Social indicators for community development: theoretical and methodological considerations

Ralph Morris Brooks
Iowa State University
BROOKS, Ralph Morris, 1940-
SOCIAL INDICATORS FOR COMMUNITY DEVELOPMENT:
THEORETICAL AND METHODOLOGICAL CONSIDERATIONS.

Iowa State University, Ph.D., 1971
Sociology, general

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Social indicators for community development:
Theoretical and methodological considerations

by

Ralph Morris Brooks

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of

DOCTOR OF PHILOSOPHY

Major Subject: Sociology

Approved:

Signature was redacted for privacy.

In Charge of Major Work

Signature was redacted for privacy.

For the Major Department

Signature was redacted for privacy.

For the Graduate College

Iowa State University
Ames, Iowa

1971
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"The Nation has no comprehensive set of statistics reflecting social progress or retrogression. There is no Government procedure for periodic stocktaking of the social health of the Nation. The Government makes no Social Report."

—Toward A Social Report
CHAPTER 1: INTRODUCTION

Introduction to the Problem

Alexis de Tocqueville upon visiting the United States in the early 1800's isolated a particular phenomena which vividly distinguished America from European countries. In fact, he wrote a book describing the Americans tendency to constantly form associations. Nothing apparently could be accomplished in America without, first, those involved in the task organizing themselves into some type of structured association. Were he to visit the United States again, he might find one of the distinguishing features about our society would be its emphasis on obtaining information regarding every aspect of life. In short, he would become aware of the possible inundation of America by the reams of information we are collecting which seeks to describe all phases of society.

This information explosion has developed, in part, from the demands placed on our society by increasing population growth. By plotting this growth with time, there would be a gradual upward trend until we reach the 1830's when the population literally explodes with the curve drastically pointing upward. The demands for and types of information required also increase rapidly but unfortunately are subject to some controversy (Report of National Commission on Technology, Automation and Economic Progress, 1966c:9):

The basic data required are formidable in themselves—people, automobiles, workers, levels of skills, housing available, number of unemployed, salaries, taxes, routes traveled, structures, land characteristics, utilities, ad infinitum—they are frequently recorded for a distinct geographic base, consistently permeated with error, always slow to be acquired, often in
inappropriate format, seldom in proper mode, normally not compat-
ible with data from other systems, always costly and generally
incomplete, frequently politically sensitive, often too late,
seldom available in historical perspective, frequently impossible
to relate to associated data for want of mechanics.

In addition to the demands for information resulting from population
growth, decision-makers engaged in planning for the future also seek new
and relevant data about society. Many decry this amassing of data sug-
gestig a general failure to adequately utilize the societal information
presently available. Still, others suggest that we do not have enough
information and that which we do have is not adequate nor relevant to
present day concerns.

Economics received a major thrust resulting from societal needs of
the 1930's which led to the Governments' search for national income data
and this in turn contributed to providing society with operationalized
macro-economic models of the nation. For the past thirty years, much of
the decision-making in reference to societal goals has relied on economics
and their classification of economic indicators. Indeed, since the 1930's
economists have been able to monitor yearly, monthly, weekly, and almost
daily the economic aspects of our society by utilizing such factors as
GNP, real disposable income, and real national product per person. With
this ability, public administrators frequently apply economic criteria
in areas of non-economic concern. This is partly due to the success econ-
omics has enjoyed with economic models and the fact that social data are
often lacking. And by default there is a tendency to rely on economic
indicators. The interest has been intense, some suggest caution, to prevent entering into an "economic philistinism" (Gross, 1966) which tends to generate national policy at the exclusion of the other social science expertise.

During the past few years our society has witnessed a growing sensitivity to and need for social data. So intense has been the interest that it has culminated into what many would call the "social indicator movement." As yet, the discussions of social indicators have generally been at an abstract level as to what they are and how they might be developed. A critical need of the movement, then, is to understand conceptually, theoretically, and methodologically exactly what social indicators are and the contributions they could bring to the analysis of societal conditions. This dissertation attempts to assess the social indicator movement and will attempt to bring some conceptual clarity to the area as well as consider some of the problems of measurement.

Statement of the Problem

Certainly society has benefited from the advances in the field of economics and that discipline will continue to play a key role in the future planning of society. And yet, economic information is not enough to meet the demands of a changing society.

*Social and economic data as well as social and economic indicators are used here as separate concepts. Their interrelationship will be discussed in some detail in Chapter Three.
We have begun to perfect an economic reporting system and to establish economic indicators that measure national performance. But we do not have, as yet, a continuous charting of social changes, and we have been ill-prepared (in such matters as housing, education, or the status of the Negro) to determine our needs, establish goals, and measure our performance. Lacking any systematic assessment, we have few criteria which allow us to test the effectiveness of present policies or weigh alternatives regarding future programs (Report of the National Commission on Technology, 1966b:95).

The recent dissatisfaction with economic data is not a rejection or lack of faith in economics. Instead, it is argued that the heavy reliance on economic data has excluded many of the socially relevant issues that are needed for effective social planning. For this reason, social indicators should be regarded as providing additional insights into society which will compliment those gained from economics and have use for charting social changes. The statements of two people concerning the need for not only additional information about society but, more social information appears relevant at this point.

We are not going to be able to do anything very effective unless we can build up an information system which can give us the kind of insights and the kind of accurate, timely pertinent data that are needed...It is going to take help from the universities, to entice scholars to study these social problems. They have not as yet turned their attention, as they have on the economic side, to providing needed data and concepts (Perloff, 1970:104).

The efforts by the federal government to establish the Program Planning Budget System (PPBS) has contributed to the establishment of an information system but it is not adequate in social areas, since its major emphasis is on economics. Social indicators, sometimes referred to as social accounting, seek to establish a system which will consider additional social problems and social conditions to provide the needed
Another person suggesting a need for more social information is Whitney Young, former director of the Urban League, whose statement demonstrates a concern for the type of information utilized for social policy formation (1970:80).

You ask whether information and analysis is adequate on which social policy must now be based...My answer is two fold, that available information is not being adequately used and at the same time not enough information is available.

This recent concern about social data could be interpreted to indicate an increasing potential for greater and more frequent utilization of the data that are available. The question is, "are the data now available relevant for current societal needs?" If they are, the task is easier. If they are not, societal decisions are likely to be made with inadequate data. Hence, Whitney Young's concern for more information could be amplified with a need for more relevant data which depict the true conditions of society.

Regardless of the concerns, we are, in fact, a data gathering people. But, few would deny a need for more social information given the state of constant change in society. Some argue for more descriptive reporting and would recommend some changes in the census as a step in the "right" direction. Cohen (1970) is in favor of such modifications. The ever changing population and social conditions, the education explosion as well as new technology, and individual mobility have created a need for better descriptive data about society.

...the 1970 census is asking the wrong questions about a country which does not now need information about radios and television sets and a lot of other things as much as it needs questions about what is happening to people (Cohen, 1970:71).
Once a procedure becomes institutionalized such as the census it is difficult to change. Although minor alterations in the census questions have occurred, this statement indicates that the social data presently obtained from the census perhaps answer the wrong questions for future planning.

Another problem which many would like to see solved pertains to accurate reporting of the descriptive data. The area most often criticized is that of crime statistics and procedures for reporting them (Glaser, 1967). A system exists, but oftentimes it is very unsystematic. Uniform reporting is lacking and furthermore even where reporting takes place the data are usually less than adequate since they are not easily disaggregated. More than just descriptive reporting is needed. Before progress can be made toward models of society it would be helpful to clearly delineate the relevant variables and develop appropriate measures. Then, it should be possible to examine the interrelationships of these variables. This should be of aid in making decisions and planning for the future of society. In the short run, building taxonomies of social indicators and suggesting measures for the subconcepts will aid not only in the descriptive reporting but also in the selection of relevant variables to be considered for future models.

Young (1970) suggests that a system of social accounts would allow us to take the Nation's pulse by monitoring changes that take place and to foresee problems and recommend policies to avert tragedy and disorganization before they occur.
It is possible that if we now had a reliable set of social indicators many of the ills scholars or isolated members of society know about would be remedied or would not come to pass. Warning signals would be recognized and action would be taken. (Young, 1970:77)

In this instance, social indicators are viewed as an instrument that will hopefully aid in societal control. Before this can be realized it is necessary to understand conceptually what social indicators are. Presently, the indicator movement is suffering from a lack of definitional clarity. A part of the dissertation effort will be to determine the difference, if any, of such concepts as social indicators, social accounts, social statistics, and social intelligence.

The ultimate goals of the social indicator movement have been specified by Rice (1967:173):

Social indicators, the tools, are needed to find pathways through the maze of society's interconnections. They delineate social states, define social problems and trace social trends, which by social engineering may hopefully be guided toward social goals formulated by social planning.

These claims may be highly optimistic. The statement appears to suggest that social indicators are the answer to society's ills. As yet, this has not been achieved in the current indicator effort. Before these claims can be fulfilled social indicators must be developed and to achieve this end, much needs to be accomplished theoretically, conceptually, and methodologically. Even then, there may be considerable question whether social indicators can define social problems and other claims Rice has set forth.
Significance of the Problem

The possibilities for future societal guidance would be greatly enhanced if a system of social indicators can be established. Evidence of the prospects of such an effort are being supported by recent attempts to propose the establishment of a Council of Social Advisers. The intent here is viewed by many as analogous to the Council of Economic Advisers. Not only did the discipline of economics benefit greatly, but in addition guidelines presented by economists, although frequently debated, nevertheless, were and still are being utilized in decision-making for the total society. The development of a system of social indicators is a long term challenge but one which can be met by gradually progressing through a planned research program. Perhaps eventual monitoring of social change will then become a reality.

One of our constant problems in society is the evaluation of the numerous societal programs. Are policy planners effective in their efforts to deal with the ills of society? The lack of a system for providing accurate and relevant data presents serious questions about the usefulness of evaluative research. Typically, the inputs to social programs can be assessed and in some instances the outputs may be readily indentified. But what of the transformation process and its effect on the entire program. Little is known about this process and some would argue the reason is that we are collecting data of a descriptive nature but not of the type which really tells what changes are taking place in society. The social indicator movement is viewed as an alternative to the solution of some of these problems.
In addition to the significance of social indicators for eventually monitoring social change, and evaluating current programs and their societal impacts, it is also a topic worthy of consideration given the discipline of sociology. A problem can be generated either within a discipline or as a result of activities external to the discipline. The social indicator movement can be said to qualify for investigation both within and outside of sociology. Within sociology, because it appears that much work needs to be done in the area of conceptualization and many are already working on macro-models of society. Therefore, it would not seem to be foreign to the discipline. If a social report is to be presented annually, perhaps sociology might want to be involved in the planning. Bell (1969:84) states:

...the necessary requisite for any effective social report is the strengthening of the commitment of the sociological profession to this enterprise; to the expansion of macrosociological interests, the refining of the conceptual categories, the testing of the quantitative data, and the training of students in social analysis. Without that commitment, the necessary intellectual resources, and the basis for independent scrutiny by the profession, would be lacking.

There is need for a sociological commitment to the area of social indicators. Especially if the goal of providing an Annual Social Report is to be attained. Unfortunately, within the discipline of sociology there has been less activity in social indicators than one might expect as demonstrated by a recent review of social indicator literature by Beal, et al., (1971) containing over four hundred sources, the majority of which came from disciplines other than sociology. Evidence that future sociological inputs may be needed is supported by recent efforts
to present bills in both the House and Senate which would provide for a council of social advisers.

The principle investigators and co-authors of *Toward a Social Report* were economists and political scientists perhaps indicating those disciplines' commitment to societal concerns. Professional associations such as the American Psychological Association and the American Academy of Political and Social Science have been very active in the initial stages of the movement. And yet, the challenge put to sociology recently by Kenneth Boulding, an economist, suggests that if any accomplishments are to come in devising a system of social indicators for society it must come from the sociologists. He discusses the future of the social sciences and focuses his attention on the social system. Although each of the social sciences studies different aspects of the total social system, in his estimation, sociology bears the major responsibility for understanding the social system in its entirety. The following statement is this economist's challenge to sociology (Boulding, 1967:3)

If sociologists as a professional group can get under the weight of it they may encourage their members to spend longer periods of training to become generalists as well as specialists, and to perform this absolutely essential role of developing an integrative study of the total social system which to my mind is one of the major priorities in the intellectual world of the next generation or so. If sociologists don't do it, who will? The economics profession is so smug and so satisfied with its own admittedly great accomplishments that it is not likely to go anywhere in the next generation. According to one of the fundamental propositions of general social systems, nothing fails like success. Political science is so split at the moment between the traditionalists and the behavioralists and seems to be so incapable of developing any adequate theoretical structures of its own, apart from what it borrows from economics, that it may be an example of the second great proposition that nothing fails like failure. It is to the sociologist,
therefore, that one tends to look for the accomplishment of this task, especially if they can divest themselves of certain scholastic prejudices, and catch a vision of the magnitude of the task which is to come.

The challenge put forth by Boulding is not to be taken lightly. For sociology to make a contribution to the understanding of the total social system will require much concerted effort on the part of sociologists and aid from other social scientists. Furthermore, the understanding and explication of the concept of social indicator will require the sociologist to address himself to a number of concerns. Among these are, what is social and what is an indicator, what is a social system and how does one delineate its component parts, and what are the bare minimum social system concepts which will allow us to explain social change and aid in planning for the future? If sociology can successfully answer these questions it can make a worthwhile contribution to society. The intent of this dissertation is to begin laying the groundwork in order that some progress can be made toward that goal.

Objectives of the Dissertation

An overriding theme developed thus far would indicate a need for conceptual clarity and the development of models of society which could be used for future social planning. More relevant societal information is needed before much effective planning can take place. But given the vagueness of the entire social indicator movement how does one resolve the dilemma posed by those who state society can not wait for social scientists to conceptualize, rather, we need the data and we need it now. In the initial stages of a relatively new area caution must be observed
or else promising areas such as social indicators may pass on as "just another fad." Empirical data are needed about the changing social aspects of society, but prior to data collection there is also the need for conceptualization. This was also noted by the joint panel of the National Academy of Sciences and The Social Science Research Council which made recommendations regarding needed next steps for social indicators (1969:6).

The development of a useful system of social indicators is not simply a matter of measuring many aspects of society. The central problem is to decide which among many measurable attributes most truly represent the fundamental characteristics with which we are concerned. Thus, progress toward valid indicators will depend largely on the understanding we obtain from research into the basic structure and processes of our society. Conceptual and theoretical work at the highest level is necessary if we are to interpret the changes taking place.

Not only is it important to specify more clearly the theoretical orientation but knowing what lower level indicators to measure is a major problem needing attention.

A first step in the development of these lower level indicators might be the selection of a broad model that could be explicated to lower level indicators of the structure and processes of society. It is believed that the ecological perspective (often referred to as the ecological complex which contains the elements of organization, technology, environment, and population) could be modified, explicated, and adapted for the purposes of more accurately describing current social conditions in non-metropolitan communities.

The objectives of this dissertation will be to achieve the following:

1. Review the current literature on social indicators to conceptualize more clearly what they are and how they can be developed. An attempt will then be made to arrive at a more precise definition as a result of this review. The literature review will
be found in Chapter Two. In Chapter Three an attempt will be made to define social indicators.

2. Given the derived definition, a next objective will be to suggest a strategy for a next step in social indicator research with the non-metropolitan community as the empirical arena. Steps toward this objective will be undertaken in Chapter Three.

3. Finally, an attempt will be made to develop a general model and to explicate to needed levels of generalization selected parts of the model. This objective will be approached as follows:
   a. The ecological model with the elements of population, environment, technology, and organization will be discussed in Chapter Four as a general model that could be adapted to the non-metropolitan communities.
   b. In Chapter Five, the ecological complex model is modified and the element of population is selected from the four major elements and initially explicated to include the areas of individual social and institutional patterns, individual environmental characteristics, individual organic characteristics, and the individual esthetic/cultural system. One major subconcept in each of these areas will be further explicated (with the exception of the latter) in an attempt to present a partial taxonomy of social indicators.

As discussed before, the tendency in the present social indicator movement is to focus on what the role of social indicators is and not on the steps needed to develop and demonstrate their usefulness for society. This dissertation is an exploratory attempt to present a research strategy to aid in the progress of developing social indicators for social planning. It will seek to review the social indicator movement, where it is going, its objectives, and to define social indicators. The presentation of a research strategy suggesting models and concepts explicated into a taxonomy of social indicators is viewed as contributing to the development of social indicators for future research. Since the model presented later in this thesis will be adapted to non-metropolitan communities, it will be necessary to briefly discuss community development and community performance (in Chapter Four) as they relate to the eventual development of the taxonomy.
CHAPTER 2: TOWARD SOCIAL INDICATORS: LITERATURE REVIEW

Introduction

The recent social indicator movement has created a great deal of excitement for the social sciences. For the past two years political science, economic, sociological, and statistical professional societies have sponsored sessions in their annual meetings wherein social indicators have received major attention. The government has also demonstrated its interest by promoting future Annual Social Reports (cf. U.S. Department of Health, Education, and Welfare, 1969) to the nation as well as proposing new statistical publications (cf. Tunstall, 1970).

A recent bibliographic review of social indicator literature (Beal, et al., 1971) brings together over four hundred sources from books, unpublished professional papers and numerous journals demonstrating the rising interest in the area within the past ten years. A perusal of those sources can lead to an arbitrary classification of at least three major periods since the 1920's in the social indicator movement. The contributions of earlier social theorists as a fourth period are not overlooked as they were particularly interested in general societal conditions. A select few early theorists are reviewed to demonstrate that although "social indicators" was not a common term, nevertheless, many of the early theorists concerns are basic to the current movement.

The pre-1960 period is viewed as one delineation wherein the contributions of government as well as several social scientists are viewed as initial efforts to assess the state of social conditions at a more
specific level than that suggested by those earlier social theorists. This period, therefore, is viewed as a forerunner to the movement as it is known today. The period from 1960-1966 is characterized by increasing government involvement in efforts to develop useful data to provide a more integrated understanding of general quality of life and changing social conditions. Several nongovernment publications also appeared during this period contributing greatly to the movement. The major contemporary emphasis is viewed as taking place between 1967-1971 flowing from the suggestion for a Council of Social Advisers, a Bill entitled "The Full Opportunity and Social Accounting Act" and the publication of Toward a Social Report by the Department of Health, Education and Welfare.

It would be an insurmountable task to review all of these sources and their contribution to the social indicator movement. The first objective of this chapter is to review selected sources from each of these periods that may provide a general overview of the background and development of the movement. After reviewing selected sources in each of these periods, the emphasis shifts to another objective which is to discuss recent attempts to generate macro-models of society. Macro-models appear to be somewhat vague and perhaps premature at the present stage of sociological expertise, as noted by several writers in their review and criticism of such attempts to conceptualize indicators at the macro level (cf. Perle, 1970; Kamrany, 1968; Sheldon and Freeman, 1970; Land, 1970). Finally, the last objective of the chapter assesses the general goals for advancing social indicators, the frequent claims made for their potential
use, and also the criticisms of those claims made by representatives from such groups as social planners, economists, sociologists, and government officials.

**Early social theorists**

Prior to discussing the three general periods mentioned above, it seems desirable to note that usage of the term "social indicator," although relatively new in contemporary writings, nevertheless, was also a topic of general interest to the early social theorists. Indeed, one of the major interests of theorists during the period 1890-1920 was to focus on "societies as wholes, and embrace the total life of people living in association with each other" (Abel, 1970:4). The emphasis in their writings was not specifically to generate social indicators, as currently pursued, of total quality of life. Nevertheless, the intent of such men as Durkheim and Weber was to understand major aspects of social phenomena which led them in a pursuit of understanding societal conditions and social change.

Durkheim was one of the social theorists whose major attempt was to understand total society. In his thesis, which later was printed under the title of *The Division of Labor*, he sought to identify factors which would lead to the basis of social existence and an understanding of what holds society together. Durkheim assumed that society is an organization, not just a conglomeration. It is permanent over time and exhibits a great deal of interaction and communication. Therefore, it must demonstrate some unity. This was one of Durkheim's first published works and in it, he sought to demonstrate that social solidarity is brought about
through a division of labor (Madge, 1962). He generated a normative model of the social bond or social cohesion and delineated two types of social solidarity—mechanic and organic. Durkheim was not specifically seeking "social indicators" but did develop several indicators of human well-being that were related to the level of cohesion in society. One of the important forms of solidarity was a commonality of values and the functional interdependence of people. In the absence of a common culture, people are likely to experience personal frustration as they attempt to adapt to changing social conditions. From his model, which was based on integration, he presented his proposition that "suicide varies inversely with the degree of integration of society" (Zeitlin, 1968:272). Both suicide and cohesion are indicators of societal conditions. In fact, his levels of suicide (altruistic, egoistic, and anomic) appear to be indicators of human satisfaction with the current state of society.

...he came to believe that the explanation of an important class of suicides lay in the absence of social cohesion. But social cohesion as such was not recorded in any census or official report and had thus to be approached by examination of such facts as were available—divorce rates or economic political crises. This use of the indirect clue is common enough in all sciences—compare the use of the spectrum for qualitative analysis in chemistry—but in sociology it is indispensable. (Madge, 1962:51).

His model and conceptualization are not unique to sociology. In fact, they may still be important to sociologists reassessing the efforts to describe society. Some of Durkheim's additional works appear to be representative of the efforts to develop indicators of societal conditions. In The Division of Labor (Durkheim, 1947) he considers an "index
of happiness" among the many possible indicators. Durkheim demonstrated, to some extent, how societal conditions could be summarized through a few major concepts. Fifty years after his death, there are continued attempts to obtain more useful information about the qualitative aspects of society which appears to be a major thrust behind the current social indicator movement.

Weber was also interested in macro-models and typologies of change. For a short period in his life, he edited a journal oriented toward socio-economic problems. But how could one study the economic aspects of social life? To clarify this, Weber distinguished between those activities in society which are strictly economic and those that are economically relevant. The former are typically those organizations created for economic ends, such as a bank or a factory. There are also forms of interaction which are in themselves noneconomic but may be economically relevant. The primary example of this type of activity would be religion (Zeitlin, 1968:113). With this assumption, Weber proceeded to study society which resulted in his classic work, *The Protestant Ethic and the Spirit of Capitalism*. Specifically, Weber wanted to examine the economic relevance of a religious ethic as it contributed to our modern economic system (Weber, 1958:91). The Protestant Ethic was seen as a value system which greatly influenced behavior in the economic sector. Indicators of this ethic were acquisitiveness, rationalism and asceticism. The economic system was important in society, but equally as important was the "spirit of the days" which appeared to be an important indicator of
societal conditions. Weber's work is also reflective of some of the recent interest in social indicators as he sought an appraisal of systems processes.

This all too short overview of two major social theorists is not intended to be exhaustive. Rather, the intent is to suggest that attempts to assess societal conditions have been of central interest to social theorists for many years. Often the needed models and appropriate conceptualizations were not available which makes it difficult, if not impossible, to adequately assess the current state of affairs.

Pre-1960 period: attempts to assess social change

President Hoover, in 1929, commissioned a group of well known scientists to consider the feasibility of pursuing a national survey of social trends within the United States. Their orientation was not to seek one index of a given societal condition such as Durkheim's index of happiness. Instead, the commission wanted to identify specific societal trends yet cover a broad range of interests. The results were printed in the Report of the President's Research Committee on Social Trends (1933) and contained twenty nine chapters in the two volume set. The topics covered included such areas as population, influences of invention and discovery, trends in economic organization, shifting occupational patterns, changing social attitudes and interests, rural life, rise of metropolitan communities, the family, recreation and leisure time activities, crime and punishment, government and society,
health and medical practice, and other related topics. The following quote from this source demonstrates what the commission hoped to accomplish.

It may indeed be said that the primary value of this report is to be found in the effort to interrelate the disjointed factors and elements in the social life of America, in the attempt to view the situation as a whole rather than as a cluster of parts (1933: xi-xii i).

Before one can interrelate the parts into a larger whole there must be an understanding as to just what are the parts. Hoover's commission was normative in its approach, however, it did attempt to specify a range of societal concerns in an attempt to describe the current social trends.

...More widely in the future than in the immediate past we may expect the growth of thinking about the meaning of the great masses of social data which we have become so expert and generous in assembling. Is it possible that there is radical inconsistency between the industrious and precise collection of material and the effort to interpret and utilize what has been found out? Or the contrary, is there a compelling urgency that they be brought together both for the sake of science and society? We may look for important contributions from individual thinkers with a point of view from which the focusing of social problems and their constructive integration is not excluded, but emphasized (1933:lxxii).

