availability of different resources on a locality basis. This would be close to proposals for indicators of development at the local level, discussed in Section 4.

4. Indicators of particular areas of social concern and particular population groups

A great deal of work on the development of indicators goes on in the context of particular policy areas, which may be linked with particular administrative sectors such as education, health or housing, or with areas that cut across sectors, such as nutrition or family planning, or with particular population groups, children, women, the elderly, etc. The emphasis here is on the horizontal links between resources, activities, outputs and results rather than on the vertical links discussed in the last section. This is an area which brings together relevant government departments, statistical offices and specialized research institutes in developing indicators. It is reflected in the current phase of OECD work which brings together statisticians, key government officials, people from universities and research institutes to specify indicators in particular areas of social concern (the common development efforts). This approach to the development of indicators was stressed in both the Canadian and French reports mentioned earlier. In the Canadian view priority should be given to the development of social indicators considered to be the operative variables in the model of a particular socio-economic subsystem, or specific aspects of this subsystem, including both inputs and outputs. Such a system is socio-economic, including both social and economic indicators. It includes both stock and flow indicators, and the purpose is to understand how the system operates over time. The French working group also strongly recommended that priority should be given to developing indicators within particular domains and with reference to particular programmes of action. Indicators were needed to measure the situation and trends of particular concerns, to measure the performance of government policy and (if possible) to determine the main causal factors, the implication being that a battery of indicators was needed according to the particular purpose.

A few examples can be given of the development of indicators for particular concerns or domains. The first is the work of E. Andreani (1975) setting out a framework for the development of a system of health indicators. Andreani takes as his starting point the need to specify a small number of significant indicators within an analytical framework which will take into account both the main causes of ill health, the actual health situation, and the resources available. This is set out in the form of a diagram where the four main factors affecting health (biological, way of life, environmental, level of living) are listed on the left hand side. The state of health, defined in terms of mortality and morbidity as well as in terms of the perception of ill health is in the centre, and available health-care resources on the right. The extent of participation in social life is included as part of the

health situation, interrelated with mortality and morbidity as cause and effect. Andreani then suggests a list of 20 indicators using existing statistics which relate to different parts of this diagram. (It is interesting, looking through his list of indicators, that while his indicators of the health situation are those usually suggested in the context of both developed and developing countries – expectation of life according to sex at different ages, infant mortality rate, infant mortality rate in different socio-economic groups, mortality by cause of death – the "explanatory" factors would call for a rather different set of indicators.) What he is doing in effect is to bring together available statistics in an analytical system. He points out that the system can be limited to the health-care system, or widened to include other policy areas affecting health, such as environmental sanitation, etc. The development of policy-oriented indicators is seen as cutting across this analysis. Andreani tried to develop a set of indicators related to the main health objectives of the Seventh Plan and found large gaps in available data, and equally large gaps in knowledge about the relation between different programmes and results.

Many examples could be given from the literature of this type of systems approach to the development of indicators, particularly in relation to education, health and nutrition, sometimes more quantitative and linked with programme budgeting and partial accounting systems, sometimes more frankly research-oriented and exploratory.[28]

An example of the development of a more policy-oriented set of health indicators in a developing country with no reliable vital statistics and limited information on causes of death or morbidity is provided by the National Health Programme in the Sudan. In the first place a set of indicators was used based on available information in order to assess the existing situation. These included background information, rough estimates of birth and death rates, data on public and private expenditure on health, and on communications in the country.

Indicators of the health situation included the following.

(a) Indicators of the disease pattern
  (i) the number of cases of particular diseases reported at all health facilities as per cent of all reported new cases
  (ii) hospital admission rate for specific diseases
  (iii) other information available on the prevalence of infectious disease

(b) Health facilities per head of population

28) In an interesting paper, "Social Indicators in the United States and Europe: comments on five country reports", N. Ramsey (1973) demonstrates how data from the social reports can be brought together in order to provide information on the functioning of a particular sector, and changes over time.

(c) Public health and hygiene
    (i) proportion immunized
    (ii) proportion of population with access to clean water supply

(In all cases it was difficult to get breakdowns by region or by urban/rural population.)

On the basis of this initial assessment main health problems were ranked according to a number of criteria: (a) political objectives; (b) politically expressed needs; (c) contribution to social equity; (d) economic benefit; (e) conformity to local cultures; (f) benefit to younger age groups. Eight major programmes were then defined and in each case a number of indicators were proposed which could be used to monitor the results of the programmes on a continuing basis. The criteria for the selection of an indicator was that it should be (i) simple, easy and inexpensive; (ii) quantifiable; (iii) sensitive to change; (iv) as specific to the problem as possible. For example, the aim of the malaria programme was the reduction of clinical cases of malaria, and the indicators proposed were (a) medical – the number of cases; (b) malariological – the proportion of positive blood slides, the parasite rate; (c) socio-economic – the days off work due to sickness (this programme related to major irrigation areas). The aim of the primary health-care services was the complete coverage of the population by primary health-care units by the year "x", and the indicators proposed were (i) the number of deliveries preceded by antenatal care as compared with the total number of births; (ii) the proportion of immunized children as indicated by BCG and smallpox scars; (iii) availability of any health-care facility/person within reasonable walking distance; and (iv) number of facilities available per 100,000 population.

Regular reporting on these lines would provide a basis for the description of the situation and the analysis of trends. If collected by locality and region it would provide the basis for indicators of distribution and correlation. It would provide a basis for monitoring progress. It would provide a basis for evaluating the efficiency of programmes, but not for evaluating the impact of programmes on the actual situation, both because indicators of the actual situation are not available and because of the difficulty of assessing the effect of programmes on the actual health situation.

Finally, an example of a method of developing indicators as part of a more sophisticated model comes from the housing field in Canada.[29] Two indicators, number of persons per room as an indicator of the physical and social quality of housing, and the ratio rent per room/income per tenant, as an indicator of the cost of housing, were derived by statistical analysis of data from 23 towns. The two in-

29) *Les indicateurs de logement: développement, répartition et evolution,* Trinh Minh Anh, Economic Council of Canada Discussion Paper No. 40 (October 1975).

dicators were found to be sensitive to trends and to provide a good picture of social and geographical distribution. The results of the analysis showed that while the index of overcrowding showed an improvement and decreasing disparities over time, the cost of housing was increasing, particularly for the lowest income groups. Projections were made for 1985 which showed that overcrowding would continue to decrease, but at a continually higher cost. The indicators could be used as part of a model relating the demand for housing to economic variables, and to sociological factors influencing the structure of individual demand.

Indicators relating to particular population groups

Focusing on the situation of particular population groups, children, the elderly, women, racial minorities, migrant workers, the handicapped and so on, provides another method of developing a set of interrelated cross-sectoral economic and social indicators. Indicators have been developed for a number of purposes: to assess the situation and identify particular problems, to forecast future needs or problems, to develop analytical and explanatory frameworks, and to measure the extent of discrimination. The level of living of children and young people in the developing countries, particularly with respect to health and nutrition, educational level, access to training and employment has provided a major focus for work on social indicators, both internationally and nationally. In the developed countries the higher expectation of life and growing proportion of the population over 65 has focused attention on the situation and needs of the elderly.[30] The drive for greater equality of women, and the recent concern with the role of women in development, is reflected in a search for better indicators, and for data broken down by age and sex and family situation. Much of the pressure comes from the "social" departments concerned with social action in these areas, supported by studies carried out by research institutes. In some cases inter-ministerial committees have been responsible for research and the development of indicators, e.g. in relation to population policy or children's programmes, or the participation of women in development.

Different sets of indicators are called for according to their purpose and use. If the purpose is to assess the situation with respect to particular vulnerable groups, indicators will be required to reflect the different dimensions of level of living, or social concern. In Holland for example it is proposed that successive social reports will focus on a description of cross-sectoral welfare of particular groups based on specially designed quality of life surveys, in order to assess particular problems. If the purpose is to make long-term projections of the needs of the elderly and the likely cost of meeting these needs, then a number of indicators are called for

30) Three of the papers in the study *Approaches and methods used in long-term social planning and policy making* (ECE 1973) are concerned with the application of systems analysis to the assessment of future needs of the elderly (in Denmark, the United Kingdom and Poland).

relating to the present size and structure of needs, and to the factors determining these needs, together with estimates of likely changes in these factors, as well as information on costs.

