MEASURING THE SOCIAL IMPACT OF POPULATION TRENDS AND DEVELOPMENT

Report of an Expert Group Meeting

ECONOMIC AND SOCIAL COMMISSION FOR ASIA AND THE PACIFIC

in co-operation with the

POPULATION CENTER FOUNDATION OF THE PHILIPPINES

UNITED NATIONS

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I. INTRODUCTION

A. BACKGROUND

1.   The Expert Group Meeting on Measuring the Social Impact of Population Trends and Development was held at Manila, Philippines, from 3 to 9 October 1978. It was organized jointly by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) and the Population Center Foundation of the Philippines (PCF) with the financial support of the United Nations Fund for Population Activities (UNFPA).

2.   Few countries in Asia and the Pacific have a comprehensive framework for measuring the results and benefits of their development plans. A framework of social indicators and their application is necessary in the formulation of development policies and the evaluation of their impact. The purpose of the Meeting was ultimately to assist member countries in formulating population and social welfare policies and programmes which would contribute more fully to the well-being of the people by imprroving the development and application of measures of the components of social welfare and its distribution.

3.   Current measures of development concentrate heavily on economic goals. They should be expanded to include assessment of progress with respect to other national goals. A comprehensive framework of social indicators should therefore measure such aspects of the welfare of the population as the distribution of income, consumption and wealth; the effects of national population policies; public safety; political freedom; social mobility; rural development; use of natural resources; the relevance of inputs not generated by economic growth, and so on.

4.   A pioneering work on social indicators was the United Nations Research Institute for Social Development (UNRISD) *Contents and Measurement of Socio-Economic Development: An Empirical Enquiry* (Geneva, 1970). The indicators employed in that study were primarily economic. Expectation of life at birth was the only strictly demographic indicator used. Cultural development was measured only in terms of the

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numbers of newspapers, radios and telephones, distribution of income was not measured.

5.   UNRISD published in 1974 a list of 100 social indicators and their values, when available, for 120 countries.[1] *Towards a System of Social and Demographic Statistics,*[2] published in 1975, outline a comprehensive system that included statistics on demographic variables, family formation, social mobility, income distribution, housing, and several other categories. The United Nations Statistical Office had more recently issued guidelines which were more flexible and more appropriate to the situation in developing countries.[3]

6.   Thus, the technical knowledge of social statistics was well developed. However, the application of social statistics for planning purposes had lagged behind the construction of model systems. This gap could be attributed to two principal factors:

(a) In many developing countries the recommended data for the systems were not collected adequately, or at all;

(b) When data were available, they were not sufficiently incorporated into the development and evaluation of national plans.

7.   The main objectives of the Expert Group Meeting were:

(a) To review current practic and knowledge with respect to the development of social indicators and their application to population and development planning;

(b) To discuss the ways in which population factors interact with measures of social development;

(c) To foster the linkage between a system of development indicators and the development process.

B. ORGANIZATION OF THE MEETING

8.   The participants included 17 experts from 11 members and associate members of ESCAP, namely: Australia, Hong Kong, India, Iran,

1 United Nations Research Institute for Social Development, *Research Data Bank of Development Indicators* (Geneva, 1976).

2 United Nations publication, Sales No. 74.XVII.8.

3 *Social Indicators: Preliminary Guidelines and Illustrative Series* (United Nations publication, Sales No. E.78.XVII.8).

Japan, Malaysia, Philippines, Republic of Korea, Sri Lanka, Thailand and United States of America. An expert from the United Nations Research Institute for Social Development, Geneva, had been invited but was not able to attend; however, he was able to contribute a paper for discussion.

9.   The Meeting was opened on 3 October 1978 by the President and Executive Director of the Population Center Foundation of the Philippines. In welcoming the participants, he posed some issues regarding the development of social indicators. He wondered about the extent to which policy-makers and planners of countries of the region had accepted that there was a need to develop social indicators for measuring social progress; if they had not accepted, how they could be made to accept and by whom; and, if they had accepted, how, and who determined the priority in which social indicators were to be used.

10.   In a message to the participants read out at the Meeting, the Executive Secretary of ESCAP welcomed the participants and expressed his thanks to the Population Center Foundation for collaborating with ESCAP in preparing for and conducting the Meeting. He described ESCAP's interest in the development of measuring adequate indicators for the progress made in achieving social development goals and proposed that the major task of the Group was that of examining the extent to which development indicators were used in planning, such as in target-setting and in the evaluation of progress and impact, and to recommend to Governments and to ESCAP ways in which their utilization could be improved.

11.   The Meeting elected the following officers: Ms. Nimali Kannangara as Chairman, Mr. M. Holla and Mr. Joseph Lee as Vice-Chairmen, and Ms. Minda P. Mella as Rapporteur.

12.   It adopted the following substantive agenda:

(a) Review of the development of social indicators

(i) Definition, purposes and development of social indicators

(ii) Recent methodological improvements of social indicators

(b) National experience in the development of social indicators

(i) Australia, India, Malaysia, the Philippines and Japan

(ii) Limitations, costs and benefits of statistical information systems

(c) Data requirements for a system of social indicators in the areas of

(i) Demography

(ii) Income, health and education

(iii) Other social measures

(d) Application of social indicators to the planning process

(i) Population as the unifying element in medium- and long-term planning

(ii) Target setting

(iii) Economic and social impact analysis of development plans

(iv) Linkage model for application of development indicators

(e) Recommendations for the future

(i) Development of social indicators

(ii) Data requirements and application of social indicators

13.   The report of the Meeting was adopted on 9 October 1978. A closing address by the Minister of Economic Planning and Director General of the National Economic and Development Authority (NEDA) was read out by the Deputy Director General of NEDA.

II. DEFINITIONS, PURPOSE, AND DEVELOPMENT OF SOCIAL INDICATORS

A. DEFINITIONS

14.   Two papers presented on the first day served the purpose of providing the background for the Expert Group Meeting. One paper began with the meaning, in ordinary usage, of the term "social indicators" and followed with definitions attempted by various authors. The definitions ranged from the value-loaded definition of "statistics, statistical series, and all other forms of evidence... that enable us to assess

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where we stand and are going with respect to our values and goals"[4] to those relating to some area of social concern that may serve the purpose of curiosity, understanding or action. There were a number of intermediate definitions examined, each of which emphasized a specific aspect of the preceding definitions.

15.   As an effort to refine the definition of social indicators, a number of delineations were suggested: (a) they were frequently normative (but not necessarily so) in their characteristics and in the context of their use; (b) they were preferably relevant to outputs rather than inputs, with the exception of using some of the latter as proxies for the former; (c) they were comprehensive or aggregative, pertaining to general well-being and social concern; and (d) they must belong to a structure or system of series to be genuinely indicative.

16.   The purposes of social indicators were implicit and derived from the definitions examined above. They were used: (a) to summarize the state and changing conditions of society, pinpoint social problems and monitor effects of social policies and programmes; (b) to measure social conditions, societal performance and level of welfare; (c) to represent the hierarchy of social values and goals; and (d) to expand the understanding of social processes in order to provide a firm basis for social policies and planning.

B. CONCEPTUAL FRAMEWORK

17.   Numerous attempts had been made to provide a conceptual framework to systematize social indicators. One of the earliest attempts was the UNRISD version of a two level system of social indicators oriented towards developing countries. The Organisation for Economic Co-operation and Development (OECD) version of social concern was defined by a three-tier system of social goals, fundamental social concerns and subconcerns and was oriented toward developed member countries of OECD. The United Nations system of social and demographic statistics recommended comprehensive statistical series which could be easily converted into social indicators free from any judgement on social values and objectives, but useful for analysis and planning. The OECD version contained a number of subjective indicators while the UNRISD set included none.

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4 Raymond A. Bauer, "Detection and anticipation of impact: the nature of the task". R.A. Bauer, etc. *Social Indicators* (Cambridge, MIT Press, 1966), p. 1.

18. The frameworks, or combination thereof, described above could be adopted by any nation interested in developing its own structure of social indicators. Social indicators published by developing countries often lacked a structure representing social values and objectives of the nation. The use of statistics from available sources was found to pose a fundamental obstacle to the generation of meaningful statistical constructs. To meet the immediate objectives of a social indicator series, a meaningful selection of indicators relevant to the context of development of a specific country was suggested.

19. Social indicators in the form of indicative statistical series could be used for both analytical and planning purposes. However, there had been a number of attempts to derive an aggregate indicator of level of living. Such efforts usually ran into the problems of weighting and indexing, as in the case of the UNRISD composite index of well-being. That problem could be avoided by modifying the gross national product (GNP) concept to derive a measurement of economic welfare or net national welfare, although the problems of imputation and of identifying welfare and non-welfare components remained.

20. An approach attempted in Japan in recent years to overcome the problem of weighting was to subject the results of surveys of values, perceptions and preferences of residents concerning living conditions to factor analysis. This approach was found to have political appeal, but it was questioned whether it was appropriate to regard the responses of ordinary citizens as normative social values and goals.

21. Although there was a need for socio-economic models for development planning, little progress had been made thus far. Having statistical contents of social indicators would facilitate the testing of models that had been formulated and contribute to the advancement of theories pertaining to social progress, transformation, and development. Despite the lack of fully adequate theories of social development, social indicators could be used with existing theories of development.

22. Based on the preceding examination of the definitions and development of social indicators, a number of limitations to the use of social indicators were identified. Of those difficulties the following were highlighted: the translation of national goals and objectives into a set of a few well-chosen indicators, measurement of social well-being, evaluation of the effectiveness of social policies and programmes, communication gaps between policy-makers and experts (or among experts)

and the monitoring of social progress. Those shortcomings resulted from the lack of theories on social progress and development and the lack of methodologies for devising indicators of social and individual well-being. However, conscientious application and use of social indicators would provide a useful tool (with the limitations mentioned above) to planners, policy-makers and researchers in their efforts to improve the living conditions of mankind.

C. ANALYSIS OF INDICATORS

23.   One paper elaborated the criterion of comparability of indicators used in connexion with the UNRISD data bank designed for a study of the interrelations of economic variables and development. Three criteria suggested were cross-national, cross-temporal, and cross-sectoral comparability. The social and economic sectors for which indicators were compiled by UNRISD were listed. Development indicators were generally one of three types: (a) a percentage figure showing the extent of spread in a country of a desirable social condition, (b) a *per capita* figure of an economic nature without a distributional aspect, or (c) a structural indicator expressed as a percentage, such as the proportion of a population living in urban areas.

24.   The selection criteria for the UNRISD research data bank of development indicators comprised statistical, analytical and conceptual considerations. The criteria were: (a) availability of data, (b) comparability of indicators, (c) quality of data, (d) validity of indicators, (e) discriminative power, (f) balance and avoidance of duplication, and (g) conceptual significance. Those initial selection criteria provided for progressively smaller sets of more precise indicators in a successive selection of indicators for the data bank. For analytic work, UNRISD used 21 key indicators which met more stringent tests of availability, quality and coverage, inclusive of the capacity to discriminate effectively among developing countries.

