INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure you of complete continuity.

2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in "sectioning" the material. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.

University Microfilms International
300 N. ZEEB ROAD, ANN ARBOR, MI 48106
18 BEDFORD ROW, LONDON WC1R 4EJ, ENGLAND
BACHTEL, DOUGLAS CHARLES
A COMPARATIVE ANALYSIS OF RECENT IN-MIGRANTS FROM URBAN AREAS AND LONG TERM RURAL RESIDENTS' ATTITUDES TOWARD RURAL INDUSTRIAL DEVELOPMENT: A MULTI-COUNTY STUDY IN SOUTHEASTERN OHIO.

THE OHIO STATE UNIVERSITY, PH.D., 1978
A COMPARATIVE ANALYSIS OF RECENT IN-MIGRANTS FROM URBAN AREAS AND LONG TERM RURAL RESIDENTS' ATTITUDES TOWARD RURAL INDUSTRIAL DEVELOPMENT: A MULTI-COUNTY STUDY IN SOUTHEASTERN OHIO

DISSEvation

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By
Douglas Charles Bachtel, B.S., M.S.

* * * * *
The Ohio State University
1978

Reading Committee: Approved by
Dr. Ted L. Napier
Dr. D. W. Thomas
Dr. Daniel T. Hughes

Department of Agricultural Economics and Rural Sociology
ACKNOWLEDGEMENTS

I would like to thank both of my advisors, Dr. Ted L. Napier and Dr. Donald W. Thomas for their help and advice throughout my graduate program.

I would also like to thank Annie Berry, Jeane Taylor and Annamarie Hedges for their editorial and typing assistance.
VITA

August 3, 1945           Date of Birth
1968                    B.S. Colorado State University
1971                    M.S. Colorado State University

Publications

A Descriptive Analysis of a Five-County Attitude Study: Outdoor Recreation and Industrialization, Ohio Agricultural Research and Development Center Research Circular 230, co-author.

Selected Information Source Perceptions and Use Patterns in One Rural Ohio County, American Association of Agricultural College Editors, Vol. 59, No. 2, co-author.

Fields of Study

Major Field    Rural Sociology

Studies in Rural Sociology     Dr. Donald W. Thomas
Studies in Community Development Dr. Ted L. Napier
Studies in Anthropology         Dr. Daniel T. Hughes
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>ii</td>
</tr>
<tr>
<td>VITA</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vii</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>CHAPTER</td>
<td></td>
</tr>
<tr>
<td>I. LITERATURE REVIEW</td>
<td>6</td>
</tr>
<tr>
<td>The Trend of Increasing Rural Industrialization</td>
<td>6</td>
</tr>
<tr>
<td>Legislative Action and Industrial Decentralization</td>
<td>13</td>
</tr>
<tr>
<td>Worker Relocation Programs</td>
<td>21</td>
</tr>
<tr>
<td>The Rural-Urban Migration Turnaround</td>
<td>22</td>
</tr>
<tr>
<td>Factors Affecting the Rural-Urban Migration Turnaround</td>
<td>25</td>
</tr>
<tr>
<td>Transportation and Employment Opportunities</td>
<td>26</td>
</tr>
<tr>
<td>Changing Residential Preference</td>
<td>27</td>
</tr>
<tr>
<td>Noneconomic Considerations</td>
<td>28</td>
</tr>
<tr>
<td>Location Factors Affecting Rural Industrialization</td>
<td>31</td>
</tr>
<tr>
<td>Characteristics of the Firms</td>
<td>32</td>
</tr>
<tr>
<td>Community Characteristics</td>
<td>34</td>
</tr>
<tr>
<td>Rural Market Forces</td>
<td>35</td>
</tr>
<tr>
<td>Disadvantages of Rural Areas</td>
<td>36</td>
</tr>
<tr>
<td>Impacts of Industry on Rural Communities</td>
<td>39</td>
</tr>
<tr>
<td>Population</td>
<td>40</td>
</tr>
<tr>
<td>Community Patterns</td>
<td>42</td>
</tr>
<tr>
<td>Services</td>
<td>44</td>
</tr>
<tr>
<td>Indirect Impacts</td>
<td>48</td>
</tr>
<tr>
<td>Attitudes Toward Rural Industrialization</td>
<td>50</td>
</tr>
<tr>
<td>Implication for Further Research</td>
<td>52</td>
</tr>
</tbody>
</table>
# Chapter II. Theoretical Orientation

- Historical Background ........................................... 56
- A Social Scale Orientation ...................................... 61
- A Measure of Social Scale ........................................ 63
- The Effects of Interdependency ................................. 66
- Increasing Scale of Rural Areas ................................. 72
- Application of the Scalar Model to Rural Industrialization ................................. 77
- Variables and Hypotheses ........................................ 80
  - Dependent Variable ............................................ 80
  - Independent Variables ........................................ 81
    - Age ............................................................. 81
    - Occupation .................................................. 83
    - Income ....................................................... 84
    - Education .................................................... 84
    - Unemployment ............................................... 86
- In-Migration and Attitudes Toward Rural Industrialization ........................................ 86

# Chapter III. Research Methodology

- The Study Area .................................................... 90
- Sample Selection .................................................. 92
- The First Sample: 1975 Survey ................................. 94
- The Second Sample 1977 Survey ............................... 100
- Sample Selection: 1977 Survey ................................ 103
- Instrument Construction: 1977 Survey .......................... 103
- Response: 1977 Survey .......................................... 105
- The Final Sample ................................................ 107
- Operationalization of the Attitude Variables ............... 110
- Operationalization of the Independent Variables .......... 112
- Item Analysis of the Attitude Scale .......................... 113
- Analysis Used for Testing Theoretical Model ............... 114

# Chapter IV. Research Findings

- Techniques for Analysis ......................................... 121
- Analysis of Variance ............................................ 121
- Findings of the Analysis of Variance ........................ 122
- Findings of the Correlation and Regression Analysis ........ 123
- Findings of the Multiple Correlation Analysis: Recent In-Migrants from Urban Areas Model ................................. 129
<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression Analysis: Recent In-Migrants from Urban Areas Model</td>
<td>130</td>
</tr>
<tr>
<td>Findings of the Multiple Correlation Analysis: Long Term Rural Residents Model</td>
<td>131</td>
</tr>
<tr>
<td>Regression Analysis: Long Term Rural Residents Model</td>
<td>135</td>
</tr>
<tr>
<td>Regression Analysis: Test of Equality Between the Sets of Regression Coefficients</td>
<td>136</td>
</tr>
<tr>
<td>Synopsis of Findings</td>
<td>137</td>
</tr>
</tbody>
</table>

V. SUMMARY AND CONCLUSIONS.................................................................. 140

| Evaluation of Hypotheses                                              | 144  |
| Implications of the Research Findings                                 | 147  |
| Implications for Local Development                                    | 155  |
| Areas for Future Research                                             | 157  |

LIST OF REFERENCES............................................................................ 159
### LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Profile Statistics for GROW Counties, 1978</td>
</tr>
<tr>
<td>3</td>
<td>Comparison of County and City Population Change for Athens, Jackson, and Gallia Counties, 1970-1975</td>
</tr>
<tr>
<td>4</td>
<td>Sample Frequencies and Summary Statistics for the Independent Variables, 1975 Survey, Total Sample N=1493</td>
</tr>
<tr>
<td>5</td>
<td>Sample Frequencies and Summary Statistics for the Independent Variables, 1977 Survey, Total Sample N=222</td>
</tr>
<tr>
<td>6</td>
<td>Item and Scale Reliabilities for the Attitude Toward Rural Industrialization Scales, Recent In-Migrants from Urban Areas Total Sample N=222</td>
</tr>
<tr>
<td>7</td>
<td>Item and Scale Reliabilities for the Attitude Toward Rural Industrialization Scales, Long Term Rural Residents</td>
</tr>
<tr>
<td>8</td>
<td>Attitudinal Item Response Frequencies – Long Term Rural Residents</td>
</tr>
<tr>
<td>9</td>
<td>Attitudinal Item Response Frequencies – Recent In-Migrants from Urban Areas</td>
</tr>
<tr>
<td>10</td>
<td>Summary Statistics for the Analysis of Variance: Recent In-Migrants from Urban Areas and Long Term Rural Residents Compared on the Basis of Attitudes Toward Rural Industrial Development</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>11</td>
<td>126</td>
</tr>
<tr>
<td>Summary Statistics for the Analysis of Variance: Recent In-Migrants from Urban Areas and Long Term Rural Residents Compared on the Basis of Perception of Adverse Affects of Rural Industrial Development</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>127</td>
</tr>
<tr>
<td>Stepwise Regression Findings for Selected Independent Variables and Attitude Toward Rural Industrialization Scale Scores: Recent In-Migrants from Urban Areas</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>128</td>
</tr>
<tr>
<td>Stepwise Regression Findings for Selected Independent Variables and Attitude Toward Rural Industrialization Scale Scores: Long Term Rural Residents</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>133</td>
</tr>
<tr>
<td>Correlation Matrix for Attitudes Toward Rural Industrial Development by Selected Independent Variables, Recent In-Migrants from Urban Areas</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>134</td>
</tr>
<tr>
<td>Correlation Matrix for Attitudes Toward Rural Industrial Development by Selected Independent Variables, Long Term Rural Residents</td>
<td></td>
</tr>
</tbody>
</table>
INTRODUCTION

The primary objective of this dissertation is to examine the attitudes toward rural industrialization held by long-term rural residents and recent in-migrants from urban areas in a multi-county region within Southwestern Ohio. The increase of manufacturing activities and movement of people into nonmetropolitan areas has occurred due to the fact that numerous rural communities have become increasingly attractive areas in which to live and work. Improved communication and transportation networks, expanded community service facilities, as well as an emerging national preference for living in rural areas have all contributed to the growth of rural industrialization and in-migration. At the same time, urban areas have been faced with problems such as overcrowding, pollution, crime and the general deterioration of many central city areas, all of which have contributed to the relative attractiveness of rural areas.