Indicators may be derived reflecting the extent to which levels of living of marginal groups vary from the average (a "piecemeal" approach), or on the other hand they may be related to a broader structural assessment of the position of these groups within a particular society.

A good example of the latter is provided by a report on changes in the status and opportunities for women in India (Government of India, 1974). The terms of reference of the committee were to assess the status of women in the light of the criteria established in constitutional, legal and administrative provisions and to consider programmes which would enable women to play their full and proper role in building up the nation. The committee explored in depth the legal situation of women, education, employment opportunities, particularly in the unorganized sector, political participation and social life in general, making use of a wide range of indicators relating to these areas. The report says "In order to understand the nature and influence of these broad studies of variables we had to depend on various types of indicators. Ouantitative indicators provided by vital statistics of birth and mortality rates, sex ratio, rates of participation in economic and political life, literacy and education, provided certain broad measures and trends. None of them could, however, be studied meaningfully without a qualitative appraisal and understanding of their limitations in a field of this kind. For instance, the concept of national and State averages normally used for more quantitative analysis becomes meaningless in the context of tremendous socio-economic inequalities and variations in our society. Secondly, there is a wide gap between stated legal objectives and achievements, between the legal framework and the empirical realities, between symbolism and actuality . . . . The uneven rates of development between regions, communities and sections of our population often made analysis by quantitative methods baffling. It was therefore necessary to use other methods and techniques to assess these different levels of social reality." These other techniques included interviews with a wide cross-section of women from all states of life, consultations with a wide range of individuals and organizations, empirical studies including a small number of studies undertaken to assess the changes in the social status of women through significant indicators like participation in family decision making, and share of work both within and outside the family, attitudes to education, employment, marriage laws and practices, *purdah* and general position within the family, political participation, etc. It is particularly interesting that the committee found the most relevant broad categories in which to assess changes in the status of woman were:

(a) women below the subsistence line, whose problems and constraints were

radically different in nature from those suffered by other women in society;

(b) women who move continuously between security and subsistence, and often descend below the subsistence line with the disappearance of their means of earning a livelihood; and

(c) women firmly above the security line.

5. Regional and local-level indicators

The development of social indicators at the regional, urban and local level has been a major growth area in indicator research in the past ten years, particularly in the more industrialized countries. The development of territorial social indicators in the United States, from a small number of pioneering studies in the 1930s and 1940s to a major research field employing sophisticated statistical techniques has been traced by D. M. Smith (1973) and is reflected in the weight given to these studies in the professional journals. Such studies have provided a meeting point for the interests of geographers, urban planners and social scientists and local government agencies within a research tradition which has tended until recently to be rather distinct from those engaged in national-level studies. But the barrier between the two is now being broken down.

This is partly due to the emphasis put by the first generation of writers on social indicators in the United States on the need to disaggregate national data by small geographical units. Gross, for example, suggested the need for social reports for particular states and metropolitan regions, and argued that national goals and indicators had to be translated into more specific goals and indicators that related to subnational areas of territory. Others argued that since state and local governments often had a major responsibility for social programmes there was a need for a local system of social reporting geared to their requirements. In practice, research on social indicators at the subnational level has been geared to different levels – regional, metropolitan, urban, rural and locality (intraurban and rural) – and to a wide range of purposes. These include the development of typologies, comparisons of the quality of life, social reporting, assessment of need, the identification of areas of multiple deprivation (poverty and other problem areas), and the evaluation of programmes.

The scope of the studies and the categories and variables included vary widely according to their level and according to their purpose. Earlier studies (with some notable exceptions) tended to rely heavily on data available from the census, i.e. population structure, employment and occupation, and data on housing and amenities. Smith points out that in the United States urban-area studies thus resulted in a clustering around three major dimensions – social-economic

status, state in life-cycle and ethnic background. In recent studies considerable effort has been made to include a range of indicators reflecting major dimensions of well-being, as well as a wider range of indicators on social problems and social disorganization. Current criteria reflect mainly the same pragmatic approach to the selection of components and indicators of well-being found earlier, and the breakdown is very similar.

The regional and urban studies carried out provide a fund of illustrations of the use of a range of statistical methodologies designed to reduce large numbers of variables to a more limited number of underlying dimensions or factors, to make comparisons between communities along a number of dimensions, to summarize results in a single indicator, or by profiles, or simply to indicate change over time in replication studies.[31]

One further point of interest here is the range of auspices under which these studies are carried out. They include state and local governments, universities, particularly urban planning departments and less often social science departments, community associations, urban "observatories", as well as individual researchers.

A brief reference will be made to four different types of studies. The first are comparative studies of development at the subnational level. These examples may be given, one from the United States, one from Poland, and one from India. The first is an inter-state comparison of the quality of life by J. O. Wilson (1969). Nine goal areas were selected from those set out in the report of the President's Commission on National Goals (1960). These included the status of the individual, equality, democratic process, education, economic growth, technological change, agriculture, living conditions, and health and welfare. Eighty-five variables were selected and were reduced to an aggregate score for each goal area through factor analysis. For each of the nine goal areas, scores on the leading factor extracted were used to rank the states. The top and bottom quartiles on each goal area were identified and mapped.

A recent study in Poland (H. Polak and L. Starzewska, 1976) used the taxonomic method developed by Z. Hellwig to identify the most relevant regional development indicators from an initial list of 112 potentially relevant indicators chosen from the available statistics (covering a wide range of socio-economic sectors). The following four categories of indicators were identified.

(a) Systemic
—basic (representing explanatory features)
—dependent (representing explained features)

31) See Smith, *op. cit.*, for a very clear and comprehensive account of different methodologies.

(b) Non-systemic
—main (giving supplementary information)
—residual (non-relevant)

The list of basic (systemic) indicators includes the following.

(a) employment in industry—per 1,000 inhabitants
(b) number of new flats—per 1,000 newly married couples
(c) potatoes (in tons) purchased—per 100 ha. of arable land
(d) number of telephones in rural areas—per 1,000 inhabitants
(e) number of shops selling non-food articles—per 1,000 inhabitants
(f) number of shops selling clothes and apparel—per 1,000 inhabitants
(g) number of cultural clubs—per 1,000 inhabitants
(h) number of places in restaurants, cafeterias, etc.—per 1,000 inhabitants
(i) value of sales in factory canteens—in zlotys per 1 inhabitant
(j) number of handicraft units rendering services for the consumers—per 10,000 inhabitants
(k) number of general high schools (licea) per 10,000 inhabitants
(l) number of students leaving professional schools—per 1,000 inhabitants
(m) number of public libraries—per 10,000 inhabitants
(n) number of medical doctors—per 10,000 inhabitants
(o) number of hospital beds—per 10,000 inhabitants
(p) number of places in nurseries—per 1,000 women employed in socialized enterprises
(q) number of recreational and touristic facilities—per 10,000 inhabitants
(r) number of sports stadiums and related facilities—per 10,000 inhabitants

The third example relates to the development of a typology of village development based on Indian data (Dasgupta, 1975), and is a by-product of the village study project at the Institute of Development Studies at the University of Sussex. Dasgupta used data obtained from a large number of comparable village studies carried out over a period of years in India by six Agro-economic Research Centres (which were attached to universities, but financed and co-ordinated by the Ministry of Agriculture), to derive a limited number of socio-economic indicators. The original list of 234 variables was reduced to 14 key variables through the use of correlation matrices. These were:

(a) population size;
(b) percentage of self-employed agricultural households;
(c) over-all work force participation rate;
(d) number of days worked by casual agricultural labourers;
(e) ratio of total villages cultivated land to adult males;
(f) value of yield per acre of main subsistence crop;
(g) percentage of irrigated cultivated land;

(h) percentage of cultivated land under cash crop;
(i) percentage of village produce sold;
(j) percentage of land owned by top 25 per cent of households;
(k) percentage of households with no land;
(l) distance of the main road (kilometres);
(m) distance of the rail station (kilometres); and
(n) crude literacy rate.

The sample villages were then classified into three groups according to the values of the principle component obtained from an analysis of these 14 variables which clearly differentiated between "more modern" and "less modern" villages. Differences in a number of key variables such as participation, and duration of employment, occupation, socio-economic variables, were then related to these three types of villages.