25.   Indicator quality was tested with correlation analysis, correspondence analysis and model-building. It was argued that the technically superior development indicators tended to show the highest correlations with other development indicators, both within and outside their sector. The use of average correlation level as a selection criterion was argued on those grounds. It was also pointed out that a different selection of indicators would yield quite different results in explaining the variation of a given factor by other factors.

26. The comparability of data over time was affected by changes of meaning or method of data collection, estimations, and the special problems of monetary indicators. Some of those problems were found to be insurmountable, while others could be overcome by adjustments to provide consistency. The exchange rate problem was resolved either with the use of a selected base year or by computing purchasing power parity rates of exchange rates.

27. Comparing growth rates of indicators from different sectors posed another difficulty. The difficulty stemmed from the lack of a common yardstick to measure changes in different factors, the difference in normal growth patterns of development indicators and the lack of appropriate methods to measure the change in a percentage-type indicator. The use of the difference in percentage points over time as the measure of change was suggested as a partial solution to those problems. Country profile analysis based on the UNRISD system of transformed data was another technique for comparative measurement of change.

28. A number of weaknesses of simple and complex regression analysis for relating non-comparable growth rates were noted, such as non-normality of observed variables, the unknown nature of changes about the means and error terms and the strong influence of accentric points in regression analysis. The technique of correspondence analysis was advocated because it assumed no dependency between variables and was based essentially on a median line that minimized absolute deviations on any or all variables.

29. By a method involving "reconstitution of data", a relatively smooth line relating non-comparable growth rates was produced with no *a priori* assumption about its shape. Curves resulting from correspondence analysis were found to be geometrical with high progression when relating a percentage-type indicator to a *per capita*-type indicator; wavy lines, often approximating S-curves, when relating two percentage-type indicators; and a line relatively straight or more simply curved when relating two *per capita*-type indicators.

30. The correspondence system of transformed data was used to depict a development profile of a country over time. A limitation of that profile was that it was of an indicative rather than normative nature. Furthermore, specific correspondences were influenced by such factors as size of country, level of development, geographical region, and various unique attributes of a country. However, it was expected that once a

general correspondence system had been established as a base, it would permit further analysis in terms of typological factors influencing development patterns.

31. The paper concluded that considerable improvement was needed in the quality of indicators available for use, especially social distributional indicators; that the technical quality of indicators could seriously affect analytical findings regardless of skillful manipulation of data; that temporal changes in different types of indicators needed to be scale-transformed rather than subjected to regression analysis; that many elements of social progress had to be estimated indirectly through proxy indicators, while carefully distinguishing them from planning objectives; and that development profiles from a correspondence system could play a helpful role in a diagnostic approach to development analysis and planning.

D. CONCLUSIONS

32. The Expert Group concluded that while the criteria of comparability and the criteria for selection suggested in the paper might have been appropriate for an international agency concerned with comparative studies, it needed to be modified to meet the needs of specific countries. For national analysis, greater importance should be attached to the criteria of conceptual significance and of validity than to availability of data. The choice of indicators should not be overly influenced by statistical methods relating socio-economic indicators in view of the limitations of the state of the art and of the analytical tools currently available. The Expert Group felt that the experimental approaches and analytical methods of UNRISD were innovative and imaginative, but that the methodologies advanced and findings obtained thus far were not conclusive enough for general application, especially for country-specific planning and analysis.

III. NATIONAL SOCIO-ECONOMIC DEVELOPMENT INDICATORS PROJECTS

A. AUSTRALIA

33. Some of the participants described the development indicators projects in their countries as case studies. A description of the social statistics collected in Australia was presented. The list, impressive not

only in range but also in the sophistication of data collection and analysis, was regarded as generally beyond the scope of most developing areas. The presentation also described the planning process and the manner in which established priorities within the process controlled the options available for statistical exercises.

34.   Many participants agreed that policy-makers were sometimes the last people to want social indicators. However, despite the current lack of interest in social indicators in Australia, the demands on the statistician by planners and policy-makers for social data were greater than the resources available to meet those demands. The problem of official indifference to or suspicion of social indicators was found to be common to most countries where the Government had not taken the initiative for establishing a system of social indicators.

35.   The "value loaded" nature of social indicators was cautiously broached. General discussion did not completely clarify that point nor did it cover the quasi-political nature of the eventual uses of social indicators; it stopped at agreement that collection, structuring and presentation of data should be neutral and objective. The frequently subjective decisions of which statistics to collect or to which indicators to give priority was mentioned in that connexion. Selection was a serious problem for developing countries functioning on deficit budgets.

36.   The outposting of statisticians to various policy departments in Australia was described as a valuable pointer to developing countries which had no hope of setting up and staffing an independent agency to deal with social indicators. That decentralization could shorten the distance between policy-makers and indicators, as it had done in Sri Lanka and Bangladesh.

37.   After reference to the media and their interest in Australia in indicators, it was mentioned that in most democratic situations social indicators were transmitted by the media and operated as forces for change or for reinforcing the *status quo.*

38.   In 1977, in Australia, a policy-making agency in the health area expressed its concern over the lack of sufficient, timely and appropriate data necessary for improving the situation. That agency protested that, as a result, the health and well-being of the people of Australia were being prejudiced and scarce resources were not being used to the best advantage. This was an extremely hopeful sign that social indicators, in addition to the more conventional social statistics, could be welcomed

by relevant authorities, even when the indicators pointed to previous programme shortcomings. It was clear that when relevant data were presented in an understandable manner, they were well on the way to having an impact on policy.

39.   The necessity of indicators to reflect the different level of each measured element in various parts of a country was stressed. That was a more important matter to a large than to a small country; also, more important to one where only a small urban government elite exercised power than to one where authority was brought from the grass-roots level to the central executive.

40.   The discussion ended with a comment on the greater importance given to social indicators when they were requested by planners as opposed to when they were thrust upon them.

B. MALAYSIA

41.   Malaysia was in the fortunate position of having a Government that was increasingly concerned with the social aspects of development. The problems of promoting national unity, eradicating poverty and restructuring society, which were the priority concerns of that nation, required more than mere economic progress to resolve.

42.   The points were made that social indicators were very important for developing countries with a dynamic political life; the Government's commitment could only be gained by providing early proof of the social indicators' role in the established evaluation system; such indicators could contribute to the planning process and could highlight the major issue of development which could be acted upon as a matter of urgency. As long as experts on social indicators could not convince a Government, and especially the development planners, on those matters, social indicators would continue to be treated as something useful but of no immediate practical value in development planning.

43.   The social indicators project in Malaysia was aimed at paving the way for setting up a more comprehensive socio-economic evaluation system which would evaluate the actual benefits in human and social terms and the distribution thereof, and ensure social justice in the process of development. The input-output-benefit-distribution model of development was a computer-based work in progress intended to show the resources utilized and the benefits to beneficiaries in various localities.

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44. There was an inclusion of perception indicators here. Those were problematical for experts with rigorous statistical standards. However, indicators should guide policy-makers by answering the "whys" of development. The top people in the Government should be involved early enough in the development of indicators relevant to their respective departments to elicit their commitment through discussions, thereby making indicators more functional.

C. INDIA

45. A detailed account of the modern history of Indian social and demographic data collection and of the difficulties attendant upon collecting statistics effectively for so large a country was presented to the Group. The paper suggested a broad system of social indicators for development planning, described its statistical requirements, indicated the direction in which the existing statistical activities had to be further expanded and discussed the possible ways of bringing about the desired improvement.

46. The presentation stressed the importance of population statistics, as the rapid acceleration of the volume of basic needs had forced priority in planning upon the population factor. That concern was particularly relevant to developing areas of high population growth and limited resource levels. The paper listed the major goals of planning and elaborated upon the various elements which required measurement within each goal. Expectation of life at birth was posited as a key indicator which described the health status of the population.

47. A section of the paper related to the programme for data collection was particularly useful for developing areas which did not enjoy a phalanx of experts and extensive funds as some countries did. The inadvisability of continuing with techniques established over the years by overworked administrators was pointed out. The presentation suggested the strengthening of statistical processes in decentralized policy-making departments.

48. The paper pointed to the important need for developing concepts and definitions suited to a particular context. It pointed to the concept of labour force which necessarily varied from a largely seasonal agricultural society to an industrial society. The method of collecting data was no less affected by such differentials and that served as a warning

against wholesale adoption of new techniques, by which developing countries might be beguiled.

49.   The presentation went on to emphasize the importance of adopting uniform concepts and definitions for the collection of data in censuses and surveys as an essential prerequisite for the regular compilation of indicators to study the social trend. As a number of agencies were involved in statistical activities, it was necessary to standardize the concepts and definitions for a regular flow of data on a uniform basis. The concepts and definitions formulated by the United Nations and its specialized agencies might provide only broad guidelines and needed to be adapted to the realities obtaining in a country. Thus, for example, the concepts of labour force and measurement of unemployment and underemployment using only a short period of one week as the reference period, as adopted in developed economies, were unsuitable for an economy with a preponderance of agricultural activities with widespread seasonal unemployment and only a small organized labour market.

50.   It was agreed by the Group that in a dynamic situation there could be no finality about the concepts and definitions (of employment, unemployment and underemployment) and they had to be reviewed at suitable intervals so that, while comparability was maintained as far as possible, the changing requirements of the users of data could also be taken note of and satisfied by suitable modifications in the concepts where considered necessary.

D. PHILIPPINES

51.   The Development Academy of the Philippines, a research and training-oriented government institution, had taken the initiative in establishing a social indicators project. A multidisciplinary research team felt that there was a serious need to quantify more fully specific the goals of the Government for the sake of an honest measurement of progress as part of an objective determination of which programmes had succeeded and which had failed to promote national well-being.

52.   As the research proceeded, the project came to be guided by certain working principles. There were basic social concerns, such as health, education, employment, peace, confidence in the Government, environmental and natural resource protection, which comprised the widely accepted and more or less permanent goals of developing so-

cieties. National well-being was, then, a composite of concrete achievements in the basic social concerns.

53. Present national well-being consisted of the general well-being at the moment and the current provision for the well-being of future generations. Social or welfare indicators were specific and measurable elements of each social concern. They reflected the degree of improvement in each social concern and the degree of sharing in that improvement among present-day society and between the living and those yet unborn.

54. The weights or priorities for any social group, social concern, or social indicator were left to the users of social indicators in the Philippines. The project had therefore developed an awareness among planners, administrators and technicians of a system of measuring national welfare.

E. JAPAN

55. Social indicators in Japan were an integral component of a framework which linked social statistics with the planning process. The first stage of the framework was the collection of data and compilation of social indicators. The second stage consisted of analysis and interpretation of the indicators. At the third stage, social indicators were employed in the formulation of social programmes.

56. The extensive set of social concerns identified for measurement in Japan included health, education, employment, leisure time, income, housing and environment, public safety, the family, community life and social mobility. A hierarchical framework divided those primary goal areas into a system of measurable concerns, which were further divided into a subsystem of social concerns containing dozens of measurable items.

