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ABSTRACT

An empirical approach to the development of a system of social indicators was suggested in this paper. The paper also suggested research developed around a more inductive approach to social indicator research with 3 methodological phases representing increasing levels of methodological sophistication. The first steps attempted to conceptualize social indicators that reflect the human meaning of societal change and development by examination of the life experience of nonmetropolitan people. Second, attempts were made to work inductively toward the macro-level, by combining these empirical indicators into more abstract indicators that provide multidimensional profiles of individuals and subgroups. Third, attempts were made to develop relational models of community systems and to draw causal inferences by the use of controlled indicators designed to measure the social effects of major demographic changes as one strategic force in societal change. (Author/PS)

SOCIAL AND ECONOMIC INDICATORS OF RURAL DEVELOPMENT FROM A SOCIOLOGICAL VIEWPOINT: A SUGGESTED EMPIRICAL APPROACH*

by

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ABSTRACT

This paper suggests an empirical approach to the development of a system of social indicators, conceived as one alternative that may offer greater promise than the current discussions and research that focus initially on macro-models for urban or national systems. As an alternative, this paper suggests research developed around a more inductive approach to social indicator research with three methodological phases representing increasing levels of methodological sophistication. The first step attempts, initially, to conceptualize social indicators that reflect the human meaning of societal change and development by examination of the life experience of people at the nonmetropolitan community level. Second, attempts will be made to work inductively toward the macro-level, by combining these empirical indicators into more abstract indicators that provide multidimensional profiles of individuals and subgroups providing generalized, but highly disaggregated, measures of quality of life and community viability at the community and individual level. Third, attempts will be made to develop relational models of community systems and to draw causal inferences by the use of controlled indicators designed to measure the social effects of major demographic changes as one strategic force in societal change.

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INTRODUCTION

One can tell when relatively new areas emerge in a discipline by the increased activity at professional meetings, in the number of journal publications and financial support by various agencies for future research. Certainly, the recent emphasis on social indicators and their potential uses for policy planning and decision-making would constitute such a new area of emphasis in sociology. Oftentimes, with new fields of interest, there is the danger of devoting too much effort on general aspects of the problem, negating specific approaches to a systematic study. In a most caustic criticism of the social indicator movement, Sheldon and Freeman (1970: 109) point out areas of concern if the movement is to remain viable:

> Far too many promises and claims have been made for social indicators, and not enough delivered. The risks are too great that a continual over sell could indeed transform the indicator movement into a passing fad, and this probably is undesirable. Social indicators cannot do many of the things claimed for them. But from the standpoint of social policy and social action as well as from that of social science development, there is critical need for providing a continuing body of data on the state of affairs of the nation and its constituent parts. This step is essential before any promise for utilization of policy and action purposes can be fulfilled. Rather than invent new claims for social indicators or keep on pushing forward the impossible ones advanced, what needs to be done is to look realistically at the great amount of work that needs to be accomplished.

Part of the work that needs to be done is to suggest possible next steps for social indicator research. Duncan (1969a) makes such an attempt by proposing replication studies as a viable alternative. Some have criticized this approach, however, on the basis of inadequate previous studies that could be replicated validly. The purpose of this paper, therefore, is to suggest, not a replication study, but an alternative empirical approach for future social indicator research.

There are three high-priority, researchable societal problems that provide the focus and objectives of this paper. These three areas of societal concern may be referred to generally as: 1) the general recognition of the need for greater conceptual clarity and broader definitions of the aims, purposes and goals of societal, community and human resource development; 2) the need for the development of more adequate measurement techniques that make possible the monitoring of strategic aspects (social indicators) of planned and unplanned societal and community change; and 3) the need for conceptualization and monitoring of the social effects of major population shifts, as one strategic factor in societal change, in terms of their impact on community viability and quality of life in both rural and urban situations. It is the third problem area that provides

the empirical reference and parameters of this paper. The problem and objectives of this paper can best be outlined by examining each of these societal concerns and their interrelationships.

Objective 1: DEVELOPMENT

The years since World War II have brought about a growing concern at all levels of government and other activity with the general notion of human progress and societal change. Central to this recent interest has been an increasingly positive attitude developing toward the desirability and need of planned development at all levels of society. There are, for instance, an expanding number of programs appearing at federal, state and local levels that specify the importance of human resource development, community development and the more general social and economic development. There is, however, no general agreement on specifically what constitutes human resource or community development. Conceptualizations of development and specific program objectives usually are stated in broad, general, abstract and often intangible, inconsistent terms; e.g., optimizing natural and human resources, maximizing individual satisfaction, improving man's adaptation to his environment, etc. When these goals are conceptualized in terms of more concrete goals and objectives, more often than not, they are formulated around objectives that are primarily economic; e.g., per-capita real income, employment, decreased imbalances, GNP, etc. This same bias toward economic factors is evident when we look at the availability of data by which we might assess the trends in our national life. The most highly developed data are those that monitor the nation's economic status. This data describes in detail the glaring contrasts of affluence and poverty that exist in our society, but offer little in assessing quality of life and its changing patterns through time.

The social indicator movement that has been developing over the past few years among government officials, as well as among social scientists, is expressive of the growing recognition of the need to broaden the definition of development to include the conceptualization and measurement of indicators designed to monitor social and cultural conditions of life--going far beyond the limited range of concerns monitored by economic indicators in appraising how people live and how they feel about their way of life. The social indicators sought, however, are not conceived as substitutes for economic indicators, but rather, as complementary indicators and as measures that provide a wider knowledge of quality of life and human satisfaction, which can be used in conjunction with economic indicators in planning for a better society.

The earlier discussions and resulting publications produced by the social indicator movement over the past few years have made their contributions. But there still seems much work that needs to be done in attemting to conceptualize at a general and then more empirical level the variables that have potential for measurement that reflect the range of

possible "social indicators" specifying measurable concepts inherent in human resource development, community development and social and economic development. Therefore, the first major objective of this paper focuses upon these social aspects of societal change and development. It will constitute an attempt to conceptualize social indicators of quality of life that may provide a more adequate base for formulating and monitoring the goals, aims and purposes of development planning in the broader sense of human satisfaction and fulfillment.

Objective 2: MEASUREMENT OF SOCIAL INDICATORS

Assuming existing concepts of development and new concepts that could be developed, the second problem is that of measurement: How does one develop reliable and valid measures and collect data to determine the degree to which phenomena are occurring that would be accepted as a valid measure of the elements implicit in the general concepts of development. In the discussion below, we will outline several key problems related to measurement of indicators, upon which we will form the methodological basis of our suggested alternative for future research. But first, a brief discussion of more general developments within the social indicator movement may provide a better basis for the discussion of methodological needs.