The second type of local-level study relates to the identification of "deprivation" areas, mainly at the urban level, and usually based on census data, disaggregated for small areas. This kind of study originated in the United States[32] in connexion with the poverty programmes and model city programmes in the 1960s, and similar examples could be given from other countries, for example the social malaise and multiple deprivation studies carried out in the United Kingdom[33] and in Holland. Census data disaggregated for small areas is less likely to be available in developing countries, and there may be a long delay in processing. One interesting attempt to combine census and other data to construct regional and municipal profiles of education and literacy, health, income and employment, housing and amenities, in the Philippines and Malaysia, was made by R. Cant in two papers prepared for the UNESCO programme on social indicators.

The third type of study covers community studies designed to derive indicators of development at the local level—villages, districts, peripheral urban areas, etc.[34]

Indicators may relate to the levels of living of individuals and households, to the availability and utilization of a range of services or infrastructure facilities (such as the availability of a supply of clean water), and to background socio-economic characteristics. It is at this level that the relevance of indicators proposed by experts and others to measure development can be checked against the values and priorities of the individuals involved, where more meaningful indicators can be

32) The Office of Economic Opportunity developed a series of community profiles at a county level in order to provide information to support the planning and evaluation of programmes for community improvement. Data were compiled on 12 poverty indicators, and this information was used to determine the normal or typical level of each indicator, represented by the value for the median county.
33) See for example the paper by S. Holtermann (1975).
34) Examples of indicators derived from locality studies are contained in UNRISD (1973).

developed. The main difficulty has been to combine the flexibility and spontaneity of studies of this kind with the kind of continuous reporting needed for planning and for monitoring development at the local level, and also to reconcile the variety of local cultural values with the need for a limited number of key indicators.[35]

6. Conclusion

There are many things this review has not done. Not enough has been said, for example, about indicators themselves. The difficulty is that under each of the categories mentioned in this paper it would be possible to make long lists of indicators. Recently in the Netherlands for example, a group of eminent medical and public health experts met to draw up a short list of health indicators, and came to the conclusion that this was not possible without knowing the purpose for which they were needed. However, it is clear that within the diversity of work on indicators discussed in this paper there is a central focus, particularly in the developing countries, on a relatively limited number of dimensions of levels of living, particularly education, health, nutrition, housing and environmental conditions. It would be possible to focus in more detail on indicators relating to these dimensions, particularly to see how far new approaches on functional education, community health and so on are reflected in new indicators. It would also be possible to make a much closer analysis of indicators that are more closely related to the social and political structure, such as security, social integration and social and political participation.

In the second place, not enough has been said about new methodologies. The difficulty here is, Methodologies of what? Some brief reference has been made, for example, to methods of measuring social change through cohort analysis, transition matrices, and life-cycle approaches and replication studies, work that is greatly facilitated by the systematic development of social statistics and reports. Other references have been made to various methods of analysing interrelations between indicators, and constructing profiles of socio-economic indicators on a national or subnational basis. In the last part of Section 3 the problem of how to obtain data on the different dimensions of levels of living (the proportion of the population falling below defined norms), and the possibility of obtaining information on distribution without complex and costly household surveys. These questions, and other problems of the horizontal and vertical relation between indicators, have been touched on but not fully explored.

Some reference has been made to problems of data collection, but there is clearly

35) UNRISD has undertaken a major research project in six developing and two developed countries to explore the use of systematic studies of different kinds of settlements in supplying socio-economic data, based on a relatively brief list of key socio-economic indicators, as part of a national information system. This has been linked with the idea of setting up regional or subregional "observatories".

a need for a wider review. Indicators of social development depend on a wide variety of data sources. These may be traditional sources—censuses, administrative data, sample surveys—or they may be informal sources based on consultation, observation, community surveys etc. The whole question of how this kind of information can be mobilized and organized in such a way that relevant indicators can be developed for analysing change and for policy purposes calls for much wider discussion.

Very little has been said in this paper about indicator models. It could be argued that there are three alternative models implicit in the different approaches discussed in this section. The first is what may be called the Drewnowski model. This is a socio-economic model where a clear distinction is made between economic and social development. Social development (in terms of levels of living and welfare) is seen as both the final aim of economic development and as contributing to it. The crucial links are through the welfare effect of economic growth and the productivity effect of improved levels of living on economic growth. The second is the more pragmatic system's approach, illustrated in the reference to the Finnish report on the quality of life in Section 3, where social, economic and environmental indicators are seen as linked to policy goals on the one hand, and to systems of national accounts, social and demographic accounts, and other statistical systems on the other. Such a model can be expanded to include a variety of systems and subsystems, all related as inputs and outputs in a complex manner. The third, more sociological model, is that proposed by Allardt (1973b), where the social structure is seen as the mediating factor between societal allocations through the main social institutions (economy, political system, integrative system, and knowledge) and output in terms of societal goals and individual need satisfaction. This third type of model focuses more directly on the dynamics and total structure of society and can be more easily supplemented by institutional and historical analysis.

There has not been time to include in the review (as had been planned), a section relating the work discussed in this chapter with global development models and world indicator systems. There are clearly common elements, for example, between the Drewnowski model and the Latin American World Model (Herrera, 1976) in which an adequate level of living for all is seen as the goal of a new world society, and the model is based on an economic production model with five sectors geared to the production of basic needs—nutrition, housing, education, other goods and services, capital goods. J. Galtung's world indicator programme (1976) is concerned more with an exploration of basic values than with models, but the emphasis on structural parameters has some common elements with Allardt's approach. This is an area where universities and individual scholars have played a more important role than national governments and international organizations.

The review has emphasized the many different strands of work on social indi-

cators, and the extent to which it is limited by the lack of relevant data, and by lack of knowledge about the interrelations between different aspects of development, as well as by ambiguities about basic concepts. It has been suggested that the most fruitful approaches seem to lie in the development of indicators relating to particular sectors and particular problems, and the extent to which these "partial" approaches can be built up into a coherent structure depends on such factors as the institutional links between different parts of the system, the development of new sources of data, the use made of research, the development of appropriate analytical skills, as well as on political pressures. Social development in this sense can be seen as an increase in the institutional capacity of society to use knowledge to improve the level of living and quality of life of all its members, and social indicators are one of the instruments used.

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VII. USE OF DEVELOPMENT INDICATORS IN DEVELOPING COUNTRIES

by M.V.S. Rao

Planning for economic development is a recent phenomenon in most developing countries and has largely been regarded as a process of increasing the national income or domestic product. The emphasis in this context has mostly been on improving agriculture, establishing industries, strengthening the infrastructure, expanding foreign trade and creating tourist facilities. The development performance of most developing countries over the last two decades has not, however, been up to expectation and national incomes have not risen sufficiently to counterbalance the population growth, improve the levels of living and facilitate a sustained growth through savings and investments. Nevertheless, with the realization that social justice must be an essential adjunct to economic growth and that special efforts are needed to eradicate mass poverty and reduce the glaring inequalities in income, consumption and wealth, considerable attention has of late been given to the social aspects of development and there is generally now a concerted drive towards economic and social development. There has been, further, a growing recognition that even economic growth cannot be achieved merely with material investment and that human capital is equally important as a contributory factor to the desired growth. This recognition is reflected essentially in efforts to improve the housing, nutrition, health, education and training of people. Social welfare, social security and family planning are the other important aspects of social development usually attended to in the development plans and policies of the developing countries.

Many developing countries have adopted national planning as a means to the achievement of economic and social development. The nature of planning, however, varies between countries: some proceed from a national plan, broken down into its sectoral, regional and sub-regional components, while others arrive at a national plan by the aggregation of local and sectoral programmes. In either case, establishment of internal consistency is inevitable. Most developing countries have mixed economies, with a public sector and a private sector. While the public-sector programmes are well detailed and closely monitored, the private-sector

programmes are largely guided by indicative plans and controlleed through fiscal and administrative manipulation.

A wide variety of basic statistics, economic and social indicators, aggregative accounts and norms based on scientific and technological studies are used in planning, implementation of the plan programmes, assessment of the progress and evaluation of its impact. Indicators are used, in particular, in the diagnosis of base situations, construction of growth models, crystallization of targets, monitoring the progress and evaluation of its impact. Indicators are also used for the measurement of regional disparities, demarcation of backward areas, study of inequalities among socio-economic groups, etc.