57. Composite indexes were constructed to indicate change in each goal area. The indexes were expressed relative to a level of 100 for given base years. That presentation of indexes permitted the comparison of change in any goal area with change in other goal areas during a given period.

F. CONCLUSIONS

58. The Group, while discussing the country presentations, reached

general agreement on the following points:

(a) Those responsible for establishing a framework of social indicators should take responsibility congruently for educating the Government and media on their use and value;

(b) It was essential to relate social statistics to the particular country and organizational context;

(c) Uniformity of collection of data in all the disciplines engaged in development was important, and could encourage co-operation between those disciplines;

(d) Even when data were not requested (and paid for) by policy-makers, it was advisable (if possible) to have what "might" turn out to be needed;

(e) The priorities for statistical and research attention must be worked out in terms of society's goals;

(f) Weighting was proposed by some participants as a necessary technique to make social indicators relevant to planning, but was rejected by others as being too subject to change. The necessity for keeping the collection, collation, and presentation of indicators as neutral as possible was agreed by all.

IV. DATA REQUIREMENTS FOR A SOCIAL INDICATORS FRAMEWORK

A. GUIDELINES

59. The Expert Group was of the opinion that the establishment of a predefined system of socio-economic development indicators was not a desirable goal. A framework of development indicators should be established, however, which was comprehensive, integrated, and responsive to changing goals and conditions.

60. The inflexibility and inappropriateness of a system of indicators which could result were a system or guidelines to be imposed which had been developed for some international standard without due concern for the situation and goals of a particular country was rejected by the Group.

61. The Group generally concurred that the appropriate first step

in establishing a framework of development indicators was for a country to consider its particular goals and development objectives. Then that nation should consider the most effective methods of measuring progress towards those goals. At that stage it might be very useful to review proposed statistical guidelines, such as the United Nations *Towards a System of Social and Demographic Statistics*[5] or *Social Indicators: Preliminary Guidelines and Illustrative Series*[6] but it would not be advisable to adopt any such system completely, without modifications which took into account the existing statistical system and the national context of development.

62. Rather, it would be preferable to accept general goals of a statistical framework and to work towards them from the existing statistical base. Some current indicators might be adequate. Others might be measurable by the use of proxy variables until more exact measures could be instituted. There were likely to be some development objectives in every country which required indicators not currently existing and not recommended by an international standard. A country should establish and test those indicators with its own objectives in mind.

63. Because countries needed indicators of progress towards their particular targets but also desired to obtain some international comparisons, the Group suggested that different development indicators could be identified to serve those two purposes.

64. The Group also stressed that availability of data should not be the sole or even the primary criterion in the selection of development indicators. More important criteria were conceptual significance (whether the variable was significant or trivial for development) and validity (whether it measured what it was intended to measure).

65. The Expert Group described three primary purposes of a framework of socio-economic development indicators. First, it must yield acceptably valid, reliable, timely and relevant measures of the trends and current levels or status of well-being, together with estimates of the distribution among the population.

66. Second, such a system must seek to provide policy-makers and their technical advisers with some awareness of the influence of the more significant determinants affecting changes in areas of social con-

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5 United Nations publication, Sales No. 74.XVII.8.

6 United Nations publication, Sales No. E.78.XVII.8.

cern. In particular, those factors that were both influential and subject to policy manipulation should be separately identified and their impact estimated. Third, in order to develop a framework of social indicators that bore some relation to the interactive processes affecting different variables, separate measures had to be capable of linkage so that their mutual effect could be estimated. Such linkages implied, in turn, the prior establishment of a set of common concepts, operational definitions, procedural rules and classifications according to which data collection and processing were carried out.

67. Meeting the data requirements of a framework of development indicators was a serious problem in ESCAP countries. Of the 100 indicators chosen for a study by UNRISD, 22 countries of Asia and the Pacific had the required data for an average of only 54 indicators.

B. DEMOGRAPHIC INDICATORS

68. Since the principal purpose of social indicators was to measure individual well-being, demographic data were central to a framework of indicators. Population was the source and object of development and should be the common denominator for economic and social indicators.

69. For example, the Group noted that in the Fourth Plan (1977-1981) of Thailand there were seven main issues for which development strategies and policies were outlined in detail: (a) growth in population and labour force; (b) population distribution and human settlements; (c) development of the quality of human resources; (d) labour and employment; (e) salary and wage increases; (f) development and public administration and management; and (g) manpower development in the civil service and in state enterprises. Obviously, demographic indicators were important in each of those areas of policy.

70. Guidelines for social indicators recently issued by the United Nations Statistical Office[7] suggested series of indicators in the areas of:

(a) Population;

(b) Family formation, families and households;

(c) Learning and educational services;

(d) Earning activities and the inactive;

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7 *Ibid.*

(e) Distribution of income, consumption and accumulation;

(f) Social security and welfare services;

(g) Health, health services and nutrition;

(h) Housing and its environment;

(i) Public order and safety;

(j) Time use;

(k) Leisure and culture;

(l) Social stratification and mobility.

71. The minimum demographic statistics required for each of those fields were the population by sex and age, urban or rural residence, geographical area, and national or ethnic origin. The population by size and type of place was also recommended for most of the above categories.

72. The degree of disaggregation of data for development indicators was described as a crucial issue because it determined the cost of data collection and also the level of planning which was possible.

C. INCOME, HEALTH AND EDUCATION INDICATORS

73. Indicators of the level and distribution of income were considered to be necessary for measuring individual well-being, although measurement was complicated. Primary and distributed factor income needed to be distinguished. Income statistics had to correspond with the actual social groupings within which most consumption was carried out. The effects of tax and transfer payments should be taken into account. Indicators of income should give trends of real income and be adjusted to constant prices.

74. In cases where dual economies coexisted such as in most ESCAP countries with a large proportion of the economically active population engaged primarily or exclusively in non-market sectors of the economy, it became necessary to develop estimates of disposable household income from sources other than reported earnings and other income sources. In those cases, it was useful to develop such estimates from an examination of consumption expenditures. Data on the proportional distribution of consumption expenditures for a specified number of basic necessities may also have yielded more valid estimates of the proportion of the population that lived at or below some established poverty threshold than could be obtained from statistics on income distribution alone.

75. The Group suggested that health indicators should measure (a) length of life, (b) healthfulness of life, (c) quality of health care, (d) delivery of health care, and (e) social integration of the disabled. It was also agreed that it would be desirable to measure health in terms of its contribution to developmental efforts as well as in terms of its role as a social goal. Because good health was a complex phenomenon which was difficult to define with precision, it was observed that health indicators were often ambiguous and normative. Interpretation could be complicated because mortality beyond the first year of life was inversely related to morbidity. For that reason, life expectancy should be broken down into an infant mortality rate and expectation of life at age one. Interpretation of health indicators was also made difficult because the determinates of health trends were not always known.

76. Education was seen by the Expert Group as an important component of individual well-being because it allowed persons to develop their human potentials and provided for social mobility. The Group stated that education indicators should measure, at a minimum, literacy and years and level of schooling completed. Because it was essential for policy-makers to understand which factors had produced a change in educational levels, it was necessary to compile some indicators of education inputs, such as enrolment ratios, drop-out and continuation rates, pupil-teacher ratios, and public expenditure on an investment in education. Some countries had begun the more complex task of attempting to measure the quality of education.

D. COSTS, BENEFITS AND LIMITATIONS OF STATISTICAL INFORMATION

77. The Expert Group considered the costs and benefits of statistical information since those largely determined which development indicators would be feasible. Costs were relatively easy to measure since they were primarily monetary and immediate. The Group described trade-offs in the costs of obtaining statistical information. Surveys were less expensive to conduct, even on a *per capita* basis, but the smaller number of respondents limited the complexity of analysis possible and precluded obtaining valid results for small geographical areas. Paying higher honoraria to enumerators was considered worth the cost because the quality of results was improved.

78. Cost could be minimized by maintaining a centralized statistical system, by utilization of continuous multipurpose surveys, and by the

establishment of a panel of part-time enumerators who could work on more than one survey.

79. There was also a cost of consuming information which was impossible to specify. That cost was determined partially by the format of the presentation of data and partially by the capacity of the user to understand and assimilate information. For that reason, indicators must be simplified and summarized in order to be useful to many consumers.

80. It was perhaps impossible to quantify the benefits of a statistical system. However, an attempt could be made to identify and locate the benefits by referring to the results of the planning process, since the statistical data were a major input to that process.

81. The Expert Group cited several limitations of statistical information systems which should be taken into account when using their data. Because of a gap in communication, data were not always collected with the specific needs of users in mind. Censuses were costly and produced information slowly. Surveys did not usually collect adequate information about small geographical areas.

82. Since social statistics measured human behaviour, they could not be as precisely defined or elicited as data in the field of economics or the physical sciences. Administrative records from different agencies often did not use the same definitions or data classifications. Finally, data systems could provide information only on past behaviour, whereas planners necessarily worked in the realm of the future.

E. DEVELOPMENT OF INDICATORS APPROPRIATE TO THE ASIAN AND PACIFIC REGION

83. The Expert Group repeatedly stressed that development indicators which merely followed Western or other international standards were of limited value. There was a strong requirement to develop indicators which were relevant to the national goals and developmental contexts of countries in the ESCAP region. The population of that region was 73 per cent rural and a majority of it was engaged in agriculture. Indicators in those countries must be designed to measure changes relevant to their population. There was an expressed need for greater measurement of agricultural productivity, land ownership and landlessness, irrigation, rural services, and so on.

84.   The Group also stated that ESCAP countries should not repeat the mistake made in many developed countries of ignoring natural resources and environmental concerns until they reached critical dimensions. The expert from Sri Lanka pointed out that because of that country's small size it had long been aware of its finite carrying capacity and had planned accordingly. Deforestation and soil erosion and depletion were serious concerns in several of the countries in the region, yet their compilation of social indicators usually contained no measure of those phenomena. Availability of natural resources, and air, water, and noise pollution were concerns which needed to be monitored more closely.

85.   The Group noted that it was becoming more necessary for indicators to advance beyond measuring the mere availability and use of social services, such as schools, health facilities and even newspapers, and to develop indicators which reflected the quality of those services. The observation that many people passed up schools or clinics nearest to their houses to attend others was an indication of the unequal quality of services provided by the Government. The reading of independent newspapers was considered to be more significant than the reading of papers aligned with a particular political party.

86.   The Expert Group discussed the feasibility of employing more subjective indicators. These would measure the preferences of a population in order to aid in establishing national goals and priorities. The population's perceptions of the quality of life or of the effect of government programmes could also be monitored. Obtaining valid data for those indicators and the interpretation of responses was inherently more complicated than for the more conventional economic, demographic and social indicators. Some of the experts felt that those difficulties precluded the usefulness of such indicators, but the majority of the Group favoured attempting to test and improve subjective indicators.

F.   CONCLUSIONS

87.   The Group urged that countries in the ESCAP region improve their frameworks of development indicators by attempting to design measures which reflected national goals and policies, rather than basing indicators merely on existing data or international frameworks.