Although the notion of indicators to monitor changes in society has been present for many years, the recent emphasis on social indicators suggests possibilities for providing assessments of societal performance, suggesting future societal alternatives and aiding descriptive reporting on the state of society. Several writers (Bauer, 1966; Cohen, 1968; Gross, 1969; Moss, 1969; Olson, 1969; Duncan, 1969a, 1969b; Dueker, 1970) in the past few years have addressed themselves to the notion of a social indicator movement. These "state of the art" summaries introduce social indicators and discuss the growth and events leading to this new area of concern. Others (Sheldon and Freeman, 1970; Kamrany, 1968; Land, 1970) include in their discussions the advantages and disadvantages of social indicators as tools in monitoring quality of life. Until 1969, most of those writing in this area were suggesting that a possible annual social report be presented each, similar to the annual economic report of the President. The movement received a major thrust with the publication of Toward a Social Report through the U.S. Department of Health, Education, and Welfare (1969). As a result of this monograph, it seems that the federal government, not only is pledging support for the development of social indicators, but is, in fact, suggesting how they might be useful in providing data for future decision-making. Further indication of government interest in providing a "Social Statistics Publication" is suggested by Tunstall (1970). Both of these suggest federal acceptance and support for the development of social indicators to monitor quality of life. There also is evidence that private agencies must be involved in this activity.

In 1969, a joint committee appointed by the National Academy of Science and the Social Science Research Council, in the monograph, The Behavioral and Social Sciences, Outlook and Needs, (1969: 6) made the following recommendation.

> RECOMMENDATION: SOCIAL INDICATORS
> The committee recommends that substantial support, both financial and intellectual, be given to efforts under way to develop a system of social indicators and that legislation to encourage and assist this development be enacted by Congress.

However, this committee inserted a strong qualification (1969: 7), as follows:

> Because of the particular problems involved in developing sound, workable social indicators, we are hesitant to urge an official social report now. We favor, instead, a privately sponsored report during the next few years, perhaps through the initiative of either the National Research Council or the Social Science Research Council, or through a joint effort of the two.

This qualification is followed by a more specific, short-run recommendation:

> RECOMMENDATION: A PRIVATELY DEVELOPED ANNUAL SOCIAL REPORT
> The committee recommends that behavioral and social scientists outside the government begin to prepare the equivalent of an "Annual Social Report to the Nation," to identify and expedite work toward the solution of problems connected with the eventual preparation of such a report on an official basis. Support for this endeavor should come from private foundations as well as from federal sources.

During the last 3 years, much of the writing has focused on need for conceptualization, operationalization and measurement of social indicators. Yet, a review of the current literature (Perle, 1970) suggests we are still in the initial stages with gross, abstract, macro-models directed at the entire nation. Further, it is suggested by Galmoor (1971: 7) that we currently lack a theoretical basis for social indicators.

> The problem is that we do not have such a [macro] model--let alone a systems theory--to handle the task of societal mapping. (Bracketed insert ours.)

Duncan (1969b: 111) indicated a similar problem in an earlier publication:

> Our problem is at least as much that we do not know just what we ought to be measuring (and, therefore, how we ought

> to go about measuring) as that we are failing to accumulate the kinds of information we do know how to collect.

Hence, after several years of writing, there still is a lack of consensus as to "what social indicators are, what they should be or how they are to be utilized" (Perle, 1970: 136). With lack of definitional consensus, it also is difficult to propose models of how a system of social indicators would be interrelated. Land (1971), however, suggests that, although the model proposed by Gross (Bauer, 1966: 154-271) is too abstract to apply to specific situations, we still need to consider social indicators in a system framework. Indeed, one aspect of this definition (Land, 1971: 4-5) of a social indicator requires that it be a component in a social system.

> Thus, I propose that the term social indicators comprises those social statistics which possess the following attributes: (1) they are components in a social system (including sociopsychological, economic, demographic, and ecological) model or of some particular segment or process thereof; (2) they can be collected at a sequence of points in time and accumulated into a time-series; and (3) they can be aggregated or disaggregated to levels appropriate to the specifications of the model.

Considering social indicators in a system framework ought to reduce the problems of not being able to interrelate systems of indicators.

A recent review of literature on social indicators (Beal and others, 1971; Wilcox and others, 1971) suggests that much of the past work has sought to develop macro-models of either metropolitan or total society systems. Some suggest that this approach has not been fruitful in the areas of conceptualization and measurement.

Even though these earlier attempts to conceptualize and measure social indicators have not been as fruitful in establishing a social accounting system as most social scientists would like, they have been valuable in pointing to some important problems in developing a useful system of indicators that could render further attempts at this type of research of little value to either policy or sociology. The crucial element in development of a system of useful social indicators obviously will be the methodological sophistication used in their development and measurement. The type of methodological approach that we are proposing is an alternative approach from those that focus on macro-models for urban or national systems and one that we believe may provide greater promise for the successful development of usable indicators. We are proposing a more inductive approach, which, while not ignoring macro-models, will focus on smaller social systems and upon more concrete conceptualizations of quality of life initially and attempt to work inductively toward larger more generalized systems as the methodological techniques and improved data are developed (Wilcox and Brooks, 1971).

The need for improved methodology has been noted by a number of individuals working in this area. Coleman (1969) especially has noted several points of increasing methodological sophistication that need to be made that lend support to a more inductive approach to the problem.

Disaggregation

To be useful in planning for development or in monitoring social change, social indicators must be developed to reflect variations in subcategories. One of the major objections to economic indicators, as well as to recent attempts to formulate social indicators, has been the highly aggregated nature of the measures. This has led to policy formation on the basis of aggregated demand without sufficient attention to needs and interests of subgroups delineated by factors such as age, race, education, occupation, region, etc. As Coleman (1969: 94) notes in discussing the impact on the American Negro of policy decisions formulated in the basis of aggregated data:

> "One might go so far as to say that the failure to disaggregate, to show trends detailed by types of occupations, by population subgroups, and by differing types of individual trajectories, caused policy errors with serious consequences."

Hence, it seems that, whatever approach one takes to the development of indicators, it must provide for disaggregation. To begin this type of development at the aggregated level, as has normally been done in the past, presents serious problems for systematic disaggregation because the indices and measures may not provide the requisite data necessary for assessment of the social state of subgroups and ecological units. We therefore propose to follow an alternative approach, which will allow for a more inductive method of development of indicators of quality of life in macrosystems by focusing research on partly disaggregated population subgroups at the very outset and then recombining these measures into more generalized indicators of larger population units when the requisite techniques are available. At this initial stage of research, we plan to focus our attention upon the nonmetropolitan community level where, by definition, disaggregation is partly accomplished by the population parameters employed in the study. And, where the smaller, less-complex population will lend itself more readily to further disaggregation.

Combined conditions

A second level of increasing methodological sophistication emphasized by Coleman (1969) moves in the opposite direction from disaggregation and lays the basis for inductive model building. This is the need to recombine

data from several indicators to provide a multidimensional profile of individuals and subgroups. Coleman (1969: 96) argues:

> "In short, I am suggesting that one must not only 'break the population down' through disaggregation, if social indicators are to be useful, but must also 'reconstruct the individual' through combined measures each of which gives only a fragment of information about his state."