The change in rural migration patterns and increased rural industrialization has become a more relevant research topic in recent years for several reasons. First, industrialization has been advocated as a developmental strategy
by various public and private agencies as well as numerous community leadership groups as a means of halting the negative effects of long term rural socioeconomic decline.

In many cases industrialization has been quite successful. However, there are numerous problems associated with increased rural industrial development and population growth which have not been anticipated. These problems include the increased cost of living, additional demand on educational facilities and community service capabilities, housing shortages, and various indirect impacts on the environment and existing social structure. Second, not all nonmetropolitan areas have the potential for industrial development and research can provide additional information which may improve the chances for attracting manufacturing activities or alternative development strategies in nonmetropolitan areas.

The existing rural industrialization literature suggests that despite the broad range of possible negative impacts, a majority of rural residents generally remain quite favorable toward the establishment of manufacturing plants in their communities. The prevailing favorability toward industrial development also has been documented to exist in areas both anticipating and experiencing industrialization. At the same time, many of these communities are also encountering an influx of in-migrants who are
moving into rural areas from urban communication to escape the pressures and pollution associated with an urban way of life. Important questions exist concerning the recent in-migrant's attitudes toward industrial development as well as the socioeconomic characteristics and potential impact of the recent in-migrant's attitudes on future rural industrial development.

One of the objectives of this research is to determine the recent in-migrant's attitudes toward industrial development. Reliable information on in-migrant's attitudes toward rural industrialization will be helpful in developing a concise appraisal of an increasingly diverse rural population's attitudes toward industrialization. In addition, the characteristics of the migrants with particular attitudes toward industrialization would add to a growing body of knowledge associated with attitudes toward development.

The theoretical framework utilized for the study is based upon a social scale orientation. Essentially, a social scale perspective views the changes which are occurring in rural areas within the broader context of the gradual urbanization of an industrial based type of social organization. Special emphasis is placed upon increasing societal interdependence and its relationship to the gradual elimination of many of the previous identifiable
differences which have existed between rural and urban groups. Several hypotheses are developed within the context of a social scale orientation in an attempt to analyze long term rural resident's and recent in-migrants from urban areas attitudes toward rural industrialization.

This research was developed to expand on previous research efforts associated with attitudes toward rural industrialization. From a social action perspective, development takes place within the context of existing social systems and should be responsive to the interests of the people within that social system. Previous research has been undertaken to assess the interests of people in the affected Southeastern Ohio social system. However, it is apparent that research attempting to examine the interests and perceptions of local development efforts must make distinctions between long term residents and recent in-migrants. If a majority of the recent in-migrants are opposed to or have unfavorable attitudes toward industrial development they could possibly block or hinder future development efforts or delay their implementation. The tentative delineation of the relevant groups enables the development planners to begin to narrow down the systems so that limited resources of time and personnel may be used more effectively [Beal, 1971].

The research involved in this dissertation was designed to examine recent in-migrants from urban areas and long
term rural residents attitudes toward rural industrialization and critically evaluate the relationships which may exist between those attitudes and selected socio-economic characteristics. In order to accomplish these objectives two different surveys were utilized and appropriate subsamples were selected from both surveys. The data were subjected to several different types of statistical analysis in an effort to provide relevant information on a particular form of rural development which can be useful to future development efforts.
CHAPTER I

LITERATURE REVIEW

The Trend of Increasing Rural Industrialization

The increase of industrialization in rural areas has had a significant impact on the structure of communities and regions across rural America. Nonmetropolitan, or rural industrial development has been shown to produce both positive and negative consequences for individuals living in the communities and regions affected by industrialization [Maurer and Napier, 1978; Whiting, 1974]. Summers, et al. (1976), point out the importance of nonmetropolitan industrial development for research because it is closely related to social change at the local community or regional level, as opposed to the national or international level. Hansen (1974) emphasizes the need for continued research because not all nonmetropolitan areas have significant industrial development potential. Consequently, additional research may help solve future industrial development obstacles such as the lack of adequate community service capabilities, or industrial site locations. Hansen (1974) adds that it may be more sensible to promote
industrialization in areas that have growth potential rather than create false hopes for future growth and development through industrialization in areas that do not have potential.

Summers, et al. (1976), notes that industrialization in rural areas may be categorized as one of the steps or trends in the continuing process of the decentralization of American manufacturing. The first trend, according to Fuchs (1962), began during the 1920's when manufacturing started to move from the Northeast towards the South and West. The second trend was the movement of industries within metropolitan areas. Greer (1962) points out that numerous economic activities which have previously taken place in cities are now occurring over considerably larger geographical areas. Vernon (1959), Kain (1969), and Dean (1973) indicate that the proportion of workers engaged in manufacturing within the central cities has declined as opposed to the suburbs. The suburbanization of manufacturing began increasing around 1947 and has continued into the 1970's [Dean, 1973].

Rural industrialization is the third trend in the continuing process of the decentralization of manufacturing. Although it has significant local and national consequences, it has not received the systematic research attention afforded the two preceding industrial dispersion trends.
Summers, et al. (1976), believe that the paucity of research may be attributed to rural industrialization's relatively recent emergence, and consequently there has not been enough time for thorough research of the phenomenon. Also, the magnitude of rural industrialization has been relatively small, compared with the other industrial location trends.

Pickard (1972), suggests that one reason for the relative lack of nonmetropolitan industrial development research has been the tremendous growth of metropolitan areas. Research has tended to be concentrated on metropolitan development at the expense of nonmetropolitan development issues and problems.

Although research on rural industrialization has been increasing slowly, nonmetropolitan industrialization has shown a significant growth rate since the 1960's. Haren (1972), notes that manufacturing employment increased 31 percent in nonmetropolitan areas between 1960 and 1970, as compared to a 12 percent increase for metropolitan areas. He also observes that between 1962 and 1972, over 600,000 manufacturing jobs were added in rural areas of the Southeast. This figure represents one-third of the entire U.S. manufacturing expansion, and is double the metropolitan increase for the same time period. The increase of nonmetropolitan manufacturing employment is not limited to the
Southeast because various other nonmetropolitan areas have also gained substantial numbers of manufacturing jobs. The nonmetropolitan increase, however, has occurred in larger, less isolated communities rather than the smaller lesser developed communities [Haren, 1974; Haren and Cheplo, 1973].

Hansen (1974) suggests that many nonmetropolitan communities are becoming increasingly complex which aids in the dispersion of industry into rural areas. Doeksen, et al. (1974:32), delineated five factors involved in the increased complexity of rural economic systems. They involve: 1) changes in agricultural technology which have reduced the number of people on farms and increased the per capita income of those remaining in agriculture; 2) highway improvements which have substantially reduced transportation costs and permitted the spatial growth of market and service areas; 3) urban shopping centers that draw much of the market away from local establishments; 4) business establishments appealing to increasingly larger markets in order to survive; and 5) an apparently emerging preference for living in or near small metropolitan areas. Tweeten (1974) offers several other factors which have helped produce a viable economic climate suitable for industrial expansion within smaller communities; 1) industry has become less natural resource oriented which has lessened the
need for industry to be located near the resources used in manufacturing; 2) industrial decision makers are increasingly concerned about locating their plants near consumers or suppliers of intermediate inputs. Tweeten (1974) also includes several important secondary factors such as community characteristics, availability of acceptable building sites, and state and local tax rates. Finally, Hansen (1974) observes that the major economic base of numerous nonmetropolitan counties has been traditionally rural-oriented occupations such as farming, timber and mining, but these have been steadily decreasing over time. Therefore, many rural community groups strongly desire a means of establishing a viable economic base, and perceive manufacturing as a potential mechanism to accomplish this goal.

Many social trends have added impetus to the desire of various local community groups to facilitate rural industrial development. Several of these trends have, in fact, directly contributed to the emerging trend in rural industrialization. Wadsworth (1974:61) has recorded several significant characteristics of rural areas that have undergone recent change. They include: 1) historic rural out-migration patterns; 2) a rather limited range of desirable jobs with advancement potential; and 3) the difficulty of obtaining comparable access to the type and quality of
services that are available in more urbanized areas. Numerous public and private development agencies have advocated rural industrialization as a means to reverse the above mentioned problems by establishing a viable economic base and thereby creating new job opportunities for potential growth. It is reasoned that increased economic viability will provide a revenue base for the development of needed public services. Although new employment opportunities may be a useful strategy for combating some problems within specific rural areas, it is clear that rural industrialization cannot be a cure-all for all of the different aspects of rural decline.