Readily available information about the use of development indicators in developing countries is rather scanty. Some evidence of such use can be gathered from published sources such as development plans and related papers, evaluation and assessment reports and other policy statements. The number of developing countries being large and geographically spread over three continents, it has not been possible to gather and analyze the relevant material, during the short time available, from all of them, or even in respect of most of them. An attempt has, therefore, been made to look into a few readily available documents, especially relating to a few Asian countries, and present the material broadly in respect of the use of indicators in development planning, evaluation and assessment of progress and measurement of regional disparities. It should, however, be conceded in this connection that published documents may not provide a full account of the indicators used. Indicators are also no doubt used in policy making, but evidence of such use is not readily available and can perhaps be gathered only through country-level case studies. In this presentation reference is made only to the use of indicators defined as quantitative measures derived from basic data and not to the use of basic statistics as such. The discussion is confined further to the use of social indicators as in the rest of the report.

In India, indicators have been used for the construction of planning models, setting quantitative targets, and evaluation of plan performance. In the formulation of the Fifth Five Year Plan (1974–75 to 1978–79), for instance, use has been made of a number of demographic social and socio-economic indicators.[1] In presenting the demographic perspective of the plan, indicators of the age-sex distribution of the population and its rural-urban breakdown, and population projections based on assumptions involving a reduction in general fertility rate and an improvement in the expectation of life at birth have been used, and the expected reductions in birth and death rates have been indicated. A projection of the labour force by age, sex and rural-urban breakdown has also been used.

1) M.V.S. Rao, "Socio-economic Indicators for Development Planning," *International Social Science Journal*, UNESCO, Vol. XXVII, 1975.

One of the principal objectives of India's Fifth Plan is removal of poverty and reduction of inequalities. In formulating the plan, the poverty line has been defined in terms of a minimum level of consumption and the proportion of the population below the poverty line has been estimated. The share of the lowest 30 per cent of the population in private consumption has been ascertained and the improvement required to raise the *per capita* consumption of the lowest 30 per cent to the minimum level by the end of the plan period has been worked out. In preparing the growth model, a reduction in the co-efficient of inequality from the existing level to the level consistent with the postulated increase in the consumption level of the lowest 30 per cent of the population has been adopted.

Among the other indicators used in the formulation of the sectoral programmes, which includes a review of the progress of the Fourth Plan, are the expectation of life at birth, general and infant mortality rates, hospital beds and doctors per 1000 of population, the proportion of beds and doctors in rural areas, the birth rate, the percentage of couples protected by family planning, school enrolment ratios at the primary and middle levels, the percentage of female enrolment at each level, teacher-pupil ratios, the rate of growth of urban population and the percentage of urban population with piped water and sewerage facilities.

For the purposes of multilevel planning a series of 31 indicators has been evolved for compilation at the district level. These include 15 indicators concerning such demographic aspects as population density, the proportion of working population and the proportion working in agriculture, the proportion of literates and the proportions of scheduled caste and scheduled tribe populations, and 16 indicators concerning agriculture, road mileage, electrification, banking and credit.

Regional disparities in development are measured primarily in terms of *per capita* income estimated at the state level. At the district level, where no such estimates are available, *per capita* income originating in the commodity-producing sectors and *per capita* income from employment are used. A more detailed series of 15 social and economic indicators has been developed for the identification of backward districts with a view to devoting special attention to such areas. The indicators are:

(a) total population and its density;
(b) percentage of workers engaged in agriculture;
(c) cultivable area per agricultural worker;
(d) net area sown per agricultural worker;
(e) percentage of gross irrigated area to net sown area;
(f) percentages of area sown more than once to net sown area;
(g) gross value of agricultural output per head of rural population;
(h) number of establishments (manufacturing and repair) using electricity—total, household, non-household;

(i) number of workers per 100,000 of population employed in registered factories;
(j) mileage of surfaced roads (i) per 1000 sq. miles (ii) per 100,000 population;
(k) number of commercial vehicles registered;
(l) percentage of literate population (a) male (b) female;
(m) percentage of school-going boys and girls in the age group (a) 6–11, (b) 11–14;
(n) number of seats per million population for technical training: (i) craftsmen, (ii) diploma level; and
(o) number of hospital beds per 100,000 population.

The backward districts would be determined by ranking the districts in a descending order in respect of each of the indicators (excluding the first four). No objective method of uniquely determining the status of a district on the basis of the above indicators has, however, been evolved.

The National Seminar on Social Statistics held at New Delhi in 1975 recommended a series of social indicators for use in planning under the heads of (a) population; (b) health and nutrition; (c) housing; (d) education; (e) labour and employment; and (f) income, expenditure and levels of living (*vide* Annex A, pages 238–41.). These have not, however, so far come into use.

Pakistan's "Development Perspectives for 1975–80"[2] include among the country's objectives an improvement of living standards, better income distribution and full employment. In depicting the general perspectives, use has been made of a series of general indicators, viz., growth rate of population, growth rate of GDP, and growth rate of personal consumption, and a series of poverty indicators, viz., the percentage of population with adequate calories intake, the percentages of population with access to piped drinking water, sanitation and drainage and medical facilities, and the percentage enrolment of the appropriate age group in primary schools.

Discussing the sectoral perspectives in regard to various social aspects, the papers have used the following indicators.

(a) *Population:*
Growth rate of population
Crude birth-rate
Age-specific fertility rates
Total fertility rate: urban/rural
Percentage distribution of births by age of mother
Death rate and deaths by causes

2) Working papers for "Development Perspectives, 1975–80," Pakistan

Infant mortality rate and infant deaths by causes
Expectation of life at birth and various ages

(b) *Health services:*
Percentage of population covered by medical facilities
Percentage of cases of communicable and other diseases
Population per doctor/dentist/nurse/health visitor/midwife, etc.
Population per hospital bed/dispensary/MCH centre
Admission capacity of medical training institutions

(c) *Nutrition:*
Percentage of population (rural/urban) deficient in calories and proteins
Per capita availability of selected items of consumption
Per capita food expenditure/consumption (quantity)

(d) *Housing, water and sanitation:*
Percentage of population served by water supply (urban/rural)
Percentage of population served by sewerage and sanitation (urban/rural)
Percentage of urban population living in congested settlements

(e) *Education:*
Primary enrolment ratio: male/female
Secondary enrolment ratio
Per capita expenditure on education
Unit cost of different levels of education
Adult literacy rate (population 15–35)
Literacy rate (population 6+)

(f) *Employment:*
Percentage distribution of employed population by industry, occupation and status: rural/urban

In the evaluation of performance, however, fewer indicators have been used and most of them are economic. They include, besides the usual macro-indicators and a number of economic indicators, data on development of plots for low-income population, provision of water supply in urban and rural areas, number of schools, colleges and technical institutions, enrolments at different levels, number of hospitals, dispensaries, beds, doctors and nurses, and the population growth rate.[3]

3) See papers presented by Mustaq Ahmed and Mohammed Hussain at the Workshop on Review and Appraisal of Development Progress to the National Level, Kathmandu, (December 1976) organized by UN Asian Development Institute.

The First Five Year Plan of Bangladesh, 1973–78, has as some of its objectives: reduction of poverty, expansion of the output of essential consumption items with a view to providing for the minimum consumption requirements of the masses, increasing *per capita* income (by 2.5% per annum), reduction in the growth rate of population (from 3% to 2.8% per annum), and a wide and equitable diffusion of income and employment opportunities. Apart from the macro-economic indicators such as gross domestic product and monetized savings, socio-economic indicators used in the plan include population and labour force projections, *per capita* consumption, percentage of illiteracy, school enrolment ratios, rate of growth in enrolments by level, projected enrolments, birth, death, infant mortality and maternal mortality rates, the ratios of doctors to population and doctors to nurses, growth rate of population and births prevented by family planning.

The Third National Economic and Social Development Plan of Thailand, 1972–76, includes among its objectives raising the income and living standards of the rural people in various regions, improvement of public services, reduction in the growth rate of population and raising the level of employment. Besides the usual macro-economic indicators such as GDP and balance of payments, population and labour force projections by age and sex and estimates of employment potential and manpower requirements have been used in planning. The sectoral indicators used include ratios of physicians, nurses and hospital beds to population, ratios of nurses and beds to physicians, birth and population growth rates, growth rates in school enrolments and estimates of education wastage at various levels. The current Four Year Development Plan of the Philippines (1974–77) has as its general objective to improve the standard of living of the greater masses of the population. The more specific goals include promotion of employment, involving in particular an acceleration of the growth rate of employment and reduction in the rate of open unemployment, attainment of a more equitable income, distribution and promotion of social development, covering, in particular, facilities for education, health, electrification, etc. In the elaboration of the sectoral plans, indicators such as life expectancy, infant mortality rate, incidence of diseases, percentage of population with water and sanitary facilities, health infrastructure (beds and physicians) ratios, *per capita* availability of calories and protein, school enrolment ratios and indicators of employment, unemployment, income, consumption and housing have been used.