Not only was the committee addressing itself to an area of societal concern, but in addition was prophetic regarding future discussions of data utilization. At present society is adept at amassing extensive amounts of data and yet, a constant criticism is that of lack of relevance. In 1933, the commission recognized that collecting data for science sake may well be challenged in the future. One of the primary
goals of the social Indicator movement is to obtain relevant data for future societal decision-making.

The monumental work of the census alone is an adequate indication of the interest of the organized government in the collection of social data, and there are many other illustrations of the deep concern of the government with the data upon which national policies should rest... The Social Science Research Council, representative of seven scientific societies, and devoted to the consideration of research in the social field, may prove an instrumentality of great value in the broader view of the complex social problems, in the integration of social knowledge, in the initiative toward social planning on a high level. Out of these methods of approach it is not impossible that there might in time emerge a National Advisory Council, including scientific, educational, governmental, economic (industrial, agricultural and labor) points of contact, or other appropriate elements, able to contribute to the consideration of the basic social problems of the nation. Such an agency might consider some fundamental questions of the social order, economic, governmental, educational, technical, cultural, always in their interrelation, and in the light of the trends and possibilities of modern science (1933: lxxiii).

Indeed, the census has provided society with national enumerations on a given set of questions. There is some doubt, however, as to whether the data provided by the census are actually very helpful. With a nation and population as large as the United States, descriptive type data are necessary but, certainly not sufficient. The suggestion that an advisory council "might in time emerge" is also prophetic. A National Advisory Council did emerge, but its emphasis was economic. The hopes of the 1933 commission that a council would also consider questions of the social order did not materialize. Testimonies before Senate Hearings illustrate the problems policy planners have faced by not having a Council of Social Advisers and at the same time why they should not be a joint council.
The tendency at least from my experience in watching the Council of Economic Advisers over this 20-some-year period is that the short-run, immediate macro-economic questions drive out the longer run qualitative quantity-of-life questions. That is the way I have seen it, and I have sat in countless meetings and I have been a participant myself, and I have had to do that myself, because the question of what you are going to do today is so immediate and so urgent that it drives out the longer run question. (Cohen, 1970:69)

A Council of Social Advisers is essential for this purpose. The Council of Economic Advisers should not be burdened with this additional dimension. Its mandate is to maintain full employment and a healthy economy. (Young, 1970:83)

The tendency is to slight social problems for more demanding economic concerns. Clearly, the function of the current Council of Economic Advisers is not directed toward monitoring social conditions. A Council of Social Advisers, therefore, is viewed by many as a needed step to the future solution of social ills. A Bill currently before the Senate is seeking to establish such a council.

In any case, and whatever the approach, it is clear that the type of planning now most urgently required is neither economic planning alone, nor governmental planning alone. The new synthesis must include the scientific, the educational, as well as the economic (including here the industrial and the agricultural) and also the governmental. All these factors are inextricably intertwined in modern life, and it is impossible to make rapid progress under present conditions without drawing them all together (1933: lxxiii-lxxiv).

If the interest is in assessing the total conditions of society, it will obviously require more effort than what sociology alone can provide. To achieve the type of planning stated above will require the concerted efforts of social, physical, and probably biological scientists to understand the "intertwining of modern life."
...the Committee is not unmindful of the fact that there are important elements in human life not easily stated in terms of efficiency, mechanization, institutions, rates of change or adaptations to change. The immense structure of human culture exists to serve human needs and values not always readily measurable, to promote and expand human happiness, to enable men to live more richly and abundantly. It is a means, not an end in itself. Men cling to ideas, ideals, institutions, blindly perhaps even when outworn, waiting until they are modified and given a new meaning and a new mode of expression more adequate to the realization of the cherished human values. We were not commissioned to lead the people into some new land or promise, but to retrace our recent wanderings, to indicate and interpret our ways and rates of change, to provide maps of progress, make observations of danger zones, point out hopeful roads of advance, helpful in finding a more intelligent course in the next phase of our progress. Our information has been laboriously gathered, our interpretations made with every effort toward accuracy and impartiality, our forecasts tentative and alternative rather than dogmatic in form and spirit, and we trust that our endeavors may contribute to the readier growth of the new ideals, ideas and emotional values of the next period, as well as the mechanisms, institutions, skills, techniques and ways of life through which these values will be expressed and fulfilled in the years that are to come (1933:1xxv).

Establishing social indicators will hopefully provide society with needed guidelines for making such future decisions. This lengthy reference to Recent Social Trends is presented to demonstrate the perceived potential that was seen to exist for pursuing the study of social change. An overriding concern of the commission was the analysis of society as a whole and they gave particular attention to the interrelationship of its various parts. Furthermore, the accumulation of masses of social data were as much of an issue then as is currently expressed in society. Finally, the suggestion for a National Advisory Council and the inference of need for planning in areas of social concern in addition to economics support the recent efforts in the social indicator movement.
Proof that there is a renewed societal interest in pursuing further some of the concerns expressed in 1933 is, perhaps obvious through the recommendations of the joint committee of the National Academy of Sciences and Social Science Research Council (1969) to promote the development of a system of social indicators with congressional support and the suggestion for an Annual Social Report to the Nation. One might wonder where the social indicator movement would be today had government officials and social scientists systematically addressed themselves to the issues raised by the 1933 Commission. Instead it appears that the emphasis is now just beginning to return to a more direct scientific approach to the study of society which corresponds with the earlier suggestions of the Hoover Commission.

The "quest for sociology" according to Hinkle and Hinkle (1968) during the period from 1918-1935 was to make sociology scientific by making the scientific method its central concern. In addition to the emphasis on method and objectivity, they suggest a number of other activities took place. Student enrollment in sociology doubled, the number of sociology texts also doubled, interdisciplinary research was in vogue and the general cry was to follow the physical sciences to success (Hinkle and Hinkle, 1968). This type of activity stimulated growth in the discipline. Yet, sociology was to undergo another major shift in emphasis resulting from a change in the times.

The depression and effects of World War II generated a sensitivity to science and the scientific method. The descriptive data so dutifully gathered in the 1920's proved to be inadequate for the demands of society.
This new societal concern was also manifested in sociology as the discipline witnessed a shift in emphasis from making sociology scientific to making it useful. The time was right for a new theoretical orientation. Many of the European scholars, fleeing their homeland, brought new training in system building and abstract philosophical thought which was a different orientation than the objectivity sought in the 1930's. By the 1940's, sociology came under the influence of Parsons and Merton with the emphasis shifting to functionalism (cf. Martindale, 1965).

Functionalism appeared to be a solution to the complexity of social phenomena by seeking to understand the social system and the interrelation of its parts. It is a theoretical deductive system with a concern basic to the idea of a pure science with a general movement, to a great extent, away from empirical research. The inability to operationalize the concepts in such a system and thus subject them to empirical situations is one of the limitations of functionalism. Only recently has the predominance of functionalism been challenged by those more interested in formalizing sociological theory (cf. Zetterberg, 1965; Stinchcombe, 1968; Blalock, 1969; Land, 1970) by revealing its formal inadequacies and suggesting possible alternative approaches. There is no doubt that functionalism was important for sociology but its emphasis on abstraction and de-emphasis on objectivity reversed the trend toward quantitative data and hindered the development of the social indicator movement.

Although the major sociological emphasis was no longer empirical, a few social scientists did continue activities that demonstrated the need
and usefulness of empirical data. Since the publication of Recent Social Trends, the efforts of Bennett (1937), Ogburn (1946), Goldhammer and Marshall (1953), and Cabello (1959) are viewed as initial inputs to the eventual social indicator movement.

Bennett (1937) sought to measure the national standard of living of fourteen countries over a ten year period. He realized that "standard of living" was a difficult concept to operationalize but did delineate five principle categories of: food, clothing, shelter, transport and communication, and professional services. Each of these in turn were further explicated prior to measurement.

Any attempt to measure differences in relative national standard of living ought presumably to be based upon data which refer to all five of these major elements in standard of living, not merely to one or two elements (1937:319).

One of the perplexing problems faced by public officials is that of making decisions about complex phenomena without adequate and relevant data. Bennett took those five general categories and in order to better understand "standard of living" tried to obtain statistical series which would reflect the indicators of each category. He was unable to find the necessary data (because it was yet to be collected) and therefore had to settle on fourteen statistical series which he found in usable form.

No single indicator is at once completely appropriate to the purpose and completely accurate. But for an enquiry wherein precision is impossible to achieve and one must make what he can of imperfect material and method, these fourteen series seem likely to be more useful than misleading (1937:323).
It is debatable whether or not imperfect material can be more useful than misleading. All too often public administrators find themselves in a situation of not having the necessary data for needed decisions. In the past, decisions have been made with data which may not have been collected for the intended purpose or which may not have adequately portrayed the phenomena in question. This was, however, one of the early attempts to develop indicators of societal conditions on a macro level. One of the major thrusts behind the current social indicator movement is to seek better measures of qualitative data which will allow future decisions and social planning to be made with the appropriate information.

Ogburn (1946) brought a significant contribution to the area of social change particularly in discussing expected patterns for unmeasured data. He reviewed assumptions often made about nonmeasurable data and then argued that over time, one can assume that unmeasured data will follow a trend. This has been demonstrated with measurable data and seems logical to make the assumption that over time, if unmeasured data were to be measured they would also follow a trend. Measures of trends are exactly what is needed and appears to be a goal of the social indicator movement. Another assumption which can be made according to Ogburn is that social factors are complex and will therefore be affected by many factors rather than just one.

The complexity of factors in social phenomena is remarkable, as is shown by the many studies which have used partial correlation. In fact, in the social sciences, two variables with a correlation of one—that is, where all of the variation in one factor is accounted for by change in the other—have never been reported so far as is known (1946:48).
This statement would suggest a need for not only multiple measures of phenomena but also more complete models of the social system. Another concern expressed by Ogburn is that of prediction. Prior to World War II social planning was frequently just a topic for intellectual inquiry but after the war, social planning was reconsidered as a possible solution to societal problems. Without adequate data, planning can become wishful thinking and 'there is nothing so effective as plenty of data to correct it' (1946:52). As Ogburn suggests, it must be the right kind of data depending on the situation (1946:55):

...many planners want to know the ways in which society will be different after World War II. They want to know the many different results flowing chiefly from one cause, war. This is a legitimate curiosity. Naturally, it is more difficult to foresee many results than one. But usually such a broad curiosity is satisfied with naming the changes rather than measuring the amounts and locating these varying amounts in time. In such situations, we are interested in the scope of the vision rather than in focusing on a single point.

With the challenge to understand social phenomena over time and realizing the complexity of the issue, it is not difficult to understand why functionalism was so easily accepted. Visualizing society as a whole within a closed systems model was conceptually easier to contemplate. And yet, this approach is almost impossible to empirically validate and furthermore, does not provide an assessment of change over time nor allow one to view the dynamics of the changing system.

Goldhammer and Marshall (1953) in another important work, sought to dispel the general myth that psychoses has increased during the past one hundred years. For years it was assumed that mental illness was increasing in the United States and their study is a reaction to the danger of
making inferences about conditions in society without adequate data. They reviewed first admission rates at mental hospitals and through data analysis concluded "there has been no long-term increase during the last century in the incidence of the psychoses of early and middle life" (1953: 92). Their contribution to the social indicator movement is the support of trend data and their usefulness in understanding more fully and more accurately the conditions of society.

By the latter part of the 1950's some consideration was being given to the possibility of assessing social programs through the use of statistics and, thereby, not be forced to rely on personal judgment or the political wishes of policy makers. One example, and the final person (Cabello, 1959) to be discussed in this section, appeared before the American Statistical Association in 1959. His intention was to discuss the possible use of social statistics for future social programs and thereby encourage further research efforts into the methodology of programs at the national level. He noted that social programs are more difficult to evaluate because "mathematical models describing the effect of social measures on the levels of living, the cost of such measures and the physical inputs involved have not been established" (1959:207). In spite of such obstacles, according to Cabello, if one is to raise the level of living he does so by developing social programs. He then argues that before these programs can be evaluated, they need to be translated into statistical terms. To do this, nine components are delineated with subindicators proposed for only the first five of the nine. These are
health, food consumption and nutrition, education, employment and labor conditions, housing, social security, clothing, recreation, and human freedoms. Cabello concludes there is much to be done and issues a challenge which carried over from the 1960's into the 1970's (1959:210):

There is much to be done in developing methods of measuring levels of living and particularly in developing "operational" indicators, i.e., those which can be used in formulating national or local social programmes.

The 1933 President's Commission sought to obtain data on a wide range of normative social conditions which, hopefully, would aid society in understanding its present situation as well as plan for the future. As such, it represented the first joint attempt of government and social scientists to systematically assess societal conditions. Bennett continued this effort by seeking to obtain indicators of "standard of living". He was unable to satisfactorily generate the needed indicators and had to settle for the data and measures that were available, yet questionable for his purposes. Goldhammer and Marshall were not willing to accept the general consensus on rising mental illness. Their approach required them to consider the incidence of mental illness over a number of years and thus, proposed that trend analysis would dispel the traditional beliefs of rising mental illness. Ogburn must also be considered jointly with Goldhammer and Marshall since he suggested that unmeasurable data, which someday may be measurable, follow trends. The challenge for more adequate measurement is well taken. Cabello consolidated the period's suggestions by opting for relating social statistics to social programs.
In short, the social sciences needed to develop better measurement techniques and increased sophistication in the specification of social indicators.

This period came to a close in the middle of an interesting paradox. Social phenomena are understood to be rather complex and difficult to adequately measure. And yet, there appears to be a growing recognition of the need for assessing the quality of living which has as component parts, several complex social factors. A goal of the social indicator movement appears to be to explicate these factors and suggest measures where appropriate for the purpose of future decision-making in society.

1960-1966 period

The 1960's brought new concerns for society as represented in the report of the President's Commission on National Goals that was established by order of President Eisenhower. The purpose of the commission was to specify some general guidelines to be used for coordination of national policies and programs and, further, to establish goals in various areas of national activity.

Our enduring aim is to build a nation and help build a world in which every human being shall be free to develop his capacities to the fullest. We must rededicate ourselves to this principle and thereby strengthen its appeal to a world in political, social, economic, and technological revolution (Report of the President's Commission on National Goals, 1960:1).

The general goals suggested by the commission are first dichotomized between "Goals at Home" and "Goals Abroad." Each of these categories in turn, are explicated further into general but somewhat abstract subareas.
Among those conceptual areas of concern in "Goals at Home" specified by the President's Commission on National Goals (1960:3-14) are the individual, equality, the democratic process, education, arts and sciences, democratic economy, economic growth, technological change, agriculture, living conditions, and health and welfare. The government continues to take a role in the assessment of societal conditions by setting broad national goals for the purposes of giving direction for the development of future social programs.

Six years later, Biderman (1966:88) delineated eighty-one specific subgoals from the eleven more general goal areas presented by the 1960 President's Commission and attempted to identify indicators of those goals. Using loose criteria, and searching only two sources, the Statistical Abstract of the United States 1962, and Historical Statistics of the United States: Colonial Times to 1957, Biderman was able to locate somewhat relevant indicators for only forty-eight of the goals. There were thirty-three goals for which he found no relevant indicator. True, the government specified the general goals, but neither it nor the private sector was actually seeking indicators of all of those goals.

By the middle of this period, the trend toward better preparation for future social planning was evident. President Johnson (1964) delivered a national address entitled "My Hope for America" wherein he issued the challenge for all to become involved in planning the future. Again, a key person in government was promoting the idea that it is possible to plan for a better and more equitable future. Gross (1965) acknowledges the excitement over national planning following World War II but argues
that most of the interest has focused on economists and economic planning to the exclusion of other social scientists. His article "Planning: Let's not leave it to the Economist" issues a challenge to other social scientists to begin working on establishing social indicators. However, he warns that perhaps the social scientists are not yet ready for social indicators because of a lack of theoretical frameworks. He suggested the development of a type of taxonomy and states: "Wouldn't it first be necessary to develop an ordered set of concepts on which social indicators could be based?" (Gross, 1965:33)

An attempt to develop such a taxonomy on an international level was suggested by Russett, Alker, and Deutsch (1964) in their Handbook of Political and Social Indicators. Their rankings of over one hundred countries are based on descriptive data attempting to quantify a number of rights for the peoples of the world delineated in the Universal Declaration of Human Rights. Their work goes beyond that of Bennett in the earlier period, primarily in completeness of indicators, but also in the larger number of countries included in the analysis. An example of trying to assess some aspect of quality of life at a lower level of analysis than the larger macro scale was attempted by Cowhig and Beale (1965). They utilized census data over the past ten years in an effort to describe levels of living among whites and nonwhites. For indicators they used the percentage of households in 1960 having access to all of the following: a dwelling unit in sound condition, hot water piped inside the structure, a telephone, and an automobile (1965:12). Their
findings demonstrate that the relative position of nonwhites in 1965 was probably little better than it was in 1960. Certain indicators were utilized for purposes of making inferences about societal conditions not only for the present but also in a comparative sense. There was interest in knowing more about society and its various subparts and although the data was not necessarily used immediately by policy makers, at least it was being collected for possible future decision-making.

The last two sources to be reviewed for this period are viewed as providing strong preparatory inputs for the general acceptance of the social indicator movement. These are Social Indicators by Bauer (1966) and Coleman's report on Educational Equality and Opportunity (1966).

Bauer was serving as chairman of a committee of the American Academy of Arts and Sciences and was asked to appraise the impact of the American space program on the attainment of American goals. One of the suggestions in his book, which appears to summarize the entire work, is to supplement the national set of economic indicators with a similar set of indicators that will tell us how we are progressing (or the state of the nation) in areas not generally reviewed by economists. In addition, this additional set of indicators could provide planners with the opportunity of making decisions related to the social aspects of society on criteria other than traditional economics.

The last work to be discussed for this period made a major impact by providing more useful data about our education efforts. It was based
on a national sample. The "Coleman Report" (Coleman et al. 1966) as it is often referred to, provides the

...largest body of well-organized and usable data on American public education ever assembled...It is at the same time a brilliant demonstration that American social science now has the professional competence and technical apparatus to collect on short notice vast amounts of basic data on important national problems and to analyze and present these in an intelligent and useful manner (Sewell, 1967:475).

Over 600,000 students in grades 1, 3, 6, 9, 12 and their teachers, principals and superintendents provided responses on achievement tests, to questionnaires about their home backgrounds and educational aspirations. It appeared that a student's achievement is strongly related to the educational backgrounds and aspirations of other students in school. Most of the students at all levels receive their education in segregated schools. An unexpected finding using generally accepted indicators of educational attainment was (Coleman, et al., 1966:20):

In general, achievement was consistently lower for the minority groups (Indians, Mexicans, Puerto Ricans and Negro) than the majority groups (Orientals and Whites).

Minorities according to Coleman suffer from an inadequate school environment wherein their peers also come from homes of a low educational and economic level, have low aspirations for future education, feel pessimistic about their life chances and probably will not finish high school. In other words, the average Negro is in a situation where there is little challenge for academic performance. The staff members, educational programs, physical facilities, in addition to lower quality of fellow students, are all of a poorer quality for the minority group
student than what is available for the majority group student. Not only
do minority group students start school with a disadvantage but they
typically fall further behind the majority group students as they pro­
gress from grade to grade. Never before had such a charge been placed
on the educational system.

This study provided society with information contrary to traditional
beliefs about education by suggesting that the transformation which takes
place between the time a student, particularly if he is from a minority
group, enters school and the time he leaves may hinder rather than en­
hance his educational attainment. Furthermore, the study is a classic
example of generating indicators of the educational system. The data
was gathered in a relatively short time which suggests the possibility
of similar type studies dealing with other major societal institutions.
It created much concern for the manner in which we educate our youth and
pointed out that we emphatically need more accurate and more frequent
data about the qualitative aspects of society. One of the major criti­
cisms of the report is that none of the students were identified for
purposes of restudy which negates the possibility of conducting a longi­
tudinal or time-series study needed for assessing change.

By the end of this period it was quite evident that the government
was going to take a more active part in the planning of society. Indi­
cators for all the goals delineated by the 1960 Commission on National
Goals had not been developed. Yet, it appears progress was being made.
A common plea to involve other social scientists in addition to the
economists appears to have been heard as research by political scientists and sociologists increased at both the macro and submacro levels of society. The publication of Social Indicators by Raymond Bauer increased the exposure to the possibilities of developing a social accounting system. Coleman's work demonstrated how revealing and useful a detailed study can be for future policy planning. If nothing else, it indicated how very little we do know about our society and yet what major decisions are made without the relevant data. The social indicator movement was receiving greater exposure and many professionals and government officials were already contemplating an Annual Social Report which would draw attention to social conditions and possible needed solutions.

**Major contemporary emphasis (1967-1971)**

Since 1967 the growing interest toward a better understanding of the social aspects of society, as well as laying the groundwork for possible future societal planning continued to increase. A number of activities of significant importance took place the first year of this period.

Three professional societies devoted entire issues of their journals to topics which gave the social indicator movement greater exposure. The American Academy of Political and Social Science prepared a special volume devoted to social indicators from solicited articles. The response was overwhelming and ultimately led to the publishing of two separate volumes during 1967 entitled "Social Goals and Indicators for American Society, Volumes I and II" (1967a; 1967b). The American Academy of Arts and Sciences invited Daniel Bell to be guest editor for a special
edition of *Daedalus* with the title "Toward the Year 2000" (American Academy of Arts and Sciences, 1967). The American Psychological Association published a special volume "Congress and Social Science" in which the government's role in social science research was discussed.

In February, 1967, United States Senators Fred Harris and Walter Mondale introduced Bill #S.843 in the Senate and House of Representatives cited as the "Full Opportunity and Social Accounting Act" (Mondale, 1967). Among other things, the bill called for an Annual Social Report of the President and the establishment of a Council of Social Advisors. It has since been revised as Bill #S.5, has passed the House, and is still pending in the Senate.

It has long been assumed that occupational mobility is more likely to occur with an increase in education. Blau and Duncan's (1967) collaborative work on the occupational structure in America through analysis of data obtained in a large scale survey of working men provided insights to understanding social mobility. Their general findings were not too unexpected as they suggest that education, indeed, is a key determinant of occupational mobility (1967:152-160). Yet, when they controlled for race, they found that education does not enhance occupational mobility for minority groups.

Although educated Negroes achieve occupations superior to those of the less educated, the more education a nonwhite man acquires the further does his occupational status fall behind that of whites with comparable education (Blau and Duncan, 1967:211).

These results appear to parallel similar results suggested by Coleman in reference to the plight of minority groups. Coleman's
suggestion to provide better quality education would not according to Blau and Duncan's findings, be sufficient by itself, for increasing occupational status. They also note a further problem encountered by Negroes with higher education which is not discussed by Coleman (Blau and Duncan, 1967:211).

Yet despite this greater selectivity of nonwhites with college experience, they do not manage to achieve an occupational level comparable to that of whites and even fail to rise as far above their lower social origins as college educated whites rise above their higher ones...It is very probable that discrimination plays an important role here. This interaction effect of color and education means that the highly educated Negro suffers more from occupational discrimination than the less educated Negro...The implication is that the most educated Negroes, who tend to be more sensitized to and aware of discrimination, are also the ones most likely to experience relative deprivation as the result of occupational discrimination (1967:211).

Knowledge of a disparity in education between whites and nonwhites as suggested by Coleman, takes on a different meaning when combined with the possible discrimination experienced by those in minority groups who actually receive higher education. If one of the goals of the social indicator movement is to obtain the relevant data before making the decision, then more quantitative data of the type presented by Coleman, and Blau and Duncan will be needed. Furthermore, the findings of such studies should be interrelated.

The events discussed thus far and their possible implications were debated in the various testimonies presented in subcommittee hearings under the direction of Senator Mondale. Many of the recommendations by those testifying were for more social data, establishing a Council of Social Advisors, re-evaluating the census for a possible five-year census
given the demands of rapid change, need for social indicators to analyze trends, need for empirical data at all levels of society, consideration for establishing state councils of social advisors, and the need for a better system for evaluating programs (U.S. Senate Hearings, 1970).