Thus, we propose, not only to focus upon disaggregated population subgroups at this early stage of the development of social indicators, but also upon different levels of abstraction and the relationship between these levels in our efforts to conceptualize indicators of quality of life and community viability. The importance of generalized indicators that provide for a more multidimensional profile of individuals and subgroups is particularly important for both the development of models of change and for policy planning; e.g., policies apply to individuals and groups as wholes, not to their individual attributes. But generalized concepts may be both misleading and unusable unless grounded in empirical reality. Too often, generalized models in the social sciences provide only abstract categories that may sensitize one to social conditions, but in addition, confront the researcher with unlimited and often insurmountable problems when attempts are made to explicate and operationalize these concepts into measurable indicators.

We believe that an alternative approach that offers greater promise in the initial stages of conceptualization of quality of life and community development is one that focuses, first, on the concrete empirical level and then attempts to conceptualize factors inherently a part of the social state of individuals from various socioeconomic positions and population subgroups. For, quite obviously, any adequate measure of quality of life must, at least in part, reflect the perception of quality as seen from the eye of the beholder. In other words, it is only through examination of the experience of life of people that we will understand the human meaning of societal change. Once these basic foundations of empirical measures are developed, it will be possible to work toward a more generalized conceptual model by combining these concrete indicators into more abstract indicators that provide a multidimensional profile of individuals and subgroups. A conceptual model of community, constructed in this way, would provide empirical indicators of state variables capable of further generalization to larger social systems at a later stage of research.

Controlled indicators

A third suggestion (Coleman, 1969) for increasing methodological sophistication, which is basic to this suggested future research, is the need to develop controlled indicators designed to show cause of a given

condition. In his discussion of controlled indicators, Coleman (1969: 96) states:

> "The reconstruction described. . .is designed to provide measures that show joint consequences of several variables, and is thus useful as a way of summarizing the conditions in which people find themselves. The very concept of social indicators appears directed to this kind of question, as measures of the 'state of the system.' But if social indicators are going to be useful beyond this, they must lend themselves to analysis, to work that is designed to learn the causes of given conditions. For this purpose one wants controlled indicators, which do not show the whole of a given condition, but only that part of it which can be attributed to a given cause. . .Thus, the point is that if social indicators are to be useful as guides for remedial policy that directs itself to causes of given conditions they must include controlled indicators that show the partial deficits of given subgroups attributable to given causes."

To accomplish this requirement on a large scale obviously would necessitate a highly sophisticated model of change able to show the interrelationship between strategic factors of the change process. A model of this type is not available now and, no doubt, will not be available for some time. At the present stage of development of indicators, however, we believe the inductive approach outlined offers considerable promise for the development of controlled indicators, as well as for the eventual development of causal models of change. To date, most of the attempts to develop a system of indicators have gone no further than elementary attempts to conceptualize indicators of state variables, which at best lend themselves to summary and description of the conditions in which people find themselves, but allow for no further inferences. Few, if any, have attempted to develop models that show the interrelationship between variables, and none that we have been able to find has attempted to relate indicators of quality of life to causal factors. We believe the failure of these studies to go beyond the development of indicators of state variables is, in part, due to the necessary methodological looseness of research that focuses on abstract macro-models before the requisite methodological sophistication and more concrete models have been developed. As an alternative, we believe a more promising approach would be to focus research first upon the social consequences of a narrow range of strategic factors in societal change as they impact the quality of life and viability of individuals and groups affected by the change in these variables. By focusing on one or two major forces in societal change at a time, it may be possible to develop well-tested controlled indicators, which, in turn, should lay the basic groundwork necessary for the construction of causal models of societal change and, within this broader framework, specific aspects of quality of life.

Several strategic factors that are major forces in societal change in the United States have been delineated through previous research, ranging all the way from subjective values to more objective factors such as technology, industrialization, urbanization, etc. In this paper, we are suggesting research that will focus on the social consequences of major demographic changes in terms of their effects on community viability and quality of life in nonmetropolitan areas. Our primary focus will be upon the social consequences of the major population shifts that have accompanied the industrial urban growth in recent years in terms of the impact of these shifts on quality of life and community viability of declining, stable and increasing population centers in nonmetropolitan areas.

Objective 3: MONITORING POPULATION CHANGE

The present research proposal focuses primarily upon the conceptualization and measurement of indicators designed to measure and monitor the social consequences of major population shifts, which have accompanied the urban-industrial growth of the American society, for quality of life and community viability in nonmetropolitan areas. Population change has been selected from among several important factors in societal change as the strategic change variable upon which this suggested research might focus, in part because of the unique interests of the authors of this paper. But another reason is because of the fundamental significance of this problem to future socioeconomic development in the United States. The rural-to-urban population shift, though historically a national strength, has in recent years become a major national problem not being adequately handled by the various concerned sectors of our society. There is substantial evidence now available that there may be serious problems of overpopulation and underpopulation in various areas of the United States. Many experts believe that the population shifts of the last 2 decades have had very detrimental effects on many rural areas, while simultaneously greatly aggravating urban problems.

Social scientists have for some time recognized the social implications of these population shifts. In the past 15 years, however, the problem has become a major focal point of national concern and one of national policy implications. Federal recognition of this problem became evident in the late 1950's when it was singled out as one of the important concerns by the President's Commission on National Goals for the Sixties (1960). Government concern over the distribution of population became more evident throughout the sixties. In 1968, the National Manpower Conference sponsored by the Senate Subcommittee on Government Research focused their attention on the rural-to-urban population shift, defining it as a high-priority national problem. In his message to this conference, President Johnson said:

> "The migration of our people--especially the young--into the troubled urban areas is a tide that must be stemmed.

> In pressing to solve problems of our cities, we must look toward the rural areas and small towns for both immediate and long-range answers." (National Manpower Conference, 1968: iii)

In stating the objectives of the conference, the conference leaders further emphasized the importance of population shifts for quality of life and national development:

> ". . .It has become increasingly clear that any solutions to the already difficult situation of the cities must be accompanied by new efforts for dealing with poverty, inadequate education, and lack of job opportunity in rural America. Local, State and National government policies, as well as those of labor, business and education must be restructured and reconstituted or the problem will continue unabated.
>
> Large numbers of rural youth, often ill-prepared to compete in urban society, each year leave their homes in search of opportunity in the cities. More often than not frustration and alienation result, along with an additional strain on already overburdened welfare and unemployment rolls. . .There is a pressing need to develop new concepts and new ideas for dealing effectively with the problem. One of the conference objectives is to stimulate research in this area among the various university and private research organizations in the country." (National Manpower Conference, 1968: v)

The trends indicated by this conference have led toward a prevalent sense of gloom for the future of both urban and rural America. This outlook is evident in the report of the Advisory Commission on Intergovernmental Relations (1968), "Urban and Rural America: Policies for Future Growth." The report states:

> "The Nation's smaller communities outside of the metropolitan areas will be increasingly bypassed by the economic mainstream and will find it difficult to offer enough jobs for all their residents and those surrounding rural areas. Many rural areas will suffer from a siphoning of the young and able work force with a resultant greater concentration of older and unskilled among those remaining and a continuing decline in the capacity of rural communities to support basic public services."