For the measurement of the degree of attainment of national, sectoral and regional targets, a set of performance indicators has been developed, covering agriculture, industry, infrastructure and utilities, foreign trade, education, health and nutrition, and housing. The objectives and indicators for the last three are;[4]

4) See papers by Mahar Mangahas and Chita Subido on "Development Planning, Appraisal

1. Education

(a) Access to basic education
- (i) enrolment relative to school-going population or by age group, or by representative age in three educational levels
- (ii) pupil years (actual length of stay in one level of education)
- (iii) student years necessary to produce a graduate
- (iv) average ages for entering and leaving secondary school
- (v) drop-out rate
- (vi) repetition rate
- (vii) utilization rates, students/class, students/teacher, students/text book
- (viii) teachers – proportion of qualified elementary and secondary teachers
- (ix) unit cost per pupil at different levels
- (x) students going abroad to study

(b) Development of productive citizens and high-level professionals
- (i) brain-drain
- (ii) unemployment
- (iii) employment
- (iv) educational expenditures relative to total expenditure
- (v) education rate of increase and percentage relative to the gross national product
- (vi) percentage distribution of enrolment by field of study
- (vii) school distribution by level of education
- (viii) distribution of education and teaching facilities
- (ix) expenditures of national government by level of education
- (x) percentage of girls relative to total enrolment
- (xi) proportion of literates in total rural population
- (xii) proportion of literates in total population
- (xiii) out-of-school education, young people taking part in youth movements, etc.
- (xiv) number of applicants relative to vacancies
- (xv) number of examinees for the civil service
- (xvi) existing curriculum compared to the needs of the economy and society

and Performance Evaluation with Special Reference to the Philippines'' and by Mila Bulan on ''Identification of Objectives of Development Planning at Macro-and Micro-Levels and the Use of Quantitative and Qualitative Indicators in the Philippines'' presented to the Workshop on Review and Appraisal of Development Progress at the National Level, Asian Development Institute, Bangkok, September 1976.

2. Health and Nutrition

(a) Prolongation of life:
  (i) life expectancy at birth, by sex, regions, rural-urban
  (ii) mortality rates by sex, regions, rural-urban, leading causes

(b) Freedom from hunger
  (i) incidence of nutritional disorders
  (ii) infant mortality rates
  (iii) age-specific mortality rates (1–2 years, 1–4 years)
  (iv) height at age 7 (or school entry age)
  (v) proportion of low birth weights
  (vi) proportion of children under 7 who are underweight, by degree of nourishment
  (vii) available supply of calories and protein (by origin) *per capita* per day

3. Housing

(a) Housing investments or putput
(b) Number of slum/squatter families resettled and relocated
(c) Availability of housing funds vs. required funds
(d) Cost of financing
(e) Land availability and cost
(f) Cconstruction cost

These indicators were used in the Mid-Term Appraisal of the Plan carried out in 1975.

The Development Academy of the Philippines has, in an effort to measure national well-being, identified nine basic social concerns which answer the national aspirations, and recommended a set of thirty major indicators, supplemented by nineteen minor indicators, to measure the state of well-being.[5] The social concerns and recommended indicators are listed in Annex B, pages 241–43.

A systematic procedure for rating projects based on their potential for achieving economic and non-economic goals is reported to be under development. The methodology of project ranking is a numerical ranking model,[6] which makes use of a "goals achievement matrix" and a "merit-rating system". In the goals achieve-

5) *Measuring the Quality of Life: Philippine Social Indicators,* Development Academy of the Philippines (1975).
6) See paper by Chita Tanchoco-Subido on "Use of Social Indicators in Development Planning and Appraisal"—Workshop on Review and Appraisal of Development Progress at the National Level, Asian Development Institute, Bangkok (September 1976).

ment matrix, five national goals, twenty-seven evaluation criteria and thirty-four decision rules are structured to assess the goals-achievement potential of a project. The merit-rating system acts as a scorer by translating both qualitative and quantitative evaluation results of the goals achievement matrix into earned merit points. The sum of these merit points is the project rating, which when compared with other project ratings, produces an ordering of projects. The preparation of the matrix involves the calculation of goal weight based on a survey technique called DELPHI and the information or goal-achievement critieria that serve as indicators of achievement. Of the 27 evaluation criteria, 22 are based on social indicators. The above methodology of project ranking has not however been fully implemented.

Fiji's Seventh Development Plan, 1976–80, has made use of a broad range of social statistics covering population, labour force, unemployment, education, health and social welfare, but no specific indicators have been used. An independent publication entitled *Social Indicators for Fiji,*[7] however, assembles a series of social indicators covering population (5), health (4), nutrition (2), education (8), employment (3) and personal security (3), more or less on the lines recommended by the Conference of Asian Statisticians.

Indonesia has also been publishing annually since 1971 a volume entitled *Social Indicators,* The 1975 issue, compiled in accordance with the manual prepared by a Team on the Formulation of Improved Social Indicators, contains a series of tables as follows: population (14), manpower (8), health (9), housing (8), education and culture (17), crime (5), religion (3), general (10). While most of these are in the nature of basic statistics, some are in the form of derived series, e.g. average annual growth rate of population, crude birth rate, dependency ratio, child-woman ratio, total fertility rate, labour force participation rates, health personnel per 10,000 population, hospital beds per 10,000 population, average number of rooms per household, persons per household, persons per room, pupil-teacher ratios, crime and delinquency rates, average monthly expenditure per family and *per capita,* cost of living index, radio receivers and motor vehicles per 10,000 population, etc.

Malaysia has also started publication of a *Social Statistics Bulletin.* The *Bulletin* for 1969–71 (published in December 1973) covers housing, education, health and welfare services. The data are mostly in the nature of basic series, but include a few indicators such as teacher-student ratios, hospital beds, doctors and dentists per 1000 population, rate of treatment in hospital per 1000 population, proteins and calories available per head per day, and life-table indicators. In a paper on "Social-economic indicators and national policy: Malaysia", Ramesh Chander has used twenty-seven indicators, presented under six main headings

7) See issue No. 1, 1972.

(demographic, health, education, housing, communications and economy), to depict social trends and study the changes in inter-community differentials in development. The measures used for the latter purpose were the mean deviation and the Gini co-efficient.[8]

In a case study on "The Use of Social Indicators in Development Planning in Sudan",[9] Nancy Baster points out that in that country, any development and use of social indicators has been mainly at the sectoral or departmental level rather than at the central planning level. For instance, in the Phased Programme Action for Education, enrolment ratios have been used for quantifying targets, analysis and monitoring progress. Similarly, with regard to health, some indicators have been used mainly to express targets and to keep track of the expansion of health services. The use of indicators in relation to nutrition programmes was limited by non-availability of data. Attempts are being made to build up data on social welfare, housing, urban development and rural development. In regard to employment, a fair use is made of indicators in drawing up policies and programmes. Among the indicators available in this area are the percentages of economically active population, 15 years and over, by sex and type of economic activity, the percentage of unemployed among the economically active, and the distribution of household income by deciles. Demographic and employment projections have been used in the formulation of the five-year plan.

Pedro Demo, in his paper on "The Emergence of Social Planning in Brazil", describes the recent developments, which include the introduction of social integration mechanisms since 1964 and the establishment of the Social Development Council in 1974, and outlines the development of social indicators in that country.[10] The Second National Development Plan of Brazil firmly established the need to reduce social inequality and the eradication of pockets of absolute poverty. It has since been realized that social policy is not the automatic by-product of economic policy and a substantial reduction of absolute poverty, i.e. the number of families with an income below the minimum admissible level, having regard to food, health, education and housing, is aimed at. The Plan includes a "social budget" covering the programme for improvement of human resources (including the social sectors responsible for the training and increased efficiency of human resources: education, health, medical care, sanitation, nutrition, vocational training), the social integration programme and the social urban development programme.

8) Conference on Statistical Policy in Less Developed Countries, Institute of Development Studies, University of Sussex, May 1975.
9) UNESCO: SHC.76/WS/16.
10) UNESCO: SHC.76/CONF.628/5: Expert Meeting on the Applicability of Socio-economic Indicators to Development Planning in Latin America, Montevideo, December 1976.