Further evidence of government activity in the area of societal planning that influenced the social indicator movement is suggested in three recent government publications. Of these three, the Report of the National Goals Research Staff entitled "Toward Balanced Growth: Quantity with Quality" (1970), The Report of the Special Commission on the Social Sciences of the National Science Board's "Knowledge Into Action: Improving the Nation's Use of the Social Sciences" (1969), and the U.S. Department of Health, Education and Welfare's "Toward a Social Report" (1969). The latter report has probably had the most influence in the social indicator movement. The HEW report was criticized, for its inaccurate reporting of societal conditions, the sophistication required to understand it, and the manner in which it was pulled together by "week-end scholars" (Sheldon and Freeman, 1970). Nevertheless, it appears as an initial attempt at just what the title suggests, i.e., "toward" a social report. The report sought to provide answers to such questions as are we becoming healthier, are we better off, what do we need to learn, are conditions improving, and how can we do better social reporting in the future (U.S. Department of Health, Education and Welfare, 1969:100):

At the same time we also need to encourage the collection of new and more socially relevant data. If a balanced, organized, and concise set of measures of the condition of our
society were available, we should have the information needed to identify emerging problems and to make knowledgeable decisions about national priorities.

To aid in encouraging the collection of relevant data, the National Science Foundation earmarked one million dollars of its 1970-1971 research budget to be awarded to innovative research proposals in the area of social indicator research. The Social Science Research Council, in addition, received a small funding from NSF to develop criteria to be used for making decisions on such proposals. Finally, the Office of Statistical Policy in the Office of Management and Budget was given the responsibility to develop an Annual Social Statistics publication to provide descriptive data about society. The statistics are to be obtained from present governmental statistical series and will be presented in chart form. The intent is to provide data on individual well-being. However, no interpretations will be included (Tunstall, 1970).

Thus far, the nine areas of basic concern delineated by this staff are health, public safety, education, employment, income, housing, travel and transportation, physical environment, and recreation. No attempt is being made to interrelate areas and the staff is not completely certain if these nine concerns are the most basic to the functioning of society. It appears there is need for models of society which will specify the variables needed to understand societal conditions and eventually, "quality of life".
Implications of the three periods

Reflecting on these three periods, and the impact of the various events, suggests some major themes which the current social indicator movement considers as needed next steps toward the development of social indicators for future social planning. From the pre-1960 period the concerns ranged from Bennett's attempt to generate a taxonomy from the concept of "standard of living" to Cabello's emphasis on statistics for social programs. The President's Commission on Recent Social Trends sought to obtain relevant data for future societal decisions. Ogburn addressed himself to the problems of unmeasurable data suggesting they would follow trends. Goldhammer and Marshall demonstrated the usefulness of trend data for the purposes of clarifying the issue pertaining to whether or not mental illness was on the increase. The 1960-1966 period was marked by the 1960 President's Committee suggesting numerous goals for Americans and Biderman's attempts to locate indicators for those goals. By the end of this period, social planning was viewed as desirable and something which could involve all Americans. Crude indicators were developed for comparing nations but lacked the sophistication needed for discussing systems of indicators. Coleman responded to the general concern of providing relevant data on one of societies institutions and verified how little we really know about society. The period from 1967-1971 witnessed a growing interest in social indicators and social planning by professional societies and their challenges to social scientists. Senators Mondale and Harris introduced legislation to
provide for an Annual Social Report as well as a Council of Social Advisors. Blau and Duncan demonstrated that discrimination still exists to a great extent from their analysis of occupational mobility.

These three periods contributed much to the development of the social indicators movement and still provide general direction for future "next steps". On an immediate empirical level, more accurate data is needed about the functioning of society. At the same time, there is also a need to develop taxonomies, indicators and models of society which will aid in understanding social conditions. In many areas new measurements will have to be developed before it will be possible to evaluate the impact of social programs. In short, a need exists for models of the total social system. These are urgent problems that need immediate attention if social scientists hope to provide possible alternative solutions to societal problems in the next ten years. It will take more than the social indicators movement to accomplish these goals. Yet it does represent a start and many have already proceeded in select areas.

Toward Macro Models of Society

Most of the "social indicators" suggested thus far, and indeed the entire movement, have centered on national and international assessments of planning and states of social conditions (Durkheim, 1947; U.S. President's Commission, 1933; Bennett, 1937; U.S. President's Commission on Goals, 1960; Bauer, 1966; and U.S. Department of HEW, 1969). With such broad national goals as those stated in the Report of the President's Commission (1960) a macro model of society is needed which hopefully would provide direction for societal assessment.
To accomplish the urgently required job of building a national system of social accounts or a model of the national society, three great initial steps must be taken. First, we must add a detailed model of the social system. Next, we must fill this model with strategic sets of data, many of which do not now exist but must be developed. Third, we must begin to assemble into one integrated model the economic, political, psychological and sociological models (Williams, 1968:43).

Recent progress in accepting this challenge has generated a number of different approaches to macro models of the total society. These were partly in response to demands for a system comparable to macroeconomics, but also as a meager beginning to an ordering of society.

Gross (1966) developed a macro model and addressed himself to the question of how can one best appraise the state of a nation. His contribution to the social indicator movement was to take one aspect needing refinement such as the social system and begin the process of conceptualizing the basic components. His answer is to suggest a form of national social accounting which goes beyond economics. According to Gross, the evidence is quite clear that society has many segmented models based on theory and research that have not been interrelated. Systems theory offers a possible synthesis to narrow the gaps between models and reality. His contribution to this synthesizing is his structure-performance model.

The structure of any social system consists of (1) people and (2) nonhuman resources (3) grouped together into subsystems that (4) interrelate among themselves and (5) with the external environment, and are subject to (6) certain values and (7) a central guidance system that may help provide the capacity for future performance (Gross, 1966:183).

The performance aspect of his model has similar parts.
The performance of any social system consists of activities (1) to satisfy the interests of various interesteds by (2) producing various kinds, qualities, and quantities of output, (3) investing in the system's capacity for future output, (4) using inputs efficiently, (5) acquiring inputs, and doing all the above in a manner that conforms with (6) various codes of behavior and (7) varying conceptions of technical and administrative (or guidance) rationality (Gross, 1966:184).

System structure refers to an interrelation of several subsystems. System performance is the process of acquiring inputs from the environment and transforming them into outputs. Conceptualizing a social system is a difficult task and its utility is limited when the author does not specify operational measures for his concepts. The Gross model was used by Anderson (1970) in an evaluation of an intercultural health and medical care program for Mexican-Americans. Anderson encountered problems in attempting to operationalize the abstract concepts. This lack of operational measures is perhaps the most frequent criticism of Gross' model.

Tiryakian, in an article entitled "A Model of Societal Change and Its Lead Indicators", sought to make an input into what he termed "macro-dynamic sociology". Rather than take a general system as did Gross, Tiryakian selected one concept which would lead, in his opinion, to organizational change. Societal change is viewed in reference to revolution which further leads to a change in organizational structure. He elaborates an "Index of Revolutionary Potential" (1967:88-91). Societal change, he argues, cannot be predicted by totally economic conditions. The measure appears to be based in the abstract on a propensity for social disorder. Tiryakian's operationalization of this "barometer" is
to ask a panel composed of those competent in comparative analysis to assign ratings to several countries (1967:91).

Three indicators appear to be significantly related to outbreaks of a revolution which Tiryakian hopes can be utilized for providing advance warning signals (1967:92-94):

(1) Significant increases in rates of urbanization, (2) Significant increases in the distribution and public acceptance of sexual promiscuities, and (3) Significant increases in the outbreak of non-institutional religious phenomena.

One could question his approach understanding the components of a revolution and conclude that developing a 'Potential Revolutionary Index' might be possible given his orientation, but lacking operationalization, it is unlikely that his model would tell us much about societal change. Gross demonstrated a need for understanding social phenomena by attempting, on a macro level, to specify what is a social system. Tiryakian, on the other hand, selected one concept but had inadequate operationalization. They did, however, demonstrate to the social indicator movement, two alternative approaches which indicate a need for more adequate conceptualization and operationalization of concepts.

The approaches taken by Gross and Tiryakian are in no way meant to be exhaustive since additional models could also be reviewed (Corning, 1970; Bauer and Bauer, 1960; and Finsterbusch, 1971). They are presented to demonstrate an emphasis on macro models of society which attempt to meet assumptions and challenges Bauer presented in his book on Social Indicators.
The basic assumption of this volume will not be a surprise to the most experienced users of social statistics. It is this. For many of the important topics on which social critics blithely pass judgment, and on which policies are made, there are no yardsticks by which to know if things are getting better or worse (Bauer, 1966:20).

In reference to Bauer's statement, "yardsticks" for purposes of evaluation must be developed. But, building such yardsticks is not an easy task. The literature review of these three periods demonstrates that social scientists and government officials, although encountering difficulties, are addressing themselves to the issues which must be resolved before they will become effective in social planning for the future. Developing macro models, generating taxonomies, suggesting measurement are all important activities which must be considered. The social indicator movement will no doubt contribute to the better understanding of many of these activities. But the expectations of a better future should not be placed entirely on the social indicator movement since at the present, the claims far exceed our present abilities to produce.

Assessing Social Indicators

The recent interest in social indicators and the efforts to construct macromodels of society have developed through direct response to the perceived need for better social information. The analogy presented in Chapter one of the dissertation between economic indicators and social indicators suggests that since economics has proved to be so useful in past government policy planning, a similar set of social indicators utilized for monitoring changing social conditions will be
useful for government policy making and future planning in areas of social concern. From a cursory review of the literature it appears that claims made for social indicators are highly optimistic with the possible pitfall of introducing a new "social philistinism." A discussion of the claims for social indicators will hopefully clarify the optimism and begin to suggest what needs to be accomplished before the claims can become a reality.

Claims made of social indicators

The claims generally presented for social indicators include such positive statements as improving descriptive reporting, developing a balance sheet, ability to analyze social trends and social change, assessing the performance of society, anticipating alternative social futures, setting of goals and priorities, acquiring social knowledge for societal control and in general the eventual continuous monitoring of quality of life. Each of these could be examined separately, although several are definitely interrelated. Therefore, the various claims for social indicators will be discussed in the following general categories: Descriptive Reporting, Program Evaluation, and Planned Development and Societal Control.

Descriptive reporting

In order for effective social planning to become a reality, reliable information concerning the current state of affairs in society with particular emphasis on present societal conditions and social needs must be readily available. Persons involved in programs of development and
social planning have recognized this need for many years. For example, Wilbur Cohen, former secretary of HEW, strongly argued for the development of statistics to aid in policy decisions which assess the present conditions of society and the magnitude of problems that accompany rates of change (1968:14). One of the basic functions of social indicators as perceived by the authors of Toward A Social Report would be to provide descriptive reports on conditions of society. Indeed, social indicators could "give social problems more visibility and thus make possible more informal judgements about national priorities" (1969:xii).

One of the definitions of social indicators, which will be elaborated in a subsequent chapter, is directly formulated in terms of descriptive reporting.

A social indicator is 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 (U.S. Department of Health, Education and Welfare, 1969:97).

This definition adheres to the normative approach to social indicators and one wonders if descriptive reporting which this author equates with social accounting but not social system reporting, will be sufficient to accurately portray societal conditions. One of the many claims for social indicators, however, is that of providing information about current needs in relation to national objectives, thus aiding policy makers in establishing future national priorities.

Program evaluation

Another claim often made regarding the function of social indicators is that of program evaluation. Social indicators, it is claimed, will
aid in assessing the effectiveness of policies and programs by providing insights into national well-being and may "ultimately make possible a better evaluation of what public programs are accomplishing" (U.S. Department of Health, Education and Welfare, 1969:xiii). Perhaps nowhere in the discussions of social indicators does the economic analogy become more apparent than in the discussions of the potential role of social indicators in program evaluation. It is assumed that a reliable system of social indicators will provide the data base necessary for the establishment of a social accounting system capable of measuring social costs in much the same way as economic accounts assess the nation's economic well-being. A system of social accounts would allow society to record not only the gains which result from social programs, but the social costs as well, and to see how these costs are distributed. There is little doubt that a social accounting system of this type would aid in assessing program effectiveness and in policy decisions related to these social programs.

**Planned development and societal control**

The third claim could be of particular interest to both those in favor of social indicators as well as those opposed. The claim is that of providing requisite knowledge for societal control and planned social change. It is assumed by many of the advocates of social indicators that by making social problems more visible the requisite knowledge would be available to allow society to really become responsible to its membership, and thereby, be able to more effectively guide future development.
It is possible that if we now had a reliable set of social indicators many of the ills scholars or isolated members of society know about would be remedied or would not come to pass. Warning signals would be recognized and action would be taken (Young, 1970:77).

Society probably should not expect more from social indicators than is presently available from economic indicators. There is a feeling, however, that if it were possible to establish sets of social indicators, the possibility of averting future social tension and less desirable conditions would be greater than what is now possible. Comments such as those of Young are not uncommon as more individuals begin to explore the possibility of establishing some system of social indicators. Springer (1970:1) suggested:

To many scholars and public officials, proposals for systems of social indicators and accounts, and for annual presidential social reports, point toward what can be viewed as an ultimate instrument of societal management.

The possibilities of developing some type of information system capable of achieving the claims discussed thus far ought not to be discounted. However, as the social indicator movement has matured, several of the more scientifically oriented social scientists involved in the movement and writing more recently have addressed themselves to the aims, purposes and goals of the movement. Indeed, their purpose has not been to discredit the movement, rather to suggest caution and the many problems that must be overcome prior to developing usable social indicators. A discussion of the criticisms of the movement may provide a better understanding of the reasons why some of those involved in the indicator movement are suggesting caution.
Criticisms of social indicators

Criticizing the claims made for social indicators is a difficult task because, as yet, a system of social indicators has not been developed. In addition, the criticisms are interrelated in much the same manner as the claims and are difficult to separate.

It is generally accepted that the successes and achievements enjoyed by economics during the past thirty years are due to that discipline's ability to develop a functional economic theory which not only defined but, in addition, specified economic systems. Furthermore, economic theory postulates, either hypothetically or through empirical demonstration, the linkages and interrelations between variables in the system. Input and output factors plus the operation of the system can be assessed in terms of costs and benefits.

If one were to apply this same analogy to sociology, he soon would come to realize that presently no such a theory exists. For this reason social scientists such as Gross and Tiryakian attempted to generate macromodels of society which would demonstrate interrelationships between variables in the hopes of developing the needed theory. The problem with such grand scale attempts at modelling is that of operationalization and inability to disaggregate. For this reason, some are led to believe that social planners presently do not have the necessary theory and needed conceptualization for a system of social accounts. Perle implies this need when he argues (1970:139):

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 theorize about empirical findings. Theory without empirical verification is a worthwhile intellectual activity, but it has little utility for policy formulation. Conversely, heavy-handed empiricism without theoretical linkages has questionable scientific validity.

Traditionally, in sociology, the theorists have avoided empiricism, and the empiricists appear to be more concerned with measurement and reliability than with problems of theory. "The theorist wants to think about his problem and why it ought to be measured. The empiricist seeks to standardize the measurements" (Duncan, 1969b:9). It is all too easy to ignore the problems of "the other approach." Clearly, what Perle is suggesting is a more unified approach using both the contributions from the theorist as well as the empiricist.

Sheldon and Freeman (1970) are, perhaps, two of the most ardent critics of the social indicator movement. They suggest that the social indicator movement can contribute to the three major claims discussed previously, but raise similar concerns as expressed by Perle.

Although some social scientists have promised similar usefulness for social indicators and social accounts, this is not even a reasonable anticipation. There is no social theory, even of a tentative nature, which defines the variables of a social system and the relationships between them. It is even difficult to locate partial theories or so called middle-range ones covering any single aspect of society which have convincing explanatory potential. Yet, without the guidance of theoretical formulations concerning significant variables and their linkages, one can hardly suggest that there exists, even potentially, a set of measures that parallel the economic variables (Sheldon and Freeman, 1970:102-103).
The lack of theoretical orientation is perhaps the most basic criticism and also the most obvious need of the social indicator movement. Concepts need to be identified in some taxonomical format with further explication of subconcepts and their operationalization. Thus far, the accomplishments in these areas have been less than adequate.

Implicit in the claims for social indicators is the assumption that if it were possible to develop a system or systems of social accounting the specifications of goals and priorities about society might be more readily established. Program evaluation would then be possible with the intent of planning the development of future programs and activities. Sheldon and Freeman, however, suggest that goals and priorities are matters of national values.

It would be foolish to argue against the use of indicators in program planning and development, or to expect their employment to disappear as a means of influencing politicians and their electorates. But it is naive to hold that social indicators in themselves permit decisions on which programs to implement, especially that they allow the setting of priorities. The use of data to make a case either already decided on other grounds or one that inevitably is going to be determined by political rather than objective considerations—whether or not it is in a good cause—is a weak basis for the indicator effort. Priorities do not depend on assembled data. Rather, they stem from national objectives and values and their hierarchical ordering (1970:99).

The criticism regarding the use of social indicators for possible societal control stems largely from the definition of social indicators as presented in Toward a Social Report. The suggestion that social indicators are statistics of "direct normative interest" (U.S. Department of Health, Education and Welfare, 1969:97) has generated much discussion. If "normative type" data are to be collected and, in turn,
used for future decision-making one may immediately wonder whose normative interests will be used to determine the selected social indicators from the range of possible ones. Furthermore, who will use these data in developing additional goals and exactly who or what aspects of society will be controlled? These are only a few of the many concerns which must be considered before any system of social indicators can be used.

Henriot (1970), in seeking to answer some of these questions, suggests that conflict of interest rather than a lack of information has hindered the development of policies to deal with many of our social problems. Social problems and processes are often selected which represent current values and bias. Frequently, however, statistics are used for the purposes of political gain and persuasion according to Bauer (1966) and Biderman (1966). They both elude to a dual role of statistics for policy decisions. One role is factual reporting and the other role is that of political persuasion. The concern with factual reporting is that some may report only those statistics which will tend to support their vested interests. The danger expressed in the use of social indicators for political persuasion is that of maintaining the status quo without allowing change in needed areas.

Sheldon and Freeman also addressed themselves to these issues and, in particular, the implications of "normative" indicators for societal control (1970:100):

Perhaps more restrictive and confusing is the position that indicators must be 'normative'. Obviously what is salient today may not be so next year and vice versa; if only statistics of a direct normative interest are maintained,
currently invisible but subsequently critical social problems will not be encompassed by extant time-series...Moreover, it is claimed that indicators need to have 'direction', one pole being regarded as 'good' and the other as 'bad'. But what is good in the minds of some may be bad in the views of others, let alone that the direction may be evaluated in opposite ways by some persons at different times.

The criticisms presented in this section are not meant to dispel the utility of social indicators. Society needs desperately to acquire some systematic procedure to monitor the constant social changes taking place. Useful information will not only be sought by policy planners but, may in fact be demanded. The intent of this brief discussion of the claims and criticisms of social indicators was to present many of the current concerns which should probably be considered prior to the development of usable social indicators. The task of developing social indicators of societal conditions is not impossible, in fact, it would appear highly probable. The important point is to recognize that much additional work must be done in the areas of theory, conceptualization, methodology, understanding and specifying interrelationships and needed measurement of sub-indicators if the social indicator movement is to have an impact or play a role in the process of planning for future societal direction.

Summary

The purpose of this chapter was to present a review of literature involving sources, activities and events which appear to have stimulated the recent emphasis in social indicators and also point out some areas of deficiency in sociology which must be met in order for social
indicators to remain viable. The concern for understanding society is not a recent interest. Indeed, it has been the concern of early philosophers, government commissions and committees, and social planners for many years. An attempt was made to demonstrate this through a brief presentation of activities by two early social theorists plus three major periods since the 1920's which have influenced the development of the social indicator movement.

Recent attempts to build macromodels of society appear to have little utility mainly because of the difficulties in operationalizing such abstract concepts. This might be rectified by enumerating the concepts, subconcepts, and indicators of the macromodels, thus facilitating operationalization and the eventual process of model building. To date, some have tried these approaches (cf. Finsterbusch, 1971; Rossi, 1970) but there is need for additional effort to compliment their initial work.

Many of the claims, although highly optimistic, require discretion since the entire area of social indicators appears to suffer from vagueness. With such vagueness, it is easy to see why so many criticisms of the movement and possible objectives are so prevalent.

The present status of the social indicator movement is in a state of confusion. The use of the phrase "social indicators" seems to be a carbon copy of the term "economic indicators". Some optimistic individuals suggest it is possible to have an annual social report to the President within two years (cf. U.S. Department of Health, Education and Welfare, 1969). Obviously the current level of sophistication regarding present social indicators is not at the same level of
sophistication as are economic indicators. Before sociology can contribute to such a report on a continuing basis, much work is needed in the areas of conceptual clarification and measurement. Then, perhaps social indicators can make a contribution, and with existing indicators in other disciplines aid in better understanding societal conditions while planning for the future development of society.
CHAPTER 3: SOCIAL INDICATORS: DEFINITION AND METHODOLOGICAL IMPLICATIONS

General Conceptual Clarity

The recent interest in the conceptualization and measurement of social indicators has been accompanied by ambiguity in definition of social indicator. One procedure often used to clarify the concept is to equate the term "social indicator" with several other concepts in the hope that the reader will intuitively understand the meaning to be conveyed. Duncan (1969b), Springer (1970), Sheldon and Freeman (1970), and Kamrany and Christakis (1970) are only a few among the many that have discussed the interchanging of social indicators with other concepts such as social bookkeeping, social accounting, monitoring social change, social intelligence, and social statistics. Regardless of the term, at a general level the basic concern implicit in these concepts is the ability to better assess the present social condition of society.

This lack of conceptual clarity is not of recent origin. Social scientists have tried in the past to operationalize such concepts as "standards of living", quality of life", and their components. Bennett, for example, sought to measure the relative standards of living among fourteen different countries and much to his dismay could not define "standards of living". He found it to be a "complex and elusive concept" (1937:318). Some thirty years later Sheldon and Freeman, in trying to ferret the concept of social indicators conclude that it "must be regarded as an elusive concept" (1970:98). As a discipline, sociologists have not made much progress over the past forty years in conceptualizing
the social factors in "quality of life". If sociology is to accept the challenge to provide conceptual models capable of monitoring social conditions as suggested by Boulding (1967), it would do well to consider defining social indicator research as a high priority activity. The purpose of this chapter is to attempt such an effort. Consideration will be given to the range of definitions that are being proposed by those currently engaged in social indicator research, as well as specifying some additional parameters which can be considered before a working definition will be presented. After the definition is presented, consideration will be given how to proceed methodologically to study social indicators. An attempt will be made to demonstrate a methodological approach using community as the empirical arena.

Influence of economics

As one attempts to define social indicators a number of questions arise. At a general level, exactly what is a social indicator? Is it one grand indicator comparable to GNP in economics that will provide us with a gross overview of the state of society at any given time period? Or, does the concept "social indicator" refer to lower level subconcepts and subindicators of a more specific level of quality of life? Are they aggregated descriptive statistics or must they also be easily disaggregated? And, can one definition apply to all levels of generality? Hopefully, consideration of these questions can lead to a more useful definition of social indicators.

In the early stages of the social indicator movement the question was often asked "if we have economic indicators why not have social
Undoubtedly many of the early social indicator writers had this orientation. Economics had been very successful in providing periodic measures of the progress of the economy through economic indicators and it seemed only natural to look to that discipline for possible guidelines to aid in developing social indicators. One step in this development was to borrow an analogous terminology from economics and apply it to social indicators. But, as is often the case, when one borrows a concept from another discipline the tendency is to borrow not only the term but also the underlying definition. It appears that those caught in the economic analogy have proceeded to measure social phenomena selected on the basis of normative interests without relating these to a theoretical model which could demonstrate their interrelationship. Even though many of the economic indicators have been developed without explication from theoretical concepts, before they become useful for assessing economic conditions they are included in an economic model. In sociology, a model of this type does not exist, and most of the current measures referred to as indicators have not been included in a theoretical framework which would allow the inference of interrelationships. We therefore believe, that the suggestion which has been made by some authors (U.S. Department of Health, Education and Welfare, 1969) that social indicators exist capable of producing a social report in guiding public policy is premature. An example of research that has produced valuable descriptive data about society and which is referred to as social indicators but fails to provide a theoretical framework is the work of Jones and Flax (1970; see also Wilson, 1969). Their "Quality of
Life in Metropolitan Washington, D.C." contained fourteen quality areas with one empirical indicator for each area. Washington was then compared to seventeen other similar size metropolitan centers on these same qualities. The results were several profiles of the metropolitan cities which are assumed to indicate something about their relative quality of life. However, this is primarily descriptive data and does not allow any causal inferences or interpretations that would allow the prediction of future change or programs to alleviate such problems. They are not included in a relational model that would allow prediction or the choice of alternative strategies for planning. The discipline of sociology does not presently have a sophisticated theoretical model explicated into a system of indicators as does economics. Perhaps we will never have such a systematic procedure to measure social phenomena as currently exists in economics. Many of the empirical studies thus far have demonstrated a need to obtain data and make judgements regarding societal conditions. But first, a needed activity is to consider what we want to measure and why it is relevant. This will require work internally for sociology to compliment that which is currently being undertaken externally. There is no doubt, however, economics has and in many situations is still being used as a role model for potential social indicators.