Numerous factors have been used to explain the emergence of rural industrialization as a primary means of accomplishing rural development. Summers, et al. (1976), note five major factors which help account for the trend toward rural industrialization. The factors are: 1) Federal policies for encouraging industrial dispersion; 2) local community support; 3) willingness of industry to locate in rural areas; 4) a surplus labor pool within rural areas; and 5) transportation advances. This broad set of factors accounts for the "pull" or positive factors. Accompanying the "pull" factors which draw or attract industry into rural areas there are another set of factors which "push" industry from more urbanized areas. Fulton (1974)
argues that rural areas may appear to be more desirable to industrial decision makers due to the undesirable factors associated with large urban environments. These undesirable or "push" factors include a combination of urban community problems and frustrations such as fear of physical attack, air, water and noise pollution, high cost of living, and general economic anxiety [Fulton, 1974:69]. The problems associated with urban site locations tend to be increasing, which encourage industrial decision makers to seek alternative sites. Public services stoppages due to strikes also have contributed to the movement of industries away from central cities and suburbs into the nonmetropolitan areas [Fulton, 1974:70].

In summary, rural industrialization has been shown to be a relatively new phenomenon which has only recently received systematic research attention. Manufacturing activity appears to be moving into rural areas because of the increasing desirability of nonmetropolitan areas as industrial location sites. In addition, increased industrialization in rural areas has serious consequences for economic development and employment at both the national and local level. Due to the magnitude of these consequences, federal legislation has become increasingly involved with the trend toward rural industrialization. Additional insight and understanding may be obtained by examining the role of governmental action.
Legislative Action and Industrial Decentralization

Federal legislative action is one of the key explanatory variables in the trend toward manufacturing decentralization. Federal programs have provided financial assistance to stimulate industrial growth as well as large sums for planning purposes and the development of community services. Summers, et al. (1976), point out that one facet of federal intervention provides for the flow of capital into areas of lagging economic growth. Large sums of money are needed for community planning and development in order to adequately stimulate such development [Summers, et al., 1976:12].

Government support of rural industrial development is not a recent phenomenon. Stanfield (1975) notes that federal and state efforts to encourage rural industrial development have been in existence for at least 30 years, and are a response to social conditions and processes which had their origin around 1900. The impetus for the recent government involvement came from the President's National Advisory Commission on Rural Poverty in 1967, which encouraged federal, state and local governments to increase industrial expansion in rural areas. The proposed measures included tax incentives, low interest loans, and the construction of industrial sites [Hansen, 1970]. Rural industrialization received further impetus from the Agricultural Act of 1970
which spelled out the need for a sound balance of industrial growth between rural and urban America [Nolan and Heffernan, 1974]. As a means of implementing the policy set forth in the Agricultural Act of 1970, the Senate Committee on Agriculture and Forestry established a subcommittee on rural development, and from that subcommittee's hearings the Rural Development Act of 1972 had its genesis [Nolan and Heffernan, 1974].

The Rural Development Act of 1972 represents a basic commitment of the Federal government to rural development and recognizes the role of rural industrialization in the accomplishment of rural revitalization [Nolan and Heffernan, 1974]. The Act encompasses six titles which provide for a variety of different programs that fall into basically two categories. First, new loans and grants were made available for rural industrialization projects. Second, funds were also made available to develop and expand public services within rural communities to make them attractive to industrial decision makers. It is recognized that industrial development seldom precedes the expansion of community infrastructures [Hammill, 1975].

Rural industrial development does not occur in a political or social vacuum, but in a dynamic interplay of many social processes which require considerable planning efforts. These planning efforts are costly in terms of time and effort
and often require qualified and trained personnel. Consequently, the Rural Development Act of 1972 also earmarked funds for rural industrialization planning. A more comprehensive review of rural industrial development planning will be presented in the next section.

Planning for rural industrialization is an outgrowth of regional development efforts and federal legislation designed to help solve problems of rural poverty and improve the quality of life in both rural and urban areas. The Economic Opportunity Act of 1964, the Public Works and Economic Development Act of 1965, the Appalachian Regional Development Act of 1965, and the Rural Development Act of 1972, are examples of instruments for achieving national planning goals [Summers, et al., 1976:1]. These legislative acts essentially view the decentralization of manufacturing as a means for solving the "twin problems of rural poverty and urban crisis" [Summers, et al., 1976:1]. Sound interventionist solutions to complex problems require thoughtful planning efforts. Summers, et al. (1976), stress that communities are not only complex, but important entities in the arena of political economies. The complexity of communities requires coordinated planning for the numerous conditions which must be taken into consideration.

Summers, et al. (1976), point out that U.S. governmental policy has traditionally viewed society from the vantage
point of the free market economy model and, consequently, treated situations as reflections of the natural functioning of society. The optimal spatial patterning of populations and economic activity has not occurred under the free market conditions. Consequently, interventionist solutions have been advocated and encouraged at several different levels, including the: 1) community, 2) regional and multi-county, and 3) federal levels. Regardless of the level involved, industrial planning has become increasingly important due, in part, to the vast amount of capital involved.

Smith (1971) states that two major types of industrial planning efforts have been advocated. The first involves the general improvement of the various components of the infrastructure which makes areas more attractive for industrial expansion. The second type involves specific industrial location incentives, including favorable industrial taxes, low interest loans, and construction of facilities. In terms of long range development goals, the first type of planning effort will have the greatest impact. Roepke (1973) suggests several criteria that should be included in a rural industrial program. The program should: 1) benefit the whole state or area; 2) meet the needs and desires of rural residents and be effective in attracting industry; 3) produce economic benefits; and 4) be competitive with the impact of similar programs in other areas.
Roepke further adds that a successful program must provide: 1) a trained professional development staff for the development area; 2) information about the area; 3) a suitable industrial site; 4) long-term programs, such as industrial bonds; 5) adequate transportation; 6) training of skilled labor; and 7) relocation programs.

Hushak (1977), suggests that future industrial development efforts in Southeastern Ohio should undertake to 1) facilitate establishment or expansion of manufacturing which employs low skilled labor because of the relatively large supply of unskilled labor; 2) seek out employment opportunities which require high or increasing labor skills over time (these will likely be relatively small firms); and 3) seek out activities which will sell to or buy from other firms in the region." He also emphasizes that the U.S. is undergoing a change from a goods oriented economy to a service oriented one and unfortunately, no well-developed models of service oriented economics currently exist. Because of the linkages between communities, rural economies are also becoming service oriented and service industries may play increasingly important roles in rural areas [Warren, 1965].

Regional and multi-county level industrial planning has been repeatedly advocated, due in part, to the fact that the economic impact of the industry is diffused not only throughout the community in which the facility is
located, but the surrounding area as well [Summers, 1973:34; Summers et al., 1976:5; Bird, 1973; and Maki, 1973]. As a result, industrial location planning decisions should essentially be viewed as a two-stage process [McMillan, 1965]. The first stage involves the selection of a geographical region within which profitable production is feasible primarily from the standpoint of direct production factors. The second stage involves indirect production factors. The importance of indirect production factors has increased relative to the direct production factors as industries have decentralized from metropolitan areas. Unlike McMillan (1965), Ruttan and Wallace (1962) delineate a three stage involved in the industrial location planning process. They include: 1) determination of a major geographical region; 2) comparison of specific areas within the general region; and 3) selection of specific sites within the area. They point out that local communities' efforts are not effective until stage three, and by that time the firm site has already been chosen. Tweeten (1974) further emphasizes that small nonmetropolitan communities frequently have little input concerning primary factors (proximity to markets, adequate transportation, general labor quality) affecting

---

1/ Indirect production factors involve general community characteristics such as schools, recreation facilities and availability of housing while direct production factors include transportation facilities, availability of site and adequate energy sources.
industrial location. Local communities can do something about secondary factors. The upgrading of local services, utilities, plant sites, or industrial parks, along with strong local leadership and involvement are all important considerations which can be solved through community planning.

Shively (1974) notes that secondary community factors were given rather low ratings by industrial decision makers in a Nebraska study. However, he goes on to say that industrial parks are important factors in industrial site selection. Industrial parks are developmental mechanisms that communities have used to attract industries and improve their employment and income alternatives. Yet, Hitzhusen and Grey (1976) note that community industrial park investments do not automatically insure the attraction of industries, and in fact, there is a positive relationship between the age of an industrial park and its employment and income inputs. This finding suggests that community leaders must be cognizant of the fact that industrial park ventures do not automatically guarantee an immediate return on their investment.