88.   Developmental strategies had both positive and negative effects, for example, agricultural productivity might be improved but unem-

ployment increased by the same programme. Statisticians must attempt to measure both positive and negative trends in order that policy-makers might fully evaluate the impact of development plans.

89. Monitoring of "social" trends should be as timely and of as high a priority as the monitoring of "economic" trends.

90. The Expert Group emphasized that the mere publication of compendia of statistical series was in itself of limited use to planners and policy-makers. For development indicators to be meaningful for planning, analysis and interpretation of the trends and interrelationships of the variables were necessary. Such analysis required the attempt to improve theories of socio-economic development and the models which simulated the theories.

V. APPLICATION OF SOCIAL INDICATORS TO PLANNING AND POLICY FORMULATION

A. COMMON COUNTRY EXPERIENCE IN THE APPLICATION OF SOCIAL INDICATORS

91. Country experiences in the application of social indicators in planning and policy formulation were discussed by experts from Iran, Malaysia and the Philippines.

92. It was agreed that if comprehensive planning for economic and social development was to be achieved, it necessarily had to take into account social indicators which showed existing levels and trends of the quality of life of the population. Therefore, the Group felt that countries must set targets for the improvement of the quality of life. Furthermore, it was agreed that it was not the economic characteristics of the population but the social, human-centered properties that were truly important and that it was the enhancement of those social, human-centered properties which was the ultimate goal of economic development. Hence, there was really no need to distinguish between economic and social development, and economic and social planning must go hand in hand. Social variables, including unquantifiable factors such as motivation and receptivity to change, affected economic growth and development. At the same time, economic variables such as income played a major role in promoting social development. It was the unity in planning economic and social development which was crucial in the attainment of total development.

B. THE PLACE OF SOCIAL INDICATORS IN
THE PLANNING PROCESS

93. It was noted that social indicators were needed at all stages of the planning process — from the assessment of status to goal-setting, strategy formulation, and plan implementation and monitoring. At the assessment stage, social indicators were needed to appraise the past trends and existing state of population welfare in order to reflect the dimensions of problems being faced by society. This situational analysis served as the springboard for the establishment of goals and objectives which could be converted into numerical terms or targets by the use of social indicators and quantification of other economic variables. Development plans purporting to achieve many non-economic goals had to have quantitative measures of different social goals to serve as effective guide-posts for programme implementation and evaluation.

C. THE PHILIPPINE EXPERIENCE

94. In the Philippines social indicators were being used increasingly to measure the attainment of social goals. That stemmed from the basic shift in planning orientation from a narrow emphasis on production goals to the broader concern of developing strategies for economic as well as social improvement; the adoption of an over-all development strategy whereby economic development was to be pursued for social justice; increased emphasis on planning at disaggregative levels, viz. the regional, provincial, sectoral and project levels; and the integration and strengthening of the planning and administrative machinery.

95. The Philippine experience demonstrated that the use of social indicators for planning and policy formulation had been hampered by the inadequacy of data to measure social indicators which showed the relationship between and among variables and measured the impact of programmes and projects not only on economic goals but also on social goals. Further, there existed the problem of quantification of social goals. While social change in terms of reception to new ideas and innovations, including changed perception, was as much a desired goal as economic growth, no concrete measure of social change as a goal and as a process was available. None the less, social change was implicit in the provision and expansion of education, culture and technology.

96. While several studies have been made exploring the relationships between economic and social variables in the Philippines, the unavail-

ability of data to verify those relationships hindered their utilization in plan strategy for mutation and adoption of policy mix.

97.   It was observed that traditional economic goals were more or less adequately served by the existing monitoring system. Most of the social goals, however, e.g. promotion of social development and social justice, were not being effectively measured. In many cases, the inadequacy of the existing monitoring system was due to the lack of relevant indicators and an integrating framework. In some cases where appropriate indicators were available, they were not sufficiently disaggregated to allow measurement of the differential impact of aggregate government development efforts across regions and population groups. In other cases, the existing data did not permit the continued monitoring of social change.

98.   It was also noted that while the project planning capabilities of the Government's line agencies had improved considerably during the previous five years, their capacity to evaluate effectively the contribution of their projects to the country's major development goals had not kept pace. The development of more effective means to evaluate project impact was generally considered to be the required next step in the Government's efforts to improve its over-all planning system.

99.   Further, improved impact analysis in the Philippines awaited the development and application of better means to monitor the progress of individual development projects and to measure their impact upon the economic and social environment. In some areas, good measures had already been developed but were not being effectively applied. In others, the indicators that had been developed were either too narrow in scope or too aggregative to be generally useful. In still other areas, appropriate measures were not available and needed to be developed.

100.   The Philippine Government initiated in 1978 the four-year Economic and Social Impact Analysis/Women in Development project in order to correct the shortcomings in its statistical system described above. The specific objectives of the project were:

     (a)   To develop and initiate the operation of a system of macro-level indicators for measuring and monitoring the degree of achievement of the economic and social development goals set forth in the medium-term and long-term development plans;

     (b)   To develop and initiate regular and systematic use of project-

specific indicators for measuring, monitoring and analysing the progress of implementation and impact of specific development projects on various areas of concern;

(c) To determine the extent of participation of Philippine women in development in order to facilitate the design of policies and programmes necessary to enhance their participation.

101. It was envisaged that, at the end of the project period, the National Economic and Development Authority (NEDA), the Government's central planning agency, would have in operation a system of macro-level indicators for monitoring and measuring progress towards national development goals; and NEDA and the Government's line agencies would regularly and systematically use valid methodologies and indicators for measuring and monitoring project progress and impact.

D. THE MALAYSIAN EXPERIENCE

102. As yet, the development of social indicators in Malaysia was not entirely sufficient for their application to the planning process. The collection of social statistics had not been designed with development planning in mind. Often the appropriate statistics were not available. When data were available they were inadequate and obsolete, failing to measure the attainment of specific national goals or the geographical distribution of the benefits of development.

103. Several guidelines were suggested for developing social indicators in Malaysia which would permit them to be used for planning purposes. Social indicators should measure progress towards national objectives and priorities. The more serious the social concerns, the more closely should they be monitored. Social indicators should emphasize the ends rather than the means of development. All social progress must be considered to be measurable. Key social indicators should be measured at least annually, as were economic indicators. Indicators should err on the safe side.

E. THE IRANIAN EXPERIENCE

104. Three problems were encountered in applying social indicators to planning:

(a) The routine-bound ways of thinking of those responsible for planning;

(b) Methodological difficulties which the planners had to overcome;

(c) Lack of knowledge of the interrelationships between economic and social variables.

105. Based on the idea of the unitary approach to planning, a project had been initiated for the application of social indicators to social planning. The project consisted of two parts: part one dealt with devising social indicators for the social sectors and part two dealt with the development of social targets for the national plans of Iran. The aim of the second part was the orientation of the national objective function towards social targets.

F. SOCIAL INDICATORS AND SOCIAL WELFARE PROJECTS

106. The Expert Group held a joint session with the Interregional Technical Meeting on Social Welfare Aspects of Family Planning (Strategies for Integration of Family Welfare in Rural Development) which was held at the United Nations Social Welfare and Development Centre for Asia and the Pacific, Manila, from 2 to 11 October 1978. At the joint meeting, the special problems of measuring the progress and impact of micro-level social welfare projects were considered.

107. The joint meeting concurred that micro-level projects usually required technical assistance from outside the project in the areas of survey design, data collection and tabulation, and analysis of results. Most decision-making should occur at the project level, however, so that the objectives of the project, the particular features of the population, and the cultural traits could be taken into consideration when planning and analysing the method of project monitoring.

G. DISCUSSION AND CONCLUSIONS

108. One expert presented a list of recommendations aimed at statisticians and other technical persons involved in the preparation of development indicators, which, if followed, should make indicators more valuable for planning purposes. The advice included the following points:

(a) Organizations should attempt to gather information related to their stated objectives and not simply rely on existing data series;

(b) Technicians should not avoid measuring conflicting or competing trends;

(c) Monitoring must be timely;

(d) Statisticians should innovate useful data series, even if such had not been requested by planners;

(e) Statisticians should not fear controversy and should attempt to anticipate trends which could lead to a diminution of individual well-being.

109. It was the consensus of the Group that the development of social indicators and their use in the entire planning process improved the planning system, the establishment of priorities for goals and objectives, policy and strategy formulation, and consequently the identification, monitoring and evaluation of programme and projects.

110. *Status assessment.* At the assessment stage prior to goal-setting, indicators were needed to appraise the past trends and existing state of population welfare in order to reflect the dimensions of problems being faced by society and establish goals and objectives which might be converted into numerical terms or targets.

111. It was generally agreed that a set of social indicators should cover a range of social concerns in order to provide a picture of the quality of life of a population or the level of welfare which it enjoyed. The summation of a number of statistics into a composite index of the quality of life had not yet been demonstrated to be effective and was of little value to policy-makers.

112. *Setting goals and priorities.* The setting of goals and priorities depended upon the dimensions of the problems being faced by society as reflected by social indicators. Some problems and goals were difficult to quantify, yet they were clearly important. Technicians must believe that social progress was scientifically measurable regardless of how abstract the condition to be monitored might, at first sight, appear to be. The process of measurement might be more or less difficult or expensive, depending on circumstances, and was not worth the effort if the social concern was trivial. The strongest efforts toward conceptua-

lization and measurement should be reserved for the highest priority social objectives.

113. *Policy and strategy formulation.* The formulation of a strategy or adoption of a policy mix for the solution of multiple problems depended upon knowledge of the interrelations between and among variables. As goals and objectives might conflict with each other, so might the policies deemed to attain those goals and objectives. Indicators were needed to show to what extent a certain or specific policy contributed to the solution of another problem or the attainment of another goal. That knowledge required that the determinants or causes of problems were identified and the process of attaining the goals outlined. These requirements meant that arrays of development indicators were not, of themselves, adequate for planning purposes. The necessary linkage between indicators and planning was analysis and interpretation of indicators. That stage required that a theory of development be specified and that models which could simulate the theory be employed.

114. It was essential that models of development specify the source of inputs to various areas of social concern. The success of some development plans depended to a large extent on the exploitation of natural resources or upon foreign aid. Those sources of input were not generated by a country's own development process and were frequently non-renewable.

115. *Programme and project identification, monitoring and evaluation.* Traditionally, programmes and projects were selected with the use of cost-benefit or profitability ratios. Those, however, did not measure the desired impact of programmes and projects on the attainment of goals, especially social goals. Social indicators and analytical models were needed to project not only the economic but also the social impact of programmes and projects before they were implemented.

116. Monitoring was a very important aspect of development planning. Social problems were so complex that it was rare that theoretical models could do more than suggest broad guidelines for policy. It was from recording precisely and frequently the small changes, little failures and successes detectable by a monitoring system that better understanding was achieved of the mechanics/processes/relationships through which a project achieved its impact on the various development goals. The managers of development could learn the most, could correct erros before the social costs became too large, and could arrive at new ideas

with the aid of a good monitoring system. Programme and project monitoring through the use of micro or programme- and project-specific indicators provided the link between field workers and planners and fostered congruence between the kinds of projects being implemented and the development goals being sought.