The recognition of the importance of the problem of population shifts to national development stimulated the formation of the President's Task Force for Rural Development (1970). The report of this committee reaffirmed the basic importance of population shifts to development of both rural and

urban America and emphasized the integral interrelationship between rural and urban conditions for any successful national development. One of the strongest recommendations of this committee to the President was the importance and desirability of establishing a system capable of monitoring rural development.

The National Goals Research Staff (1970) went even further in identifying this problem as a major national problem. Nearly one entire chapter in their report, Toward Balanced Growth: Quantity with Quality, was devoted to a discussion of the problem of population distribution and the impact of population shifts on quality of life in America. On the other hand, this report takes a more optimistic view of the problem and suggests the process now at work can be reversed by more adequate research, planning and implementation (National Goals Research Staff, 1970: 45):

> "Research based on recent demographic data and analysis of past public and private policies affecting migration suggests that the trends toward megalopolis in some areas and underpopulation in others are reversible. It also suggests there is an opportunity for a different and more rewarding future for the Nation as a whole, than the discouraging vision of gargantuan megalopolis and rural desolation. But realization of a better future will probably require a coordinated national strategy for balanced population distribution. The Federal Government can provide leadership in developing any such strategy, but public and private institutions across the country will need to participate in both planning and implementation. . . ."

In summarizing this problem, the commission strongly emphasized the importance of further research aimed at assessing the social costs and benefits of programs designed to cope with problems of population shifts and unbalanced distribution (National Goals Research Staff, 1970: 57):

> "The Federal Government, working closely with the States and communities, can wield immense influence in bringing about the desired demographic and environmental changes. But the government will need to understand the implications of bringing about the desired changes in terms of commitment of resources (public and private) and difficult tradeoffs that would have to be made with other desired objectives and priorities. There is still much to be learned about what constitutes satisfactory levels and rates of change in population in various parts of the country. Studies are needed to define what would be lost and what would be gained by adding population and what policies might succeed in guiding population growth."

The report of the President's Commissions on Rural Development (1970) and Goals for the Seventies (1970) clearly point out both the high priority need and urgency of developing a system of indicators capable of monitoring the social implications of population shifts. We believe that the methodological approach to social indicators outlined in this paper offers great promise of systematically developing this type of monitoring system. Because research into social indicators is in its initial stages, however, we consider the suggested effort in this paper as exploratory. It would be naive to think that one study of this magnitude could solve all the problems explicit or implicit in the above statements from these 2 commissions. Further, this study does not propose to be normative in its approach; i.e., it will not make value judgments regarding what is "good" or "bad." Rather, it will attempt to specify a range of social indicators and determine their qualitative and quantitative differences under different ecological situations. It is believed that such exploratory studies should have high priority at this time.

AN ALTERNATIVE APPROACH

Even though philosophical and academic discussions of the nature, importance and desirability of social indicators have been under way for several years, empirical research into social indicators has been relatively nonexistent. The "state of the art" of social indicator research, methodologically and conceptually, is thereby relatively undeveloped. Our approach attempts to offer one alternative to the development of a system of indicators that, we believe, might provide a sounder empirical and methodological basis than is offered by the more abstract discussions and macro-model approaches currently being undertaken. As is true of all research in the exploratory stages, however, the design of this research must be somewhat looser and more flexible to respond to methodological and procedural changes as the research develops than would normally be necessary in research at a more advanced stage of methodological and conceptual sophistication.

It is largely because of the exploratory nature of social indicator research that we are suggesting a more inductive approach at this conceptual stage, with the hope that valid, reliable models can be developed to allow for deductive research in the future. Our emphasis on a more inductive form of research, however, should not be construed as a form of extreme empiricism. Theory and research must go hand-in-hand at every stage if the search for knowledge is to be effective. We agree fully with Perle's (1970: 139) comments on the methodology of social-indicator research when he argues:

> "In order to justifiably realize the promise of indicators, not only is it necessary to suggest apparently brilliant

> conceptual models but also to empirically verify them. Without an active process of empirical testing for model specification, validity, and reliability, most of our conceptual models will continue to lie on the shelf for conversation and intellectual purposes alone. Clearly, the search for knowledge can be initiated either deductively or inductively. At some point in the process, however, it is necessary both to empirically verify deductive propositions and to therorize about empirical findings. Theory without empirical verification is a worthwhile intellectual activity, but is has little utility for policy formulation. Conversely, heavy-handed empiricism without theoretical linkages has questionable scientific validity."

In designing the research, we are attempting to bring together theory and observation so that conceptual models of social indicators can be formulated that accurately represent the state of life of individuals and subgroups at the community level.

A simple model of the impact of population change on society, developed at the Institute of Ecology, University of California under the direction of Kenneth Watt (1970), is presented in Figure 1. This flow chart presents, in highly simplified form, the type of interpretive model that will guide our research. The long-run goals of our research will be to attempt to development of models sophisticated enough to measure social costs of changes in population. The main focus of the research suggested in this paper centers on the conceptualization and measurement of indicators of the effects of population change on such factors as society, the individual, the environment and resource utilization, which are represented by the four boxes in the center of the chart. In a future follow-up study, we hope to formulate these indicators into a model that will allow for conceptuallization and measurement of social costs of population variations.

Population

In our earlier discussion, we suggested that our primary concern in this proposed research will be limited to the conceptualization and measurement of social effects of population shifts that have accompanied the urban, industrial growth in American society. These shifts can be analyzed as the combined effects of birth rates, death rates and migration rates in a community. Even though many factors influence changes in these rates, for analytical purposes, it is assumed desirable to consider these factors as causal conditions in our model, as exemplified in Figure 1. The population variables will be controlled largely through establishing population parameters. Our objective is to select Iowa communities that have experienced declining, stable and increasing population growth patterns over the