A project for the development of social indicators was taken up in 1975. The project has adopted as its principle that social indicators should hinge mainly upon the dynamics of the labour market as expressed through indicators of employment, economically active population, occupational mobility, remuneration and labour legislation, in order to build up a relatively coherent conception of social development in a capitalist context. It rejects the suggestion that greater access to education, health and social security would bring about social well-being, and believes that the latter is much more the result of access to income. It theorizes that in the capitalist context, a country can be deemed as socially developed when the majority of the population has attained the middle level of the socio-economic pyramid. Hence, vertical mobility assumes vital importance as a means of social advancement. The middle level is described by (a) remuneration above the subsistence level; (b) non-manual occupation with social status; (c) professional qualification; and (d) better coverage under the official system of labour protection. The project seeks to develop social indicators under the following main headings.

1. Population
2. Employment and remuneration
3. Social security and labour protection
4. Family budgets
5. Housing, sanitation and other services
6. Education and vocational training
7. Health
8. Social budget

Among the indicators included are:

(a) annual growth rate of the economically active population;
(b) persons employed in the non-agricultural sector, per cent of total employed;
(c) percentage of under-employment;
(d) percentage of employed persons with a monthly income of up to one minimum wage;
(e) percentage of employees with the official professional registration card;
(f) percentage of insured persons in relation to persons employed in non-agricultural activities;
(g) percentage of households with monthly income of up to one minimum wage, and the average number of members in such households—total, urban;
(h) percentage of households with a refrigerator, urban;
(i) percentage of households with a car, urban;
(j) percentage of urban households with main water supply;
(k) percentage of urban households with main drainage;

(l) percentage of urban households supplied with electricity;
(m) adult literacy rate (15 years and over);
(n) enrolment ratio in grade I;
(o) percentage of certified teachers at the primary level;
(p) expectation of life at birth, male and female; and
(q) infant mortality rate.

The social indicators used in developing countries thus seem to have certain common features. They usually cover health and nutrition, housing, education, employment, income and consumption. Some include demographic indicators, while others cover public safety and justice, social security, social mobility, political values and the environment. While most of them are simple derived series, a few synthetic indicators such as net beneficial product and value of human capital stock are also in use. Besides growth or development indicators, there are those concerning structures and distribution. The use of indicators for the assessment of intergroup or interregional disparities has also been observed. While the information readily available in regard to the use of indicators is limited, it is evident that interest in the use of indicators for planning, policy making, and assessment of progress is growing among the developing countries, and efforts are afoot to build up the requisite data base.

Annex A

Social indicators recommended by the National Seminar on Social Statistics, India, 1975

POPULATION

1. Growth rate
2. Birth rate
3. Death rate
4. Gross reproduction rate
5. General fertility rate
6. Rate of the number of persons outside the age-group 15–59 years to the number of persons in the age-group 15–59 years
7. Ratio of the number of persons aged less than 15 years to the number of persons in the age-group 15–59 years
8. Urban population and population in towns with a population of 20,000 and over, as per cent of total population
9. Number of acceptors of family-planning methods per 1000 couples in the reproductive age-group
10. Percentage of couples effectively protected by family-planning methods
11. Rate of net migration from rural to urban areas

HEALTH AND NUTRITION

1. Expectation of life at birth
2. Infant mortality rate (by sex)
3. Mortality rate specific to age-group 1–4 years (by sex)
4. Number of hospital beds for 100,000 population
5. Number of beds for 100,000 population
6. Number of physicians and surgeons per 100,000 population
7. Number of nurses per 100,000 population
8. *Per capita* expenditure on health services
9. Rate of prevalence of illness
10. *Per capita* calorie intake
11. *Per capita* protein intake
12. Rate of disability
13. *Per capita* consumption of cereals
14. *Per capita* consumption of milk and milk products
15. Percentage of primary school children considered underweight

HOUSING

1. Percentage of households in pucca or semi-pucca dwellings
2. Percentage of households with access to:
   (i) safe drinking water
   (ii) toilets of acceptable type
   (iii) electricity for domestic purpose
3. Percentage of households living in densely populated areas
4. Number of houses constructed per 100,000 population in town with population 100,000 and above

EDUCATION

1. Literacy rates by sex and age-groups
2. Educational attainment, percentages by level, sex and age-group
3. Percentages of villages and population which have no (a) primary school within 1.5 km. (b) middle school within 5 km.
4. Enrolment ratios at different levels and in different age-groups (particularly 6–14)
5. Percentage of female students to total number of students at different levels
6. Percentages of female teachers and trained teachers at different levels of school education
7. Teacher-pupil ratios at different levels
8. Retention ratio, rate of failures and rate of drop-outs at different stages and at different examinations

9. Percentage of schools without building
10. Institutional expenditure per student at different levels
11. Percentage of public expenditure in total institutional expenditure by type of management
12. Household expenditure per student by level, by household income/expenditure
13. Proportion of students getting scholarships at different levels
14. Percentage of passes for different terminal stages
15. Proportion of out-turn by merit grade according to household income/expenditure groups
16. Proportion of children from the lower three income deciles getting the benefit of education at different levels
17. Percentage of dropouts and failures by causes
18. Average daily attendance for the first and last month of the academic year
19. Economic indicators: (a) total institutional expenditure on education as proportion of GNP; (b) proportions spent for different levels of education; (c) expenditure *per capita* of population; (d) proportional contribution by sources of finance

LABOUR AND EMPLOYMENT

1. Percentage of the population of working age (15–59)
2. Percentage of employed below age 14 to total employment
3. Percentage of employed population engaged in agriculture and allied activities
4. Percentage of women in non-agricultural employment in:
   (i) organized economic activity
   (ii) unorganized economic activity
5. Percentage of employees among the employed persons
6. Percentage of employed in (i) professional, technical and related occupations, (ii) administrative, managerial, executive and related occupations
7. Percentage of unemployment in the economically active population of the age-group (i) 15 to 24 and (ii) 25 to 59
8. Percentage of unemployment in the economically active population among
   (i) persons who have completed secondary level of education
   (ii) others
9. Index of real earnings of industrial workers
10. Working days lost per employee on account of industrial accidents, industrial disputes and absenteeism
11. Percentage of the economically active population who are members of trade unions
12. Percentage of the economically active population covered by social security schemes

INCOME, EXPENDITURE AND LEVEL OF LIVING

1. Average income per household and distribution of the same by size classes
2. *Per capita* household consumption expenditure at current and constant prices and distribution of the same by size classes
3. Percentage of household consumption expenditure on food to aggregate household consumption
4. Consumption expenditure of the bottom 30 per cent of the households (arranged according to household expenditure) as a proportion of the consumption expenditure of all households
5. Ratio of the average consumption expenditure, of the top 5 per cent of households (arranged according to household expenditure) to that of bottom 30 per cent
6. Total consumption expenditure including social consumption of the bottom 30 per cent of the households (arranged according to household expenditure) as a proportion of the total consumption expenditure of all households
7. Ratio of the average total consumption of the top 5 per cent of households (arranged according to household expenditure) to that of the bottom 30 per cent
8. Average value of total assets per household and distribution of the same by size classes of household asset holdings
9. Ratio of assets (land, building and others) owned by the top 5 per cent of households (arranged according to household income) to that of the bottom 30 per cent
10. Ratio of debt of the bottom 30 per cent of the households (arranged according to household income) to that of the top 5 per cent

Annex B

Social indicators recommended by the Development Academy of the Philippines

HEALTH AND NUTRITION

1. Infant mortality rate
2. Expectation of life at birth
3. Days disabled due to illness *per capita* per year
   - 3.1 Proportion of persons who are ill, by degree of disability and by occupation
   - 3.2 Proportion of persons who become ill during the period by type of disease and by occupation
4. Available supply of calories *per capita* per day
   - 4.1 Proportion of children under 7 who are underweight, by degree of under-nourishment

5. Available supply of proteins *per capita* per day by origin (animal or vegetanle)

LEARNING

6. School enrolment ratio, by level of schooling (primary, secondary, tertiary)
7. Value of human capital stock created by schooling
   7.1 Ratio of mean educational capital in the most educated quintile to mean educational capital with least educated quintile

INCOME AND CONSUMPTION

8. Net beneficial product *per capita*
9. Proportion and number of families below the food poverty threshold
10. Ratio of mean income of richest quintile to mean income of poorest quintile
11. Rate of inflation of consumer prices