Vieg (1973), Roepke (1973), Tweeten (1974), and Cavender and Schmitt (1971) note that strong local leadership is an important component of community development, and "a strong industrial development program must be accompanied
by a strong community improvement program" [Ginther, 1974:8]. It is important for small communities to recognize that the ability to attract and keep industry depends, for the most part, on their ability to maintain a competitive position as a place in which to live and work compared to urban communities [Wadsworth, 1974].

As previously mentioned, rural industrialization has primarily taken place in larger, less isolated communities rather than the smaller, less developed communities [Haren, 1974; Haren and Cheplo, 1973]. Accordingly, national rural industrialization planning efforts have been recommended because the optimal spatial pattern for industrial activity has not occurred under a free market model [Summers, et al., 1976:12]. National planning efforts involve the coordination of existing industrial location programs to achieve a more even distribution of industrial activity in rural areas. In addition, national planning efforts have been utilized to increase the public and private sectors involvement in solving social, economic and environmental problems due to the uneven distribution of industrial activity [Summers, et al., 1976:12].

Warren (1965) believes that because of shared institutions and a common mass culture that individual communities are becoming increasingly similar and, more important, linked together. This suggests that rural industrialization
planning is essential in order to diffuse the economic impact of the industry, not only throughout the host community, but the surrounding area as well [Summers, 1973:34; Summers, et al., 1976:5; Bird, 1973; and Maki, 1973]. The existing literature suggests that a regional planning approach is the most effective method for rural areas to maximize the benefits of industrial development. Regional and national planning efforts also encourage worker relocation programs but relocation programs have not as yet been adopted, although they have been advocated. Worker relocation programs will be examined in the following section.

Worker Relocation Programs

Nonmetropolitan areas have become increasingly attractive not only for the migration of industry, but for people as well. A development issue currently affecting rural areas involves population distribution programs. Carpenter (1977) suggests that population distribution has become a policy issue, but since 1974 the Federal government has not considered population distribution to be a valid objective. He suggests that the reason for halting of Federal population distribution policies may be that the population is dispersing on its own.

Hansen (1970), Harris and McGuire (1969), and Fuguit and Zuiches (1975) point out that population dispersal or
worker relocation programs and policies are alternatives to regional industrial location planning programs. Population dispersal involves moving workers to jobs in already established economically sound areas as opposed to moving industries to areas experiencing economic decline. This approach is based on establishing viable economic growth centers within regions experiencing economic and population decline. However, worker relocation programs may prove to be extremely difficult to inaugurate at the national or even state level because of the problems associated with the free movement of large numbers of people. The underlying assumption in population dispersal programs involves the voluntary movement of workers. Numerous individuals may not want to leave their areas regardless of the incentives offered. However, numerous nonmetropolitan areas have recently experienced increased in-migration. The trend toward increased rural in-migration has been termed the rural-urban migration turnaround, and in the following section some of the potential consequences of increased rural in-migration will be examined.

The Rural-Urban Migration Turnaround

Early in the 1970's, information became available from the U.S. Census Bureau that recognizable changes in population growth and migration patterns were occurring in certain
areas of the United States. Beale's (1975) analysis indicates that nonmetropolitan counties were growing faster than metropolitan counties and this represented a reversal from the trends of previous decades. The data reveals that from April, 1970, to July, 1974, nonmetropolitan counties experienced a 5.6 percent population increase, primarily through migration, while metropolitan counties grew by 3.4 percent. Beale (1976) points out that although the rates are rather moderate, this represents the first sustained period of nonmetropolitan population increase in the modern history of the United States except for a brief period during the economic depression of the 1930's. The recent in-migration of people into rural areas has been termed the "rural turnaround" and the increase in rural industrialization has been proposed as one of the major explanatory factors [Williams and Sofranko, 1978; Dejong, 1977; Fuguitt and Beale, 1976; Zuiches and Fuguitt, 1976; Summers, et al., 1976; and Tweeton and Brinkman, 1976].

Long (1978) provides further insight on the nature of the turnaround, when he observes that since 1970, American population trends have been in the direction of deconcentration. Utilizing census bureau administrative records on revenue sharing estimates, he observes that nonmetropolitan incorporated places a 2,500 or more grew only 3.3 percent between 1970 and 1975, a growth rate below the national
average of 4.8 percent. This means that the 6.9 percent nonmetropolitan growth rate compared to the 4.0 percent metropolitan growth rate is primarily due to the population growth in nonmetropolitan areas outside incorporated places of 2,500 and over. "In effect, the nonmetropolitan areas of the nation seem to be undergoing the same pattern of deconcentration internally which has affected the nation as a whole" [Long, 1978:4-5].

Beale's (1976) analysis reveals that the trend toward nonmetropolitan growth cannot be entirely explained as the continuing decentralization of population into the suburbs or rural-urban fringe. Although nonmetropolitan adjacent counties grew by 3.6 percent compared to 2.3 percent for nonadjacent nonmetropolitan, low density counties or entirely rural counties. In terms of absolute numbers, the magnitude of nonmetropolitan population increase is nowhere near metropolitan growth figures. However, a relatively small number of in-migrants has the potential to produce significant social change in low density, rural areas. The nonmetropolitan growth has occurred in previous no-growth areas such as the Ozarks, Northern New England, the Upper Great Lakes, portions of the Appalachian and Blue Ridge Mountain regions and areas in the Rocky Mountain West [Beale, 1976:956].
In summary, the increase in rural population has been shown to be a recent trend that will probably persist as long as rural areas continue to increase their socioeconomic viability and are perceived as desirable places in which to live and work. In the following section the factors affecting the turnaround will be examined in order to determine the socioeconomic reasons for the recent trend in increased rural in-migration.

Factors Affecting the Rural-Urban Migration Turnaround

A variety of different explanations have been advanced to account for the increased rural population growth rates. Existing research suggests that each of the following factors may be involved with the turnaround: 1) growth resulting from transportation improvements; 2) employment growth resulting from rural industrialization; 3) the changing residential preferences and preferences for amenities located in rural areas; 4) the movement of urban elderly to rural retirement areas; 5) the development of rural recreation areas and industries; and 6) the increased opportunities for higher education in nonmetropolitan areas [Williams and Sofranko, 1978; DeJong, 1977; Fuguitt and Beale, 1976; Zuiches and Fuguitt, 1976].
Transportation and Employment Opportunities

Hansen (1973) and Beale (1975) note the important role that highways have played in rural development. Hansen (1973) adds that highways and advances in transportation should not be judged entirely on a narrow economic basis. Rapid transportation and highway innovation have enabled people to migrate into rural areas by eliminating the previous social and physical isolation associated with rural areas in the past. Morrison and McCarthy (1977) suggest that transportation advances have enabled nonmetropolitan inhabitants to engage in metropolitan life-styles as well as economic activities. Accordingly, numerous migrants would not relocate in many rural areas if it were not for the relatively easy accessibility of larger metropolitan areas. These studies demonstrate that transportation innovations have contributed significantly to the modernization of rural life. This, in turn, has helped create a more desirable environment for manufacturing activity and the new jobs generated from industrialization have contributed to the increase of rural employment opportunities. Summers, et al. (1976), observe that new rural employment opportunities are generated by rural industrialization and the younger, well-educated migrants often possess many of the skills that various industries located in rural areas are seeking. These new employment opportunities have made
it increasingly feasible for many individuals to migrate into rural areas without having to commute long distances for suitable employment. Also, people do not have to overcome significant employment roadblocks if they desire to live in rural areas.

**Changing Residential Preference**

The changing residential location preference for living in small towns as indicated by a large majority of Americans in several different national opinion polls [Dillman, 1973] should be interpreted with a degree of caution. Fuguitt and Zuiches (1975) have pointed out that the small town preference finding is tempered by the fact that when the condition of more than thirty miles from a large city was imposed, the desire for a small town residential location greatly diminished. This finding indicates that while a majority of people would like to live in small towns, a far smaller percentage of individuals would actually prefer living in communities spatially isolated from larger cities. However, Carpenter (177) indicates that the number of individuals who actually desire to live in small towns removed from large metropolitan areas is still a sizeable number of people. In addition, many nonmetropolitan areas already have a small population base and a very small population increase can produce significant impacts on the surrounding area.
Carpenter (1977) also suggests that it is becoming increasingly easier for people to live out their residential preferences whether they involve small or large communities. He further adds that dispersed employment opportunities and increased income may be key explanatory factors associated with the increasing changing residential location preferences. Zuiches and Fuguitt (1972) note that the individuals who had the highest expectation of moving into a nonmetropolitan area were the young and well educated; but Carpenter (1977) points out that coverage by retirement plans has also increased the potential for retired persons living out their residential preferences. However, noneconomic consideration also appear to play an important role with respect to factors relating to the rural turnaround.