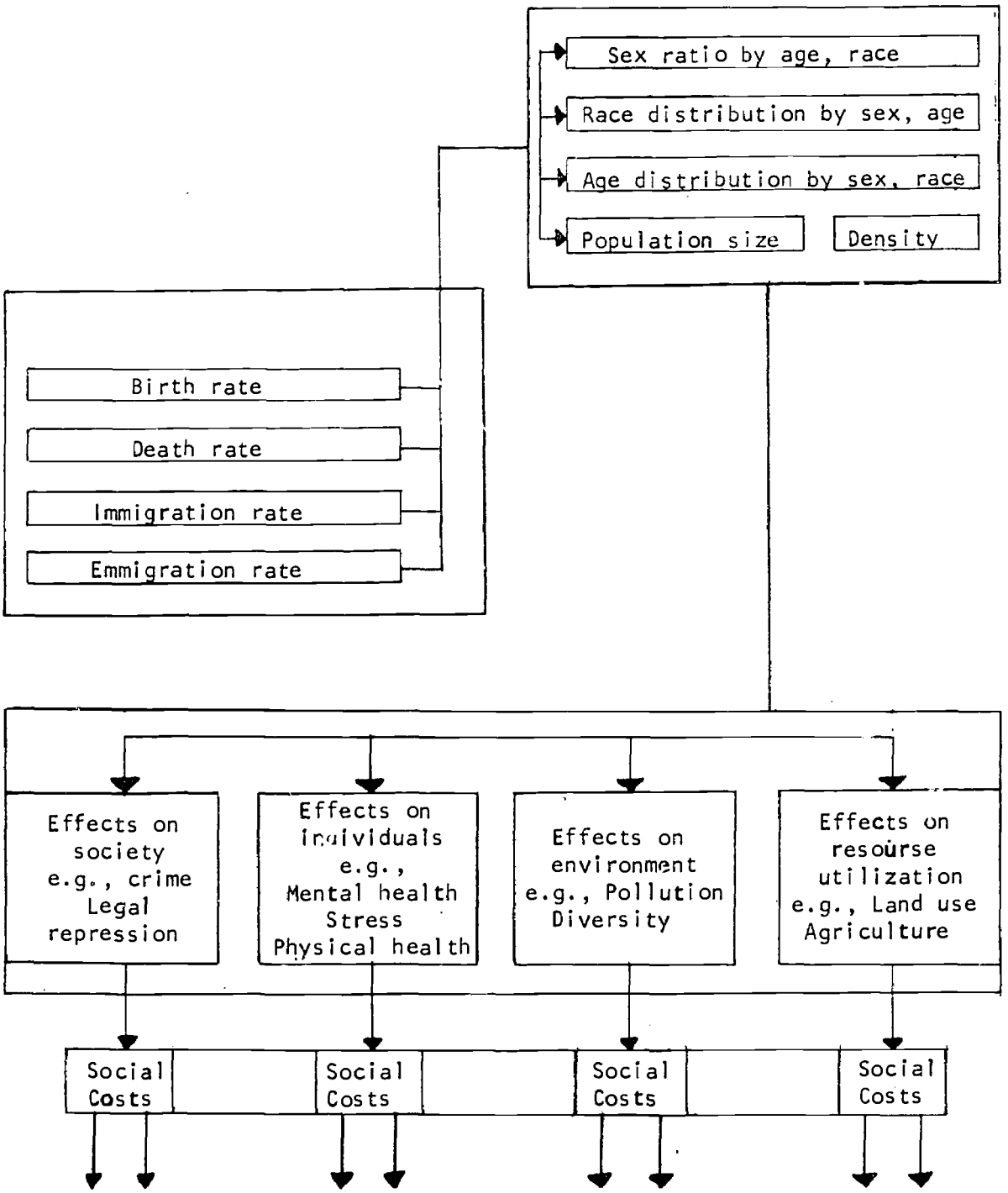

Figure 1. An interpretive model of population changes (Adapted from Watt 1970)

past 2 decades. These communities will be selected by analyzing census data to determine the population characteristics and growth trends that have occurred. By focusing our research on communities of differing population-growth trends, it is hoped that it will be possible to provide the controls necessary to make preliminary causal inferences, as well as considerable comparative analysis of the social effects of population shifts in differing ecological units.

Interpretive model

The flow chart in Figure 1 presents the general interpretive model that provides focus in specifying areas of social indicator need. Population growth trends will be analyzed by use of census data and will involve time series analysis based on the net growth per 1,000 population (total births-total deaths + total migration) over a 20 year period. The first order consequences of population growth trends will be analyzed in terms of the time trends in population composition, population size and population density. Population density will be measured in terms of the number of inhabitants per square mile, and population size in terms of the number of inhabitants within the geographical target area.

Population composition variables are important criteria for disaggregation of data and provide the basis for multivariant analysis of second order consequences of population growth trends. The variables used in this stage of analysis will be the traditional demographic variables of age, sex and ethnicity (race, religion and national origin) and socioeconomic variables of education, income, and occupation. Through multivariant analysis of these composition variables, a multidimensional profile of population subgroups can be obtained. For example, this procedure will provide a basis to analyze the extent to which education, income and occupation are equitably distributed among racial, religious or national origin groups by sex and age. It would, for instance, certainly aid in making policy decisions to be able to compare the age-specific occupation achievement of black females with the same age-specific achievement of a white female or male. Thus, the primary focus of the analysis of first order consequences of population shift is to provide a profile of the community composition and to identify the extent to which basic socioeconomic factors are equitably distributed between the community's population subgroups, and how these multidimensional factors change through time as they are impacted by population growth trends. This analysis also allows for a more controlled analysis of factors such as dependency ratios, life expectancy and skill levels within the community.

The second order consequences of concern in our basic model include the effects of these population changes and the impact of first order consequences of these shifts on the community, the individuals, the environmental quality and resources utilization. In the present study, our research is

limited to an analysis of the effects on the community and individual. Environmental and resource utilization factors in community development are important factors; however, they constitute concerns more directly related to other disciples and to expertise beyond the normal scope of sociological analysis. A total set of indicators of development would include these types of concerns and should receive substantial attention in development research. The expansion of the interpretive model for the concerns of this paper will focus on organization concerns of communities and the ability of communities to service their members' needs.

Toward an Expanded Model

The model presented in the last section is intended as a basic interpretive model to direct attention to general categories of human concern that should be monitored by social indicators. In this section our aim is to expand the categories designating the social effects of population shifts on the two subsets of effects on the community and upon the individual. From this expanded model, we hope to identify conceptual areas of human concern that may provide focus to the delineation of specific areas to be monitored by social indicators. This is a task that has not proven to be as easily accomplished as once believed. Much of our current frustrations and difficulties in specifying and developing social indicators is related to our current inability to specify the nature and meaning of social development. Without some basic agreement concerning the meaning of social development, and the process by which it is to be realized, it becomes impossible to isolate social factors important to social development that should be monitored by social indicators. Thus, before meaningful social indicators can be developed, considerable attention needs to be devoted to clarification of this concept.

Goals in Development

The term "development," as it is currently used in so much of our literature, differs from many other social scientific concepts because of the consciously applied and programmatic nature of current development efforts. No matter how the term is defined, there is, in so many of the recent discussions of development, one fundamental and basic dimension of the term that implies, either implicitly or explicitly, progress toward individual or collective goals. It is precisely this normative dimension of development that has given rise to the extensive debate and disagreement that has clouded our understanding of the nature and meaning of social development. The reason for this controversy arises from our current inability to formulate social goals that are generally agreed upon by social scientists. This inability to formulate consensual goals of development is greatly increased when we attempt to formulate collective goals that are reflective

of the values of society's members. For, as yet, we have found few social dimensions of collective life where total consensus can be obtained in the formulation of development goals.