The systematic approach used in economics in the development of economic indicators is eventually what may be needed in sociology and society if the indicator movement is to have any impact on future decision-making. But sociology, unlike economics does not yet have a common denominator for comparing social behavior, such as utility, which serves as a basis
for all economic analysis. Perhaps someday in the future a common denominator for comparing social behavior will become a reality. At this point, however, it does not seem plausible. In the interim, expending more resources on the problems of conceptualization may contribute to the development of a social denominator. A needed first step in the current social indicator movement is to define the concept "social indicator". Perhaps this objective can be met by focusing on the concept "indicator" and then briefly address the issue of what is "social".

**Indicator or index**

Searching the sociological literature for definitions of the concept "indicator" is not very rewarding. More easily found is a definition of "index". This is also the situation in economics where the term "indicator" is seldom used. Kamrany and Christakis have noted the manner in which the terms "indicator" and "index" are used in economics (1970:208):

The term 'indicator' is synonymous with index. In economics, aggregation means the construction of an index from individual economic data...It represents some value, mathematically or otherwise, derived from some accepted standard of series of observations and is used as a measure of certain conditions...It ought to be noted that economic indicators lend themselves to empirical observations and they are sensitive in varying degrees to general economic activities.

In economics these indexes are generally statistical time-series measurement of phenomena but this usage is not directly transferrable to sociology. One of the weaknesses in sociology has been the trend to
analyze static models and the relationship between variables in static models rather than assess change in dynamic models. Certainly this is a needed activity but a more complete analysis would be available if sociology developed time-series data which are included in a relational model capable of assessing the interaction of variables from a more dynamic sense of change through time.

Lazarsfeld and Rosenberg (1955:16) distinguish between indicator and index by calling the single observation an "indicator" and reserving "index" for the combination of several indicators in one measurement. The distinction has also been made between direct and indirect measurement with "index" referring only to the latter. Hagood and Price (1952:138) emphasize that an index measures indirectly the "incidence of a characteristic that is not directly measurable." Present usage would not completely agree with the distinction between direct and indirect measurement since all measurements are indirect in one sense or another. What, then, is an index and how might it be used by a researcher?

Index can be defined in two related ways. One, an index is an observable phenomenon that is substituted for a less observable phenomenon or for a phenomenon that cannot be directly observed...A definition perhaps more useful to the researcher is: An index is a number that is a composite of two or more other numbers. An investigator makes a series of observations, for example, and derives some single number from the measures of the observations to summarize the observations, to express them succinctly (Kerlinger, 1966:616).

Using this definition suggests that means and sums could be classified as indices since in the single measure, more than one observation is included. Composites of different measures would also be termed "indices". In the social sciences complexity of the phenomena under
investigation almost always requires a combining of several measures into one summarizing measure. Boyce (1970:151) suggests that an indicator is actually a performance characteristic and, as such, is a function of several observations at different points in time. Given this discussion of index and indicators how, then, does one know when using the term indicator is more appropriate than using the term index?

For clarification, it is proposed that an index is considered to be an empirical composite of numerical importance and therefore seeks to summarize and generalize empirical observations. An indicator is more theoretical in that it establishes an epistemic link between concepts at different levels of abstraction. Figure 1 seeks to provide a possible solution to the dilemma by presenting a diagram to aid in clarifying the usage of these two terms. An examination of Figure 1 suggests four levels of abstraction with level (A) the most abstract and level (D) the least abstract. At point (B) are two indicators of the higher level concept (A). But, these are also composites or indexes from measures obtained at level (C). This same explanation would also apply to level (C) wherein each of the four concepts would be indicators of the more abstract concepts at level (B). Level (C), however, is also composed of composites obtained from multiple measures at level (D). This discussion has particular relevance for the future growth of social indicators as government agencies and policy planners begin the process of data collection in areas of societal conditions. Many of the efforts will be directly toward the gathering of statistics for use in future decision-making. Statistics, however, are composites inductively formed
Figure 1. Taxonomy to clarify the use of indicator and index (The letters A, B, C, and D refer to different levels of abstraction. A is the most abstract, D is the least abstract and closest to measurement.)
from lower level observations. But, before an index can become an indicator it has to be epistemically linked to higher level concepts or to other system components. Therefore, gathering statistics, although needed in a descriptive sense, is not enough. They must be gathered to empirically represent indicators in a system with established epistemic links.

This distinction between indicator and index has not generally been made in the current social indicator movement. The tendency is to call everything in Figure 1 a social indicator. This may contribute to the general confusion regarding social indicators. A social indicator is important in a theoretical context and after the statistics are gathered, the social indicator must answer the question "indicator of what". An index needs to be sensitive to time fluctuations and therefore implies a time-series which is not the manner in which it is generally used in sociology (Kamrany and Christakis, 1970). These types of indices are yet to be developed in sociology but may be an important contribution of the social indicator movement.

Defining social in social indicators

As previously elaborated in the Introduction, Kenneth Boulding challenged sociology to give strong consideration to the development and conceptualization of the total social system. In effect, he is placing the responsibility for understanding what is social with the sociologists. Although this is not the express purpose of this dissertation, nevertheless, it is necessary to understand what is meant by the term social as used in social indicator. There are at least two general approaches to this clarification of the term social. One alternative is to consider
social indicators and economic indicators as major subparts in understanding society. Those who favor this option would suggest that since there are economic indicators why not begin to develop social indicators which would serve to compliment each other. For these individuals the noneconomic aspects of society could be classified as social indicators. This appears to be an acceptable delineation and one that is prevalent in the current social indicator movement. However, there is another position, broader in orientation of "social" that casts social indicators in a different perspective. It is also possible to use social in a more macro sense and allow anything within society to be subsumed in the concept of social. This alternative would suggest that political, education, health, economic and other such indicators would also be particular types of social indicators. Social indicators in this dissertation are of this broader orientation. Therefore, social indicators for community development more than likely will contain indicators from these various subgroups, including economic.

Recent Attempts to Define Social Indicators

The discussion thus far in reference to social indicators and their use for future policy formulation has centered on problems and concerns typically encountered at the macro-level of society. Indeed, the claims made by Cohen (1968:15) suggest that social indicators could not only spot emerging problems sooner, but in addition, provide some assessment of societal progress.
The emphasis on macro-models of society as suggested by Gross (1966) and Tiryakian (1967) has met with opposition because of the difficulties encountered as one attempts to quantify such abstract concepts. Much of the concern is related to problems of ill-conceived concepts, lack of understanding regarding their interrelationships and a typical problem often encountered in sociology—vague definitions. Kamrany (1968:3–4) in discussing the early social indicator movement states:

The issue of social accounting and social indicators are of recent origin. The term social account or indicators is not yet neatly defined conceptually or theoretically. It refers to some crude measure of overall well-being. It represents an attempt to describe, with some precision and detail, the condition of a society in terms of particular activities and social groups.

Part of the recent emphasis on social indicators has been a re-evaluation of the entire movement accompanied with serious attempts to refine the definition of social indicators so they can be used for policy purposes as suggested earlier in the dissertation. With each new definition one can almost visualize a maturing of the field which, hopefully, will allow those faced with policy decisions to make them with clearly defined social indicators. Given this re-evaluation regarding definitional clarity it would seem useful to discuss where the movement started in reference to a definition of social indicators. This will be followed by a discussion of some of the definitional modifications during the past five years, and the apparent need to expend efforts regarding conceptual clarity if the notion of social indicator is to remain viable for the future.

A recent categorization by Dial (1970) of the efforts of persons taking part in the growing interest in social indicators can be used not
only to point out different policy issues but in addition, suggests a possible delineation of categories for defining such indicators. His classification scheme centers on "four schools" or persuasions of social indicators. The first school discussed by Dial is representative of those individuals interested in assessing social change in reference to quality of life. This school is termed the "Quality of Life Boys" and is most easily identified by their highly normative approach. A major problem faced by this school, however, is that of quantifying quality of life which creates problems of specifying what mixture of surrogates ought to be included regarding a definition of indicators. The second school is called the "Goals Boys" because of their desire to avoid the connotations of "quality of life" and as a result, they promote the establishment of goals at various levels in society. Their emphasis is on sensing a problem, suggesting alternatives, and defining consequences in reference to choices made by the people. His third school is termed the "Social Movement Boys" and avoids the problems encountered in the first two schools by disregarding the objectives of measuring quality of life and goals. For this "school" the challenge is to delineate indicators of social change which can perhaps contribute to future conceptualization of the social system. This would represent one of the greatest needs in the social indicators movement and reclassifying this school as the "Social Systems Boys" perhaps more accurately describes their future activities. According to Dial, this approach is probably best for the advancement of the social indicator movement since it focuses on the social system through an emphasis on
conceptualization and does not become preoccupied with the prescriptive and normative approaches. His last school is called the "Social Statistics Boys" which emphasized the data need data availability trade-off. In this school, everything discussed previously i.e., quality of life, goals, social movement, and the normative approach are ignored with emphasis on the utility of reporting statistical series on various facets of social living. He suggests one other school which attempts to include social measurement in the evaluation and calls this pseudo-school the "Program Evaluation Indicator/Social Indicator Boys".

The categorization of recent social indicator efforts into four schools is evidence of the diversity of the subject matter resulting in confusion regarding next steps. Which of the schools, if any, would appear to incorporate an acceptable definition of social indicators since in themselves, they suggest a lack of consensus and a general criticism of the proposed area of interest.

Dial's classification is useful for categorizing general writings in the area of social indicators. Although it is not particularly useful in arriving at a specific definition, it appears to be a fairly good representation of the types of definitions encountered in the social indicator movement. It does suggest, however, a possible delineation of some guidelines that have and should be considered in striving for such a definition. His first two schools, the "Quality of Life Boys" and the "Goals Boys" appear to be normative in their orientation and could therefore be combined for discussing the normative aspects of the definition.
Some social scientists have suggested that any definition of social indicators must also give consideration to "levels of indicators". Dial's schools do not consider levels as such but his emphasis on social systems and a need for further conceptualization would appear to legitimize both areas in any discussion of definitions. Therefore, it might be useful to review recent definitions of social indicators and efforts toward a convergence by utilizing three categories of normative aspects and descriptive purposes, specification of levels of social indicators, and social indicators in systems rather than isolated descriptive variables.

**Normative aspects and descriptive purposes**

A major thrust of the social indicator movement came immediately following the release of the HEW document—*Toward a Social Report* which demonstrated the government's interest in societal affairs based on social factors in addition to the typical economic factors. However, prior to this release several individuals (Katzman, 1968, Holleb, 1968; Kamrany, 1968; and Gross, 1968) attempted to present their contribution to the question "What is a social indicator?" Katzman is an example of the earlier work prior to HEW's document. He views social indicators (1968:96) "as measurements of social phenomena whose movements indicate (1) whether a particular social phenomenon is increasing or decreasing; and (2) whether a particular problem is getting better or worse relative to some goal." Holleb differentiates social indicators and social accounts by suggesting that social measurement must include an assessment of social change "in terms of explicite social goals" which she labels social indicators and "provide a framework for evaluating social
policies and programs in terms of their effectiveness in achieving these goals" (Holleb, 1968:83) which she designates as social accounts.

As indicated, the HEW document has contributed much to the rise of the social indicator movement. It is especially useful in providing a basic definition from which many depart in attempting to add greater conceptual clarity. The definition used in the HEW report is found in the Appendix of that report and attempts to explicate more precisely exactly what is a social indicator (U.S. Department of Health, Education and Welfare, 1969:97).

A social indicator...may be defined to be a statistic of direct normative interest which facilitates concise, comprehensive and balanced judgments about the condition of major aspects of a society. It is in all cases a direct measure of welfare and is subject to the interpretation that, if it changes in the "right" direction, while other things remain equal, things have gotten better, or people are better off. Thus, statistics on the number of doctors or policemen could not be social indicators, whereas figures on health or crime rates could be.

Almost immediately this definition received criticism for its emphasis on "normative interest" and "changes in the right direction". It may be noted that several of the HEW panel members in later publications suggest definitions somewhat different than the one proposed in Toward a Social Report.

Toward a social report

Cohen (1968) suggests a similar definition to that in the HEW report with greater emphasis on the role of meaningful statistics in rational decision-making which can serve in formulating future policy. For Cohen, there is a need for two kinds of statistics for future use in policy
planning. The first type would assess the present conditions of society and include the magnitude of the problem accompanied with rate of change. This is a descriptive type statistic which distinguishes it from the second type of statistic needed that refers to the cost and effectiveness of the alternatives one might utilize in providing solutions to those problems encountered in the first type. He labels this first statistic a social indicator. However, according to Cohen only a few could actually be classified in this category (1968:14):

Unfortunately most government statistics are by-products of the needs of accounting and administrative routine and thus tell us more about the operations of government than the conditions of society.

The types of statistics needed which Cohen terms social indicators are not being gathered. If they were to be gathered, hopefully, emerging problems could be diagnosed at an early stage and thus prevent gross societal errors. Without measures which allow us to contemplate reality it will be extremely difficult to make inferences regarding fluctuations in social indicators.

Another individual actively engaged in refining the definition of social indicator was a major contributor to the document Toward a Social Report. Olson (1969b) defines social indicators largely in terms of indices to provide information for policy-making and has developed the rationale of both the purpose and plan of the social indicators movement around the need for better information. Specifically, social indicators are conceived as "measures of developments in which we have a normative or moral interest". He further suggests two additional characteristics (1969b:339):
A social indicator...must be among other things a measure of the conditions of a society or the "quality of life" within it, and it must be a part of a coherent system of socio-economic measurement that can facilitate comprehensive and balanced judgments about the condition of major aspects of a society.

In another paper he has attempted to develop a normative model of society fashioned after the Parsonian notion of a social system. In this model he seems to suggest that consensus and shared values are the crucial normative factors to be optimized in social systems (Olson, 1968). This would tend to suggest that social indicators should be statistical series designed to measure normative concerns with social integration and consensus.

Defining social indicators in the framework of normative interests and descriptive purposes for future decision-making again raises some serious questions. To the authors of the HEW document, this type of statistic based on normative considerations is important for improved public policy and social planning because such normative measures of social conditions "could give social problems more visibility and thus make possible more informed judgments about national priorities" (U.S. Department of Health, Education and Welfare, 1969:xiii). There is little doubt that social problems need more visibility in many areas of our society. However, it is precisely the realization that the statistics developed under the general guise of social indicators will be used in policy planning that has raised questions in the minds of so many about this claim that social indicators are to be expressions of normative interest.
For, it is clearly evident that these data will influence the future course of our national life no matter how "good" or "bad" they may be. When knowledge is sought for purposes of societal control, and the data upon which this knowledge is to be constructed are admittedly measures of direct normative interest, one cannot help but wonder: "Whose normative interests 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?"

Levels of indicators

The discussion thus far attempted to present the current state of definitional considerations in the early stages of the social indicator movement. Clearly there is much to be done before reaching a more adequate conceptual clarity. To aid in this task, it might be useful to think of the definition of social indicators as applying to measures of more than one level of generalization. However, the conceptualization of social indicators at these various levels will change depending on the level of abstraction under consideration.

Kamrany and Christakis (1970) begin their criticism of social indicators as presently conceptualized by referring to definitional problems. They recognize the need for greater conceptual and theoretical clarity and after reviewing some of the current "popular" definitions of social indicators suggest that current attempts at aggregation and normative emphases are inadequate. Their contribution to the advancement of the definitional concerns arises from a delineation of three
kinds of indicators (1970:210-211). **Absolute Indicators** refer to measurement of indexes for which a general consensus among experts has been reached, or, in other words, a decision as to the minimum requirements for a stable society. **Relative Indicators** do not state an optimum value but are time series data and cross-comparison data. The third type of social indicator is termed **Autonomous Indicator** and refers to "those indexes which reflect specific, social, economic, institutional and cultural values of specific regions". One major difficulty with their suggested delineation of indicators concerns the criteria to establish priority among the three indicators. Unfortunately, none are suggested.

A similar approach yet with some differentiation is presented by Vestermark (1968). Although he adopts Olson's definition his contribution is, again, an attempt at explicating into three levels what he means by a social indicator. For Vestermark (1968:6-7):

A social indicator is a measure of some aspect or condition of society or its elements which is of interest to individuals officially charged with responsibilities for planning and evaluating programs. Note, therefore, that the concept of 'social indicator' has inherently a value, a normative reference. A social indicator is not merely a piece of information about society; it is a piece of information given significance because it tells the policy and systems designer or program evaluator something he wants to know about the current quality of life in the society.

Vestermark suggests that his definition varies significantly from the general approach in current social indicator literature. He treats the concept of "social indicator as explicitly descriptive as well as value-relevant, on several different analytic levels". His schema is a
hierarchical arrangement of the following three levels of generality (1968:15-16).

1. **Indicators of the lower range** are indexes which describe the incidence of social structure and process at the level of visible human actors and groups.

2. **Indicators of the middle range** are generalized indexes of structure and process which depend for their values on particular individual or group behavior patterns, but which denote social processes or phenomena not fully available to the perceptions and control of their participants, and which are at the same time links between effects on individuals and groups on the one hand and effects on organizations and institutions on the other.

3. **Indicators of the upper range** would be aggregate indexes of social vulnerability or viability, where the indexes adequately summarize the interdependencies and interactions of institutional organizational sectors of society.

Indeed, Vestermark covers most of the aspects of the various definitions of social indicators. He suggests that the inductive approach (1968:16) starting with lower range indicators ought to build toward generating more complete indicators at upper levels of generality. The recognition of the need to conceptualize social indicators at various levels of abstraction must be considered an important contribution. Kamrany and Christakis have emphasized this same need (1970). Outside of this emphasis on the need to conceptualize social indicators at several levels of generality, it would appear that both Olson's and Vestermark's definitions embrace the same normative difficulties discussed in reference to the HEW document, *Toward a Social Report.*
Indicators in social systems

Those individuals discussed thus far, and their accompanying definitions, have relied heavily on descriptive and normative aspects of social indicators. In much of the literature this diversity has contributed to confuse the issue of social indicators as suggested by Perle (1970:136).

The literature on indicators is so recent that there is little consensus at present about what indicators are, what they should be, or how they are to be utilized.

A useful contribution to the social indicator literature and movement in general would be to examine these questions in the hopes of attaining consensus if possible, and certainly providing suggestions whereby the consensus might be achieved. The final part of this section in reference to definitional concerns for social indicators presents the writings of four individuals whose approaches and suggestions for next steps vary, yet appear to offer a viable alternative for future social indicator research. Like Perle, Sheldon and Freeman (1970) concede that the term social indicator is an elusive concept. Their claim is based on a critical review of some of the more current diverse definitions of social indicators which include in their discussion such issues as; measures of welfare, of direct normative interest, statistics which can be disaggregated and finally, that indicators also need to have "direction". One addition to the existing definitions of social indicators made by Sheldon and Freeman centers on the need for time-series data which hopefully will provide awareness of fluctuations in rates as well as more adequately understanding long term trends.
A previous chapter discussed Sheldon and Freeman's evaluation of some possible uses of indicators in setting goals and priorities, evaluating programs and developing a societal balance sheet. Of relevance to this section on definitional implications are their suggestions for the potential of the indicator movement in reference to improved descriptive reporting, analyzing social change and predicting future social events and social life. In order to make these potentials a reality necessitates expanding the definition of social indicators (Sheldon and Freeman, 1970:104):

Such efforts require some ideas on the systematic character of different social phenomena, ideas that can be developed by inductive and deductive approaches, that, increased efforts to develop both empirical and logical models of the social system of aspects of it. In the long run, knowing better what to measure will depend upon how one social indicator fits with others, or at least blends into a complex mosaic.

This statement by Sheldon and Freeman embraces the majority of the needed next steps in the development of social indicators. To them, future efforts can be initiated either inductively or deductively and perhaps both approaches will be necessary in order to advance social indicators. Their emphasis, however, is on the need to better understand the social system and the interrelation of its parts.

Land (1970) in an extensive treatise on social indicators, severely criticizes recent theoretical and methodological issues. After reviewing past efforts to conceptualize indicators, he presents three criteria which ought to be employed in the definition of a social indicator (Land, 1971:4-5).
The term social indicators comprises those social statistics which possess the following attributes: (1) they are components in a sociological (including sociopsychological, demographic and ecological) model of a social system or 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.

His emphasis on social indicators being a component in a model is, in part, based on the success economics has enjoyed through macroeconomic models of society. He admits that macrosociological models of the type suggested by Gross are much too general to apply in specific social institutions. For this reason, his "next step" refers to models of specific social institutions (Land, 1970:62).

Rather, the sociologist is typically forced, as in the case of Duncan's analysis of the stratification process, to build up inductively a satisfactory model of the operation of a social institution. I should like to emphasize that these are the major unsolved problems in social indicators. We need macrosociological models of processes and institutions in education, health, the physical environment, income, poverty, welfare, public order, science, the arts, social participation, leisure, technology, the family, the polity, religion, and other related topics. Then we will possess models for social processes and institutions of comparable power to the economic models of industries and market.

Finally, consideration is given to the recent writings of Duncan (1969b) and his suggestions for needed next steps in social reporting. Although he does not specifically define social indicators he does review the several next steps suggested by various writers in the field which include such attempts and/or issues as (1969b:3-7):

1. construct an architectonic framework for a system of social accounts,
2. devise indexes of social indicators based on direct normative interests,
3. resolving the appropriate scope of a social report before significant progress can be made,
4. where should responsibility for a social report be lodged,
5. concern regarding the linkages between procedures of social reporting and government policies and programs in the social field, and
6. consideration for the measurement of social change.

Duncan presents criticisms of each of the above attempts and issues centering on the needed strategies for measuring change. His suggestion for needed next steps requires some analytical model suggesting relationships or else (Duncan, 1969:8) "there is a grave hazard of making the wrong measurements or failing to make all the measurements needed for an adequate causal analysis". He opts for some system approach and proposes that replication studies would appear to fill the current gaps regarding needed data for future social reporting.

Summary of definitions of social indicators

The three categories of normative aspects and descriptive purposes, levels of indicators, and indicators in social systems were utilized to explicate the various definitions of social indicators. They are meant to lead one to a more sophisticated, yet useful definition. Many of the early efforts in social indicators were guided by a normative approach to societal guidance. This raises serious questions regarding whose normative interests will be utilized for societal control. Ultimately consideration must be given to normative interests if a complete definition of social indicators is to be achieved since any adequate measure of quality of life must, in part, reflect the perception of quality as seen from the eye of the beholder. Another consideration in explicating the definition of social indicators is to consider various levels of conceptualization. This is important for clarifying the normative aspects of
indicators because it begins to bring closure on social indicators by linking them to empirical referents. The third category suggests social indicators are to be considered as components in a social system. The emphasis upon developing social indicators within a social system model may be especially important if social indicators are to be useful in social planning. Effective social planning is dependent upon the ability to predict consequences of social action programs or other aspects of parts of society as well as upon the objectives of that immediate program. This can be done only if we have models capable of showing interrelations between societal phenomena which is the purpose of a social systems model. Therefore, social indicators might best be conceived as indicators of the performance of a social system just as economic indicators are conceived as indicators of the performance of an economic system.