Noneconomic Considerations

The increased in-migration into nonmetropolitan areas may also be viewed from a noneconomic perspective. Morrison and McCarthy (1977) argue that the increased in-migration into rural areas can be viewed as extensions of other ongoing social trends. Beale (1975) notes that rural industrialization has been a major factor in the transformation of rural economies, but the turnaround has not occurred in areas already heavily dependent on manufacturing. The trend toward increasing rural industrialization provided the
impetus for rural economic growth, but Morrison and McCarthy (1977) and Beale (1975) observe that fundamental changes in American life-styles have become increasingly important factors in understanding the economic transformation of rural communities and the rural-urban migration turnaround. The factors include: 1) the trend toward early retirement; and 2) the growth and expansion of leisure activities and recreation facilities. Also, numerous rural areas have benefitted economically from the growth of institutions of higher learning and governmental agencies. Research on the characteristics of urban to rural migrants support the viewpoint that emphasis on economic determinants of migration do not explain all of the variance associated with this migration stream [DeJong and Humphrey, 1976; Williams and Sofranko, 1978; Thomas and Bachtel, 1978].

Williams and Sofranko (1978) suggest that nonemployment-related migration considerations may be assuming a larger role with respect to the turnaround due, in part, to the structural changes occurring in the American society and other industrialized societies in general. This view is further supported by Shaw (1975) who states, "... that as an economy progresses toward an urban-industrialized state, the role of pecuniary considerations (and certainly situations of economic stress) declines in importance as
motives to migrate" [Shaw, 1975:101]. Morrison and Wheeler (1976) further add that due to rising affluence and generally higher standards of living there appears to be a "floating population" that settles where and when it desires. This pool of relatively unconstrained voluntary migrants may be the key factor in understanding the recent rural-urban migration turnaround [Williams and Sofranko, 1978:6].

Morrison and McCarthy (1977) argue that rural industrialization and the broad changes in American life-styles have laid the foundation of rural employment. The exact circumstances may vary from region to region, but on an aggregate basis the result has been similar: "the initial base employment opportunities (however created) furnish jobs, thereby retaining existing residents and drawing opportunity-seeking migrants from elsewhere. The resulting population, larger and more affluent, enlarges local demands for goods and services, thereby creating new jobs for more migrants" [Morrison and McCarthy, 1977:5].

The trends toward rural in-migration and industrialization are occurring in areas which have not previously exhibited increases in modern manufacturing activities or the in-migration of younger, more affluent, better educated people. Both of these trends have the potential to produce social change in rural areas which may result in both positive
and negative consequences for rural inhabitants. In order to gain increased understanding of both trends, it is useful to examine the location factors associated with the industrial expansion into rural areas. The examination of location factors is essential in order to determine the characteristics of the communities and industries involved in the trend toward increasing rural industrialization.

Location Factors Affecting Rural Industrialization

The increase of manufacturing activities and economic opportunities in rural areas with a history of declining employment in farming and mining is quite consistent with Wilber Thompson's "filtering down" theory of industrial location.

"In national perspective, industries filter down through the system of cities, from places of greater to lesser industrial sophistication. Most often, the highest skills are needed in the difficult, early stage of mastering a new process, and skill requirements decline steadily as the production process is rationalized and routinized with experience. As the industry slides down the learning curve, the high wage rates of the more industrially sophisticated innovating areas become superfluous. The aging industry seeks out industrial backwaters where the cheaper labor is now up to the lesser demands of the simplified process" [Thompson, 1972].

Nonmetropolitan areas are at the lowest level of the process, and the "filtering down" theory implies that
development efforts in rural areas should be directed toward attracting growth industries instead of low wage and low skill industries. If these areas cannot attract growth type industries they will continue to struggle [Thompson, 1972], since they can only expect to achieve a relatively low rate of growth from industries which are attracted to rural areas by the low wage scales.

Characteristics of the Firms

The examination of the characteristics of manufacturing firms which can operate for a profit in nonmetropolitan areas demonstrates the problems of attracting growth industries to small communities. Fulton (1974) attempts to analyze this researchable question and develops a typology of the characteristics of firms which locate in rural areas. He cautions the reader, however, that categorization is difficult due to the multiplicity of circumstances involving not only the industries, but the communities as well. The firms that are attracted to nonmetropolitan areas have some of the following characteristics. They: "1) require fewer skills at the outset; 2) are willing to train a large part of their work force; 3) are more oriented to the assembly of purchased parts than to the fabrication of those parts; 4) are faced by necessity with low profit margins in their industry and hence must keep out-of-pocket labor costs down; 5) use mostly catalog-ordered or standard
raw materials; 6) are able to keep inventories on hand for
production runs rather than relying upon hand-to-mouth
purchasing; 7) deliver to customers largely at either end
of the one or two main rail, truck, water or air routes
which serve the town; 8) have customers who do not normally
visit the plant; 9) have utility requirements which are
not unusual in any way; 10) do not find it necessary to
have professional men such as engineers, physicists, and
mathematicians attached closely to the manufacturing facil-
ities (major exception: a university town); and 11) recog-
nize the benefits of hiring employees who live close to
their work and who have more free time than can be pro-
vided in the large city" [Fulton, 1974:77]. These firms
have the potential to create positive as well as negative
social and economic impacts upon the host community.

The extent to which a new firm has the capability to
alter the character of a community depends upon the size
of the work force compared to the size of the community
[Scott and Summers, 1974:102]. Hansen (1974) adds that
industries that are attracted by tax incentives are often
labor intensive, employ mostly women, are slow-growing
and pay low wages. This is consistent with the "filter
down" theory which posits that mature industries locate in
rural areas to take advantage of the cheap labor and tax
breaks offered by community groups who are attempting to
attract manufacturing industries. Not only are the characteristics of the industry important in terms of its impact upon the community, but the community characteristics can also affect what types of industry will move into rural areas.

**Community Characteristics**

Fulton (1974) generalizes about the characteristics that communities desiring industrial development should possess. They include: 1) a good highway system, preferably oriented to the national interstate system; 2) strong community leadership; 3) a community which is not dominated by a single large industry; 4) labor availability; 5) a community within easy access to a large city; and 6) a terrain which permits easy development [Fulton, 1974:77-78]. A community that possesses these factors is desirable from an industrial location point of view because industry can economically begin operation with a minimum amount of delay. These communities already possess the characteristics which will satisfy basic production needs and plant personnel requirements.

In summary, the characteristics of the host community and the industries involved are important factors in the industrial relocation process. It becomes obvious that for a variety of reasons the development of manufacturing activities in certain nonmetropolitan areas is simply not
feasible. However, there are also various market forces in operation which directly affect the location of industries in nonmetropolitan areas. The examination of rural market forces becomes necessary before definitive statements can be made concerning the advantages and disadvantages of rural areas for industrialization.

**Rural Market Forces**

Hansen (1974), Smith (1971), Cavender and Schmitt (1975) and Summers, et al. (1976), note that a large heterogeneous labor force exists in rural areas. Hushak (1977) documents that the major attraction for certain types of industry in rural areas of Ohio is the relatively large supply of unskilled labor at relatively low wages. Scott (1973) also notes that industrial decision makers regard the positive work attitudes held by the rural labor force, as well as their ability to learn new skills, to be positive factors. Finally, many nonmetropolitan areas are also attractive to industries due to more favorable taxation, and lower land and water prices [Summers and Clemente, 1976].

The establishment of manufacturing activity in nonmetropolitan areas has been shown to be contingent upon a broad variety of factors. Industrial location decisions are based on current market forces and the firm's characteristics, two factors not easily changed or altered by individual communities attempting to attract industrial
activity. Although many rural areas have various disad-
vantages that community groups and industrial decision makers
must resolve before industrialization can occur, community
groups can have meaningful input into the community factors
involved with industrial location decision making. The in-
vestigation of the disadvantages of rural areas for indus-
trialization is necessary in order to analyze what factors
make certain rural areas undesirable locations for increased
activity. The disadvantages are discussed in the following
section.

Disadvantages of Rural Areas

In contrast with the advantages nonmetropolitan areas
may have, there are a host of disadvantages associated
with small communities that industrial decision makers must
consider before selecting a plant site. Generally, the
disadvantages are associated with the availability of
skilled labor,\textsuperscript{3} public and private services and facili-
ties, and the general lack of advantages which are avail-
able in urban areas, such as adequate transportation and
easy access to a variety of cultural attractions.

Hansen (1974), Scott (1973), and Tweeten (1974) dis-
cuss the fact that while rural labor is often plentiful,

\textsuperscript{3} This applies to the more sophisticated type of manufac-
turing worker and managerial-administrator types for
mature low skill firms.
the workers are usually less educated, poorly trained and possess fewer skills than their urban counterparts. It may prove to be expensive for firms to attempt to train unskilled labor to meet their particular needs because of the prohibitive time and cost factors associated with labor training. Wadsworth (1974) suggests that the lack of a skilled, rural labor force is a direct result of the historic out-migration of higher skilled rural workers who previously left because of the lack of adequate employment opportunities. However, since the recent rural turnaround, the persistent lack of available skilled labor in rural areas may be changing.

Hansen (1974) indicates that numerous rural areas also have relatively easy access to work and recreational areas not available in urban areas. Essentially, many nonmetropolitan communities are becoming increasingly desirable environments in which to live, thereby attracting qualified personnel to consider employment in these communities. This, in turn, would facilitate the attraction of more sophisticated, growth-type industries, which would help create a sound economic environment.