The lack of consensus concerning social goals arises, in part at least, because so much of human aspirations and values concerning their social conditions of life arise from, and are reflective of experiences and needs that are encountered in the unique historical processes and conditions under which individuals live out their life. These social conditions vary widely throughout complex society, resulting in wide divergences in vested interests, values and goals among population subgroups. It, therefore, seems highly unlikely in a heterogeneous society such as the U.S. that any high degree of consensus will be forthcoming in the near future concerning a desirable standard for establishing the common goals of total social development if, in fact, the goals are to be built upon existing social values of society's members.

This inability to specify common goals of social development has resulted in two pronounced tendencies in current development efforts. Both of these orientations, we believe, are reflective of a tendency to avoid the issue raised here concerning the nature of total societal development by refocusing attention either on a narrow range of variables in development where a high degree of consensus is evident concerning long-run goals, or upon the treatment of symptomatic behavior of underlying social processes that result in very short-run goals and programs designed to treat these symptoms rather than underlying social conditions.

Indicators of normative interest

Most of the recent efforts to develop social indicators, we believe, fall into the category of descriptive data that measure societal symptoms and rarely deal with underlying social conditions. Because of this, a great deal of current social indicator efforts will have short-run value to society for they reflect the normative interests that arise from current societal conditions which may be of little normative concern or value to social planning in the near future. There are several approaches to social indicator research that generally fall under the definition of social indicators suggested by the authors of Toward a Social Report (1969: 97). A social indicator, according to this definition, is:

> "a statistic of direct normative interest which facilitates concise, comprehensive and balanced judgments about the conditions of major aspects of a society. It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the 'right' direction while other things remain equal, things have gotten better or people are 'better off'."

The document Toward a Social Report has been strongly criticized both in terms of this definition, as well as in terms of the statistics presented. The major criticism of this definition obviously centers on the idea that social indicators are measures of direct normative interest. This type of statistic is important to social development, according to the authors of this report, because such normative measures of social conditions "could give social problems more visibility and thus make possible more informed judgments about national priorities" (1969: xiii). There is little doubt that we need more visibility in many areas of society, and that such data may sensitize us to problem areas in the process of development. However, when information is sought for purpose of societal guidance on the basis of normative interest, one cannot help but wonder: "whose normative interest will determine the choice of social indicators?"; "who will use these data to control societal change?"; "toward what goals will society be directed?"; and "who will be controlled?" In this sense, the possibility is high that the goals of social development may be dictated by the normative whims of persons in control of the information system and possessing the power to determine societal decisions.

There are three important trends in social indicator research that reflect in varying degrees this emphasis on normative judgments. The first has been the attempt to provide guidance in social development by formulating national goals. The activities of the President's Commission on National Goals for the sixties focused on the formulation of a set of national goals to guide public policy during the past decade. This Commission did specify a number of problem areas in the American society but fell short of providing a set of goals that would provide a basis for total societal development, and certainly failed to establish a comprehensive or consensual set of goals. In light of the criticism of the earlier document, the President's National Goals Research Staff, which dealt with the question of formulating goals for the seventies, chose not to attempt the specification of concrete goals but, rather, attempted to address various problem areas of society in such a way as to structure a context of debate around major social issues. The purpose of this approach seems to be aimed at developing a dialogue among interest groups that might lead to the establishment of collective goals. The work of these two commissions have brought into sharp focus the difficulties we confront in attempting to establish consensual goals of social developments in complex and heterogenous societies.

A second, and perhaps the dominant strategy of social indicator research, is the tendency to formulate the goals of social development in terms of "quality of life." There is little doubt that "quality of life" is a universal goal of mankind; however, there is also little doubt that few, if any, living beings would agree on just what it is that constitutes quality of life. In most studies that have focused on this concept, it has been freely admitted that the term is employed because of want of more precise definitions of the goals of social development. Quality of life

studies not only focus on descriptive data of symptomatic behavior but provide understandings about society of very short-run importance. For it is evident that individual perceptions of quality of life arise from situationally specific experiences which vary widely throughout society and change rapidly through time. What is conceived as high quality of living today may be undesirable in the future. Social indicators of this type will need to be constantly reformulated as normative interests shift through time, rendering trend analysis through time series data virtually impossible in the long-run.

A third strategy for the development of social indicators has focused primarily on social problems. Again, studies of this type are helpful in providing descriptive data about society and in making social problems more visible. However, the preoccupation with the development of indicators of societal problems offer little in clarifying the nature and meaning of social development, or in establishing development goals. Very often social problems occur as a latent consequence of development and change, and it is important to recognize these problems and make adjustments to reduce the dysfunctionality of development processes. However, indicators of social problems are inherently weak because they tend to focus primarily on marginal members of society and tell us little about the common man. For instance, in sociology we know more about criminals, drug addicts, prostitutes and social misfits, in many respects, than we know about the hard core citizen that provides the backbone of our national life.

The greatest weakness, however, in both the quality of life and social problem strategies is that the indicators being developed from these perspectives tend to be dominantly descriptive data drawn primarily from aggregated characteristics of individuals and rarely attempt to treat underlying social causes and conditions. Nor, do they often attempt to specify interrelationships between variables that are measured, and as such, offer less than desired toward the clarification of the nature of social development, the articulation of goals of development or provision of understandings necessary for societal guidance.

Social development and human viability

There is a limited range of human need that is rather universally of concern to human life. Around these basic needs, a few goals of development have been specified and widely supported. One of the most pronounced common needs of human beings is the need for substance to maintain life which, in modern society, has been articulated largely in economic terms. The willingness of social scientists and government administrators to preoccupy themselves largely with economic development, at the expense of other social factors, must be interpreted, in part at least, to be a function of the wide consensus that exists throughout human society concerning

the desirability of economic processes capable of providing for human survival and individual viability. Hence, such goals as per capita increase in real income, increase in gross or net produce of economic units, full employment and optimal balance of economic factors are goals that are rather universally appealing to the human mind for they are basic to human existence, and thereby, appeal strongly to the vested interests of individuals and collectives.

However, societal preoccupation with economic goals, even though they are basic to human viability, has too often resulted in an inability to establish optimum social conditions, for we have no alternative goals against which we can weigh our economic development. Clearly what is needed is to direct more of our research effort toward the identification of a range of factors essential for human survival. In fact, we propose that the problem of assessing how well social groups are doing with respect to the basic problems of survival and reproduction is the primary goal of development, no matter whether our focus is social, economic or species development. In turn, any measure of the quality of life could be dangerously misleading if they do not specify the progress we are making in meeting the basic requirements of human existence. The basic challenge of development research is to specify more effectively how individuals and groups provide for and meet their survival needs and the effectiveness with which the provisioning of these needs is distributed through its social forms. This can be done only by broadening our development perspectives far beyond the limited economic focus of past efforts.