117. Project-monitoring indicators were part and parcel of a responsive and integrated statistical information system. The continuous participation observation method and/or the use of local people in information gathering was necessary in order to have an accurate picture of the situation at the local level. Case studies provided valuable additions to the common or standard indicators.

VI. RECOMMENDATIONS FOR THE FUTURE DEVELOPMENT OF SOCIAL INDICATORS

118. The observations and recommendations of the Expert Group are summarized in the following five sections, corresponding to the major topical areas that received detailed attention in the course of the Group's deliberations, viz. improved definition of the process of "development"; the relation between social indicators and the planning process; needed improvements in the data base and related analytic techniques; needed improvements in the organization and co-ordination of data collection operations; and some general observations concerning the function and limitations of social indicator reports in relation to socio-economic planning.

A. THE PROCESS OF DEVELOPMENT

119. The Group unanimously agreed that the conventional division of the planning process into separate sectors (e.g. "economic" planning, "social" planning) was not appropriate for the countries in the ESCAP region, given the complex interrelations of social and economic goals and the mutual impact of social and economic processes and developments. The Group concluded that the process of development must be viewed as an integrated process wherein economic growth targets were recognized as purely instrumental for the achievement of social goals. The Group further recognized that the appropriate role to be played by sets of social indicators in that respect was twofold: (a) to monitor progress towards the achievement of specific social goals and (b) to

detect and measure the social impacts of particular socio-economic policies and programmes, thereby providing essential "feedback" information for assessing those programmes, modifying or adapting them in accordance with changing conditions, and formulating new programmes as needed.

B. THE RELATION BETWEEN SOCIAL INDICATORS AND THE PLANNING PROCESS

120. The Group gave detailed consideration to the requirements to be met by social indicators if they were to be integrated in the planning process. It was noted that exclusive attention to instrumental targets — i.e. measures of economic growth and development — had produced serious distortions in past evaluations of development plans and programmes by failing to appreciate the social impacts of those programmes. But it was also recognized that if those social impacts were to be considered together with measures of economic growth they would have to be expressed in quantitative terms to the extent possible. Furthermore, the Group noted that quantitative measures — social indicators — must satisfy the following requirements. First, they must emphasize outputs or results (including unintended side-effects), but selected "input" measures must also be included so that the observed results could be viewed in association with pertinent input data. Secondly, the measures should be made readily comprehensible to policy-makers and planners who might lack sophistication in statistical measurement techniques. Thirdly, they must be accompanied by specifications of appropriate standards with which their observed values could be compared. Those standards should express both minimum acceptable levels and target levels to be reached at specified future dates.

C. IMPROVEMENTS IN THE DATA BASE AND IN ANALYTIC TECHNIQUES

121. The Group agreed that individual countries should not try to adopt a single uniform system of social indicators at this time. Rather, the Group recognized the need to proceed incrementally toward implementation of data collection efforts and the construction of needed social indicator measures within a broad framework of common concepts, definitions, and coverage specifications as detailed in the general guidelines provided by United Nations recommendations. It was recognized that those common concepts and definitions, together with

recommended principles of disaggregation, must be adapted to reflect local conditions and particular national objectives and priorities.[8]

122. The Group expressed concern at the limited utility of current national practices in the field of social indicator reporting, wherein arrays of descriptive social statistics, selected and organized to represent current status and emerging trends in major areas of social concern, were presented in summary form. It was recognized that such descriptive data sets could provide valuable background information, but that they could not offer guidance to policy-makers and programme planners with respect to either the determinants of observed conditions or the consequences of particular policies and programmes. The Group noted, therefore, the need to encourage further attempts at developing data collection procedures that would permit more systematic analysis of the relations among the major segments of socio-economic phenomena, such as the associations between health, education and employment, or between unemployment, underemployment and various forms of social pathology, etc. Such analysis, it was noted, would require a data linkage capability at appropriate levels of disaggregation. To the extent that such a capability could be developed, it would be possible to progress beyond descriptive statements of what had occurred towards an examination of how observed conditions had come about. As such a capability was developed, it would be possible to test theoretically-derived hypotheses concerning particular social phenomena and to offer empirically based suggestions with respect to possible policy interventions designed to ameliorate unfavorable conditions or facilitate progress towards specified social goals.

D. ORGANIZATIONAL REQUIREMENTS

123. The Group recognized that a major obstacle to the development of integrated socio-economic development plans was the prevalent division of functional responsibilities into sectoral areas, such as economic growth, health, education, welfare, and the like. One result of that division had been the proliferation of different concepts and procedures that needlessly complicated the necessary co-ordination of data collection efforts and gave rise to avoidable duplication of research

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8 A basic reference is *Social Indicators: Preliminary Guidelines and Illustrative Series* (United Nations publication, Sales No. E.78.XVII.8); also pertinent is *Improving Social Statistics in Developing Countries: Conceptual Framework and Methods* (to be issued in the same series).

activities. Given the interdisciplinary nature of socio-economic planning, the Group urged the establishment of collaborative mechanisms that would facilitate the incorporation of the perspectives and insights of the different disciplines in developing integrated socio-economic plans and in devising appropriate social indicator measures to monitor their progress and impacts.

124. The inclusion of the statistical collecting agency in the collaborative mechanism was stressed in order to educate statisticians to look beyond their traditional data series and to consider the collection of data more appropriate to many social welfare requirements. The Group further emphasized the importance of including in these co-operative groups not only representatives of the appropriate academic disciplines but also representatives of the different planning organizations and other governmental units involved in programme planning and execution. In that connexion, the Group recommended that ESCAP should provide technical assistance and financial support to those member and associate member countries which required such assistance in improving their own social statistics systems. The Group also recommended that ESCAP should initiate the establishment of a comprehensive data resource in collaboration with member countries, with the following objectives (a) to encourage the gradual adoption of common concepts and definitions and thus facilitate international comparability; (b) to provide a multipurpose data storage and retrieval system to serve a variety of research and administrative needs; and (c) to compile and publish annual reports containing selected statistical information relating to conditions and trends among member countries.

E. GENERAL OBSERVATIONS AND RECOMMENDATIONS

125. The Group recognized the need to satisfy pressing current obligations within existing resource limitations while pursuing long-term objectives as resources permitted. It also recognized that further progress in social indicator development would require certain underlying institutional supports as well as solutions to a number of technical problems in indicator construction. A fundamental institutional requirement was the cultivation of a spirit of constructive criticism and public debate of social problems and issues, based on objective and factual information concerning relevant trends and conditions. In fostering such a spirit, the role of the government agencies in gathering and freely disseminating

such information and the role of the media in bringing that information to the attention of the public were seen to be of critical importance.

126. With respect to technical problems remaining to be resolved, the Group made the following observations:

(1) The need to express measurements of observed trends and conditions in quantitative form was recognized, but the Group also stressed the fact that some important aspects of the several areas of social concern could not be expressed purely in quantitative terms, given the current state of the art.

(2) The Group recognized that quantitative measurements of selected aspects of different areas of social concern must be accompanied by interpretive commentary that would bring to light their significance in terms of the particular historical, social, and cultural environment in which they were embedded.

(3) The Group also recognized the need for summary aggregative measures that would provide policy-makers, planners and the general public with an overview of prevailing social conditions. But it recognized too that in constructing such aggregate summary measures, it would be necessary to employ essentially arbitrary weighting procedures in order to incorporate a number of particular social indicator measures in a combined summary index. Given the sensitivity of those aggregate measures to both the individual measures selected for their composition and the weighting assigned to each component, the Group recommended that all such aggregate indicators should be accompanied by explicit accounts of the procedures whereby they were constructed.

(4) The Group stressed the importance of developing a set of social indicators on the basis of an assessment of the observations and measures called for in monitoring the different areas of social concern, regardless of the current availability of the requisite data. That was essential in order to reveal gaps in the information system and to devise strategies for developing appropriate data collection efforts on the basis of individual administrative and research priorities.

LIST OF DISCUSSION PAPERS SUBMITTED TO
THE EXPERT GROUP

1. "Social indicators: definition, purposes and development" by Hackchung Choo (reproduced as annex II)

2. "Methodological problems in selection and analysis of Socio-economic development indicators" by Donald McGranahan, Eduardo Pizarro and Claude Richard

3. "The development and use in the planning process of social indicators in Australia" by M. D. Giles

4. "Indicators for social development (India)" by M. Holla

5. "Socio-economic Research and General Planning Unit/UNICEF social indicators project in Malaysia" by Mohammad Nor Ghani and Madeline Loh

6. "The Philippine social indicators project" by Cecilia Eco

7. "Limitations, costs and benefits of statistical information systems" by Joseph Lee Man-Kong

8. "Demographic data requirements for a system of social indicators" by Wiwit Siripak

9. "Data requirements for a system of social indicators in the areas of income, health, and education" by Denis Johnston

10. "Data requiremets for a system of social indicators other than standard ones" by Nimali Kannangara

11. Population as the unifying element in medium- and long-term planning by Evangeline P. Javier and Minda P. Mella

12. The economic and social impact analysis/women in development (ESIA/WID) project: a description of purposes and methodologies by Romeo Reyes

13. Application of social indicators to the planning process: Iranian experience by M.S. Aghajanzadeh

14. Evaluation of socio-economic development in Malaysia through social Indicators by Mahar Mangahas

15. Social indicators of Japan by Kiyoshi Azuma

SOCIAL INDICATORS: DEFINITION, PURPOSES
AND DEVELOPMENT

by Hakchung Choo*

A. INTRODUCTION

1.   What is referred to as the "social indicators movement" is another new tide from the advanced world that is sweeping the third world with challenges, problems and opportunities. A fashionable new concept or approach nurtured by the rich soil in developed countries often lures academicians, planners, policy-makers and others in developing countries and raises their expectations of its usefulness in coping with the problems of underdevelopment. Indeed, the possibility of appropriately applying advanced knowledge and know-how perfected by developed countries to the situation in developing countries is considered to be an important advantage for the latter in the catching-up process.

2.   However, the momentum of a new tide and the pace of change in the world are so fast in comparison with the adaptive capability of developing countries that they leave very little chance to assess fully the potential of a new tool when applied to different social climates and soils. It can be detrimental to the development effort of the third world when a new tool and concept is misunderstood or half-understood. Despite that, a position is taken. There is a general tendency for the position taken by responsible individuals to be favourable, especially when the concept is endorsed by international agencies even when its usefulness and limitations have not been fully assessed. Sometimes, the lack of such an implementable tool is used as an unwarranted excuse by a policy-maker and a planner for his or her mistake or failure.

3.   The discussion at hand is on social indicators. The paper begins with an examination of their definitions and purposes as they previously evolved. Then recent developments concerning social indicators are examined and summarized. A discussion of the development of social indicators could feature many of their different aspects. But we will confine ourselves to the development of the conceptual structure of indicator systems, the development in providing statistical contents

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to an indicator system and to recent developments in the application of social indicators to planning and analysis.