With regard to services and facilities, Wadsworth (1974), Scott (1973), Haren and Cheplo (1973) and Tweeten (1974) state that various service factors including educational facilities, utilities, housing and cultural
activities are normally more difficult to obtain in rural areas. The quality of life considerations may serve to negate the attractiveness of numerous rural communities as potential sites for industrial development. Skilled workers and management personnel often value quality of life amenities when making locational decisions. However, quality of life indicators should not be overemphasized. Shively (1974) observed in a general survey of industries located within Nebraska that community facilities and services were ranked substantially lower than locational factors such as labor quality, highway transportation, availability of site, reliable utilities, and proximity to market by industrial leadership.

While the lack of cultural amenities may jeopardize a small community's probability of attracting an industry, Fulton (1974) suggests that consideration should be given to the type of industry as well as the type of business executive involved in the decision making. Such a position implies that industrial decentralization is a selective process and not all communities and industries are compatible with each other.

Hansen (1970) and Tweeten (1974) emphasize that many rural communities are at a disadvantage compared with urban areas in supplying adequate skilled labor, favorable markets, low cost transportation and agglomeration economics
to firms locating in their areas. It should follow that the nonmetropolitan areas with more advantages and fewer disadvantages are more suitable for industrial development and expansion. In a similar fashion, firms which are less affected by the disadvantages noted above will be more likely to locate in rural areas. From a development perspective, rural communities which have the necessary advantages to experience industrial development may have much less actual need for economic development than the areas possessing less attractive characteristics. Roepke (1973) points out that firms attracted to rural areas are geared toward hiring low skilled labor and paying lower wages which is consistent with Thompson's "filter down" theory. Consequently, the type of firm that locates in rural areas may be in stagnation or decline, not the type of industry needed to promote economic development in rural areas. This implies that rural industrialization may be a necessary, but not sufficient, condition for the alleviation of rural socioeconomic problems.

Impacts of Industry on Rural Communities

The examination of existing rural industrialization research literature indicates that the movement of industry into nonmetropolitan areas has at least four major impacts upon rural areas. They include: 1) the impact upon the population of the area, including commuting patterns;
2) the impact upon local services and facilities; 3) the impact upon the occupational and wage structure of the area; and 4) indirect impacts such as effects on the environment and social structure [Maurer, 1977]. The consequences or impact of the industrialization are not only complex, but many have long term effects on the residents of rural communities experiencing industrialization. These impacts will be discussed in the following section beginning with the impact of increased population.

Population

It has been demonstrated in a previous section that many rural areas are gaining population for a variety of reasons, including rural industrialization. Research conducted in Illinois [Summers, 1973] and Ohio [Andrews and Bauder, 1967] document population increases in communities experiencing industrialization, even after many years of population decline. Summers, et al. (1976) have summarized 58 industrial and population impact studies and found that 86 percent of the towns and 52 percent of the counties experienced population increases after industrialization. However, Summers, et al. (1976), Summers (1973), and Andrews and Bauder (1967) all indicate that although out-migration is sometimes slowed when an industry arrives, the major factor associated with population increase is
in-migration. Younger adults often continue to leave the community even after the industry arrives.

One of the likely impacts of the geographical movement [Summers, et al., 1976] of people is the change in spatial distribution and concentration of populations. Rural industrial development has the potential to change the surrounding population through the relocation of workers near the plant site, thus contributing to the urbanization of rural areas. In a summary of 27 population distribution studies, Summers, et al. (1976), notes that the population distribution did not appear to become concentrated, thus industrialization seemed to have little effect on concentration of population [Summers, et al., 1976:29].

Summers (1973) suggests that urbanization and industrialization do not necessarily occur together in rural areas, but the concentration of population accompanied by limited urbanization may follow industrialization in some instances. This occurs when the host community has well developed transportation, communication and educational systems, along with a surplus labor force and plant employees who commute instead of moving close to the plant site [Summers, et al., 1976:30]. The transportation advances which have contributed to the increase in rural industrialization greatly enhance the potential for commuting behavior. Commuting is an impact which may seriously affect the
communities experiencing industrialization. The consequences of commuting are presented in the following section.

Commuting Patterns

Commuting is a phenomenon that occurs not only during the construction phase of rural industrialization, but continues when the plant becomes operational. Summers, et al. (1976) observe that it is difficult to recruit a labor force in the immediate vicinity of the plant site due to the lack of skills generally associated with the rural labor force. Several studies concerned with city size and commuter patterns [Andrews, et al., 1959; Schneiderman, 1972; and McElveen, 1970] suggest that the smaller the city where the new plant is located, the larger the plant's labor shed will be, and vice versa [Summers, et al., 1976:36].

During the construction phase, two distinct types of commuting patterns emerge. Some workers may live close enough to the construction site to commute daily. This particular pattern has been well documented by Andrews and Bauder (1968) and Jordan (1967). However, some construction workers may live in the community during the week and commute home on the weekends [Scott and Summers, 1974:101]. Regardless of the type of commuting pattern, the economic impact of the construction phase on the local community is diminished, due to the leakage of payroll benefits by commuting workers. The positive economic benefit from the
plant construction phase is often minimal on the local community [Scott and Summers, 1974:100].

Several studies suggest that long distance commuters often move closer to their place of employment, perhaps after they have established job security [Summers, et al., 1976:34; Lonsdale, 1966:30]. This implies that many of the impacts and consequences of rural industrialization may take extended periods of time before the full effects are felt on the communities involved.

Lonsdale (1966) suggests that commuting behavior may be influenced by numerous factors or combinations of factors which may include degree of urbanization, city size, terrain, availability of paved roads, levels of unemployment, job opportunities, and wage rates [Lonsdale, 1966: 126-138]. Lonsdale (1966) compares the community behavior between two different plants located in similar areas but having different wage structures. Both plants were located in low income agricultural areas where new job opportunities were not readily available and area wages were low. The plant that paid higher wages had more commuters than the lower paying one. The workers were prepared to accept the commuting costs in terms of time and money in order to hold higher paying jobs. This point reinforces the importance of sound planning practices because communities which succeed in attracting sophisticated, higher wage
type industries should expect commuter activity and prepare for its consequences.

Clemente and Summers (1965) believe that many of the predictive variables associated with metropolitan commuter behavior such as socioeconomic status, length of residence and age, do not explain the variance connected with non-metropolitan commuters. This suggests that different sets of social forces are operating in rural areas and simple comparisons between rural and urban commuter patterns as well as other variables associated with the impact of rural industrialization are not feasible in all instances. More research is needed before long term consequences of rural industrialization can be accurately assessed. The impact on rural areas experiencing industrialization also involves various aspects of community service capabilities.

**Services**

Industrial decentralization has a definite impact upon rural community services, such as water, sewage, police, fire protection, schools and public utilities. Essentially, the impact from the industry upon the service sector comes from the associated population increases, primarily due from in-migration. The increased population can cause additional demand on community services and may even require the expansion of existing services. In many cases rural
service agencies may not be adequately staffed or financed to handle the additional demand.

Additional demand upon the service sector poses problems not only for consumers, but local governments who use tax exemptions as location incentives for attracting industry. Brinkman (1973) notes that tax incentives in the form of exemptions reduce the revenue which could be used to pay for the expanded services. Garrison (1970) suggests that governmental services and educational facilities are impacted from industrialization. Examining evidence from five rural Kentucky communities experiencing industrialization, he notes the possibility of associated local governmental financial loss. The research findings conclude: 1) new manufacturing plants frequently cost rural communities more than they return in tax revenues; and 2) the fiscal impact of a new plant is not necessarily uniform among the various units of government affected [Garrison, 1973]. However, Summers, et al. (1974:4) point out that new fiscal gains to local governments do occur under certain circumstances. Local net fiscal gains occur when: 1) local subsidies are not offered to the new industry; and 2) the plant work force is hired locally [Summer, et al., 1974]. In general the costs of the additional services are "... expected to be financed from increased taxes on property, retail sales, and income, and from any
net gains from publicly owned property developed and sold at a profit" [Tweeten and Brinkman, 1976:238]. Tweeten and Brinkman (1976) also emphasize that numerous communities do not have sales or income taxes, or the capabilities to develop public property to finance the additional costs generated by rural industrial expansion or development.

The impact of rural industrial development upon community services begins during the construction phase. Smith, et al. (1971), documented the service delivery problems encountered by a rural community impacted by rapid population growth due to construction workers and their families. Community residents believing that a watershed project would lead to an increase in area development took steps to expand their service facilities and capabilities. The group's expectations were not realized due to out-migration when the construction was completed. Community residents had to sustain the fixed costs of the expanded services even when they were no longer needed. This may be an extreme example, but it is indicative of the potential negative consequences associated with economic development which attract many construction workers.

The construction or operational phase of rural industrialization need not necessarily be negative, and may actually have a positive economic impact for rural communities. Tweeten and Brinkman (1976), and Nash (1973) suggest
that positive economic impacts which may be realized from industrial construction or operation result when: 1) construction is performed by local contractors, who use local labor and equipment; 2) the plant uses local repair, maintenance and insurance services; 3) local raw materials are utilized; 4) the firm hires local labor; and 5) local transportation service is employed. These measures serve to increase the flow of income within the community and in turn further stimulate other community business activities.