Rural Development: Problems and Perspectives

The recent concern with broadening our development perspectives to embrace total social development has come about largely as a reaction to a marked tendency over the past century to conceive of development primarily in economic terms. However, this new emphasis in development must not be viewed as an anti-economic trend, for no one can deny the basic importance of the economic functions to human survival. It should be viewed as a desire to provide a more balanced development of human social conditions by focusing on a more balanced perspective of human social and psychological needs and potentials. For mankind has a vast capacity for creativity and for the expansion of human meaning and understanding in new directions that are, as yet, virtually unexplored. The fact that we now have opportunity to begin to explore new horizons of human meaning has come about because of the economic successes of the past centuries that have allowed mankind in advanced societies to solve much of its productive needs and, thereby, devote more time to total human fulfillment. Therefore, this new emphasis in development priorities seems to suggest a desire to bring economic goals and activities into a better alignment with other social factors.

This need for realignment of development priorities has been brought more clearly into focus in recent history, in part, because of the realization that societal effectiveness in attaining its economic ends are dependent on many other social factors. But it is also due to the growing recognition that the preoccupation of industrial societies with economic functions has allowed many latent consequences to develop that must at times be interpreted as dysfunctional to human well being, and possibly dysfunctional to ultimate human survival. For example, the congestion, environmental contamination, interhuman conflicts and tension that are experienced by our large urban areas must be viewed as constituting, in part, unintended consequences of unbalanced development where social factors are primarily treated as economic constraints, or as unavoidable social adjustments to economic growth.

The need for realignment of policy priorities in development is, perhaps, nowhere so apparent as it is in rural America. National preoccupation with technological growth and economic expansion, without regard for the social consequences of these processes, has required corresponding social adjustments that have placed an unequal share of the burden of social change on rural people. These rural adjustments have not only radically altered farm operation and management practices, but have hit directly at the social foundations and social fabric of rural life. The social problems of rural society, such as declining population, community deterioration, underemployment and inadequate social services, are equally related to these same national economic trends.

The realignment of development priorities have been expressed in at least two important respects in current rural development efforts. One focuses attention on human well being and the impact of social change on individual life conditions. The other focuses attention on organizational well being and the impact of social change on the capacity of that organization to deliver services. In the first case the focus of rural development is directed toward the alleviation of social inequities of recent economic growth. This orientation to development is, in part at least, reflected in a recent paper by Professor Heady (1972: 2, 10) which addresses the problems of rural development:

> "The crux of the rural development problem is the distribution of benefits and costs of national economic development. The process of national economic development spews its gains and sacrifices inequitably among geographic, demographic, sectorial and economic groups. Typically rural communities are geographically isolated from the major benefits of economic development in its main forms in a highly advanced country such as the United States. . .Rural community policies and programs should be concerned basically with efficient means whereby these inequities can be erased."

> "The challenging task in rural community development is to identify the nature, location and extent of inequities falling on rural communities and various population strata of them; then to evaluate and provide alternative means for alleviating or redressing them."

The concern with problems of inequity in national economic growth is reflective of the growing realization of the extent and breadth to which national preoccupation with the limited goal of technological development and economic expansion has resulted in unintended and dysfunctional consequences in other areas of social concern.

Few social scientists would argue with the thesis that the crux of the problem of rural development is a problem of distribution, and that one of the important concerns of social indicator research is the generation of an "intercommunity objective function or set of social indicators" capable of assessing the "nature, location and extent of inequities falling on rural communities." In fact, the need for this type of research is acute, for very little research is currently directed toward the development of social indicators and social information systems capable of assessing the problems confronted in rural development. Most of the current social indicator efforts focus on the generation of national statistics that are not readily disaggregatable to the level of ecological subunits and population subgroups normally of concern in rural development. The development of social indicators that more adequately demonstrate intercommunity inequities must be considered a major need in current social indicator research.

To focus primarily on aggregated characteristics of rural people in an attempt to assess social inequities, however, is only part of the problem of rural development. A more basic question deals with the problem of erasing or relieving these inequities. There is no doubt that national and state policies and programs will play an important role in rural development; however, the vital factors that will determine success or failure of development programs reside in local communities and their ability to generate the social machinery necessary to mobilize human and physical resources efficiently. This is the perspective of development adopted by the President's Task Force on Rural Development (1970: 5-6). In their report to the President, rural development is described primarily in terms of community action. They suggest:

> "The purpose of rural development is to help areas correct their own weaknesses and to help rural people consolidate the strengths of rural living for themselves and others who might live there in the future. . .
> The real strength of rural development is that it harnesses local energies and is run by local people who know better than

anyone their own problems, their own capabilities and their own priorities. . ."

If this perspective of rural development is to be taken seriously, as we believe it should, the primary need of rural development is to understand more adequately the organization of rural communities and processes that lead more efficiently toward effective community action within the development framework. Social indicator research, in turn, should focus on the development of social indicators capable of monitoring the operation of these action systems. It is at this point that the greatest need currently exists in social indicator research. Little if any of our current effort is directed toward the establishment of indicators designed to assess the operation of social systems. Nearly all the efforts, thus far, to generate social indicators have focused on aggregated data concerning characteristics of society's members, but very little has been done to develop indicators of social organization. It is this type of research effort that we believe should be a major focus of current social indicator efforts.

Both of these perspectives of rural development must be considered important and the type of information required to meet these development needs must be considered basic problems of social indicator research. In turn, both of these information needs provide an important dimension to the understanding of social development of rural communities. On the basis of these two dimensions an expansion of our interpretive model of a community information system can be developed.

Expanded Model

The discussion advanced, thus far, in this section has specified three basic assumptions underlying the model to be outlined (Figure 2). The first assumption suggests that the primary focus of our model will be limited to attempts to specify indicators of social phenomena that are basic to human survival and viability. This we believe will help to avoid some of the issues surrounding the more controversial and normative dimensions of social development. Secondly, we have suggested that the development process must focus upon and monitor the extent to which the provision of resources necessary for human survival and viability are equitably distributed in human society. Social indicators need to be developed that are designed to monitor inequities in the distribution of the costs and benefits of national development, especially the distribution of resources necessary for human viability. Indicators of this type are primarily aggregated individual data designed to tell us something about the relative well-being or viability of individual members of society. The third assumption concerning information needs in development is the provision of understanding of the community's capacity to deliver services and to mobilize its resources in the process of increasing its capacity