4.   In writing this paper, an effort has been made to present contrasting views and to synthesize them whenever possible. The only bias contained here is, it is to be hoped, that stemming from the fact that the paper was prepared by a social economist from a developing country. Consequently, all aspects of social indicators discussed here are somewhat influenced by his orientation.

B. SOCIAL INDICATORS DEFINED

Preliminary exploration

5.   The semantics of social indicators need to be clarified before examining the definition of social indicators in the professional sense. This preliminary exploration is important because the terminology has become so popular that even a learned individual often forms his own conception and definition without going through the basic reading. No satisfactory definition of the term social indicators is given even in the most recent editions of leading encyclopaedias. Therefore, some discussion is necessary here to clear up this type of misunderstanding.

6.   An indicator, as defined by any dictionary, is something that points out something else. Based on this definition, an indicator should be something more than a mere statistic. But to distinguish a raw datum from a statistic, the latter is compiled based on a certain definition for a given purpose and also indicates something else. This distinction is extremely difficult to make, however, since a statistic may indicate something if it is interpreted through one's ability and perception.[1] For this reason, a beginner is often disappointed to find that an indicator is nothing but a well dressed-up statistic, while some argue that statistics are not *ipso facto* indicators[2] and that "an indicator is meant to indicate something beyond the property it expresses *prima facie,* otherwise the term forfeits its conceptual relevance".[3]

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   1 M.J. Moroney, *Facts from Figures* (Penguin Books, 1951).

   2 Donald McGranahan, "Development indicators and development models", Nancy Baster, ed., *Measuring Development: The Role and Adequacy of Development Indicators* (London, Frank Cass, 1972), p. 91.

   3 Ramkrishna Mukherjee, *Social Indicators* (Bombay, MacMillan, 1975), p. 1.

7.   For an indicator to point out something else there are at least two prerequisites to be fulfilled. First, there should be a well established agreement that something points out something else. For example, the term economic development is a daily word widely used, but there is as yet no agreed definition of economic development, except perhaps economic growth. Health status is another example. Although the World Health Organization and others have attempted to define health, there is as yet no definition adequate for indicating health which satisfies everyone.

8.   Second, even if there exists an accepted theory, a reader or a user of an indicator must be able to perceive what that indicator is supposed to point out. The capability completely to understand an indicator could not be, in many cases, expected of a policy-maker, a decision-maker or a non-expert. The lack of confirmed theories further complicates the cognitive process and results in misunderstanding and, sometimes, an unwarranted criticism of an indicator.

9.   The adjective "social" is another source of misunderstanding in the common usage of the term. An appropriate meaning of the adjective "social" is not one contrasting to the adjective "economic" but it is rather a broad definition which includes economics as a branch of social sciences. Therefore, a system of social indicators could include many relevant economic indicators as well as the indicators on population, manpower, health, housing, environment, public safety, family life, leisure, and other areas of human concern.

Academic definition

10.   When a term is used in academic circles, it usually has a specific definition which is commonly accepted. Although there has been a so-called "social indicators movement" throughout the world since the 1960s, the definition of social indicators is still in the process of being formulated. There is even a possibility that such a definition will never be formulated because social indicators encompass many different aspects, apply to diverse uses, and address themselves to some basic problems which challenge the limits of human wisdom.[4]

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4 As will be discussed, proponents of social indicators try to measure the unmeasurable, such as welfare; to resolve the age-old index problem; and to tackle the problem of measurement without a theory, among others.

11.   Out of the ever-growing literature on social indicators, a number of distinctive definitions for them have emerged. Professor Raymond Bauer, one of the originators of the term, defines 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 values and goals".[5] The tradition of assessing where the United States stands and is going with respect to its values and goals was established under the Hoover administration.[6] According to this definition of social indicators, they are normative in their nature, indicating present status and future trends toward pre-established social values and goals, which are as difficult, if not more, to define than social indicators. This definition also presumes that there is an established theory which tells us if the move of an indicator in a particular direction is "good" or "bad". It is especially difficult for any social indicator to meet these two preconditions.

12.   Two refinements of this classical definition of social indicators have been attempted which place greater emphasis on specific aspects of the definition. The first refinement specifies the values and goals of a society in more general terms such as a good quality of life and improved general welfare.[7] In this approach, the indicators which show a good quality of life and improved general welfare are synonymous with development indicators.

13.   The second refinement places relatively greater importance on the advancement of social models which relate socio-psychological, demographic, behavioural and other variables to the process of social change.[8] Social statistics can be aggregated or disaggregated to be appropriate to the level of sophistication of a formulated model.

14.   In contrast to the above value-loaded definition of social indicators, Professor Richard Stone defines social indicators as relating to

5 Raymond A. Bauer, "Detection and anticipation of impact: the nature of the task", R.A. Bauer, ed., *Social Indicators* (Cambridge, MIT Press, 1966) p. 1.

6 President's Research Committee on Social Trends, *Recent Social Trends* (New York, McGraw-Hill, 1933).

7 Nake E. Karmrary and Alexander Christakis, "Social indicators in Perspective", *Socio-economic Planning Sciences,* vol. 1, No. 4, June 1970, p. 208; M. Olson, Jr., "An agenda for the development of measures of progress of a racial or ethnic group", Working Paper, United States Department of Health, Education and Welfare, 1968, p. 6.

8 Nancy Baster, ed., *op cit.;* and Kenneth C. Land, "Social indicators", Robert B. Smith, ed., *Social Science Methods* (New York, The Free Press, 1970).

some area of social concern that may serve the purpose of curiosity, understanding or action.[9] Although this definition of social indicators is value-free and flexible, it lacks specification and is too general. Any indicator or statistic in an area of social concern worth discussing would arouse curiosity, promote understanding, or could lead to action. Therefore, any social statistic could be a social indicator.

15.   From the diverging attempts to define social indicators described above, it is extremely difficult to synthesize a single definition of social indicators, and certainly would be beyond the capability of this author. However, a number of delineations of social indicators following Professor Claus Moser[10] could lead us out of this definitional confusion. First, the normative feature of social indicators may be a frequent, but not a necessary characteristic if one distinguishes between the indicator as a statistic and the context of its use. The very same indicator could have different implications in different contexts and at different levels of development.[11]

16.   Second, social indicators should preferably relate to outputs rather than inputs, i.e. to a good quality of life rather than to its constituents. However, owing to the state of the art of social sciences, particularly with regard to causative circularity, sometimes reality forces us to rely on input measures as proxies for output measures.

17.   Third, United Nations definitions of social indicators imply that social indicators should be comprehensive or aggregate measures pertaining to general well-being and social concern.[12] This line of reasoning is associated with the argument for composite indices of well-being, which are, however, complicated by the problems of indexing and weighting. Still, this definition requires that an indicator be representative of, or summarize, a concept broader than itself.

18.   Finally, a social indicator should belong to a structure or system of series in order for it to be genuinely "indicative" of something.

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9 *Towards a System of Social and Demographic Statistics* (United Nations publication, Sales No. 74.XVII.8), para. 58.

10 Claus Moser, "Social indicators—systems, methods and problems", *The Review of Income and Wealth,* Series 19, No. 2, June 1973, pp. 135-136.

11 As an example, Professor Moser gives the birth rate which is likely to have different implications for Australia and India.

12 Jan Drewnowski and Wolf Scott, *The Level of Living Index,* United Nations Research Institute for Social Development, Report No. 4 (Geneva, 1966).

Social indicators must be derived from some kind of model, either explanatory or predictive. This requirement is closely related to the comprehensiveness of social indicators discussed above.

19.   In short, social indicators are, ideally speaking, frequently, but not necessarily, normative in the context of their use; comprehensive and aggregate output measures representative of human well-being; and genuinely indicative on the basis of social models. If there exists a set of established social values and goals, social indicators would certainly enable one to assess social trends. Then social indicators would also serve the purpose of curiosity, understanding, or action in some area of social concern.

C. PURPOSES OF INDICATORS

20.   The purposes of social indicators are implied in the preceding examination of their definition. If summarized, the purpose of social indicators is to aid the user "by summarizing the state and changing conditions of society, pinpointing the outstanding existing and emerging social problems and monitoring the effects of social policies and pro-grammes".[13] Here again, comprehensiveness or the situation as a whole is an essential consideration. Because of this functional purpose of social indicators, the term is often used interchangeably with "social informa-tion", "social intelligence", "social reporting", "social accounts", or "societal monitoring".

21.   Since social indicators take the form of statistics, statistical series and other forms of evidence, they measure social conditions, societal performance, and level of welfare. Social conditions comprehensively include living conditions of mankind pertaining to social structure, functions, behaviour, and process. The measurement of societal performance deals with both quantitative and qualitative service outputs, and their distribution. The measurement of welfare should indicate its level and distribution to individuals and the society as a whole.

22.   A normative use of social indicators would add another dimension to their purpose. In this approach they would be used to represent social values and goals in hierarchy. This value hierarchy may be shown in

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13   Claus Moser, *loc. cit.*, p. 133.

terms of a system of social indicators.[14] Once national values and goals are expressed in the form of indicators, early detection of social problems, monitoring of societal changes, and interventions to correct undersirable changes are possible. Furthermore, if social reporting is institutionalized, it would provide the information to the public as to "where we stand and are going with respect to our values and goals" and enable them to enhance their self-consciousness of these changes and to strengthen the capability of self-reversal from the undesirable trends to the desired directions.[15]

23.   For developing countries, the very same indicators could be applied for development purposes. Professor Nancy Baster, for example, gives a number of different purposes of development indicators as follow:

> "They may be used to describe trends and to diagnose a particular development situation (and to compare these trends and situations); they may be used to analyse interrelations between variables; they may be used for prediction; and they may be used for planning, both for measuring targets and objectives, and for evaluating progress.[16]

Unfortunately, these purposes are not unique to development indicators. In practices of planning and analysis, all relevant statistics are, in fact, used for these purposes, particularly in planning. Therefore, a deliberate effort should be made in the future to narrow down and to specify their unique purposes.

24.   Another potential use considered to be important from the present state of the art in social development is, as envisaged by Professor Richard Stone,[17] in connection with the empirical research needed to enlarge our understanding of social processes in order to provide a firm basis for social policies and planning. In this age of empiricism, one could formulate a hypothesis on social development and policies, but unhappily find no available statistical base for testing it.

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14 President's Commission on National Goals, *Goals for Americans* (New York, Prentice-Hall, 1960).

15 Michael Springer, "Social indicators, reports, and accounts: toward the management of society", *Annuals of American Academy of Political and Social Science*, March 1970, pp. 1-13.

16 Nancy Baster, "Development indicators: an introduction", *Journal of Development Studies*, vol. VIII, No. 3, April 1972, p. 5.

17 *Towards System of Social and Demographic Statistics, op. cit.*, p. 6.