During the plant operation phase the new industry and the increased population make certain demands on community service facilities. The plant location site often requires additional storm sewers and drainage systems to handle industrial and human waste generated by daily plant operation [Scott, 1973:6]. In addition, the plant site will require more police and fire protection and, in many cases, extra street maintenance. The financial impact of all these increased services will be passed on to the local community residents.

Scott and Summers (1974) emphasize that small towns in rural areas have long functioned as retirement locations because of their advantages associated with the cost of living. Retired people living on fixed incomes are particularly vulnerable to the negative effects of a rise in the cost of living. "If industrial development increases
the demand for housing and services, it is reasonable to expect a resultant rise in the cost of living. Thus, it is possible that industrial development will erode the relative advantages of small towns as retirement places" [Scott and Summers, 1974:97]. Rural industrialization development has been shown to have direct positive and negative consequences on rural communities. There are, however, various indirect impacts which accompany industrialization.

**Indirect Impacts**

Several of the indirect impacts of rural industrial development which affect rural communities have been identified but an important research area that has not received much attention is the environmental effect of rural industrialization. Numerous community groups desiring industrialization must become aware that modifications in the complex ecological system may have far reaching and long lasting consequences. Summers (1976) points out that rural areas with industrial sites may be faced with problems of air, water and noise pollution. Scott and Summers (1974) and Scott (1973) note that a physical change in land use patterns from forest, grassland or agriculture to industrial usage increase the demand on water, sewage, energy and waste disposal. Each of these factors has the potential of contributing to increased pollution of the environment.
Industries located in rural areas, and those desiring to do so will have to become increasingly aware of their potential harmful effects on their particular environments. Summers, et al. (1974), note that many local residents have positive feelings about industrialization however, if industrial decision makers fail to be cognizant of their impact on the local government, they may lose the favorable position they currently occupy in rural communities.

New rural industries have the potential to produce changes in the community leadership, power, and prestige structures. Several studies have found that the power and prestige structures of a community become related to the occupational structure of the new industry [Faunce and Smucker, 1966; Bonjean, 1966; Faunce and Celland, 1967]. In general, numerous leadership studies [Summers, Seiler and Wiley, 1970; Andrews and Bauder, 1968; and Black, Fredrickson and Mailtand, 1960] reveal that, although community leadership patterns are not dramatically altered, shifts do occur, and they seem to be related to the formation of new power groups. The effects on community leadership occur at different rates and times and although community leadership structures are not immediately altered, they are not immune to change.

The effect of rural industrialization upon formal and informal social participation has been examined in varying
depth, and according to Summers, et al. (1976), little difference has been found between plant workers and area residents. Bertrand and Osborne's (1958) Louisiana study showed that plant workers had higher rates of social participation than open-county residents. In Ohio, Andrews and Bauder (1967) found that both informal and formal participation rates increased after industrialization. One possible explanation for the increase may be attributed to the increase in population associated with industrialization. The larger the population base, the greater the degree of formal and informal participation.

Attitudes Toward Rural Industrialization

In general, rural residents' attitudes toward industrial development in their communities have been shown to be quite favorable, even though the distribution of benefits and costs are not equal among the directly impacted people. In areas which have little or no industrial base, residents have exhibited favorable attitudes toward industrialization as the primary means of solving their socio-economic development problems [Andrews, et al., 1960]. Positive attitudes have also been shown to exist before and after industrialization [Andrews and Bauder, 1967; Summers, et al., 1976]. However, in Ohio, Andrews, et al. (1960), and Andrews and Bauder (1967) document that a lower percentage of respondents believed they had benefited, economically,
from industrialization than had anticipated benefits before the plant began operation. Andrews and Bauder (1967) also provide evidence that Ohio residents felt their schools, churches, neighborliness and chances of getting ahead had changed very little as a result of the new industry, although both Bertrand and Osborne (1959) and Maitland and Webber (1958) point out that more plant workers than open-country heads of households believed their chances of getting ahead had increased. This is due, in part, to the fact that the workers saw more employment opportunities and payrolls than the open-country residents.

Summers, et al. (1976), in a summary of numerous rural industrializational attitude case studies, points out that industrialization was perceived as beneficial for rural communities, and employees were satisfied with their jobs. Maurer (1978) and Maurer and Napier (1978) document that in Ohio the degree of perceived benefit of industrialization has a relatively strong, positive effect upon the favorability toward industrialization.

Summers, et al. (1976) provides a summary of rural residents' attitudes toward industry:

"In general, people believed their community had benefited from industrial development, although plant workers were more likely to hold this opinion than open-country residents. They see the plant as helping to stabilize population, providing jobs, and giving rise to economic diversification. Several studies report little difference between plant
employees and open-country residents, natives, and in-migrants in opinions about local schools and churches. Most thought there had been little change in neighborliness over the industrial invasion period. Overall, plant employees were satisfied with their jobs, although not all thought that their chance to get ahead had improved. Plant representatives praised rural workers' reliability, but lamented their lack of skills. In sum, industrial invasion was generally beneficial to rural communities" [Summers, et al., 1976:125].

Rathburn (1972) suggests that Oregon rural residents are becoming aware that industrial development is not always a panacea for the socioeconomic problems facing rural America. Rural socioeconomic development issues and problems are the result of a complex set of social, political, and historical factors which make rapid change difficult, and often ineffective. Community development groups need to inform rural residents that rural industrialization must be viewed as a means to an end and consequently, cannot rapidly solve all rural development problems.

Implications for Further Research

It has been demonstrated, in the discussion of previous research, that there are both positive and negative impacts for individuals, groups, and communities experiencing industrialization and in-migration. These impacts affect rural residents and communities at different rates and times, and have the potential to produce significant, long
term social change. Nevertheless, rural residents remain basically favorable toward the establishment of industrialization in their communities. In areas which have little or no experience with manufacturing activities, residents are overwhelmingly in favor of industries locating there. It is not clear whether this is a lack of awareness of industrialization's potential negative impacts or a belief that manufacturing activities are the solution to the socioeconomic development problems of their areas. Not all rural residents are in favor of the establishment of manufacturing firms in their areas, and differences in attitudes toward industrial development do exist.

An accurate assessment of the attitudes of local residents toward rural industrial development is quite useful for effective industrial planning purposes. This type of information aids planning groups in obtaining an analysis of the existing social situation and enables them to determine the development priorities of the local residents. In this manner, the extent of support for the problem solution can be assessed and, if necessary, alternative mechanisms for the problem's amelioration can be determined. Planners must be aware of the types of information needed by local residents and decision makers to minimize the negative impacts associated with industrial development. This will prepare planners and local residents to anticipate
the impacts and insure that the industrialization process occurs smoothly.

Due to the need for an accurate attitude assessment, this study was undertaken to compare the attitudes of rural residents and recent in-migrants toward industry in an area which is in the process of developing an industrial base. The primary objectives of the study are to determine general attitudes toward industry, the perceived benefit of industrial development to the area, and determine which factors, if any, differentiate in-migrants from long term residents in terms of attitudes toward rural industrial development. The theoretical orientation section of the thesis offers a theoretical perspective for understanding the attitudes held toward rural industrial development.
CHAPTER II

THEORETICAL ORIENTATION

Various theoretical perspectives have been developed to explain the apparent erosion of rural-urban differences within large, complex social structures. Essentially utilizing a functional approach, Schnore (1966), Stewart (1958), and Duncan (1957) suggest that although rural-urban differences are decreasing over time, the remaining differences are important for understanding human behavior. Several of the contemporary sociological perspectives involving similar fundamental approaches to social organization have been broadly labeled as modernization, conflict and social behaviorism. Hobbs (1971) suggests that there is no single sociological theory of change. He further adds that most social change models are "...inextricably linked to conceptions of social organization; however social organization is defined or described" (Hobbs, 1971:12).

The theoretical perspective used in this research involves the application of social scale to local attitudes toward rural industrialization held by residents of rural Southeastern Ohio. A social scale theoretical model was
chosen because it is eclectic, and incorporates several theoretical approaches into its conceptual framework. While social scale theory does not represent an attempted synthesis of the two prevailing sociological theoretical perspectives, conflict and functionalism, it does provide a theoretical framework from which the gradual urbanization of large, complex societies may be analyzed.

Historical Background

Social scale theory was initially developed by two British social anthropologists, Godfrey and Monica Wilson (1945), who were attempting to understand the rapid social changes which were occurring in British Central Africa in the mid-1940's. The Wilsons (1945) drew together various theoretical approaches from different disciplines, developed the concept of scale, and used it in the analysis of the processes of British African modernization. The Wilsons (1945) view social change as an identifiable process taking place within the broad context of the movement of society from small-scale (rural) to large-scale (urban). In order to define more precisely the scale of a society they developed a set of correlates which were applied to social change processes. Special emphasis was placed upon societal interdependence, and its pervasiveness related to the processes and patterns of social change.
In sociology, social scale theory has received limited attention. Hobhouse (1924), Wirth (1938), Sorokin (1941) and Durkheim (1947), for example, have examined several aspects of the concept of scale in a limited way. The results of increasing scale are somewhat similar to Wirth's (1938) proposition about urbanism as a way of life. Shevky and Williams (1949) and Shevky and Bell (1955), crediting the Wilsons (1945), utilized the concept of social scale, and developed a theoretical rationale and operational technique which has come to be known as social area analysis. Social area analysis is a macro-social approach which investigates residential differentiation within urban areas by attempting to identify linkages existing between urban ecology and the wider study of socio-cultural change, and residential differentiation is related to modernization (Timms, 1971). Greer (1962) also developed a social scale perspective to understand the modernization and changes which have occurred in urban areas.