Social indicators may be more than normative, descriptive indices. Indeed it appears they must also be considered as components in a social system that are interrelated. Furthermore, to be indicators of the variations in the functions of society they must be gathered over time or more accurately called time-series data. But what additional aspects ought to be considered? Is it possible to have a normative system which will not result in overlooking the relevant societal elements? And, what methodology appears to be relevant for the future study of social indicators?
A Normative Model of Community

Thus far, most of the government attempts to suggest information systems centered around the social indicator movement have had strong normative implications. Interest in improved social reporting has been stimulated by various concerns, although two central problems giving rise to the social indicator movement have been the recognized need for better information to aid in social planning and controlled social change. Social indicators, in turn, have often been viewed as instruments to aid in monitoring societal progress toward the goals underlying social planning. Hence, social indicators have been conceived as measurements of direct normative interest to persons responsible for policy decisions. However, as noted in an earlier section of this chapter, this type of definition raises serious problems in conceptualizing an adequate system of social reporting. The most basic issue is concerned with the problem of identifying social goals that are socially acceptable and that represent social values that go beyond the narrow normative interests of government administrators. The recognition of this problem has given rise to recent attempts to develop normative models that are capable of delineating social goals in a broader context.

In economics the problem of goal setting is minimized due to the general acceptance of the overall goal of the maximization of utility. By limiting their concerns to primarily one economic goal it is much easier to develop indicators of the performance of the economy in progressing toward that goal. In sociology, however, we do not have commonly shared goals to aid in establishing social indicators of
societal performance in this sense of progress toward goals. It may even be argued that the goal of maximization of utility may be an inappropriate conceptualization of the goals of economic behavior. In the broader range of social behavior it is very doubtful that persons behave in many aspects of their life to maximize utility. Therefore, any systems model designed to generate indicators of behavior toward that restricted goal would be of little use in assessing societal performance. Because there are no commonly shared goals in the wider sense of social behavior, it may be necessary to develop a strategy for delineating social indicators outside of the conditional framework of economics which conceived indicators to be progress toward more commonly accepted goals. An example of the problems confronting those that would take this approach is demonstrated by the work of one economist who has attempted to suggest common goals he feels are accepted in sociology. Olson (1968), in looking at this problem from the point of view of an economist, attempts to develop a normative model based on such broad social goals as integration, alleviation of alienation, and consensus. It is very doubtful that any sociologist would accept these as societal goals and research has demonstrated in many instances that these might be undesirable goals under specific circumstances. Warren (1970), therefore, rejects this effort by Olson as non-acceptable to sociologists and probably to society. He then proposes a model to be used in planning which is normative but seeks to avoid maintaining the status quo inferred by Olson.
But in what sense, if at all, can a normative model for the com-
munity be constructed which corresponds to the economic normative
model...which does not make value assumptions as to what kinds of
values are to be optimized? The economist is able to make his
calculations precisely because he precludes all but a single
dimension in his analysis, the maximization of utility. Any
counterpart normative sociological model for the community would
have to go beyond this and specify what types of values are to be maximized—or, at least optimized. Otherwise, the sociologist
is caught in the dilemma of ascribing value to maintaining the
system as such, regardless of what returns it is providing to its
environment which is ideologically repellent to many sociologists,

Remaining value free in sociology is a constant concern for sociolo-
gists engaged in research. Warren, however, suggests that it is possible
to develop a social systems model of community without building in
values. He, however, goes on to suggest that the construction of such a
model could not be accomplished without dealing with the problem he refers
to as "value-loading". This is especially true if a model is to have any
application to social planning. It is in his attempt to develop an ap-
proach to the problem of "value-loading" that Warren suggests a concep-
tion of indicators that is very close to the definition that appears to
be more usable for future indicator research (1970:223):

"The approach employed will be to treat value as dimensions
of choice, not prescribing at what point on these dimensions the
indicated value should be accepted, but rather on the basis of
empirical investigation the relationship between specific 'load-
ings' of these value dimensions can be established. In some
instances, a high loading on one value may facilitate the
realization of a high loading on another value; in other in-
stances, a high loading on one value may make difficult or
impossible, empirically, the realization of a high loading on
another value."

Applying this notion to social indicators one can then conceptualize
indicators as indices that measure the current social condition relative
to these value dimensions of choice open to individuals and societies. Warren suggests we are not really concerned in the social indicator movement with progress toward goals but rather in terms of dimensions of choice. Social indicators further must be logically or empirically interrelated so that they can show the net effect that certain value loading on one dimension will have on other value dimensions. The important feature of this approach is that social indicators are not conceived as merely direct measures of normative interests, but rather, they are conceived as systems of interrelated indices that objectively measure systems states and systems performance. In this way they should provide the basis for optimizing any sets of values that one wishes to load into the system.

Social Indicators: Methodological Implications

If one accepts the definition of social indicators as being components in a social system that provides information about the functioning of the system, a major question for future concern is the methodology to be employed in developing such a system. As Duncan has so effectively pointed out, the current discussions of social indicators tend to polarize around two basic strategies; the theoretical-deductive, and the empirical-inductive. Duncan characterizes these two positions as follows (1969:9):

The 'theorist' says, "let us think long and hard about what we want to measure and why. Then we will feel confident about what ought to be done by way of making observations. The 'inductivist' responds, 'Let us see if we can measure something, for whatever reason, and standardize our measurements so that we achieve an
acceptable level of reliability. Then let us study how the quantity being measured behaves. If we can figure that out, we will have come to understand why we made the measurement in the first place."

Duncan goes on to opt for an approach to social reporting that follows more the inductive approach. He argues that, from his own assessment, "those who have approached the problem of social reporting with the strongest theoretical presuppositions have possibly made the least impressive contribution thus far" (1969:9). In general the proposed approach in this dissertation is similar to Duncan's assessment and the inductive approach would appear to be the most viable alternative for future social indicator research.

On the basis of the inductive approach, Duncan suggests a next step in social indicator research worthy of considerable attention. His basic thesis is that our attention in the immediate future might best be focused on the problem of how changes in values of measured variables are to be detected, rather than focusing on how a social indicator is measured (Duncan, 1969:10). This would reorient the concern more toward "trend studies" and measurement of change. This type of research, he suggests, might be best advanced through replication studies of earlier research which are of high enough quality to serve as base data.

The effectiveness of this approach is clearly evident in the excellent study of stratification in America reported by Blau and Duncan in the book The American Occupational Structure (1967). In this study, which was the special census survey in 1962, they attempted to construct and estimate the parameters of various path models of the process of
social stratification. In many important areas of future sociological analysis, social systems models capable of analyzing input and outputs of social institutions could be built inductively much in the same way that was done in this study.

Land (1971) has also argued strongly for the inductive approach to model building. His suggestion for next steps in social indicator research seems to focus largely on an institutional approach in which model building similar to Blau and Duncan's work would be done in all major institutional areas of society. By focusing on more limited models with clearly defined parameters, he believes that models for social processes and institutions can be developed of comparable power to the economic models of industries and markets.

The position taken in this dissertation is similar to that of Duncan and Land. The inductive approach offers greater promise for eventual development of social systems models and requisite social indicators. However, this emphasis on a more inductive form of research 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. This would suggest agreement with Perle's comments on the methodology of social indicator research when he argues (Perle, 1970:139):

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 theorize about empirical findings. Theory without empirical verification is a worthwhile intellectual activity, but it has little utility for policy formulation. Conversely, heavy-handed empiricism without theoretical linkages has questionable scientific validity.

Hence, a more effective approach to social indicator research should attempt to bring together theory and observation so that conceptual models of social indicators can be formulated which accurately represent the state of life of individuals and subgroups. A problem is that of methodology given the restrictions regarding collected data or the bounds within which data can be collected. 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 which lend support to a more inductive approach to the problem. Some of his suggestions may lay the basis for a promising next step in social indicator research.

Disaggregation

To be useful in planning for development or in monitoring social change, social indicators must be developed to reflect variations in sub-categories. One of the major objections to economic indicators, as well as 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, and occupation. Coleman has noted this problem in discussing the impact on the American Negro of policy decisions formulated on the basis of aggregated data (1969:94):
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.

It would appear 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 disaggregations, because the indices and measures may not provide the requisite data necessary for assessment of the social state of subgroups and ecological units. An alternative approach which will allow for a more inductive method of developing indicators of quality of life in macro-systems is to focus research on partially disaggregated population subgroups and then combine these measures into more generalized indicators of larger population units when the requisite techniques and data are available. Nonmetropolitan communities represent disaggregated population subgroups where, by definition, disaggregation is partially accomplished by the population parameters employed in the study, and, where the smaller less complex population lends itself more readily to further disaggregation.

**Combined conditions**

A second level of increasing methodological sophistication emphasized by Coleman moves in the opposite direction from disaggregation and lays the basis for inductive model building. This is the need to combine data from several indicators to provide a multidimensional profile of individuals and subgroups. Coleman argues (1969:96):
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.

An important task in the early stage of the development of social indicators would be to focus on disaggregated population subgroups, the different levels of abstraction, and the relationship between these levels as attempts are made to conceptualize indicators of social conditions and community viability. The importance of generalized indicators which 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. However, 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 sensitize one to social conditions, but confront the researcher with unlimited and often insurmountable problems when attempts are made to explicate and operationalize these concepts into measurable indicators.

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 attempts to conceptualize factors inherently a part of the social state of individuals found in various socio-economic positions and population subgroups. An 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 total life experiences of people that it is possible to 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 theoretical model by combining these concrete indicators into more abstract indicators which provide a multidimensional profile of individuals and subgroups. Hopefully, a conceptual model of community, constructed in this way, would provide empirical indicators capable of eventual further aggregation at least, and possible generalization to larger social systems at a later stage of research.

Controlled indicators

A third suggestion for increasing methodological sophistication suggested by Coleman, is the need to develop controlled indicators which are designed to show cause of a given condition. In his discussion of controlled indicators, Coleman states (1969:96):

The reconstruction described above 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 would obviously necessitate a highly sophisticated model of change which is able to show the interrelationship between factors of the change process. A model of this type is not available at the present time and, no doubt, will not be available for sometime in the future. However, at the present stage of development of indicators, the inductive approach outlined above offers considerable promise for the development of controlled indicators, as well as, 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, nor have they related indicators of quality of life to causal factors. 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 which focuses on abstract macro-models before the requisite methodological sophistication and more concrete models have been developed. As an alternative, a more promising approach would be to focus research initially 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 tested and 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.

In other words, one viable approach to the development of models necessary for the conceptualization and use of social indicators is to focus on the measurement of the social impact of important social processes. There are several levels of analysis that could be undertaken in using this approach. Research could be developed around the so called "prime movers" such as urbanization, industrialization, technological change and population shifts. If the opportunity were presented to conduct research on social indicators for community development, population shifts could be a major parameter for such future studies. Especially important would be the changes in size and density of population in both the metropolitan and nonmetropolitan areas. Consideration of this parameter could be helpful in future policy decisions regarding population redistribution or constructing new communities versus traditional programs of urban renewal. At the present, the data necessary to assess the impact of population shifts are not available and one could question the feasibility of current administrative decisions and national policy regarding the future growth of society. In the meantime, a taxonomy of social indicators reflecting the social impacts of population shifts is needed. A contribution to this needed activity would be the specification of a general taxonomy related to community variables which would allow the assessment of current societal conditions.
The purpose of such a social indicator system would allow the monitoring of these population shifts in society. A first step in developing such a monitoring system would be to develop a descriptive taxonomy of that ecological area affected by the population shifts. Initially it might be best to focus upon the nonmetropolitan communities. Such an ecological area has the advantage of containing smaller communities and the development of a descriptive taxonomy of social indicators would be somewhat easier than initiating such a task with the larger metropolitan areas. Furthermore, it is probably easier because the community is partially disaggregated in terms of Coleman's discussion. This type of approach should provide some useful insights as the eventual research emphasis moves from the nonmetropolitan to the complex metropolitan area. Furthermore, the selection of population shifts as a major societal process is completely manifested in rural areas where it is possible to experience declining, stable, and growing population situations. The current urban centers are generally growth centers and it would not be possible to control for declining and stable population situations. A first step in any case would be the development of a rationally complete taxonomy explicated to lower levels to meet the problems of completeness, combined conditions and controlled variables as suggested by Coleman.

This same type of approach could be utilized in studying the social consequences of urbanization, industrialization, and technological change. On the other hand, there are many other social processes that lend themselves to this type of analysis. Social indicators and rational models could be developed around processes such as socialization, discrimination,
mobility (as Blau and Duncan have done), public decision-making, law and criminal justice, etc. In most of these areas, significant progress has already been made through years of intensive research that should provide base data and theoretical inferences that may greatly enhance the development of social indicators. In fact, there are many relatively high quality studies that might be used as base lines for replication studies and longitudinal analysis, consistent with Duncan's suggestion as an important next step.

The advantage of focusing on social process at the outset of social indicator research is that social indicators should be designed to monitor change. By focusing on building models of institutions as Land has suggested seems to lead to the establishment of static models and indicators that reflect the status quo rather than the impact of change. An important concern in the social indicator movement appears to be the development of yardsticks that may allow a continuing assessment of the social consequences of both planned and unplanned change. To do this will require the relating of social processes to human life conditions.

Summary and the Needed Next Steps

Thus far many important phases in the general approach to the study of social indicators for societal guidance have been considered. Each of these phases has contributed to the present state of enthusiasm regarding the possible monitoring of society. The purpose of this brief summary is to re-emphasize the need for social information, summarize the trends in the indicator movement, indicate the type of definition that appears to be
most useful for future indicator research, and suggest the needed next steps in developing a taxonomy of social indicators to be attempted in the remainder of the thesis.

Need for social information

The continuous growth of our society and the awareness of unsatisfactory societal conditions has contributed to the recent demand for more useful information for future decision-making. In the past, much of the decision-making relied on economic data which was assumed to be a primary asset for policy makers. Indeed, during the period following World War II society emphasized production with obvious demands for economic data. But, as indicated in Chapter 1., economic data alone are frequently insufficient to make the required decisions in total societal affairs. For this reason a recent trend has been toward the establishment of more useful social information regarding the state of society. More recently this trend has been defined as establishing social indicators as possible warning signals (Young, 1970) and eventually tracing social trends (Rice, 1967). The claims for establishing future systems of social indicators for societal guidance are highly optimistic. Yet, this optimism must be accompanied by caution and by the recognition that much effort is needed conceptually, theoretically, and methodologically before this end can realistically be achieved.

Trends in the indicator movement

Three periods were discussed which appear to be relevant in the development of the recent social indicator movement. These periods have
made contributions not only to the generation of social information, but also to the conceptual and theoretical concerns raised by those criti-
sizing these latter two activities in the movement.

During the pre-1960 period the President's Commission of 1929 was
given the responsibility to review recent social trends for a better
understanding of societal conditions. One of their recommendations was
the need for a National Advisory Council to provide guidance in future
societal planning. Such a council was established with the title of
National Council of Economic Advisors which has provided extensive inputs
regarding the monitoring of economic growth.

The period of 1960-1966 began with the release of Goals for Americans
by the President's Commission on National Goals. Some of the conceptual
areas delineated by this commission pertained to education, living con­
ditions, and health and welfare. Again, the intent was for greater
national planning by delineating basic guidelines for coordinating nation­
al policies and the setting of broad national goals. Biderman (1966) was
only able to locate somewhat relevant indicators for forty-eight of the
eighty-eight goals delineated by that commission. President Johnson, in
1964 presented his 'My Hope for America,' which challenged everyone to
become involved in future planning. Gross (1965) argued that we ought
not to leave all the planning to the economists and his challenge was for
social scientists to become involved in establishing social indicators.
The "Coleman Report" (Coleman et al., 1966) probably contributed more to
this period of indicator development than any other effort as it sought
to analyze the impact of our educational system for the youth of America.
By the end of this period the movement was receiving greater exposure to professionals, and government officials were contemplating Annual Social Reports to the nation.

From 1967-1971 the government became more involved with the release of *Toward A Social Report* and the introduction of the Full Opportunity Act of 1970. Professional societies were publishing monographs and special journal issues on the topics of social policy and social research, social indicators, and predicting the future of society. Along with these publications came criticisms of the state of sociology and in particular the state of sociological theory. Sociology, it was argued, does not have macro theories which would allow an analysis of societies in social areas as economic models provide analysis of the economy. It was suggested that such sociological models may eventually be developed, however, this would require prolonged efforts on the part of sociologists and ought to be one of the major concerns of the discipline for the future. In the meantime, conceptualizing social indicators and attempts at clarification would be obvious contributions to the movement.

**Defining social indicators**

Attempts to attain greater conceptual clarity by defining social indicators began with HEW's definition of social indicators as measures of "direct normative interest". Immediately this was criticized on the basis of "whose normative interests" would be used for deciding whether the changes were in the "right direction". Olson (1968) slightly modified this definition but did not abandon the general normative
inference. Social indicators were also viewed at different levels of abstraction from lower, middle, and upper range as discussed by Vestermark (1968) and absolute, relative, and autonomous indicators as suggested by Kamrany and Christakis (1970). Their efforts contributed greatly to the conceptual clarification of social indicators and provided a general framework to consider such indicators as components in a system. Land (1971) criticized the recent theoretical and methodological issues and proposed that social indicators must be components of a sociological model of a social system, collected at various points in time and accumulated into time-series, and aggregated or disaggregated according to the specifications of the model. His definition represents the most sophisticated to date but must be further strengthened by the suggestions of Coleman (1969) for systems models of change and social processes which will allow for disaggregation, combined conditions, and the development of controlled indicators.

Toward a taxonomy of social indicators: next steps

Given the present state of social indicators, how does one proceed toward the development of such a system. Macro systems as they currently exist in sociology appear to be too abstract, and yet, for a system of indicators to be useful they must be linked to a theoretical framework. Thus far the discussion has emphasized a needed strategy for the development of a social systems model of community. A first step in such an effort would be to develop a taxonomy of community life that would begin to approach a general systems model of the community. Such a taxonomy should utilize major social processes such as population to build
controlled indicators for more complete models. Therefore, a viable contribution to this task would be to consider a taxonomy of interrelated concepts for a given unit of analysis at a lower level of abstraction than those suggested for societies and nation states. One possible alternative would be to seek a system of social indicators based on a theoretical framework directly applicable to a community system. Using the community as the major empirical arena will hopefully decrease the problems of disaggregation and completeness faced by typical macro models, and thus, allow for more adequate future operationalization of the models concepts. A needed next step regarding the analysis of community development or community change and the major focus for the remainder of the thesis will be to generate a general model of the community system which will provide guidance for a descriptive taxonomy of social indicators. The procedure will then be to demonstrate a strategy for developing a taxonomy of indicators from abstract concepts to lower level indicators.
CHAPTER 4: SOCIAL INDICATORS OF COMMUNITY PERFORMANCE: TOWARD A GENERAL MODEL

Introduction

If a taxonomy is to be developed for a community system an obvious need is to specify the parameters for such a social system. One component for this system has been previously indicated as population shifts - one of the major social processes. Population by itself could be explicated into a descriptive taxonomy of population characteristics and processes. However, of major interest would be the effect of population variations on other aspects of the community which require specification of an interpretive model of the community. Such a model would include population as a variable in the system. The purpose of this chapter is to attempt to develop a general interpretive model of the community system which can be utilized for developing a taxonomy of social indicators for monitoring the performance of that particular community system. This model, however, must be relatively complete in that it can be useful for understanding the total community system rather than select segments if social indicators in fact are components of a system.

The objective of developing a general model might be achieved through a discussion of community development and its contributions to understanding the community as a system. Several individuals pursuing studies of community have attempted to generate taxonomies of such concepts as "quality of life" and the "general good". These taxonomies will be presented in this chapter to first demonstrate some basic procedures, but also to emphasize the need for a model of the community
system that is broader than the models used in their efforts. Finally, a general model from ecology will be discussed and adapted to what this author has titled the "community ecosystem". This will serve as a basis and strategy for developing the taxonomy of social indicators in the next chapter.

Community Development

Research on community development at the community level cannot be conducted without being confronted with issues of what is a community and what is development. Both of these concepts have been discussed at length in writings on community development. Development carries the connotation of a deliberate attempt to influence the course of events. A well known writer (Sanders, 1953) in the area of community development had addressed himself to the issues of what makes a good community and has delineated four general traits which he believes should be considered by those seeking to develop their communities. Sanders first suggests that one important trait is to have leaders that take into account the whole community and seek to develop it in all areas. He cites an editorial comment from a small community (Sanders, 1953:2):

We had been thinking of our community only in economic terms until representatives from our state university showed us that social as well as economic factors were important in the development of sound community life.

Social factors, although sometimes mentioned, have not been stressed nearly to the extent of economic factors in studies of community development.
The second trait suggested by Sanders is the need for a collective way of solving problems which brings the community together in a concerted effort for achieving desired change. Trait three is the need for a strong sense of community loyalty for community programs and activities. Local pride is assumed to be a supporting factor for obtaining needed community changes. The fourth trait is of concern to every community according to Sanders; the requisite of a basically stable economy. The community must have job opportunities, adequate pay rolls, and taxable property to support the demands of the citizens. Apparently the combining of these four traits contributed to the eventual organization of community development as an interdisciplinary interest.

The concept of community development according to Sanders appears to be a union of two major activities which have guided studies of the community. The first, and to date the concern contributing most to development activities, is that of economic development. A most basic concern of every community is the raising of the level of living (Sanders, 1958:2). In the past this has been defined as either increasing production with additional resources or becoming more efficient with present resources. In either case, the emphasis is economic growth. Another part of the economic development activities has been efforts in "rural reconstruction" which Sanders views as a regeneration of rural life. The second contributing factor to defining community development stems from community organization with social welfare and adult education as major subareas (Sanders, 1970). From social welfare come all of the united community services such as public recreation, social planning, and
social legislation. Adult education type activities consisted of community councils, public health education, and community surveys to provide a data base for future decision-making. Thus the problem areas for community development according to Sanders include the subareas: raising the level of living, rural reconstruction, social welfare, and adult education (Sanders, 1970).

In addition to the four subareas contributing to community development there are also two different levels of theoretical orientation (Sanders, 1958). For Sanders, one level concerns the practitioner whose interests are in "getting things done" in the community. His emphasis is pragmatic in reference to what works and what does not work in raising the level of living or some other development activity. The other level of theory involves the social scientists' efforts to build theoretical models at the community level. For the economist the major interest is capital formation, the political scientist is interested in theories of public administration, and the social psychologist keys on attitudes and personality. One of the main problems with these two theoretical approaches is they have never become integrated and perhaps never will. The practitioner is oriented toward community problems and their alleviation rather than social theory systematics. The social scientists, on the other hand, are uncoordinated in their efforts "no matter how ardently we long for greater interdisciplinary consistency" (Sanders, 1958:3). Evidence of the lack of integration can be demonstrated by the various types of contributions to the area of community development by both social scientists and practitioners.
Contributions to the field of community development

One of the major types of activities in community development stems from the early view of social welfare and the advancement of social causes. This activity is termed social action and may be defined as "public promotion of a cause, measure, or objective in an effort to obtain support of official action" (Dunham, 1970:248). The social actionists seek to obtain their objective through a target group or some other person which is believed to have the power necessary to accomplish the desired change. Some of the methods utilized by social actionists may induce the target person to decide in accordance with the wishes of the social actionists.

Another type of activity frequently encountered in studies of community development focuses on concepts of particular interest to the researcher. They do not represent studies of the total community but rather the emphasis is on some particular aspect which is not a problem area but tends to provide an explanation for the problem. Studies of alienation, social power and authoritarianism are some examples of such activities. Warren (1965), as an example, in "Types of Purposive Social Change at the Community Level" analyzed the various possibilities of "issue consensus" or agreement, "issue difference", where there is a fair chance of reaching consensus, and "issue dissensus", where agreement seems unlikely. Several others have focused on concepts of particular interest at the community level with the intention of providing a better understanding of what is needed for future development activities.
The last "contribution" to community development activities to be discussed in this section is actually more of a controversy than a contribution. In the community development literature definitions of what is community development are numerous (Warren, 1963; Biddle and Biddle, 1965; Brokensha and Hodge, 1969; Cary, 1970). Most of these, however, can be categorized into four general areas. Community development is often viewed as a process (Cary, 1970) which moves from one condition to the next through various stages. The emphasis here "is on what happens to people psychologically and in their social relationships" (Sanders, 1970:19). Another often used definition of community development defines it as a method. In this instance the effort is to work toward some goal and the emphasis is on the strategies to reach desired ends. However, intangible goals are characteristic of development organizations which makes it difficult to decide on the appropriate methods to employ. Adding content to the method moves one into a definition of community development as a program. The emphasis is on accomplishing a set of activities in such areas as health, welfare, industry, and the like which can be quantified and reported. With this approach it is easy to focus on the program rather than upon the latent effects the program may have upon the people. Finally, community development can also be defined as a movement. With this type of definition, community development is seen as a philosophical rather than a scientific concept. And as a movement it can become institutionalized with its own organizational structure and procedures. In summarizing the various
possible definitions of community development, Sanders states (1970: 26-27):

In general, those most interested in community development as a process work with a much less detailed program permitting each community to move ahead with its own felt needs, which may differ from those of other villages in the country; those who view community development as a method tend to work with a program that has been drawn up at a central headquarters and that specifies the goals each village is expected to achieve in agriculture, health, or education; those who stress the movement introduce an evangelistic fervor that gives the program a momentum that might otherwise be lacking.