Lack of data and analysis is, indeed, one of the basic stumbling blocks in persuading planners and policy-makers in developing countries of the importance and need for social development policies.

D. DEVELOPMENT OF SOCIAL INDICATORS

25.   Given the delineations of definition and purpose of social indicators discussed, it is one thing to say that social indicators are to indicate social values and goals and to measure individual well-being or general welfare, but another thing to represent them in terms of statistics, statistical series or other forms of evidence. Were there established theories on what is to be measured, developing a conceptual framework for social indicators would be a rather straightforward task. Unfortunately, there is no definition or theory to explain the ultimate concern of social indicators and their hierarchical structure. In addition, basic and higher-level human desires and needs, the fulfilment of which could be recorded as the level and progress of living conditions, are numerous and diversified at a given time and endlessly changing over time.

26.   Because of these constraints and difficulties, there have been numerous attempts to develop, first, a conceptual framework for social indicators and, then, to provide statistical contents for it. Because of the diversity in social concerns and conditions, such an attempt usually aims to establish a structure or system of social indicators.[18] There have also been efforts to apply social indicators and statistics in measuring the level of well-being and in improving empirical socio-economic models. This section will examine some representative attempts in these directions.

Developing a conceptual framework

27.   In order to examine the general patterns of structures of social indicators, attention will be concentrated on the representative versions advanced by international organizations. Those examined will be one of the earliest versions published by the United Nations Research Institute for Social Development.[19] the social concern approach by the Organisation for Economic Co-operation and Development,[20] and the United

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18   The term "system" as used here does not rigidly dictate the types of indicators to be included in a framework. Rather, it implies a systematic approach in order to include all relevant matters in an indicator framework.

19   Jan Drewnowski and Wolf Scott, *op. cit.*

20   Organisation for Economic Co-operation and Development, *List of Social Concerns Common to Most OECD Countries* (Paris, June 1973).

Nations recommended system of social and demographic statistics.[21] In the course of discussion, whenever necessary, we will also refer to country-specific frameworks and modifications.

1. The UNRISD version

28. In contrast to the other versions, the UNRISD social indicators were devised specifically to aid in coping with the problems of under-development. The areas included in this version are typical of the so-called social sectors: such basic human needs as nutrition, housing, health, education, leisure and recreation, social security, and a higher level of savings. Each area is represented by a few indicators, forming a two-level structure.

29. That version is limited in its scope for the pragmatic reasons of data availability and comparability among developing countries. There are important trade-offs to be made when devising a conceptual framework and providing its statistical contents. The UNRISD version gravitates towards meeting the practical data requirements. Therefore, its comprehensiveness and its ability to represent what social indicators are supposed to indicate may be questioned. None the less, the UNRISD version may be regarded as a pioneering effort towards providing a conceptual framework under the restrictive realism prevailing in least developed countries.

30. The effort of UNRISD on development indicators is continuing with some slight modifications in its emphasis.[22] The recent interest of that Institute seems to be in developing a data bank of development indicators rather than in further advancing the early version of its social indicators system. All the statistical series included in its data bank could not necessarily be classifiable as social indicators and the relevance of the included indicators in measuring development is still being tested.[23]

2. The OECD list of social concerns

31. Representatives of the member countries of OECD made "a

21   *Towards a System of Social and Demographic Statistics, op. cit.*

22   Jan Drewnowski, *Studies in the Measurement of Levels of Living and Welfare,* United Nations Research Institute for Social Development, Report No. 70.3 (Geneva, 1970) and Wolf Scott, *The Measurement of Real Progress at the Local Level: Examples from the Literature and a Pilot Study,* United Nations Institute for Social Development, Report No. 73.3 (Geneva, 1973).

23   See Donald McGranahan, Eduardo Pizarro and Claude Richard, "Methodological problems in selection and analysis of socio-economic development indicators", discussion paper submitted to the Expert Group Meeting, pp. 20-25.

concerted effort to achieve standardized definitions of the social goal areas for which systematic indicators and assessment are most needed"[24] and published the results in 1973. According to that report, the term "social concern" indicates an identifiable and definable 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.

32.   In eight areas related to human well-being ranging from health to time and leisure, and from individual development through learning to social opportunity and participation, 24 fundamental social concerns are specified, 14 of which are accompanied by one or more substantive subconcerns, although they are not meant to be comprehensive.[25] Some of the specified subconcerns need further specification before they are translated into statistical indicators. Unlike the UNRISD version, this social concern approach includes a significant number of subjective indicators relevant and meaningful at the advanced level of development of OECD member countries. Although their indicators are structured in a hierarchy, it is still questionable whether the recommended subconcern indicators are significantly and validly connected with the social goals and fundamental social concerns. However, there is evidence to indicate that middle-range theories were applied in the selection of subconcern indicators for OECD member countries.

33.   The framework of the OECD version was adopted and further advanced by the Japanese Government[26] and, more recently, by a group of experts in the Philippines.[27] Although the over-all framework and structure of the Japanese social indicators system resembles that of the OECD version, there are a number of items which show the deliberate effort by the Japanese study group to reflect their unique conditions and concerns, and to expand the skeleton of the OECD version into a full-fledged system of social indicators. In fact, it is one of the first country applications, both conceptually and empirically, of the OECD version.

34.   A more recent attempt in the Philippines to measure develop-

_24_ Organisation for Economic Co-operation and Development, _op. cit.,_ p. 7.

_25_ _Ibid.,_ pp. 14-17.

_26_ Research Committee, the Deliberation Council on National Living, _Social Indicators: A Yardstick for Better Living_ (Tokyo, Government Printing Office, 1974).

_27_ Mahar Mangahas, ed., _Measuring Philippine Development: Report of the Social Indicators Project_ (Manila, The Development Academy of the Philippines, 1976).

ment also resembles the OECD conceptual framework of social indicators, although the levels of disaggregation and classification are much more simple than the Japanese version. The Philippines proposal includes nine areas and 48 indicators, including some experimental indicators. That proposed system is characterized by the unique requirements of a developing country for such a system. It also contains concerns and indicators peculiar to the Philippines during the period of the system's formulation.[28]

3. The United Nations system of social and demographic statistics

35.   Although the system of social and demographic statistics (hereafter referred to as SSDS) recommended by the United Nations is not a product of a social indicators project, it specifies comprehensively the requirements for social and demographic statistics which could easily be converted into social indicators. The selection of statistical series contained in SSDS is free from any value judgement. However, the selection process implies a certain criterion, primarily based on the usefulness of recommended statistical series for analysis and planning.[29] Considering the nature of this report, the recommended series are applicable to any country, developed or developing.

36.   The recomended system includes most, if not all, of the social areas which need to be represented in a structure of social indicators, ranging from population to health, and from manpower to public safety. The non-normative feature of SSDS excludes all subjective indicators representing social values and/or goals. However, the recommended series could be selected and used to represent social values and goals, applying the interpretation of the users.

37.   The comprehsnsiveness of he statistical series in SSDS could provide a good point of departure in formulating a country-specific social indicators structure. In using this global system, extreme care should be given in the process of selecting statistical series to be included in a country-specific system. Those included should be significant and relevant in the context of current and near future development of the country concerned. Furthermore, SSDS would also serve as a useful reference

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28 Although the proposed set of indicators is relatively small, it includes four indicators on non-human productive resources and five experimental indicators on political values, reminding a reader of the world-wide resource crisis and the political situation in the Philippines in the early 1970s.

29 *Towards a System of Social and Demographic Statistics, op. cit.*, pp. 3 - 4.

to the statistician involved in a social indicators project, whose primary responsibilities are to provide the empirical contents of a conceptually formulated system and to enhance the efficiency and comprehensiveness of its data collection system.

Providing statistical contents

38.   In order to be practically useful, a conceived system of social indicators must be expressed in numbers, either cross-sectional and/or in time series. The sources of numerical data for social indicators are, of course, censuses, surveys, and reported statistics compiled by government and private statistical agencies. Because of this interrelationship, social indicators are often identified as social or socio-demographic statistics.

39.   For developed countries, the provision of statistical contents to a social indicators system poses relatively little problem owing to the abundance of available data, meeting most statistical requirements. Three conceivable problems relevant to providing the statistical contents of a system of social indicators often encountered in advanced countries are establishing data banking for retrieval without impinging on the privacy of individuals, the lack of sufficiently long time series data showing long-term development-induced problems, and developing meaningful subjective indicators in time series. Despite these problems, most advanced countries quickly met the need for social indicators and have published country-specific social indicators, although the link between the indicators adopted and national social values and goals is not often explicit.

40.   Providing the statistical contents to a social indicators system is as difficult for a developing country as formulating the framework, if not more so. As noted by McGranahan, Pizarro and Richard, [30] the task of obtaining useful socio-economic development indicators for developing countries, even on a limited basis, in an insurmountable one. If it is intended to compile meaningful indicators for an entire system, the problems to be resolved are beyond the imagination of a designer of a social indicators system. The essential problem faced by developing countries in providing statistical contents to social indicators is that of providing numerical records to support the generation of meaningful

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30   *Loc. cit.*, pp. 12-17.

statistical constructs for required data series.[31] In the absence of the relevant statistical series required, new surveys and data collection procedures need to be introduced within the constraints of the limited resources available and the existing institutional framework.

41. The practice of compiling and publishing a booklet on social indicators in a form of collected social statistics from available sources further hinders the understanding of social indicators by the readers of such publications. Such publications do not represent a systematical hierarchy of indicators reflecting social values and goals or fundamental social concerns. A compendium of social statistics is given without any analytical interpretation of the indicators. Consequently, there exists a wide gap between the statistical requirements demanded by the advocates of social indicators and those met by the producers of statistical data in developing countries. The gap can only be filled by mutual understanding and collaborative efforts on both sides.

Applications of social indicators

42. Given that the statistical contents of social indicators are available, statistical series can be employed for analytical purposes in a number of ways. One approach in the application of social indicators is to measure the national or regional level of living or well-being by aggregating the indicators. Another use is for improvising development models relating social indicators. Since these applications are more or less prototypes with varying emphasis and with different degrees of general acceptance, the following discussion will centre around the issues addressed, proposed approaches and methods, and unresolved problems of these applications.

1. Measuring the level of well-being

43. The interest among concerned scholars in deriving an aggregate measure of well-being from social indicators is a logical one. Social indicators, however they may be defined, are supposed to show progress towards a good quality of life and improved general welfare. Tens of (or sometimes more than a hundred) indicators do not necessarily change in the same direction, better or worse, over time. Unless indicators are aggregated to show the general level of welfare, preferably as one figure or a set of a few meaningful aggregate indicators, social indicators will

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31 Edgar S. Dunn, Jr., *Social Information Processing and Statistical Systems: Change and Reform* (New York, John Wiley and Sons, 1974), p. 13.

not have much of an appeal to planners, policy-makers and the general public.

44.   The effort to derive an aggregate measure of well-being requires sensible solutions to two unresolved problems in social sciences; namely, to quantify the unmeasurable and to construct valid indexes. Some representative attempts at solutions, both theoretical and empirical, which challenge the limits to human wisdom are described below.