EMPLOYMENT

12. Unemployment rate of the totally unemployed, by occupation and by educational attainment
    12.1 Underemployment rate, in totally unemployed equivalent, by occupation and by educational attainment
13. Real wage rate index, skilled vs. unskilled workers, by occupation

NON-HUMAN REPRODUCTIVE RESOURCES

14. Reproducible capital stock
15. Arable land
    15.1 Concentration ratio of agricultural land ownership
16. Forested land
17. Mineral resources by type of mineral

HOUSING, UTILITIES AND THE ENVIRONMENT

18. Proportion of occupied dwelling units adequately served with water
    18.1 Proportion of the population served by electricity at home
19. Index of housing adequacy
    19.1 Proportion of households with 1.5 persons or less per room
    19.2 Proportion of occupied dwelling units made of strong materials
    19.3 Proportion of occupied dwelling units with toilets
20. Air pollution index
    20.1 Pollution concentration levels, by type of pollutant, by station
21. Proportion of river-lengths polluted by river, by degree of pollution

PUBLIC SAFETY AND JUSTICE

22. Crime incidence rate by type of crime
    22.1 Index of citizens' perception of public safety and justice
23. Backlog of judicial cases
    23.1 Ratio by judicial cases disposed to total cases needing disposition, by count of jurisdiction
24. Number admitted to penal institutions
    24.1 Number confined in penal institutions

POLITICAL VALUES

25. Ratio of votes cast to registered voters
    25.1 Ratio of registered voters to population aged 21 and over
26. Index of political mobility
27. Index of political participation
    27.1 Index of political awareness
    27.2 Index of freedom of political dissent
28. Index of political efficacy

SOCIAL MOBILITY

29. Index of occupational mobility (gross)
    29.1 Co-efficient of openness of occupations (circulation mobility)
30. Index of perceived social mobility

VIII. CONCLUSIONS AND RECOMMENDATIONS

Satisfaction of human needs, in their manifold aspects, is generally accepted as the objective of development. It is emphasized, however, that needs have to be considered within a societal context because: (a) their perception is influenced by structural and behavioural patterns prevailing in a given society; (b) their satisfaction depends on the capacity, structure and efficiency of the economic potential; and (c) there are close interdependences between the economic structure and efficiency on the one hand and the structural and behavioural patterns of the society on the other. These interrelated factors characterize the manner in which the socio-economic system functions, whereas their respective changes in time shape the patterns of the system's development. In a given period the latter are influenced by (a) the history of the system (i.e. accumulated potential: human, material and information); and (b) prevailing regulatory mechanisms which are influenced by goal-seeking, i.e. teleological criteria. These mechanisms manifest themselves in various interactions among particular subjects, i.e. people, organizations and institutions. Development indicators are seen as an important category of information, the distinct feature of which is that they help to assess and evaluate specific actions against the wider background of their impact on the achievement of societal objectives. The utility of development indicators thus depends predominantly on their information value to the agents (i.e. persons, organizations and institutions), who have the will and capacity to promote human and social development.

There are important differences in the approach to system-wide national planning between the centrally planned economies on the one hand and the developed market economies on the other. Within this context, there is also a difference in the manner adopted for the integration of planning concerned with economic and social aspects of development. In the developed market economies, the approach to economic planning varies considerably among countries, but in most cases the economic process is treated as distinct and separate from social and other non-economic processes. As the non-economic aspects of development fall

within the scope of governmental responsibility more directly and specifically (in comparison with the economic aspects), they are covered by a wide range of planning, programming and budgeting activities at the central and local government levels. It is recognized, however, that there is need for a closer integration of the economic and social aspects of development planning. Research on social indicators, as well as social reporting, can be seen – in this context – as a learning process aimed in this direction.

The approach to national planning in the centrally planned economies has always been comprehensive in the sense of covering both the economic and non-economic developmental aspects. Nevertheless, certain changes have been taking place. Formerly there was a predominant emphasis on the specification of economic objectives, which of course were derived from and conditioned by an explicit consideration of social objectives. Within this context, the framework of planning, even in the social sectors, was mostly economic in its nature. Recently, however, there has been a tendency to introduce more directly non-economic premises into the whole framework of socio-economic national planning. This trend manifests itself both in the structure of institutionalized procedures (of planning, forecasting and programming) as well as in a growing emphasis on interactions between such procedures and the influence of public opinion expressed in consultations about major social development issues with the working class. Against this complex framework of national planning and of societal regulatory processes, a distinction has to be made among various types of procedures linked to various types of regulatory feedback loops, the latter being considered in a time dimension. Specific categories of indicators can be conceived, each of them corresponding to a specific type of time-conditioned procedure of planning and regulation.

The concept and scope of development indicators in the context of human and social development need to be clarified and standardized. The main purpose of development indicators may be regarded as the monitoring and measurement of progress towards the goals of development and the quantification of goals for the future. They should be construed essentially as statistical measures, which may well be based on quantitative as well as qualitative observations. They are normally in the form of derived summary measures, but must be available not only at the national level, but also at the regional and sub-regional levels, and in respect of significant groups and classes of population. There is a need for a variety of indicators depending on the goals and processes of development, and the nature of the indicator depends primarily on the purpose for which it is envisaged. In the context of human and social development, indicators are needed not only for such basic human needs as food, shelter, clothing, health and education, but also for other important aspects such as the demographic structure, employment and unemployment, and the distribution of income, consumption and wealth. Indicators of human freedom and rights are also important but difficult to define and

compile in a meaningful manner. Some attempts have been made to construct composite indicators for intercountry comparisons or for the depiction of over-all trends, but they seem to be of limited use. For operational purposes a series of properly selected key indicators may be more useful than such composite indicators. For the development of indicators, one has to look carefully into the various sources of information and make the best possible use of the data, identify the gaps and evolve appropriate methods for the development of supplementary sources of information in a scientific manner.

A great deal of work has been done by internationral organizations towards the development of concepts, methods and systems of social indicators, the most comprehensive of which has emerged in the form of draft guidelines from the UN Statistical Office. Some of the specialized agencies and regional commissions of the UN and other international bodies such as OECD and CMEA have also been striving to promote the development of social indicators, and the UNRISD has done commendable work in the use of indicators for an international comparison of the levels of development. However, there seems to be still a lack of clarity and conviction in regard to the nature, purpose and scope of development indicators. There is therefore a need for clear direction and purposeful action to channel the development of indicators into fruitful ways.

Work on development indicators by national governments, research institutes and academic scholars has been expanded in a number of directions. Two major developments can be singled out: the growing number of social reports, and the recent research on subjective or perceptual indicators. For the purpose of the present report, work has been seen as falling within four main areas: (a) socio-economic development; (b) particular areas of social concern and particular population groups; (c) levels of living, quality of life and basic needs; and (d) indicators of development at the local and regional level. A number of different approaches can be distinguished in each of these areas, varying according to their purpose, the methodologies used, and the extent of their application in planning. The relation between research and analysis and planning varies from country to country, depending on such factors as the demand for indicators, the availability of data, and the extent to which organizational factors facilitate or hinder interaction between the two.

Many developing countries have in recent years coupled social justice with economic growth as the pervasive theme of their development plans. While plans have all along aimed at the development of health services and educational facilities, improvement of housing and water supply, promotion of employment, and raising the levels of living in general, these aspects have received in some of the recent plans a more pronounced and explicit treatment. Use has apparently been made, both in setting targets and in the evaluation of progress, of certain indicators in relation to these goals. Attempts to develop certain new types of indi-

cators such as composite indicators and indicators of perception are also in evidence. It appears, however, that, in developing new indicators or organizing indicators programmes for the developing countries, emphasis should be laid on demonstrating the utility and usability of the indicators in planning, policy making and assessment of progress, in the context of the actual and potential needs of the developing countries.