There are other related definitions but these four suggest the most frequent alternative approaches that are taken in the assessment of community development. Thus far the social action program, key concepts, and the various definitions of community development have been presented as contributions to understanding the community. However, none of these three general areas have attempted to review the various aspects of the community as a total system. Thus it would appear that before development can take place effectively, one needs to have a model of the total community which allows for the explication of the components of that system. Part of the problem thus far in community development is a lack of such models of the community as a system which could aid in monitoring community performance.

As stated earlier, one of the goals of the community development efforts is to attain a desired level of change. To do this will require information about the present state of the community before one can suggest future development. This requires knowledge of current social conditions, the present state of the system's resources, and their
interrelationships. This would also include knowledge concerning the present state of human resources before they too can be further developed. It is suggested that community development can only be achieved after reviewing the community as a system in its present state and then looking at the net balance between system components before decisions are made as to future efforts in development at the community level. The basic purpose of social indicators would be to measure and monitor the changes in these system components.

Strategy for the Development of a Taxonomy

Taxonomies of social indicators

In the past three years several social science researchers have addressed themselves to the task of explicating a taxonomy of indicators for such abstract concepts as "quality of life" and the "general good". In all three of the examples to be discussed the efforts were exploratory but optimistic as they tried to explicate these higher level concepts into lower level indicators that could be eventually quantified.

Rossi Many of the problems encountered at local levels are the result of national causes which leave the local officials often powerless in effecting change. Yet, the national policies are implemented on the local level and require the services and activities of local officials. Local level activities are also important in the life cycles of individuals and contribute greatly to the shaping of future life experiences. With this orientation, Rossi (1970) sought to establish a conceptual scheme to review the component parts of the community. His goal was to
generate a social psychology of local communities by seeking to develop indicators of such concepts as perception of locality as collectivity, interest and involvement in local events, social climate measures of residential localities, segmental solidarity, and attachments to residential locality (Rossi, 1970:37-52). In summarizing his proposed study, Rossi specifies the objectives of social indicators.

The purpose of a set of social indicators is to provide periodic readings of important and critical social trends. The choice of a particular set of indicators for a specific area of social life should be guided by a number of considerations, among which the following might be considered important: first, a set of social indicators should be based upon a model of how the area of social life in question 'works'; secondly, the number of indicators ought to be small in number so that it becomes easy to observe trends; and thirdly, the indicators ought to be related to potential social policy (Rossi, 1970:77).

The model of "how social life works" will have to be generated because past models are not presently helpful for the current social indicator needs. Rossi's model is actually not a complete model of community social life and he acknowledges its deficiencies in meeting the above criteria. Furthermore, stating that indicators ought to be related to potential social policy is a difficult objective to achieve since current social policy at the community level is generally not clearly defined. The measures he suggests for future social psychological studies are related to satisfaction with dwelling unit, access to major markets, central institutions of locality, sociability opportunities, and locality as gratification. In short, "while it may be possible to monitor how well our residential localities are doing in the eyes of their residents, it is still an open question as to the processes which generate
satisfaction or its opposite" (Rossi, 1970:79). It is possible that an effort to examine the community in its entirety as a system would provide more information as to the processes that Rossi is suggesting.

**Becker and de Brigard** Another attempt to develop a taxonomy of community, based, however, on action planning, was investigated by Becker and de Brigard (1970). In 1967 the Connecticut State Legislature established Community Development Action Plans (CDAP's) with the major responsibility of improving the conditions of community life through the Department of Community Affairs (DCA). The contribution of Becker and de Brigard to this effort was to investigate "methods of improving the framework that communities use for determining needs" (1970:2-3). Their procedure is to identify an overall goal statement, then begin to explicate that goal into lower level goal subcategories with increasing specificity. Ideally, this ought to provide the decision-maker with an overall view of the hierarchical structure and goals of the community in some general context. The goal selected was "quality of life" with the major components of a physical, social, and economic environment. These general concepts were to be used in the explication process with, hopefully, some further consideration of measurement problems.

...The formulation of an initial goal structure is necessary in order to provide a framework that will make it possible to elicit needs and measures of needs (Becker and de Brigard, 1970: 11).

The goal structure used by Becker and de Brigard can be illustrated in Figure 2. According to these researchers, "quality of life" represents society's overall objective with these three major subcategories
Figure 2. Explicating quality of life (Becker and de Brigard, 1970)
representing basic societal environments. Each of these three major categories were then explicated to lower level subareas that were either functions of the state government agency (DCA) for which the study was conducted or had been included in the Department of Health, Education, and Welfare’s publication of Toward A Social Report. For each of the general level societal environments a number of subelements of quality of life are suggested such as education, housing, health, recreation, social services, economic development, public utilities, public safety, transportation and circulation, culture, interpersonal communication, local government, and natural resources. These thirteen elements of the quality of life must further be explicated into need categories, need subcategories and, finally, indicators and measures. These last two explications are to be determined in later phases of the study being conducted by Becker and de Brigard. The need categories selected are: 1) "Public and Private Services and Functions" which relates to the needs of the public, 2) "Institutional and Supporting Services" designed to cover the needs of those organizations serving the public, and 3) "Standards and Regulations" to cover that area which defines limits and constraints on these organizations (Becker and de Brigard, 1970: 22-23). The guidelines they present for future direction in selecting the "need" indicators centers on the parameters of a basic public need rather than a way to satisfy those needs. They also want these desired states of affairs to be easily measurable in quantifiable terms.

Stanford Research Institute The last attempt of recent years to develop a taxonomy of indicators to be discussed in this section is
presented by the Stanford Research Institute (1969) in their publication of *Toward Master Social Indicators*. For them, master social indicators may be viewed as highly abstract concepts such as abundance or intermediate abstractions such as wealth which are utilized in a heuristic model of major societal concern. The institute is basically interested in the role of education in social change and hope their efforts will stimulate other social scientists in learning how to build the kind of society the nation wants. The Stanford Research Institute's (SRI) heuristic model for categorizing indicator concepts seeks to demonstrate how low level concepts can be aggregated into master social indicators of two main elements, one relating to the individual and the other to the social system (1969:2-3).

The basic schema utilized by SRI is reproduced in Figure 3. At all levels of their model the basic components, elements of components, and subelements are explicated societal goals. The "general good" (Level I) in their model, has two subelements of society and individual (Level II) which are the two highest level social indicators that are identified in their present work. The next lower level (Level III) in their model contains the major components of level II which, as is often the case in the early writings on social indicators, are the components specified in the HEW document of *Toward A Social Report*. These are then further explicated at Level IV into elements of these components. Level V are termed the subelements and Level VI, the lowest level in the model are the actual indicators of a complex array of data (1969:10).
Figure 3. Basic heuristic schema for social indicators (Stanford Research Institute, 1969:5)
Since each level implies a qualitative assessment, a paradigm is presented to aid this needed assessment with "a goal-specification and an attainment-measure scale that indicates the degree to which the goal has been achieved" (1969:6). The attainment levels contain three categories of minimum, standard, and optimum which are to indicate to what degree the goal has been attained. Evidently they feel using this schema would allow one to ask how many people of a given population segment have achieved a "normal" or "standard" level of attainment with reference to a given social goal or how many have suffered situations below this standard. It would then be possible, it appears, to ascertain which groups attained levels qualitatively higher than this "normal" or "standard" level. Unless this "average" were determined for society in general, it would appear meaningless since the question of who and what group is used to establish the initial average would emerge. The remainder of the SRI's effort is to suggest attainment categories, subcategories and possible indicators for both society and the individual using the indicator areas of health, opportunity, environment, standards of living, public safety, democratic values, and learning, science, and culture obtained from the HEW document. These indicator areas are deemed as major components of quality of life.

Social indicators must be selected to reflect high levels of attainment as well as intermediate and low levels; otherwise, no total quality of life assessments can be derived, nor can the position of population segments be identified. Further, indicators must be sufficiently comprehensive to embrace the interests of every major stakeholder group in the society (Stanford Research Institute, 1969:42).
Given these criteria, SRI tried to build two-dimensional matrices of attainment category by indicator area for both the individual and the social system. They found it was impossible to assess where the nation stands relative to the attainment areas and hence suggest it is perhaps impossible to seek global quality of life using the HEW quality areas.

Each of the three strategies discussed thus far for developing a taxonomy of indicators has started with an optimistic attempt to assess overall quality of life at some macro level. Although two of the studies related their taxonomies to the community, nevertheless, selecting quality of life as the general goal is viewed as macro and presents problems in explication and future analysis. All three have indicated the frustrations in attempting to generate a taxonomy to measure the complexity of social life. And yet, all would perhaps agree that the current level of social indicator sophistication is at the threshold of what must ultimately be accomplished if useful information is to be provided for future decision-making. The proposed task is difficult and recognized as such by Hagen who states (1962:4):

As judged by the history of the physical, biological, and social sciences, study in any field is apt to begin with a none-too-ordered description—followed by a cataloguing on bases that seem to make sense. As understanding grows, the systems of classification become more closely related to the functioning of interacting elements. Gradually, generalizations about functioning are reached which are useful in predicting future events. As the generalizations gain rigor, they take the form of analytical models of the behavior of the elements being studied. They take the form, that is, of systems.

The three studies discussed thus far have demonstrated the none-too-ordered description of generating taxonomies of social indicators. As
yet, the current status of social indicators lacks this rigor and certainly has not acquired the model of the social system described above. This will take much concerted effort on the part of social scientists, and continuing to develop taxonomies at perhaps lower levels of abstraction would appear to be a logical step in this larger task. These are lofty goals and our present abilities to accomplish such tasks are somewhat inadequate. Yet, this challenge may prove to be one of the major contributions to the development of sociology as well as providing societal guidance in the near future.

**Community performance**

As previously indicated, trying to adapt studies using macro concepts such as quality of life to communities is highly complex and thus far has not proved to be very successful. Quality of life appears to be a relative term and can only be understood after a thorough examination of the empirical referent in question. If one were to delineate the major functions that are performed in communities and seek to measure that performance it might be possible to make some statement about that community's level of living or quality of life. What this author wishes to propose is to focus on the community as an empirical arena rather than the state or nation as is commonly selected and that the abstract concepts such as the "general good" or "quality of life" be replaced with some aspect of community system as the concept which is to be explicated and for which social indicators will be developed. To date most studies of community have focused on economic variables and have not looked at the total community as it relates to the environment.
Basic Community Model

The definition of social indicator which is utilized in this dissertation requires such an indicator to be a component in a social system, collected overtime, and aggregated or disaggregated according to the specifications of the model (Land, 1970). Furthermore, these indicators must be readily combined measures of indicators from lower levels of abstraction that can be controlled to "show the partial deficits of given subgroups attributable to given causes" (Coleman, 1969:96). In addition to social indicators being components in a social system, Land suggests that macrosociological models of processes and institutions are needed in such areas as welfare, poverty, income, public order, leisure, and many others too numerous to mention. I would agree with Land that such an effort is indeed worthy of further investigation, however, the social system approach by itself, is perhaps limited if the ultimate objective is to specify a general community model which will allow future assessment of impacts on the environment. To achieve this task will require a broader model than those typically embraced by sociologists and indeed, social scientists. Perhaps, the theoretical model currently in use in sociology that most systematically attempts to relate human behavior and social organization to environment is the ecological model. In contrast to other models of society, ecology includes more encompassing variables which are judged to be useful in developing multiple profiles of social and physical aspects of the community. For this reason, I believe that the contributions to the ecological models by Hawley (1950; 1969), and Duncan (1964; 1969a; 1969b), and Duncan and
Schnore (1969) might, with some adaptation, help us achieve a general model of the community ecosystem for understanding and monitoring system performance. If social indicators are to be useful in monitoring the performance of this ecosystem, obviously one must specify the basic components in such a system. Perhaps one of the reasons why present social indicators have not been particularly useful is because there is no general model currently available capable of allowing a wider range of explanation from which appropriate social indicators can be explicated. A model is needed that is capable of showing the processes that take place and the implications they may have for the conditions of man's social life and the environment in which he lives. It appears that ecological models may come closer to monitoring the community system in this broader sense than do present sociological models of society which focus primarily on the internal social and psychological dynamics of social systems.

The ecological complex

Ecology in a general sense is concerned with the relations between organisms and their environment. Common usage of the term ecology includes discussions of animal and plant organisms as well as human organisms. It is therefore necessary to point out that the focus of this section of the thesis is not concerned with the broad definition of ecology, rather it will be restricted to those ecological relations which involve man's relation to his environment. In more precise terminology the emphasis is on a subgroup in ecology labeled human
ecology. This theoretical orientation is of interest to this present research strategy for its emphasis on community and community development. Hawley (1969:64-65) states:

Ecology, in other words, is a study of the morphology of collective life in both its static and its dynamic aspects. It attempts to determine the nature of community structure in general, the types of communities that appear in different habitats, and the specific sequence of change in community development. The unit of observation, it should be emphasized, is not the individual but the aggregate which is either organized or in the process of becoming organized. The individual enters into ecological studies, on the theoretical side, as a postulate, and, on the practical side, as a unit of measurement. As something to be investigated in and of itself, however, the individual is subject matter for other disciplines.

If ecology is concerned with community and the human organisms within such a territoriality what concepts are generally utilized in seeking to understand the area of ecology? Several writers have attempted to conceptualize the components in ecological models and Duncan's (1969a) terminology of "ecological complex" is perhaps most frequently cited. This complex is composed of four analytically distinguishable elements whose identification is the task of ecological theory. Figure 4 presents these four elements with suggested interrelationships.

In the most general terms the framework of human ecology embraces four main referential concepts: population, environment, technology, and organization, which defines what may be called the "ecological complex". Organization is assumed to be a property of the population that has evolved and is sustained in the process of adaptation of the population to its environment, which may include other populations. Insofar as it is amenable to ecological study, organization tends to be investigated as a ramification of sustenance activities, broadly conceived, which utilize whatever technological apparatus is at the population's disposal or is developed by it (Duncan and Schnore, 1969:73-74).
Figure 4. The ecological complex
These four elements are suggested to answer the questions of how is social life possible and what is the nature of the social bond. The nature of the social bond is the interdependence of these four elements as inferred by Duncan and Schnore. Society is possible as a result of the organization of a population of organisms, each of which are unable, individually to survive in the environment. According to ecological theory, all four of these elements in Figure 4, mutually effect one another. Each can be selected as the dependent variable with the others functioning as independent variables in the model. If environment is selected as the dependent variable, changes are brought about as population increases require organization to compete for resources in the environment. Or, if population is selected as the independent variable it can be viewed as contributing primarily to changes in the environment and the social organization. Before one can ultimately test whether or not these interrelationships exist, he must delineate the subcategories of each of the four elements. In other words, taxonomies are needed of interrelated and interdependent subconcepts of the community system. Recent efforts to accomplish such a task have not met with much success according to Duncan and Schnore (1969:75). Such a conception gives immediate rise to a range of essentially taxonomic problems. Most abstractly, what are the generic forms of activity constellations or groups? Unfortunately, this basic taxonomic work has been studiously avoided by sociologists in general and by ecologists in particular. Ecologists themselves are currently obliged, for example, to work with crude polar types of communities and societies. In many respects a perusal of the recent literature suggests that taxonomic work is being carried forward largely by anthropologists, economists, geographers and political scientists rather than sociologists.
Not only has the taxonomic effort been avoided, but in addition, the conception of the ecological complex has also received severe criticisms (Willhelm, 1964). Willhelm classifies such ecological theorists as Amos Hawley, Otis Duncan, Leo Schnore, Jack Gibbs and Walter Martin as neoclassical materialists and rejects their approach because they must "rely upon the ecological complex not only to furnish their data but also to analyze it" (Willhelm, 1964:243). Furthermore, he feels there is some question as to the advisability of using census data as a basic source for ecological data. It does not allow for a collective orientation to society, rather the assumption operating here is that summing the various discrete parts makes the whole of society. Willhelm further suggests that no current social activity can take place without involving population, organization, environment, or technology.

Although Willhelm criticizes the conception of the ecological complex, I personally believe that it has heuristic possibilities for this proposed research strategy. However, some of the elements in this conception would need modification to be applicable to what we are considering a viable approach to explore the procedure for developing a taxonomy. Each of the four basic elements in the ecological complex will be defined and then we will address the issue of needed modifications in this general model.

**Population**

Population in human ecology refers to a specific conglomeration of human beings. Populations have certain characteristics which contribute to their adjustment to and impact on other elements in
the ecological complex. Rates of increase or decrease help determine the
degree of competition for space as well as movement which may be perma­
nent or transitory. Placing a population in an environment sets the
ecological complex in motion.

Environment Populations have to exist in some form of natural
environment which "is defined to include location, climate, natural re­
sources, flora and fauna, topography, natural disasters and geologic
change" (Gist and Fava, 1964:98). Somehow the population must cope with
this environment and learn to adapt to its ever changing conditions.
In general, the environment sets limits to the size of population it can
sustain. However, man with his technology alters it sufficiently to
allow for population growth.

Organization Organization is the social patterning that takes
place in the population as individuals compete for limited resources
to sustain life. These activities must be regular and systematic
regardless of the size of the social group. An essential component of
organization is that smaller units come together to form larger units or
wholes.

Technology This term can be applied to primitive societies as
well as societies already industrialized or becoming industrialized. As
used in this research strategy, the term refers to the industrialized
rather than the primitive societies. According to Gould and Kolb (1965:
716):

...the term denotes the whole, or an organized sector of, the
body of knowledge about (a) scientific principles and discover­
ies and (b) existing and previous industrial processes,
resources of power and materials, and methods of transmission and communication, which are thought to be relevant to the production or improvement of goods and services.

Therefore, the manner in which a population adjusts to its environment will depend, to a large extent, on the level of means man employs to make use of or to control the adjustment of the population. The city as is commonly known today, "depends on a complex specialized technology which makes it possible for a considerable proportion of the population to live apart from direct concern with agriculture" (Gist and Fava, 1964:99).

These definitions are obviously at a very general level and are presented to introduce the ecological complex as a basic framework and point of departure for eventually describing a community system. The need for possible modifications in the ecological position has been stated by Willhelm (1964:248):

...the ecological position now so much in vogue cannot persist without basic modification. The tautological reasoning, the physical orientation, the mixed order of data, the indifference toward the social-value concept, the reliance upon individualistic census data in lieu of a collective approach, and a non-delineated subject are outstanding fallacies inherent in the present neoclassical position. An ecological perspective that contains these limitations cannot lead to a fruitful examination of sociological or ecological phenomena.

I would agree with Willhelm that the ecological position needs basic modification. Therefore, one purpose of this proposed research strategy is to suggest a broadening of the conception to avoid many of the inherent problems in the above statement. The earlier discussion by Warren (1970) in relation to normative models and dimensions of choice
is believed to contribute to the "indifference toward the social-value" issue. The cultural dimension will be added to the model to strengthen the ecological conception. Furthermore, the social organization sub-category is a collective approach attempting to assess the institutional interaction patterns. Finally, an emphasis will also be on disaggregation which is believed to address the problems of the "non-delineated subject" criticism. Modifying the ecological complex with resulting delineations will, hopefully, contribute to the understanding of sociological and ecological phenomena as suggested by Willhelm.

**Ecological complex: modification**

One such apparent modification of the ecological complex is proposed by Watt (1970) as he attempts to bring interdisciplinary integration to generate simulated models of society. The primary component of his system is the effect on population density resulting from fluctuations in the birth, death, immigration and emigration rates on four major components in society. Instead of the four elements of population, environment, organization, and technology, Watt (1970:157) selects effects on society, effects on individuals, effects on environment, and effects on resource utilization as the critical components in eventually providing assessments of social costs. Thus far, Watt has not developed "standardized measurements of social costs. This would appear to be one of the major problems to be solved prior to formulation of a general model" (Watt, 1970:158).
Both the ecological complex discussed earlier and the model of society presented by Watt are believed to be examples of steps in the right direction for eventually developing the type of system necessary if social indicators are to fulfill societal expectations. And yet, neither are directly applicable to generating taxonomies of social indicators for community systems without basic modification. In specific, I believe that technology should not be considered at the same theoretical level as environment and social organization. Earlier technology was defined as a term that "denotes the whole, or an organized sector of, the body of knowledge about (a) scientific principles and discoveries and (b) existing and previous industrial processes, resources of power and materials, and methods of transmission and communication." As such, technology must be viewed as a subsystem in the symbolic or cultural system for it is by definition an organized body of knowledge. The effort by Watt appears to move more toward system performance but does not allow for the element of social organization which is generated through interaction of individuals with environmental resources. Perhaps a combination of these two approaches with further modification will bring us closer to the type of community system necessary before social indicators can be delineated in a taxonomic relationship.

Community Ecosystem

Previously it was stated that in broad terms, ecology may be defined as the study of relations between organisms and their environment with human ecology concerned with man's relation to his environment. Hawley concurs with this general definition but in addition adds that
"human ecology is the study of the form and the development of the community in human population" (Hawley, 1950:68). There are various ways to approach defining the term community. Indeed, this very task has been debated in the literature of community development for many years. Hillery (1955) searched ninety-four definitions of the concept "community" and concludes there is little agreement on the term other than people are involved in the community. The type of definition needed for this section is one that can be combined with definitions of ecology and system to yield a general definition of the community ecosystem. One such general definition can be obtained from the writings of Talcott Parsons who states (1955:91):

...a community is a collectivity of actors sharing a limited territorial area as the base for carrying out the greatest share of their daily activities.

This type of definition assumes that in general individuals will interact within their local organizational area which is the provider of basic services. And yet, it furthermore infers that the community may not provide all the necessary services and is therefore not self-sufficient.

Given the definitions presented thus far of ecology, community, human ecology, and furthermore defining system as patterned interrelations, how does one define "community ecosystem"? It would appear that combining these would yield a definition that must include persons sharing a limited territoriality whose associations have become interrelated, and are further concerned with their relationship with the environment. In other words, it is the community together with its
habitat. The use of the term ecosystem may be somewhat restrictive. Duncan and Schnore (1969) note that the behavioral perspective is not included in the ecosystem and is often referred to as the social-psychological approach. By this approach is meant how the individual participates in social life (Duncan and Schnore, 1969:72):

...how the person reconciles himself to the necessity of living with others, how he relates to other persons, how he is socialized, how his behavior is controlled or influenced by that of others, and how all these problems are related to the structure of his personality and the content of his attitudes, commitments, orientations, and personal adjustment.

Hawley also noted some restrictions in using such terminology and states (1969:68):

The question of how men relate themselves to one another in order to live in their habitats yields a description of community structure in terms of its overt and measurable features. It does not provide explanations of all the many ramifications of human interrelationships, though it may serve as a fruitful source of hypotheses concerning those aspects of the community.

Obviously, the adaptation of ecological theories to the area of social indicators will not provide all the answers needed for generating systems of indicators of societal conditions. Although some of the above limitations as discussed by Duncan, Hawley, and Duncan and Schnore are not included in the ecosystem, some of their concerns will be included in the proposed strategy. For example, there is not an in depth analysis of the behavioral perspective. However, there will be indicators of education which can be considered as part of the socialization process in the social-psychological approach referred to by Duncan and Schnore. The approach that is suggested in the strategy is more of an interaction study than is normally characteristic of the ecological perspective.
The intention is to minimize many of the problems raised concerning the ecological conception by the addition of culture and the other modifications in the following model. The proposed research strategy does, however, provide one alternative which appears to have possibilities for delineating a more complete taxonomy to assess community performance, suggesting alternative future approaches to development, and generating more complete and informative indicators than theories presently available.

**Community ecosystem: basic elements**

The community ecosystem is composed of several elements much in the same manner as the previously discussed ecological complex. However, the community ecosystem is conceptualized at a lower level of abstraction than the ecological complex and will demonstrate slight modifications. This community ecosystem is more than the traditional social systems approach to the study of social phenomena. It is attempting to include all meaningful activities at the community level which impact those individuals in the system. Figure 5 delineates the major elements in this ecosystem which will eventually serve as the major elements in the strategy for generating a taxonomy of indicators for assessing the system's performance.