(a) The UNRISD index of level of living

45.   The aggregation procedure proposed by UNRISD is essentially that of deriving a composite index from the quantity and quality indicators contained in its version of social indicators. To be specific, each indicator is translated into three critical points by comparing its value to the pre-specified minimum and maximum values of the indicator.[32] Each transformed intermediate indicator index is then multiplied by its distributive coefficient to derive the definitive (adjusted) indicator index. Finally, in aggregating the definitive indicator indexes, two alternative methods are suggested; namely, the equal weights system or the sliding weights system.

46.   This proposed approach is bold in its treatment of the distributive aspect of each indicator as well as in the combining of quantity and quality indexes. Aside from the questions of the adequacy and comprehensiveness of this indicator framework discussed above (para.29), this method fails to be persuasive in at least two aspects. First, it is difficult to give a significant theoretical or statistical meaning and interpretation to the product of a measure of level and a measure of distribution. At best, it could be said that the procedure implicitly gave equal weight to the level and distribution measures. However, the product of the two is a number without a proper nomenclature. Secondly the specified weights for the quantity and quality indicators have little theoretical and empirical justification except as an opinion by the experts. Since the state of social sciences is such that, for example, there is no agreed-upon definition of health, the difficulties in deriving the unitary index of health status are easily perceived. An attempt to represent health in terms of access to hospitals, access to medical care, and the extent of preventative action is an oversimplification. For this reason, the UNRISD attempt to measure the aggregated level of living and welfare has suggested an approach, but one which has failed to attract many followers.

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32   Jan Drewnowski, *op. cit.*, ch. II.

(b) The modification of GNP concept

47.   There has been growing awareness among economists and other social scientists that the concept of GNP is increasingly inadequate for representing the standard of living.[33]   Aside from the legitimacy of market valuation of goods and services in monetary terms and the problems in international comparisons, the approach is questionable because it excludes non-market activities relevant to the level of well-being, such as housewives' services, production for self-consumption and leisure, and includes activities irrelevant to the level of well-being, such as defense expenditures, production of intermediate inputs and destruction and recovery of the environment. A number of attempts have been proposed to modify the GNP concept to represent economic well-being by adding imputed welfare components and subtracting estimated non-welfare components from national income. In making these modifications, social indicators and statistics are required for identifying both welfare and non-welfare components and in imputing values to them. Conceptually, such a modification is an improvement over the conventional concept although it is still valued in monetary terms and the prices of final goods and services are used as implicit weights.

48.   However, there remain a number of issues to be settled before the proposed measure of economic welfare or net national welfare is universally accepted. These unsettled questions fall into two broad categories: what to include in or exclude from the current GNP estimation and how to evaluate those items included or excluded. For example, it is difficult to determine the opportunity cost or market value of housewives' service or the leisure taken by the unemployed or underemployed. Another difficulty is to deduct an appropriate amount for air pollution and traffic congestion arising from the use of automobiles. Should this amount be the cost of installing an anti-pollution device or should it compensate for discomfort experienced and include the cost of recovering from pollution-inflicted illnesses? Is it realistic to exclude entirely defense spending from GNP? If not, what is a justifiable level of defense spending to include? In order for this new concept to replace that of national income, further theoretical and empirical refinements are necessary, to which social indicators could contribute by providing statistical bases for theoretical justification and actual estimations.

33   W. Nordhaus and James Tobin, *Is Economic Growth Obsolete?* (New York, National Bureau of Economic Research, 1972); A.W. Sametz, "Production of goods and services: the measurement of economic growth", E.B. Sheldom and W.E. Moore, eds., *Indicators of Social Changes, Concepts and Measurement* (New York, Russel Sage Foundation, 1968); and Economic Council of Japan, *Measuring Net National Welfare of Japan* (Tokyo, 1973).

(c) Measuring standard of living at the subnational level

49.   A number of attempts, in addition to applying the UNRISD method, to measure the standard of living at the subnational level have been made, often involving a large number of indicator series.[34] The fundamental methodological difference between the recent attempts and the earlier UNRISD approach concerns the derivation of weights given to the indicators used. The weights for specific indicators are determined by factor analysis scores or by frequencies of responses in surveys of residents' values, perceptions, and preferences with regard to their living conditions. The resultant regional level of living expressed in terms of the composite index is compared with the national average and the level of other regions.

50.   This attempt deserves recognition for utilizing the most reasonable quantitative techniques known for dealing with the aggregation problem. In addition to the difficulty in interpreting factor scores, the reliance on responses in a popular poll of residents' perceptions of living conditions is problematic, since responses reflect only aspects of collective well-being.[35] Furthermore, it is debatable whether something close to the true collective well-being can be derived from this type of popular survey, no matter how carefully such a survey is designed and carried out. Two arguments that call into question the validity of this technique are that the respondents are incapable of knowing valid social goals and values and of judging their living conditions, and that the responses to the same set of questions could change over time in the absence of any actual improvement or deterioration in living conditions. Therefore, these attempts are closely linked with the political interest in identifying what needs to be done and in showing what has been achieved. None the less, the methodology is one analytical tool with a potential for application.

2. Socio-economic model building

51.   Although there is a great deal of potential in socio-economic

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34   This line of research has been followed by many Japanese provincial governments. A few representative reports (all in Japanese) are: Miyazaki Prefecture, *Total Level of Province* (January 1974); Committee on Yamanashi Prefecture Welfare Indicators Studies, *An Approach to Welfare Systems: Aggregate Welfare Indicator for Yamanashi Prefecture* (March 1975); and Research Institute for Social Development Indicators, *Report on New Social Indicators System for Hyogo Prefecture* (1974).

35   This point was made during the course of the Expert Group Meeting by the participant from the United States.

model building, little progress has been made owing to the lack of statistical contents of social indicators and of established theories relating economic and social factors. The available series of social statistics are not only extremely limited, but also lack universally applicable definitions and data. Despite data limitations, pioneering works in this area were attempted independently by Fredrick Harbison and others[36] and by Irma Adelman and Cynthia T. Morris.[37] In their studies, the authors seem to have struggled a great deal in search of appropriate quantitative techniques for their analysis. Harbison and others applied the so-called taxonomic method while Adelman and Morris relied on factor analysis. Both of these pioneering studies succeeeded in distinguishing socio-politico-economic factors significant and insignificant for development. Although these attempts did not succeed in showing the causative relationships of soci–economic factors and in advancing explanatory models for development, they opened a new area of academic exploration and possibility for the future.

52.   More recently, an attempt has been made by the national planning agency of Japan to relate socio-economic variables in a systems dynamic model.[38]   The results of this attempt were not formally published, but it represented a healthy effort to check if development policies were consistent with changes in the quality of life and well-being. There are also efforts to expand a traditional macro-economic model by introducing a number of structural equations using social indicators.[39] The results of this effort are still a prototype experimentation requiring further tests and verifications for practical application. Nevertheless, the study is an important beginning in the application of social indicators to development planning.

E. CONCLUSIONS

53.   The task of summarizing the current status of social indicators is not an easy one in view of their evolutionary nature. The definitions and purposes of social indicators, the development of their conceptual framework, the provision of empirical contents and the application of social

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36   Fredrick H. Harbison, Joan Maruhnic and Jane R. Resnick, *Quantitative Analysis of Modernization and Development* (Princeton, Princeton University Press, 1970).

37   Irma Adelman and Cynthia T. Morris, *Society, Politics and Economic Development: A Quantitative Approach* (Baltimore,The Johns Hopkins Press, 1967).

38   Japan, Bureau of Planning Agency, *Project COSMO* (mimeographed), 1972.

39   Japan Economic Research Center, *Social Indicators System and Living Conditions*, Tokyo: JERC, 1975 (in Japanese), chapter 5.

indicators for analytical purposes are still in the process of formulation; and the links among these interrelated aspects of social indicators have not been well established .

54.   To begin with, the social indicators movement has been too idealistic in addressing itself to the question of measuring progress towards social goals, values, and well-being. That being the case, the destination of the movement was rather clear and obvious. The novelty of the movement was quickly thrown into a sea of obscurity in attempting to specify, even conceptually, human well-being and quality of life owing to the limitations of available technical tools. This set-back was attributable to the state of the arts and sciences, rather than to the lack of effort on the part of the proponents of social indicators.   Human wants to be satisfied are simply too complex and diverse to be easily specified in workable form. In addition, the lack of theories explaining the determinants in each area of human needs and the inability to quantify them further reduce the credibility and persuasiveness of conceptual structures of social indicators.

55.   For practical uses, the conceptual framework of social indicators, although it may be imperfect and controversial, needs to be expressed in terms of statistics, statistical series, or other   forms of measures. This requirement raises another set of problems in view of the statistical reality in many developing countries. The efforts of data-producing agencies in these countries are often discredited by inaccuracy and inconsistency of key demographic and economic statistics. To improve these series and to generate other necessary statistics would require laborious and time-consuming effort.   Consequently, social indicators listed in statistical series are necessarily limited in their coverage, and a reader might conclude that social indicators are merely a loose compendium of social statistics. Because of dissatisfaction with the limitations of objective indicators in expressing the quality of life, advanced countries have experimented with subjective indicators. These efforts to improve survey techniques and methods of measurement may in the future produce sensible approaches in dealing with the qualitative aspects of well-being. However, similar attempts in developing countries would further burden their statistical requirements.

56.   Attempts to construct aggregated indicators from social indicators confront the unresolved problems of indexing and of measuring social unmeasurables.   Some   notable   refinements   have   not   been sufficient to receive general acceptance. Model building and analytical

applications of social indicators have just begun, with a few pioneering studies restricted by the paucity of available data and established theories. The non-existence of reliable data and of established theories forms another vicious circle that is difficult to break. One of the important pre-requisites for breaking this vicious circle is the data base for social indicators which will enable researchers to test formulated hypotheses.

57.   For the field to develop further, a reorientation of social indicators studies seems to be inevitable. Based on past experience in working with social indicators, their definitions and purposes need to be redefined in view of the difficulties and limitations in developing a conceptual framework of indicators and in providing their statistical contents. The level of sophistication in each of these stages should be consistent. Concerted efforts could be made to strengthen the weak links in the work-flow of social indicators in order to maintain more or less the same depth in each and every phase of their development. In this process, the most important consideration is to advance a workable definition and purpose, a realistic conceptual framework, and feasible statistical contents, especially for developing countries.

58.   By its nature, research on social indicators is interdisciplinary. Each component of the social indicators system relies on the advancement and contribution of that field as well as those of related fields. The stumbling blocks of indexing and of measuring the qualitative aspects of living await sensible solutions by statisticians and experts. Each aspect of the quality of life needs to be redefined to be meaningful and useful to planners, policy-makers and data producers. The designer of each aspect of well-being must continue his dialogue with those in related disciplines in order to balance its front with the others, while maintaining its independence. To start a new chapter in the development of sciences, this movement must be further fostered to eliminate thorns of obscurity and make it bear practical fruits.

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