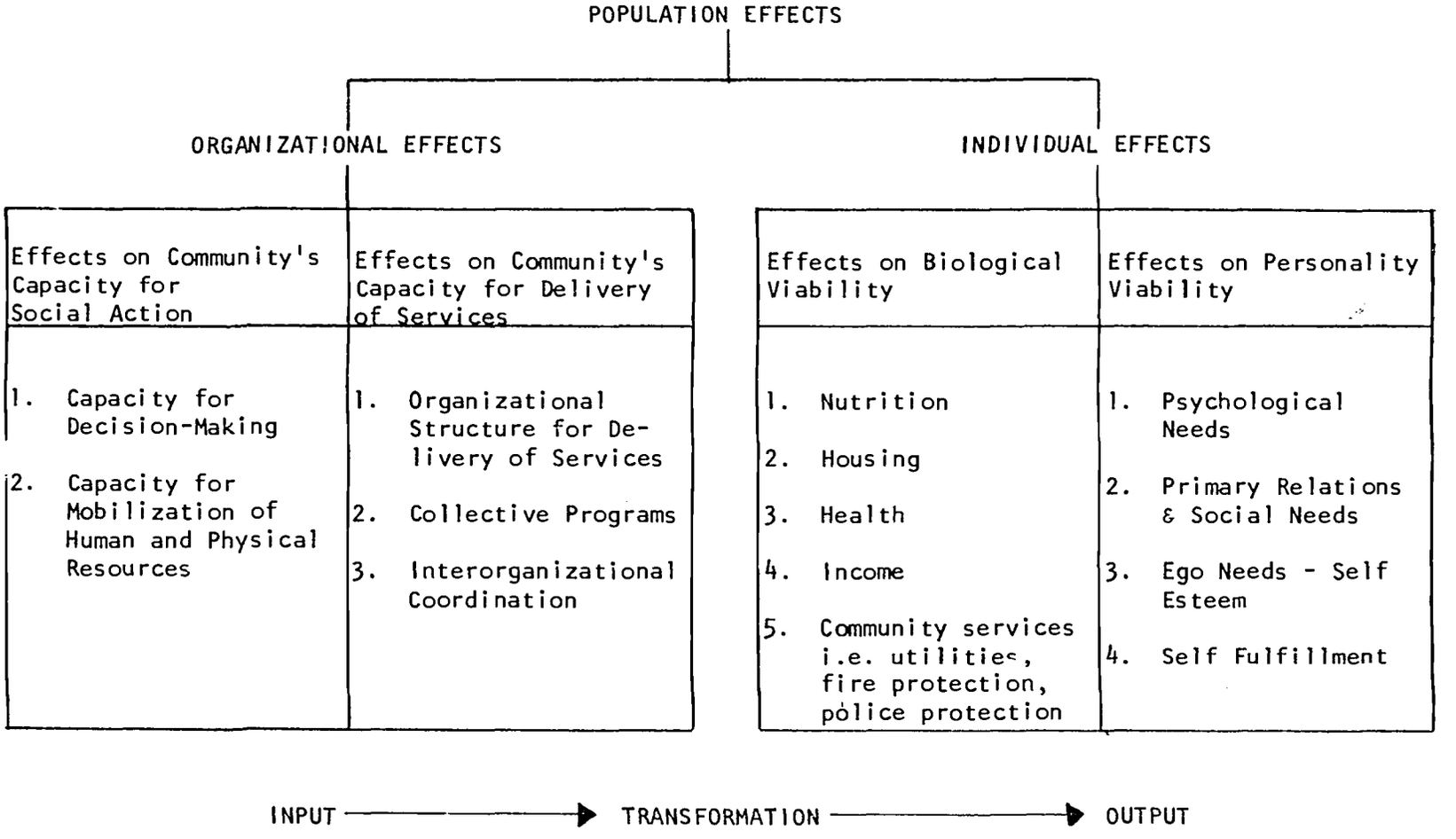

Figure 2. An expanded interpretive model of population changes

to meet individual needs. This concern focuses attention on community viability or organization viability and toward the generation of indicators of organizational performance.

The model presented in Figure 2 represents the expanded interpretive model which attempts to outline important areas of concern in community viability or survival. Attempts have been made to focus attention on organizational process essential to community survival and viability, as well as individual biological and personality needs for human viability. Social organization is viewed, in this model, as the social mechanisms by which individuals enter into cooperative relationships in their efforts to remain viable. Inputs into organizational effectiveness is assumed to come through community action programs designed to formulate goals of collective action and mobilize human and physical resources. The community's capacity to deliver services, in turn, represent the social machinery through which action takes place and through which transformations occur in delivery of services to members of the community. The individual effects represent the output of the community organization to individuals in terms of their biological and personality needs.

Most of the current effort in social indicator research focuses on aggregated characteristics of individuals and, therefore, represents measures of output. As yet, little effort has been directed to the problem of establishing indicators that assess and monitor organizational capacity to deliver services. The focus of the research proposed in this paper is directed toward an overall assessment of these interrelated processes of community organization and its capacity to fulfill man's needs in a limited range of social factors essential for survival and to the assessment of how the community's capacity changes as it undergoes significant population variations.

CONCLUSION

The scope of this paper does not allow for systematic development of the processes involved in these three subprocesses of community development outlined in Figure 2. Each of these subprocesses, however, we believe represents important areas of information needed in planned development, and that preoccupation with only one aspect of community development without equal concern for the other two leads to an information system too restricted to be of an extensive aid in planned development. In this model, we conceive of social organization as cooperative efforts of individuals to meet their basic needs and to gain viability and self fulfillment. Ultimately, community effectiveness will be measured in terms of its performance in meeting these individual biological and personality needs.

Individuals, however, are social beings and must rely on collective effort to provide so much of their basic needs. Therefore, simply to focus on community output to members is not enough. Planned development is dependent upon a great deal of understanding of community structure processes including both its capacity for social action, as well as its capacity to deliver services. In terms of the capacity to deliver services, we have long recognized that one of the early effects of population decline is the loss of institutions and organizations most needed to bring about development. Therefore, we believe indicators need to be developed that measure the organizational structure of communities, and to monitor how these structures change through time. In turn, we need better ways to monitor the types of programs provided through community institutions and organizations and the extent to which these services are coordinated to reduce overlapping and duplicating efforts where resources are limited. There is some evidence, for instance, that programs exist in many communities that are not as effective in servicing the population because of an inability to communicate the nature and eligibility of these services to those that might greatly profit from such service.

The capacity for social action, in turn, opens up a wide array of problems and processes too numerous to attempt to outline in this paper. However, a few basic concerns include such things as community autonomy, centralization of power, conflict, citizens participation, political discrimination etc. The development of indicators of this type of social and organizational phenomena is especially difficult, and yet, these factors must ultimately be conceived as the crucial factors that determine the communities capacity to cope with new demands of a changing environment.

Each of these subprocesses or social concerns in community development, we believe, represents areas of information needed in planned development. The development of social indicators to assess these social processes effectively will not be something that will come about through short-run research efforts. But, by attempting to outline some of the basic processes in social development, it may be possible to provide more significant long-run research effort that may eventually aid in the development of models capable of providing the basic information needs in planning for balanced social development.

Focusing on changes in the capacity of communities to remain viable and effectively meet the needs of its members within the context of population shifts provides an especially good research design for assessing the organization needs in a community's capacity to survive. Over the past fifty years a large number of rural communities have not survived, while others have become growth centers or at least remain fairly stable. The focus of this research is to attempt to assess, through comparative analysis of declining, stable and growing population centers, what is the unique mix of social variables that allow some communities to maintain their viability and community integrity, and what is lacking in other communities that undermine their capacity for perform as population declines.

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