**Cultural system** The cultural system consists of patterns of behavior transmitted by symbols, the traditional ideas, and attached values that are considered interdependent within the given territoriality and systems of knowledge including technology. It is considered to be
Figure 5. Basic model of the community ecosystem
a very important component of the community ecosystem and is noted as a component in the model. Technology must be considered as one important subsystem of the cultural system that must be monitored because of the applied impact it will have on areas of social life.

**Environment** The environment, according to Hawley (1950:12) "is a generic concept under which are subsumed all external forces and factors to which an organism or aggregate of organisms is actually or potentially responsive". A general classification of subcategories of environment could easily yield the areas of social (or the inorganic) and the physical (or the habitat). Sociologists are more concerned with the social aspects of the environment but should probably not disregard the physical. The environment contributes a vital part to the understanding of community performance and it will be discussed later in terms of interrelations with the other elements in the ecosystem.

**Social organization** Social organization in this dissertation is meant to denote (Gould and Kolb, 1965:661):

...a relatively stable set of functioning interrelations among component parts (persons or groups) which are not possible, by themselves in the components. Social organizations evolve as structures of such relations in such a way as to fulfill functions in a manner more efficient and durable than could be achieved by unorganized persons.

A strategy for explicating this category would be to take an institutional approach and specify such institutions as the family, government, education, polity and the economy. Another viable possibility would be to utilize Parsons and his functional imperatives of adaptive,
integrative, goal attainment, and pattern maintenance as a basis for explicating subcategories of the social organization.

**Population** In statistics a population is defined as an aggregate of objects about which information is desired but only a sample is selected for investigation. For social sciences, population generally refers to the number of inhabitants of a given territoriality and frequently is concerned with the characteristics held in common. In the community ecosystem model, population is defined as aggregated characteristics of individuals. The primary interest is with multidimensional profiles of those individuals and subgroups within the community and not the personality system. This system of social and physical characteristics of individuals will be explicated, in part, into a taxonomy of lower level indicators.

**Interrelationship of community ecosystem elements**

The elements in the community ecosystem interact and are interrelated in much the same manner as are the elements in the ecological complex. Figure 6 includes the four elements with hypothesized interrelationships. A basic assumption is that the ecosystem's purpose is to benefit the humans in that system. Therefore, the discussion of the elements' interrelationships will start with the population component. It should be pointed out, however, that these are assumed relationships that must be subjected to empirical verification.

Individuals are the providers of basic resources for the organizing of the social structure. The social organization component mobilizes
Figure 6. Interrelations between the elements of the community ecosystem
both the human and physical resources for the future delivery of services within the community. It in turn, provides inputs for the individual system and should allow policy planners to make cost-benefit assessments of how well the mobilized resources are being utilized by the actors in the system. The social organization in turn will utilize resources from the environment as indicated by the line from social organization to environment. With the loss of and modification of resources, the environment in turn will impact the individual system which will initiate the cycle again by forcing the social structure to mobilize different resources and the process continues. The cultural system is assumed to play a vital role in further understanding how the ecosystem functions.

This discussion of the ecological complex and the assumed interrelations of the elements should not be considered a closed system. On the contrary, this is an open adaptive system that will require considerable elaboration, modification, and extension of the basic sociological and ecological processes brought about through exogenous variables throughout the system.

Summary

The purpose of this chapter has been to present a general model adapted from the ecological perspective that might further be modified for the purposes of explicating a taxonomy of social indicators. As background information, the general discussion on community development and the contributions to this field, hopefully, demonstrated that a broad systems model is needed which will encompass the total life
situation. Yet, it must be amenable to operationalization if it is to have utility for developing indicators of the systems performance.

Several individuals have attempted to generate these broad models as demonstrated by the works of Rossi, Becker and de Brigard, and the Stanford Research Institute. The work of the latter two sought to operationalize the general social goals as specified in the HEW document of *Toward A Social Report*. Elsewhere, the inadequacies of this document have been discussed in reference to the current needs of the social indicator movement. All three of these works, according to this author, suggest a need for seeking an alternative theoretical perspective and strategy for the future specification of social indicators.

The ecological complex is presented to provide the initial perspective for the eventual development of a taxonomy of social indicators. The broad elements of population, environment, organization, and technology represent the components of this complex and are considered to be basic to the understanding of community interaction. However, the ecological complex must be modified to more effectively achieve this end. The modification included the elimination of technology from the ecological complex since it is assumed to be a component of the cultural system. The cultural system, therefore, was substituted in its place. Organization was redefined in terms of social organization to allow for the structure and patterning of social institutions. These four elements of cultural system, environment, social organization, and population were presented as the basic model of the community ecosystem that is to provide the framework in the strategy for developing the taxonomy.
All of these elements are important and must be explicated for a complete taxonomy of social indicators in the community ecosystem. However, each of these elements involves very complex phenomena which will necessitate major theoretical and empirical efforts if lower level concepts are to be developed within these systems. The next step in the development of a taxonomy would be to focus on the subsystems within these system elements in an attempt to demonstrate the process of explicating to lower level concepts.
CHAPTER 5: SOCIAL INDICATORS OF COMMUNITY DEVELOPMENT:
A SELECTED TAXONOMY

Introduction

The discussion of social indicators thus far has emphasized the development of the movement, the general problems encountered in defining social indicator, and the specification of a theoretical perspective from ecology. The objective of this chapter is to attempt the explication of a taxonomy from the community ecosystem that would begin to demonstrate a system of social indicators of community performance. Because of the size of the task, it would be difficult to explicate a taxonomy of all these systems within the scope of this thesis. However, efforts will be made to focus on one of these subsystems in an effort to demonstrate how the model might be used in explicating measurable social indicators.

In the previous chapter, a number of figures were presented to demonstrate the elements to be included in the ecological complex. This was the objective of Figure 4 which contains the elements in the ecological complex or as used in this research strategy—the ecological perspective. This perspective contained the elements of organization, environment, technology, and population. To be applicable for the community, it was necessary to apply some basic modifications in the general perspective. Figure 5 contains the elements of population, environment, social organization, and the cultural system which are assumed to be the minimum components in the community ecosystem. All four are believed to mutually influence each other as demonstrated in Figure 6.
The general model of the community ecosystem has been presented earlier and it appears that a first level explication of this system would include those elements in Figure 7. These are only some very general categories and are not necessarily comprehensive of all the subelements that may need to be included. The cultural system contains the total symbolic system of which two important subsystems of values, beliefs, and ideologies included in the $X_1$ category and knowledge of which technology would be an important part included in the $X_2$ category. Social organization emphasizes the institutional approach to society and contains at a minimum the subelements polity, family, economic, religion, and education. The element of population is explicated to four subelements of individual institutional and social patterns, individual physical environmental characteristics, individual organic characteristics, and individual cultural esthetics. The environmental system is explicated to two subelements of social and physical and is also viewed as a major influence on other community ecosystem components.

A complete explication of the subelements included in Figure 7 would indeed be a major task. This is not the objective of this chapter nor will it be claimed that the subelements that are explicated will in fact be complete. The purpose is to demonstrate a partial explication of subcategories and subindicators that appear to be relevant in future monitoring of social conditions. For the purpose of demonstrating this exploratory attempt to develop a taxonomy of social conditions, only one of the four elements in the community ecosystem will be
Environmental System

Social Organization (Institutions)

Population

Environmental System

X^1 = Values, X_2 = Knowledge, X_3 = Religion, X_4 = Polity, X_5 = Family, X_6 = Economy, X_7 = Education,
X_8 = Individual Institutional and Social Patterns, X_9 = Individual Physical Environmental Characteristics, X_10 = Individual Organic Characteristics, X_11 = Individual Cultural Esthetics,
X_12 = Social, X_13 = Physical.

Figure 7. General taxonomy of the community ecosystem
selected for further explication. The element of population is selected as the major component to be explicated in this study into a partial taxonomy of social indicators.

A major reason for selecting population could be attributed to the current societal concern for the impact of societal institutions and the environment on the individual. However, this is not the only reason. In addition, population was selected on the basis of elimination. Social organization and culture are highly abstract with symbolic phenomena in culture considered difficult to measure. The environment and population are more complete and perhaps more easily lend themselves to measurement. Yet, environment is largely a matter for physical scientists since few sociologists can claim expertise in this ecological element. Therefore, a logical place for sociologists to start would be with population. It is relatively concrete and measures could be generated in the initial phase of social indicator research.

The three elements not selected for explication are important in the social indicator effort but would have to be developed in future research efforts to provide a more complete taxonomy of the community ecosystem. The needed next step, then, is to demonstrate how the element of population could be explicated to lower level indicators of community performance.

Population

Population as used in this dissertation is not concerned with human personality. Furthermore, population is not individual data. The
concern with population for this research strategy is to develop social indicators to provide a quantitative and qualitative profile of the social and physical characteristics of the total population of the community derived from aggregated individual data. These indicators will attempt to measure the existing social and physical conditions of that population and monitor the changes in these conditions through time. The interest in population includes the delivery of services that might be derived from other elements in this complex as well as the basic population characteristics that operate independent of those elements. The needed data must contain the total characteristics of the population and how it is altered and impacted by other elements in the complex, especially the social organizations ability to deliver services to the individuals. The social indicators are to monitor existing conditions through time as experienced by individuals within the territoriality. Satisfaction or statements pertaining to the quality of life of the residents in a given territoriality are assumed to be derived by inferences from the data.

Population is aggregated individual data and is expected to play a vital role in understanding how effectively community services are being delivered to the individuals in the system. Aggregated data allows generalizing to other population groups, however, to assess the performance of the community will necessitate focusing on the question of disaggregation.

By disaggregating to subgroups in the community it would appear that the monitoring and awareness of community conditions would be more
complete. Again, seeking to monitor individual satisfaction and quality of life entangles one in monitoring normative type statements. All that indicators can hope to do is monitor what the conditions are. Individual satisfaction and statements about the current quality of life must come from inferences based on disaggregation. For this reason it is important to consider Coleman's category of combined conditions. But, before conditions can be combined for the purpose of inference it will be necessary to know what the current conditions are.

Indicators in the population element of the community ecosystem are measures of the social and physical characteristics that are generalized from an aggregate and are therefore aggregated data. It is recognized, however, that aggregating can tend to blur the impact of the system elements in terms of the individuals in the system. To overcome this "blurring", social indicators must be disaggregated to lower levels. Thus far in the initial stage of this research strategy, it would seem imperative that the population within the community be disaggregated on the basis of age, sex, ethnicity (religion, national origin, and race), place of residence in terms of geographical location, territoriality, and socio-economic conditions based on one of the common indexes of education, occupation, and income. These are still basically concerned with aggregates and it is quite possible that the operational measures developed for the subindicators in the taxonomy would reflect a more extensive disaggregation as the attempt is made to monitor change through time. It is hopeful that this type of an effort will allow assessment of the costs and benefits accrued to the individuals in the community system. An
assessment of the population component of the community ecosystem is necessary and needed in order to understand the impact of the other components in the basic system.

Population system indicators

To understand what is meant by population, Figure 8. is presented with four major indicators of the population system. Each of these four will in turn be defined to demonstrate how they are in fact different. It is re-emphasized that this taxonomy is exploratory. To my knowledge such a task has never been attempted and although it is not complete, nevertheless, it will be illustrative of the next steps in this particular effort to monitor societal conditions.

Individual social and institutional patterns

In the social organization element of the community ecosystem, resources are mobilized for the delivery of services to the rest of the ecosystem. This implies that an actual structure is established to facilitate such a delivery. The indicator "individual institutional and social patterns" is defined as the variable patterns of individual involvement in and utilization of the processes and services of the institutional organization and facilities of the community. It is therefore concerned with the degree to which those services are in fact delivered rather than establishing their existence—the latter would be the task of the social organization operationalization.

Individual physical environmental characteristics

This indicator of the population system is concerned with the physical and environmental conditions in which the population lives and how these conditions
Figure 8. Initial taxonomy of the population component in the community ecosystem
change through time. These like all other characteristics will be im­ pacted and have costs and benefits accrued to individuals through the delivery of services. The interest is in the current state of the individual's conditions resulting from the environment in which he lives.

**Individual organic characteristics** This subelement is defined as the variable patterns of individual processes and services utilized to maintain the physical organic conditions of individuals in the community. Two important organic conditions are health and nutrition.

**Individual esthetic/cultural system** The interest in this system is not in the usual scientific sense of culture. Rather, this indicator of the population system is concerned with the esthetic cultural conditions of the population. Of interest in this system might be the impact of fine arts, leisure and recreation, and areas of entertainment on the individuals in the community system that contribute to a more complete understanding of the individual's "well-being" in this area. It is therefore defined as the variable patterns of individual involvement in, and utilization of the cultural and esthetic processes of the community.

For the purpose of demonstrating the procedure, only three of the four population indicators are selected for further explication. The three selected for developing a taxonomy of community indicators are; the individual social and institutional patterns, individual physical environmental characteristics, and the individual organic characteristics. Within each of these, one subindicator will be selected for
further explication to lower level indicators which could be operationalized and measured.

Individual Social and Institutional Patterns

This category may appear to be similar to the category of social organization at the next higher level of abstraction (see Figure 8.). The similarity is in reference to the five categories of polity, religion, economic, education, and family. The difference is primarily in terms of the types of measures that would be utilized to assess current conditions. Indicators and their measures of the social organization element would seek to monitor the structured social organizational aspects and the mobilizing of resources for delivery, whereas the "individual social and institutional patterns" indicators refer to the actual services that are delivered and that may benefit the individual in the community system.

In Figure 9, the five subindicators of the individual social and institutional patterns are presented. There are probably other subindicators of this category that are not included in the figure. These five are, at least in part, assumed to be the minimum to be considered in further explications. Each of the five can be logically explicated into at least four to six additional sublevels and probably more before the indicators are at a low enough level of abstraction to develop measurements.

Perhaps the most difficult aspects of the individual social and institutional patterns to explicate are the family and religion. The
Figure 9. Explicating the element of individual social and institutional patterns
family is difficult to explicate because "it so inextricably combines traits rooted in a universal human biology with other traits that are cultural, some of which are plainly variable and contingent" (Gould and Kolb, 1964:258). The explication of religion presents some problems because of its roots in the belief system. Some may question its inclusion as one of the major institutions in view of past trends regarding religious activity. Nevertheless, understanding the perceived needs of community residents regarding religion and the communities' ability to deliver the services could be considered in future research designs. Education and economics perhaps are easier to explicate since they comprise most of the daily services utilized by individuals within the community system.

One of the basic problems encountered in developing a taxonomy is the decision as to which subconcept belongs in which category. Ideally, one should use as mutually exclusive categories as possible. However, it is difficult to attain this level of expertise in a discipline that has multidimensional concepts and extensive mutual causality among variables.

**Polity**

Polity is the subindicator of the "individual social and institutional patterns" selected for further explication, and is broadly defined as the services one would assume to be delivered by the community and what benefits they are for the individuals. The major interest is in the costs and benefits to individuals in reference to these services, are they available, and do all members of the community participate in them on an equal basis?
It is possible to demonstrate how this component could be partially explicated to lower level indicators. Figure 10. is one possible delineation of this indicator. The five subcategories are; social order, public maintenance, social welfare, political participation, and political socialization. **Social order** is defined as the maintenance of safety or securing the community residents from threat of danger, harm, or loss. **Public maintenance** is defined as those activities carried out by the government to maintain or improve the physical well-being of the community. **Social welfare** is defined as the organized efforts by a community for the social betterment or general improvement in the welfare of its members. Measures of social welfare should reflect the manner in which various subgroups have access to and utilize the social welfare services. **Political participation** is defined as those voluntary activities by which the members of a society share in the selection of officials and, directly or indirectly in the formation of public policy. The concern might be with voting behavior which would include who is registered to vote and who actually votes. **Political socialization** is often defined as a process whereby individuals incorporate into their own attitudinal structure politically relevant behavior patterns of their respective social groups and society.

It is important to note that two phenomena are built into this whole complex of attempting to explicate the taxonomy. The community is organized, but in addition, there is a population that is part of that organization. The interest in polity is what benefits actually accrue to the individuals from the services that are delivered.
Figure 10. Initial taxonomy of polity
Furthermore, how are these benefits distributed throughout the population? There are also parallel measures between the existence or presence of a service in the community and its utilization by the population. Is police protection equally experienced throughout the population? Are there provisions for automobile inspection and do all people participate in this equally?

It should be emphasized that what may exist in one community may not exist in another. There may be deprivation in a community because a particular service is not provided by the polity and therefore the individuals must seek a desired benefit from another community. It is also assumed that some services are delivered unequally. Therefore, a major part of not only the polity, but the entire explication must be considered in terms of intercommunity and intracommunity comparison of subaggregates of the population.

The remainder of the taxonomy on polity will be concerned with the subindicator of social order. This element is presented in Figure 11, with the two indicators of public safety and public justice. Public justice is of interest to social order because it is defined as the setting right of wrong doing either by compensating the victim or punishing the offender. Most often the usual focus is on the offender and not on the victim. Subindicators of public justice might be court justice and criminal justice. Measures of criminal justice might include current police-community relations, the expediency in which complaints are handled, and perhaps individuals' perceptions of the adequacy of police services as well as attitudes towards the police. In court
Figure 11. Taxonomy of social order through public safety
justice, probable subindicators might be housing discrimination and opportunity, occupational discrimination and opportunity, assembly, and legal representation. It is assumed that obtaining data on public justice would come about through extensive field contact with individuals which would also be necessary for the subindicator of political socialization.

Public safety is explicated to include the subindicators of; property safety, bodily safety, financial safety (transactions), and insurance. The intent is to obtain measures which reflect what is happening to the individuals in the population in reference to these four subindicators. Property safety is explicated to include loss of property through fires, natural elements, automobiles, crime, and social change. Measures of crime might reflect who are the victims of theft and burglary. Some social changes that might result in a loss of property might be; deterioration and renewal of property, changing land use (through highway or industrial construction that could depreciate the value of an individual's property), and certain social processes (transition between one social condition to another). Bodily safety has three initial subindicators of assault, accidents, and internal consumption. In terms of knowing what is happening to individuals within the community in reference to accidents it would be useful to know what subgroups are experiencing occupational, automobile, pedestrian, home, and other types of accidents. In internal consumption, are people purchasing food that has been inspected? What is the rate of consumption of alcohol and drugs? And what is the quality of the water and air? Do community
residents have access to processed water? Financial safety is considered to be an important component of public safety. Four subindicators might be loans, consumer (in reference to real estate losses, and access to or taking part in national consumer protection organizations), interest rates, and securities. What are the interest rates, what subgroups have access to loans, and what subgroups have securities? Finally, insurance is delineated as a subindicator of public safety. Measures of insurance could be developed from the subindicators of home, income, automobile, life, and health insurance and also loan security. In terms of understanding what is happening to individuals within the community system it might be advantageous to learn which subgroups have provided for future unexpected events which might incur personal loss.

This terminates the taxonomy on polity. At these lower levels are where the social indicators become closer to the empirical arena and more easily lend themselves to future quantification. Again, this procedure is definitely none-too-ordered but does suggest a strategy for delineating components and indicators of polity in the community system.

Individual Physical Environmental Characteristics

This element of the population system has as a basic concern, the present state of the individual's well-being in reference to his physical environment. Figure 12. is the initial explication of this indicator which is composed of three subindicators. The individual is the unit of basic concern in this explication. However, his physical environment is enhanced or detracted depending on the adequacy of his
Figure 12. Initial taxonomy of the individual physical environmental characteristics
Immediate surroundings, the neighborhood in which he lives, and the community. The subindicator of individual is explicated to include the physical (man-made) environment and consisting primarily of housing and the natural environment. Communication and transportation could also be subelements of this subindicator. The natural environment is concerned with the current state of the air, water, and land. The subindicator of the physical (man-made) component of the individual is housing and is presented in Figure 12 to indicate that it will be used to continue the taxonomy of the individual physical environmental characteristics. In the neighborhood subindicator are included recreation facilities and the physical appearance. In recreation the concern is with the access to and use of facilities such as pools, bike trails, parks, and school grounds. There are other concerns in this area also, however, it is believed that these four give an indication of the type of services and resources that were mobilized in the social organization system for delivery in this system of individual social and institutional patterns.

The last of the three subindicators of this individual physical environmental characteristics is community. It was explicated to zoning laws and waste disposal. Zoning laws were also included as a component in Figure 11. However, the concern in that figure was with the regulation and protection of property. In Figure 12, the concern would be with the contribution of zoning laws to enhancing the physical environment. For waste disposal the interest is not in how it is accomplished but rather what kind of disposal is available to the individual. It is
classified under the community because waste disposal is typically a community function. Three broad subindicators of waste disposal would be liquid, solid (but destructable), and nondestructable. Questions to be answered here are, do the individuals in the community have access to a public dump, do they have city pickup of solids and trash or must they rely on an incinerator? Do their houses have disposals? In the liquid waste disposal category, do the residents have access to city sewers or do they rely on cess pools, etc.? These are a few of the questions that could be raised concerning the current state of the individual's physical environment.

**Housing**

The remaining taxonomy of the individual physical environmental characteristics category will focus on housing. This indicator is further explicated in Figure 13, with the initial subindicators of external characteristics and internal characteristics. The external characteristics contains the two lower level indicators of the type of construction and general appearance. In type of construction an interest might be in the type of materials used in constructing the home whether they are wood, brick, prefabricated, stucco, metal, or combinations of these materials. Measures of this indicator would not be number of wood houses, but through disaggregation of population characteristics I would be interested in who lives in housing constructed of wood, metal, or brick. Under general appearance the interest would be in landscaping, curbing, cement driveways, and general upkeep of the home.
Figure 13. Taxonomy of housing
The subindicator of internal characteristics is delineated to structure and utilities. Structure is defined as the room composition in the home as well as the types of materials used in constructing and finishing those rooms. The number of rooms per person, type of rooms and total living space would give indication as to the immediate housing (internal environment) available for living. The types of materials used in construction might be type of windows, paneling, or other aspects of construction. Also under structure could be included furnishings where type of furniture and kitchen facilities would provide information as to the available facilities for maintaining well-being.

The subindicator of utilities is further delineated to the five categories of electricity, plumbing, temperature control, water, and telephone. All are assumed to contribute to the well-being of the individual in the community system. Heating and air conditioning are the major subindicators of temperature control. In heating, the interest is with the type of heating be it gas, electric, oil, or something else such as wood, or no heating that is assumed to contribute toward individual "well-being".

It is assumed that explicating housing in this manner can be useful for understanding the current state of individual physical environmental well-being in the community. Furthermore, it is assumed that individuals with wood heating, few utilities, and living in a wood frame house are in a different state of well-being than individuals with electric heating, adequate utilities, and living in a brick home. This hopefully, demonstrates that a broad data base is needed pertaining to community
characteristics and collected in a manner that would allow disaggregation. Relationships and causal inferences can then be hypothesized in the process of assessing community performance.

Individual Organic Characteristics

The third indicator of the population system, and the final to be explicated, is the individual organic characteristics of the individuals in the community system. Figure 14 presents this indicator with three possible subindicators. Health may be considered a resource to maintain the organic well-being of the individual in the community system. Subindicators of this indicator would be concerned with access to medical services, frequency of visits to these medical facilities, types of diseases cured during past years, type of insurance carried by the individuals, and assessments of the current mental health state. Nutrition is considered a resource utilization and it is assumed that calorie intake, percent of net income spent for food, regularity of meals, and type of diet may be possible measures of the nutritional state of well-being of community residents. The third subindicator of the individual organic characteristics is community population processes. This category is to be further explicated to demonstrate the taxonomy for this phase of the population.

Community population processes

In general discussions of population characteristics at least five different variables are likely to be mentioned. These variables, furthermore, are often referred to as the major population processes.
Figure 14. Initial explication of the individual organic characteristics
Figure 15. presents these five variables with initial taxonomies for fertility, marriage, and mortality. The other two processes are mobility and marriage.

Mobility Mobility in the social sciences usually refers to movement in space or within the stratification system. This movement can be geographical, or social. If the movement is within the stratification system without a change in status and role it may be defined as horizontal mobility. Movement within the stratification system with corresponding changes in role and status can be vertical mobility with subindicators of upward mobility and downward mobility. This author's personal opinion is that mobility can be inferred from other population processes and therefore probably is not a process but a result of population change.