A review of the efforts made in various countries to construct and utilize social development indicators, both from the viewpoint of a scientific analysis and that of development-promoting actions, leads to a general conclusion that the crucial issue is to integrate the work on indicators into a broader framework of multi-dimensional conditions necessary for an active, action-oriented approach towards development and the achievement of its objectives. One should not underrate the analytical work guided by purposes of scientific research. Its results are usually essential in preparing the ground for action-oriented approaches concerned with the use of indicators as informational instruments in the specific processes meant to bring about social changes in order to promote development. The ground formed by research may remain unused, but, if it is used, it may prove to be effective from the viewpoint of the achievement of development objectives. It may be concluded that certain conditions are necessary for the better utilization of indicators:

(a) Information conveyed by the respective indicators should be tailored in accordance with the operational needs (reflected in the demand for information) of specific institutions and organizations, the nature of which differs depending on the socio-economic system in question, but is directly involved in regulatory actions influencing development processes;

(b) consequently, the processes of collecting and compiling the data, as well as of transforming the data into information, have to be oriented towards the subsequent uses of such information. There are two implications of this conclusion;

    (i) much effort is needed in order to co-ordinate the statistical work with a more concretely identified and specified demand for information, the institutions involved in planning and regulatory activities being an important category of potential users generating this demand;

    (ii) the institutions in need of information should give attention to the identification and specification of procedures (diagnostic, prognostic and those involving decision making) which will allow them to have a clearer image of information sets they really need.

(c) Similarly, there is a need for a closer co-ordination between the research

bodies on the one hand and the statisticians and action-oriented users on the other; and

(d) it is important to ensure a continuity of cycles involving research, statistical work and the use of information in planning and other action-oriented activities.

The above conclusions are especially relevant in countries which face a relatively greater scarcity of human and material resources. Considerable costs are usually involved in the activities discussed above and while it can be argued that the allocation of resources for these purposes would be effective from the societal viewpoint, such an argument will be nevertheless justified if there is a continuous emphasis on efficiency in joint efforts of statisticans, analysts, planners and others involved in promotion actions towards development. Various means to strengthen such efforts can be considered as an important area for international activity which may be found useful in developing countries.

While there are valid arguments for a widening perspective which sees socio-economic development objectives and processes not only from the viewpoint of economists, such arguments should not be stretched to imply that non-economic aspects be treated in isolation and given priorities for their own sake, without ensuring close links with economic premises for the perception and implementation of development objectives. If development indicators are to be built more closely into a network of action-oriented informational processes, it seems essential to keep in mind the following.

(a) We are usually dealing with processes characterized simultaneously by economic and non-economic aspects with close links between the two categories, the economic aspects exerting often a decisive impact on the other; what we are striving for is to enrich the analytical framework and not to simplify it contrary to the prevailing conditions.

(b) There are certain types of non-material human needs, as well as processes characterizing the behaviour of a socio-economic system, which are less distinctly linked with the economic aspects, but in this connection it is for the society in question to assess whether they should be given a priority (in the context of allocating resources for research, statistics and action-oriented activites) or should be considered as of secondary importance.

(c) There seem to be several basic aspects of socio-economic development objectives which include close links between economic and non-economic premises and which deserve priority, i.e. food, housing, health, education and employment, as well as the premises of equity in relation to these major kinds of needs; consequently, there may be valid arguments in favour

of concentrating efforts on action-oriented indicators related to the system performance from these viewpoints.

In putting an emphasis on institutional aspects of action-oriented usage of development indicators, we are not implying a strictly hierarchical structure of planning and management, which would be based on concepts of societal "systems engineering". It is generally acknowledged that actions are implemented within particular units such as firms or communities – i.e. generally at a micro-level – and that they are shaped by the people, their motivations and work performance. The major issue arises, however, that the micro-actions depend on multiple economic and non-economic conditions which influence the capacities and the motivations at a micro-level. Consequently, the processes influenced (initiated, regulated, decided upon) at relatively higher levels, i.e. in management centres of larger organizations and in respective governmental institutions, pertain predominantly to the tasks of creating adequate local (micro) conditions by means of actions which usually have relatively longer implementation cycles. In this sense, the indicators relevant for systemwide actions, falling within the scope of governmental agencies, are mostly concerned with selected phenomena of strategic importance for the whole system, i.e. more directly related to the achievement of societal objectives as well as to the performance in basic processes conditioning this achievement.

The experiences in economic planning have led to a general recognition of the necessity to model the processes subject to planning, as a prerequisite for forecasting, simulating the future paths of development and making choices with the help of adequate decision-making techniques. Faced with a challenge to enrich the scope of planning, by means of introducing quantified expression of non-economic factors and phenomena, planners attempt to enlarge the scope of their models and procedures using still the same techniques of model building, assessment and choice-making. This has to be taken into account in making the development indicators operational. On the other hand, it must be recognized that there is another approach, which consists of a dialogue between technically-oriented procedures of institutionalized planning and the language of socio-political assessments and choice. The possibility of using both languages has to be considered in making the indicators operational. The question is not "either/or" but rather an identification of the processes depicted by the indicators which could be built into technical procedures and those which correspond to the needs of a public dialogue.

Recommendations

Since one of the functions envisaged for the United Nations University is training (or advanced education), it would perhaps be well within its purview and competence to organize a training programme on development indicators. The pro-

gramme should cover in a composite manner the collection, compilation and analysis of statistics needed for development planning and the construction and use of development indicators in planning, policy making and assessment of progress. Attention is invited in this connection to the *Report on Improvement of Development Statistics,* submitted by a Group of Experts convened by UNRISD in 1975, which urged that the United Nations University be involved in efforts to teach statistics for development and that it assume leadership in building up teaching materials on development statistics and in the dissemination of related research publications. Training in statistics is at present offered by a number of statistical institutes set up by the United Nations. Training in development planning is also likewise offered by a number of development institutes set up by the United Nations. These two groups of institutes, however, work in isolation. The statisticians do not thus get a clear understanding of the actual statistical needs of the planners and the planners do not get a full appreciation of the problems of data collection and analysis. It would therefore be an excellent plan for the UNU to organize a composite programme on the lines suggested above, in collaboration with the statistical and development institutes of the United Nations as well as national institutes engaged in development research and analysis. The programme should include seminars at the regional level and workshops at the subregional level. The participants should include statisticians, analysts and planners. This programme may be appropriately linked with the programme already envisaged for advanced education in planning and administration (see *Report,* of the Planning Meeting of the Human and Social Development Programme Advisory Committee, January 1977).

Simultaneously, the UNU should also support, on a modest scale, institutional arrangements in developing countries for the initiation and continuation of operational and analytical programmes for the development and use of indicators in planning, policy making and assessment of progress, with special reference to human and social development. The arrangements may be made either in central statistical agencies, national planning agencies or research institutions acceptable to planning and policy-making bodies, in a few developing countries of Asia, Africa and Latin America, which may be interested in such a programme and have the necessary capacity and will to continue such a programme.

The UNU should organize a world-wide dissemination of research findings in the field of development indicators and related methodology. The existing facilities are confined to a few countries, where such research is highly advanced, and hardly ever reaches the developing countries even when it concerns and is meant for developing countries. It would be helpful, if in the process of dissemination, the research findings could be translated into a commonly understandable language and form, so that they could be used by people who are actually engaged in development work.

We note that the UNU has already taken up a research project on "goals, processes and indicators of development" in order to formulate new goals of development, explore alternative processes and suggest new indicators for monitoring the progress. We consider this an important project that could widen the horizons of thought on human and social development. We suggest that among the other areas of research that could be taken up in this context are:

(a) exploration of simple statistical methods for gathering population-based information on social progress;

(b) development of appropriate indicators in such areas as fertility and mortality, health and nutrition, unemployment and underemployment through intensive small-scale surveys;

(c) development of a set of key social indicators in respect of well-defined social or socio-economic groups in order to study inter-group variations in social progress;

(d) experimentation with the concept of replicated surveys to study social changes at the local level, based on area samples; and

(e) development of a positive theory of social development combining the sociological and systems theory concepts, including the concept of "social reproduction".

Finally, it is to be recognized that the statistical base in the developing countries is very poor, especially in the demographic, social and socio-economic fields, which constitute the basis for the development of social indicators. Social indicators cannot be developed in isolation, and since the nature of the indicators to be developed depends on the context and the purpose in view, it would be unwise to depend on any given set of indicators which may be considered most appropriate at a given time and develop the requisite data through *ad hoc* means. It would be much more realistic and prudent to develop the basic statistics in a manner that would cater to all reasonable needs, including not only the planning, policy-making and administrative needs of the governments, but also the analytical needs of social research. The development of basic statistics is, however, the responsibility of the United Nations and its specialized agencies. The UNU may explore the possibilities of collaboration with the UN and its specialized agencies in this matter in order to ensure that the statistical development envisaged by those bodies meets the requirements of the Human and Social Development Programme.