Marriage Marriage is also presented as a major process but it may also be a subcategory in population process (to be discussed in a later section). However, marriage is defined as approved mating arrangements in society with particular attention given to the institutionalized relationships between husband and wife. It is through this process that society legally replenishes its members. In Figure 15., marriage is explicated to marital status, and family size and family composition. Four subindicators appear critical to the indicator of marital status. These are; age at marriage, marriage rates, divorce rates, and racial intermarriages. The remainder of the marriage process is explicated through family size and composition in Figure 16. Measures of family size and composition might be the following; perceived ideal family,
Figure 15. Initial taxonomy of the community population processes
Figure 16. Taxonomy of marriage process through family size and composition
number of children by sex, illegitimacy, actual family size and the
dependency ratio. The dependency ratio is based on the fact that
every member in the society is a consumer, but only part of the members
are producers. Subindicators of the dependency ratio are the youth,
aged, and total dependency ratios. The youth dependency ratio is cal-
culated by dividing the number of people aged 15-59 into the number of
people under 15, and multiplying the result by 100. The aged dependency
ratio is calculated in a similar manner by dividing those 15-59 into
those 60 years and over, then multiply by 100. The total dependency
ratio is the sum of youth dependency ratio and the aged dependency ratio.
"A high total dependency ratio always means that a large proportion of
the population is under 15 years of age" (Thompson and Lewis, 1965:93).

Mortality Mortality is concerned with frequency of death (Gould
and Kolb, 1964) in a population. Therefore, mortality is the process
whereby the population loses members from the system. The initial tax-
onomy of this indicator of the community population process includes
death rates, infant mortality, cause specific mortality, and neo-natal
mortality. The formula for death rates is to divide the number of
deaths by the population and multiply by a constant. Neo-natal deaths
are defined as infants living less than 28 days. The infant mortality
rate shows the number of deaths of children under one year of age per
1,000 live births occurring in the same year. The remainder of the
taxonomy on mortality will be explicated through the subindicator of
cause specific mortality as demonstrated in Figure 17.
Figure 17. Taxonomy of mortality process through cause specific mortality
In cause specific mortality, the concern is the cause of death. The figure lists natural causes, accidents, aggravated assault, and diseases. The major cause of death under diseases is related to the diseases of the heart. Cancer would be a type of "other diseases" found in most population statistics. Under accidents, I suggest motor vehicle, drugs, industrial air, and pedestrian. In populations with large numbers of youth, the motor vehicle accident rate is usually high. Whereas, in populations with large numbers of older or aged persons, the diseases of the heart and cancer are usually high.

The population processes are important to understanding the community system. However, they are more important if they can be disaggregated to population subgroups. Presenting mortality rates per 100,000 is of little use to understanding its impact on communities of less than 10,000 population. For this reason, it is necessary to disaggregate the population data to sex, age, ethnicity, socio-economic situation, and place of residence.

Population Change

The previous discussion of population processes is important for an understanding of population change. The knowledge that a population contains certain rates is important, but more important is the understanding of the changes that are taking place relative to some period in the past and eventually making inferences regarding future population characteristics or growth. The community population processes are assumed to be the independent variables for predicting population change.
Figure 18. is an attempt to present the community processes as they impact population change.

When considering the five population processes as independent variables predicting population change leads one to reconsider mobility and marriage. Although they are considered as processes, I am not completely certain that they belong in an inference model of the type in Figure 18. Mobility and marriage appear to be lower level concepts and in part, are dependent upon the other three. Therefore, in future studies of the community they might come at a lower level within the three processes of fertility, migration and mortality.

The population change component in Figure 18 is explicated to three subindicators of size, composition, and distribution. These are further explicated to lower level indicators in the initial taxonomy of population change.

Size One of the most often used indicators to provide information about a particular population is the indicator size. How many people live in a given locality and what changes are taking place are important questions relative to size of population. Size is considered to be an index composed of four indicators. The first of these is natural increase/decrease and is defined as the difference between the number of births and deaths for the given population. Population density denotes the number of people occupying a given area. In other words, it is the total population for a specified territoriality. Depopulation is defined as the reduction of the number of inhabitants in a given territoriality. Zero growth rate or stationary population
Figure 18. Impact of community population processes on population change
refers to a given area that is neither losing nor gaining population. These four indicators are assumed to be the relevant components in describing size and changing size in the population.

**Composition**  This indicator of population change is concerned with the characteristics of the population under study. Relevant questions might be what kind of people live in the population group and how do they differ from the people in other population groups. The five indicators of population composition are: sex structure, racial composition, age structure, average life expectancy, and aging. Common measures of these include sex ratios, population age pyramids, and index of aging.

**Distribution**  Distribution is important in terms of where people are located in the population territoriality and what changes are taking place in their distribution. A common indicator of distribution is rural-urban with emphasis on place of residence.

The discussion of community population processes and population change are presented to demonstrate the type of data analysis needed to describe the population in communities experiencing declining, stable, and growing populations. They are equally important in providing a basis for disaggregation of other community ecosystem components.

**Summary**

The taxonomy presented in this chapter is not meant to be exhaustive. Rather, the purpose in presenting partial taxonomies of selected indicators is to demonstrate a strategy for enumerating components of
the community which could be monitored for future development and the assessing of community performance. The three explicaded components of the category "population" were individual institutional and social patterns, individual physical environmental characteristics, and individual organic characteristics. Within each of these indicators of population, one subindicator was selected for the purpose of delineating the taxonomy to lower levels of abstraction that could more easily be operationalized for future measurement.

In some instances measures were suggested. With indicators that are unidimensional, measurement may not be much of a problem. That is, measuring age is relatively simple and the chance for error is minor. However, with indicators that may be multidimensional and therefore complex, measurement may be more difficult but the chances for error also increase. For example, obtaining a measure for the court system in polity may appear relatively simple. Yet, from the population of all possible indicators of the court system, which ones are more likely to be true measures and therefore reduce the error in measurement.

For the taxonomy to be useful it would require the explication of the remaining indicators in the community ecosystem to lower levels that could be measured. Then, consideration could be given to multiple indicators and multiple measures of these indicators. A complete analysis of the community ecosystem would require the specification and development of taxonomies for the cultural system, social organization, and the environmental system. The lower level indicators would need
measures and then it might be possible to assess the interrelations and impact of population components.
CHAPTER 6: DISCUSSION AND SUMMARY

Objectives of the Dissertation

The discussion thus far has emphasized several aspects of social indicators. As stated in Chapter One, there were three major objectives to this dissertation. Each of these will be stated and discussed in a brief summary statement.

The first objective was to review the literature pertaining to social indicators and present a general discussion of the movement with implications for needed next steps. This was accomplished by suggesting that recent social indicator literature, related events, and activities could be best understood by categorizing them into three general periods that influenced the development of social indicators. The first period centered on contributions prior to 1960 that appeared to establish a framework for future indicator research. Initial activities by early social philosophers were presented to suggest that interest in understanding societal conditions is not of recent origin, but of long term concern as indicated by the works of Durkheim and Weber. Government activity also increased during this period with preliminary inputs by the Report of the President's Commission of 1933 entitled Recent Social Trends and again, by the renewed interest in Goals for Americans 1960. From this commission report, Biderman attempted to delineate eighty-one specific subgoals from the eleven general goal areas and then locate indicators for those goals. He was only able to locate somewhat relevant indicators forty-eight of the goals. Other attempts to delineate indicators of societal conditions (Russett, et al., 1964; Cowhig and Beale,
demonstrated the general interest in monitoring present social conditions to aid in planning for future development. Toward the end of this period, the interest in social indicators shifted to discussions of the possible establishment of a social accounting system. Raymond Bauer's book on Social Indicators compiled a number of special papers with this goal in mind.

The third period presented in support of the first objective included the years 1967-1971. By 1967, the social indicator movement was gathering momentum. Professional societies manifested their involvement through devoting journal issues to the general discussion of social indicators. One example of this type of effort is the American Academy of Political and Social Science which published at least four separate volumes related to social indicators during this period. Congressional Acts providing for an Annual Social Report, Council of Social Advisors, and a Joint Committee to review and transmit findings of the annual report to Congress have been introduced along with Senate hearings to consider the issues of social indicators, social accounting, and social reporting. Throughout this entire period, renewed emphasis was placed on obtaining more relevant data for societal planning.

From the review of literature a frequent need expressed by many of the contributors was for a model of society which could be used for monitoring societal conditions. Several macromodels were discussed in an earlier chapter with the conclusion that they were either too abstract for possible operationalization or they were designed for such a large unit of analysis (nation) that empirical validation seemed questionable.
Therefore, it appeared that a next step would be to provide clarification. Furthermore, there appeared to be some confusion as to what social indicators are and how they could be measured. A logical next step was to clarify what is meant by social indicator and what type of model is needed for the purposes of achieving social accounting.

The second objective of the dissertation was to clarify the concept of social indicator and given that clarification, attempt to suggest a research strategy for a next step in social indicator research. The definitional approaches to social indicator are many. One approach was to conceptualize social indicators by an analogy from economics. However, economic indicators to be useful in assessing economic conditions, are components in an economic model. At the present time, sociology lacks comparable models for assessing social conditions that parallel the economic models. Other approaches to defining social indicators tend toward an emphasis on normative interests such as "well-being" and "progress" toward attainment of some societal goal. A forerunner to this type of definition is the HEW publication of Toward A Social Report. However, a basic concern flowing from this definition might be whose normative interests are to determine the choice of social indicators, and who will be controlled.

Social indicators were then considered to be components in a social systems model with a need to understand the interrelationship of the component parts. Advocates of this and related approaches were; Land (1970), Sheldon and Freeman (1970), Duncan (1969a; 1969b), and Coleman (1969). In addition to social indicators being included in a
social systems model, Coleman suggests that combined conditions or aggregating data are important for inductive model building. He also includes the need for controlled indicators to aid in understanding the causes of given conditions. But, combined conditions and controlled indicators are not enough, social indicators must also be capable of disaggregation to reflect changes in subcategories and subgroups. Disaggregation from current aggregated levels is at times, a difficult task because the data generally are not gathered in a manner that is conducive to disaggregation. Therefore, one solution to this problem would be to focus research on presently disaggregated population subgroups and then combine these data into indicators of more generalized indicators for larger population units. The community was selected as the initial population subgroup for consideration in this research strategy since it is already partially disaggregated. It is possible to select communities experiencing declining, stable, and growing populations for additional controls. This same approach is not possible with large metropolitan cities since they are more often experiencing growth than declining or stable population variation.

Social indicator was defined as (1) a component in a social system (including economic, environmental, and sociopsychological) that can be (2) aggregated and disaggregated, (3) which is collected over a sequence of time, and (4) that can be combined and controlled. But, as previously indicated, sociology lacks models of the total social system of the type needed to represent the total aspects of societal living. This type of model would need to be a general model of the total society which
would integrate economic, psychological, environmental and other institutional processes into one interpretive model. In which case, economic indicators would become subindicators within this model. This particular definition suggests that the strategy for the development of social indicators would be to work within a systems framework that is broad enough to allow for the generation of indicators of a wide range of social phenomena, including economic and social processes that are part of the social organization of the community and the relationship of that organization to environment.

This was actually the third objective of the dissertation. An attempt was made to develop a general theoretical perspective for guidance in the study of social indicators for social planning. The contributions of ecology and the ecological perspective were thought to come closer to the type of model describing the social system than current sociological models. The ecological complex was presented with the major components of organization, population, environment, and technology. However, to adapt this perspective to the community, it was necessary to suggest slight modifications by subsuming technology in the cultural system. Organization was defined as social organization which represents the mobilization of resources for the delivery of services to the element of population. Population, is impacted by these services and the interest is on the effect of services in terms of costs and benefits accrued to the individuals in the system. Environment is affected by the impact of population and social organization. It in turn, impacts both the social organization's ability to mobilize resources and
the individual's utilization of those resources. This interaction takes place within a culture which is an important consideration, but was not explicated in the model.

The third objective also states the need to explicate this modified ecological perspective of the community and generate a taxonomy of social indicators to assess community conditions. The element of population was selected for the purpose of demonstrating the strategy for explicating the taxonomy. In the community ecosystem, population was delineated to four major subconcepts. These four were: the individual social and institutional patterns, individual physical environmental characteristics, individual organic characteristics, and the esthetic cultural system. Three of these four were selected for continuing the taxonomy. In most instances, one major subindicator of the three selected indicators was further delineated to lower level indicators that could be operationalized and measured to provide a current assessment of the state of that community system.

The taxonomy was not presented as a complete assessment of the community conditions. It was designed to demonstrate an alternative approach to the study of social conditions by delineating social indicators which could be used for assessing community performance in delivering services and the consequences of these services in declining, stable, and growing populations. Therefore, each of the indicators of population would have to be explicated more completely to provide a total taxonomy of community functions related to this indicator of the community ecosystem. Approaching social indicators in this manner
appears to be an alternative solution to the obtaining of useful information for societal guidance.

Utilization of the Data for Assessing Community Performance

If a complete taxonomy was available and the proposed strategy implemented, how would the data be used for assessing societal conditions? How could these data be used by policy planners for future decision-making? One of the major claims for social indicators was the establishment of a system for social accounting. Such a system, it was speculated, could provide data on social conditions for augmenting the presently available data on economic conditions in society. However, the existing state of social accounting can do little more than provide a set of descriptive data that are difficult, if not impossible to disaggregate. In addition, present "social accounting" is generally not considered in a social system framework which allows the complete assessment of the interaction of system variables. Social information resulting from present attempts at social accounting may provide descriptive data, but it does not provide the policy planner with an indication of where should he start in making changes, nor the impact of those changes on other parts of society.

There is a manner in which future social accounting can be useful for future planning. The accounting must take place in a specified social system. For this reason, the ecological model was adapted to the community with the assumption that as a theoretical perspective it provides general categories that represent the basic functions of the
community. It is also believed that this approach can provide the
needed conceptual basis and eventual data for assessing societal
conditions and planning for the future. Once the social system is
specified and the interrelations are known, social accounting may pro-
vide the needed descriptive data that can be disaggregated or aggregated
for use in monitoring societal conditions.

Community Performance

An often recurring question for decision-makers relates to what is
the impact of our programs on the population, or what must be done to
get change in needed areas? It is assumed that the model of the com-
munity ecosystem can aid in providing answers to these questions.
Obviously, the research strategy presented herein is beyond the scope of
one individual study. To assess the entire community system would re-
quire an analysis of the four indicators of community ecosystem, namely,
social organization, population, environment, and the cultural system.
To undertake such a task in one study would require enormous resources.
An alternative approach could be to select initially one of the four
major indicators for intensive research. However, this would lose the
interaction effect which appears to be so important in indicator re-
search. Another alternative which appears to be more feasible would be
to select subindicators in each of the four major indicators for the
purpose of analyzing the impact of one component on another. This could
be possible since the social organization variable in the community eco-
system is composed of the institutions in the community and represents
the mobilization of resources for the delivery of services. This is paralleled in the subindicator of individual social and institutional patterns in the indicator of population of the community ecosystem. The subindicator represents the impact of the delivery of services in terms of human use and benefit.

In order for a community to assess its performance there must be a benchmark as a basis for evaluating whether or not various social components are performing at an acceptable level given the various dimensions of choice that can be exhibited at the community level. Therefore, one phase of the study would seek to obtain data on current social conditions from the selected indicators throughout the various communities. In addition to obtaining descriptive data, part of the effort would be to assess the taxonomy in reference to the perceptions of the community residents. Not only is there an interest in the services that are available and how they are being utilized, but in addition, are the services, conditions, etc. perceived to be adequate? The perception can be two kinds; (1) by individuals using (receiving) services, and (2) normative judgements by experts (with doctor's minimum health care as an example).

The second study at a later period would again obtain the basic data for the purposes of assessing any change that took place. Given the current lack of resources for research it is obvious that studies of this type could not be repeated on a wide basis. Therefore, a short run method for social indicator research would be to gather as much data as possible from secondary sources. This assumed, however, that such data
are relevant and meet the requirements of disaggregation. Perhaps this type of effort will provide some basic inputs toward an eventual accounting system that is needed throughout society for the purposes of frequent monitoring of social conditions. Much data will have to be gathered through primary sources, however, where possible the goal will be to gather different and more relevant data using the same resources.

Use of the Data

Once the data are in, how will they be used for analysis purposes? If one were to look through the taxonomy he would find such common important societal concerns as poverty, quality of life, alienation and others missing from the taxonomy. These concepts are not judged unimportant. Rather, it is believed that all of these terms are higher order concepts with many of their subparts included in the taxonomy. Furthermore, the concepts just mentioned are obtained by inference. For example, one current measure of poverty is anyone under $3,900 annual income. There are, however, many in society below this level that do not view themselves in poverty and at the same time there are many above this level who are not categorized as being in poverty but an assessment of their life conditions would suggest the opposite. With a complete taxonomy of the functions of the community it should be possible to disaggregate the population to more easily understand the life conditions and furthermore include in the category of poverty additional measures not previously considered. Therefore, poverty is relative to the life conditions as experienced by subgroups in society. Quality of life was not defined in this dissertation because every indicator in the taxonomy and
those not explicated but that fall under the other major ecosystem components may contribute to quality of life. Quality of life in any community represents the net balance of many conditions of life as assessed by the normative interests of that community. Quite obviously every community has a quality of life. Some members of the community may give up an increase in income in the city to have a small town atmosphere. Others might have the opposite desires. Quality of life then, is the extent to which members of that community are able to fulfill their values.

Social Indicators In Decision-making

Assuming that the taxonomy was expanded and that data were available to assess the indicators, how could such a system of indicators be used by policy planners for the purposes of making decisions? In an earlier chapter, Whitney Young stated that often times the available information is not being adequately used and furthermore, not enough of the right kind of information is available. Cohen (1970) emphasized the problem many administrators face in initiating new programs and deleting old ones without the proper information. A system of social indicators as described in this thesis may be a step toward the alleviation of these problems.

Suppose the data were available for three communities experiencing population variations. How could these data be used for future planning and assessing at the same time community performance? A simple analogy might serve to clarify. When a person is in need of repairs on his
automobile he takes it to a repair shop where they monitor the problem. This is accomplished by placing various electronic monitoring devices on different aspects of the automobile. They may monitor the wiring and electrical system. Or, perhaps the fuel system or firing system may be monitored. The point is that an attempt is made to monitor the present state of the automobile to assess the current level of performance.

Once the profile is completed an individual evaluates that performance and makes a decision as to what problems are causing the malfunctioning of the automobile and what changes need to be made to alleviate the problems. The important point is that the evaluation takes place after the monitoring and base data are completed. In a similar manner, the administrator or policy planner can use the taxonomy to assess the current performance of his community system in mobilizing resources for the delivery of services, the impact of those services on the individuals in the system, and the effects on the environment resulting from the demands of the population and social organization for environmental resources. It would then be possible to make a decision based on the dimensions of choice throughout the system as to what changes need to be made in order to obtain a net balance within the system. For decision-making, the policy planners would then be in a situation of assessing the costs and benefits of needed changes. It may mean that in order to curb some of the environmental problems will require restrictions on production. This may result in a decrease in the economic base of the community but may be necessary to achieve the objectives of environmental control.
Next Steps

The strategy presented thus far as well as the trends in the social indicator movement would suggest immediate next steps if social indicators are to provide a means for monitoring societal conditions. On the surface, the task does not appear to be difficult. However, this author experienced many of the same problems all others who have attempted a generalized model have encountered. Some of these problems are presented below:

1. An over abundance of suggestions and assumptions concerning the monitoring of society accompanied with little empirical support.

2. Definitional ambiguity as to what is quality of life and how it might be measured.

3. Very few theoretical perspectives of the total society to provide guidance in needed areas of social indicator research.

4. No current taxonomy to guide in assessing present social conditions.

5. Difficulty in developing measures that demonstrate quality benefits in addition to the quantity benefits in society.

6. It was relatively easy to partition society into four or five general areas. But as the taxonomy expands, problems of mutual interdependency among concepts make it difficult to place subconcepts in mutually exclusive categories.

7. It was an enormous task to attempt a taxonomy of the community ecosystem. There was only one major concept selected for further explication from the four and that one was only partially explicated.

These are but a few of the general problems encountered in this proposed research strategy. However, this author believes that this strategy begins to meet (solve) some of the problems encountered above.
But, the proposed strategy has not been taken far enough even conceptually and operationally let alone measurement wise to really know; (1) if it is conceptually sound and do all facets of quality of life have a "place to go home to," and (2) if it really can be operationalized and measures developed. If in fact both (1) and (2) above are possible in terms of all four of the community ecosystem concepts, it may be possible to get at the interaction (cause) among variables within and among the components of the model.

In terms of the proposed research strategy, a next step would be to continue to "tease out" the taxonomy as one approach to determine its desirability and seek to operationalize and measure the subconcepts. Others should be trying other approaches as possible alternatives. This would mean for this strategy, expanding and explicating the lower level indicators of the component population as well as developing each of the other three areas of social organization, environment, and culture into a taxonomy of social indicators. Once the taxonomy has been completed it would be necessary to consider the problem of measurement and multiple indicators. For many of the lower level indicators in the taxonomy new measures will have to be developed. These measures should reflect quality type assessments of output as, for example, a measure of learning as opposed to traditional measures of educational quality by enumerating the size of the library or degrees held by the teachers.

Furthermore, such a taxonomy with low level indicators will allow the researcher to take advantage of multiple indicators which appear to be of increasing importance in the measurement of social phenomena. In
multiple indicators there are two issues. One is that we need multiple indicators because the concept is complex and multidimensional and therefore, one indicator may not reflect the concept in question. The other issue is that multiple indicators are needed because of the inaccuracy of measurement and the need to assess measurement error. The issue is compounded when trying to do both at the same time, that is, trying to assess a complex concept with high measurement error.

To illustrate this problem suppose one of the measures of occupation at a low level of the taxonomy sought to assess experience on the job by using years as a manager as one indicator and age as the other. Since these are both relatively unidimensional and the correlation between years as a manager and age is expected to be relatively high. On the other hand, if the concept to be measured was an attitude it more than likely has several dimensions and selecting only one indicator as a measure of that attitude may be inaccurately measuring the concept. Therefore, one needed next step is to continue the assessment of multiple measures and multiple indicators of the low level indicators explicated in the taxonomy.

If social conditions are to be regularly monitored it will require a different methodology than has typically been utilized in sociology. For social indicators to be useful in monitoring complex social conditions may require application, utilization, and perhaps revision in present techniques in the analysis of multiple independent variables (canonical correlation) on multiple dependent variables rather than typical techniques of multiple regression and even path analysis that
analyze the effects of several independent variables on a single dependent variable.

Finally, more consideration is needed in developing theoretical perspectives that take into consideration the total society. Boulding (1967), an economist, suggests that the development of the total social system is the major task before sociology for the next ten years. For sociology, the social indicator movement may provide the impetus for developing models of the social system, refining measures, and improving the methodology necessary to assess societal conditions for future decision-making. This is not an apology for the difficulties encountered in this strategy but merely a recognition of the difficult and enormous task. Therefore, this author solicits help on this approach or revisions of it and other approaches. The need is apparent, the time is right and it will remain to see if sociologists can make these contributions for the future development of society.
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The author wishes to extend his appreciation to several individuals who have made contributions to this thesis and to the author's graduate program.

I would like to first thank Dr. George M. Beal, my major professor, for his considerable and constructive comments regarding the development of this thesis and for his encouragement throughout my graduate program.

Dr. Gerald E. Klonglan and Dr. Richard D. Warren have both contributed indirectly to this thesis through numerous courses and seminars. Both of these individuals have joined Dr. Beal in providing valuable learning experiences both inside and outside of the formal classroom which are considered invaluable in my graduate program.

Appreciation is also extended to Dr. Ronald C. Powers and Dr. Eber Eldridge who consented to serve on my graduate committee and contributed to the development of the thesis through individualized course work and constructive comments.

Dr. Leslie D. Wilcox consented to serve as a member of the program of study committee during the development of the thesis. During this period, he has made extensive contributions to the thesis and the interaction with him has truly been an enjoyable experience.

Appreciation is also extended to my wife and parents for their encouragement and support throughout my graduate training. It is also my wish that David, Jana, and Barbara will benefit in the future from the accomplishments I might achieve.
Finally, I would like to acknowledge the financial support for this research project of the United States Department of Agriculture, Cooperative State Research Service, and the Iowa State University Agriculture and Home Economics Experiment Station.