Simpkins (1963) expanded the Wilsons' (1945) scalar model to include psychological factors. Later, Simpkins (1972) used a social scale perspective for the analysis of rural neighborhood development programs. Napier (1972) also used a social scale approach to discuss the relationship of residence to selected attitudinal and socio-economic characteristics.
The scalar model, particularly as it was conceived and developed by the Wilsons (1945), embodies elements from several different theoretical perspectives, including structural functionalism and conflict. The elements of theoretical convergence between a social scale approach and other theoretical perspectives include: 1) holism; 2) the notion of conflict and consensus; 3) an evolutionary conception of social change; and 4) the utilization of an equilibrium model [Frank, 1969].

A social scale theoretical perspective utilizes a holistic approach and the level of abstraction is quite similar to dialectical holism. Social scale holism begins with a particular existing society and theoretically analyzes that society within its entirety and not merely its parts. Social scale holism differs from Parsons's functionalist analysis because it can be used for not only the analysis of particular social systems but the analysis of an abstract whole as well. Parsons's functional holism, on the other hand "...is an analysis of an abstract whole, or of a wholly abstract supposedly universally valid model of any and all existing or imaginary societies" [Frank, 1969:96].

Social scale holism seeks to explain the whole and, therefore, its parts. Accordingly, it does not take existing social structures as given, but attempts to account
for the existence of particular social structures. This is achieved through the analyses and explanation of the origin, nature, and development of the entire social system, thereby gaining the necessary basis for the analysis and essential understanding of its parts [Frank, 1969]. Therein lies social scale theories claim to holism.

Social scale theory incorporates various elements of social conflict and consensus into its theoretical underpinnings. Wilson (1945) points out that social conflict is both a state of society and a force for change. In the scalar model, conflict or disequilibrium is uneven change or "...a change in one respect without change in other respects" [Wilson, 1945:132]. Social conflict becomes integral, and this implies that conflict cannot be resolved in only one area of society, but rather within the entire society [Wilson, 1945:136]. The scalar model also distinguishes between different types and intensities of conflict. Different theoretical emphasis is placed upon the numerous manifestations of social conflict. Social scale theory, unlike functionalism, does not reject the tendency toward long term social disintegration. However, as a force for change social conflict must press toward its own resolution, toward equilibrium, which implies the scalar model's fundamental dependence on consensus.
The scalar model further complements functionalism because social systems are viewed as being integrated combinations of interdependent elements. However, each system component does not always positively contribute to the maintenance of the system. Wilson (1945) notes that no society is in perfect equilibrium which implies that the degree of consensus and conflict may be either diminishing or increasing.

The scalar model complements conflict theory because the Wilsons (1945) emphasize that change may occur from without or from within society. "Not only does the social structure permit or give rise to some social change as in the functionalist conception, but more importantly the ongoing process of social change determines the social structure of the moment" [Frank, 1969:195]. Social scale theory treats social structures as evolutionary, and concentrates on the connections between structural changes which take place as societies become increasingly complex. It also seeks to explain what type of structural change must follow if certain social changes occur. One may conclude from this discussion that the scalar model incorporates theoretical elements from different theoretical perspectives. Having briefly described the broad theoretical underpinnings of the scalar model it is now possible to define what is meant by the scale of a society.
A Social Scale Orientation

The Wilsons (1945) and Greer (1962) suggest that one of the major differences between the traditional and modern sectors of a society is a difference in size. In modern or urban social structures, the number of people in interaction, and the intensity of their relations far exceed those occurring in traditional or rural social structures. Identifiable differences exist between the range and intensity of individual and societal dependence. As the number of people within a given social structure increase, the number or range of their interdependent relationships increases while the intensity or amount of their dependence upon particular groups or social structures remains relatively the same.

The Wilsons' (1945) conceptual framework involving the intensity of relations and increase in social structural complexity differs from Durkheim's (1956) postulates involving social density. Durkheim (1956) suggested that social density or the intensity of social relations increased as social structures gradually moved from traditional to more modern forms. However, the Wilsons (1945) posit that as the social density increases between previous separate segments of society it decreases within them [Wilson, 1945:26].
The central construct of the Wilsons' (1945) model involves the scope of social interaction or scale, which refers to the characteristics of a social system produced by particular patterns of social behavior. Greer (1962) notes that the increases in societal scale are vast, complex, and involve a completely interdependent process. He also adds that while technological advances have been crucial for societal development, the major focus of scale is upon structural developments that have made possible the rational coordination of human activities over vast areas of space and time [Greer, 1962:43]. Social structures and social scale are inexorably bound together.

Social structure may be defined as the established pattern or network of internal social organization, and it involves the sum total of the relationships which exist within the group itself, and between different groups. Geer (1962) suggests that as the scale of an organizational network increases there is a concomitant scalar increase throughout the entire social structure. Consequently, a social scale theoretical approach maintains that the nature of social relationships are to some extent a function of the level of societal scale. Having briefly reviewed what is involved with the scale of a society, it is now possible to examine the particular identifiable characteristics of a large scale social system.
A large-scale social structure may be characterized by a high level of technological expertise which enables the extensive use of sophisticated mechanical equipment for production purposes. Mass communication and transportation systems exist, enhancing the potential for interdependency of component subgroups of the society. Population mobility is increased, resulting in the redistribution of population in space. Other factors associated with and contributing to a high scale society are the extensive use of non-animal energy sources, elaborate systems of social organization and control, as well as mutual dependency of societal members [Napier, 1973:3; Greer, 1962; Shevky and Bell, 1955].

The concept of increasing social scale is intended to reference an independent set of phenomena concerned with social interaction, and is not intended as a general term to describe all the historical trends which reflect the change from a traditional agrarian form of social organization to those characteristics of modern industrial society [Timms, 1971]. Although the factors associated with the increasing scale of a society are rather complex, they can be measured.

**A Measure of Social Scale**

The scope of social interaction and dependency, or scale of a social system, can be measured by analyzing the
intensity of cooperation and communication between societal groups [Wilson, 1945:26]. In order to understand the processes involved with the increase in societal scale, it is necessary to examine: 1) the increased usage of non-human sources of energy; 2) the increasing span of organizational networks; and 3) the increased amount of productivity [Greer, 1962:41].

The increased rate of energy transformation involves sophisticated production techniques which greatly improve transportation and communication facilities. The relative ease in transportation and communication greatly reduces the space-time ratio, or the cost in time, of traveling a given distance [Greer, 1962:41]. The reduction in the time and cost of traveling and communicating enlarges the proportion of economic cooperation between and within societal groups because of the relative ease of doing so. Greer (1962:41) further suggests that one factor greatly affected by improved energy transformation is space. For all practical purposes, space is no longer fixed, and as the mechanisms of extension improve, they become channels for increased integration because the activities of widely geographically separated groups can be coordinated with minimum difficulty. Also, intensive agricultural specialization becomes possible, which means a dramatic decrease in the subsistence aspect of farming, permitting the development of industrial and service specializations [Greer, 1962:42].
In order to coordinate the expanded economic cooperation, more complex organizational networks become necessary. The Wilsons (1945) note that expanding organization networks imply a set of values that place emphasis on cooperation and continuity within and between societal groups. Large scale organizational networks cannot function or continue to be maintained without cooperation or continuity. This is due, in part, to the need for continual communication to insure not only the maintenance of routine organizational activities but long range planning to assure continued organizational operation.

The expanded energy transformation and concomitant increase of organizational networks produces a numerical shift in the labor force distribution [Greer, 1962:42]. Sophisticated production techniques reduce the amount of human labor required in extractive and agricultural-related industries and manufacturing activities, thereby increasing the proportion of professional, clerical, and service occupations. The increased utilization of highly skilled labor in manufacturing and service industries leads to increasingly higher educational qualifications, and results in the total increase of productivity and a steady upward movement of the quality of life [Greer, 1962:43]. These broad societal changes have gradually eliminated many of the differences which have previously existed between rural and urban groups.
The educational, occupational, and income levels of the entire society have steadily increased, which has produced not only a wide variety of individual choice, but also a gradual leveling of aggregate group differences. The leveling effect can be more fully understood in terms of the increased societal interdependence which is associated with the above-mentioned changes in energy, organizational networks and increased production.

The Effects of Interdependency

The Wilsons (1945), Shevky and Bell (1955), Greer (1962), and Napier (1973) suggest that as social structures increase in scale or complexity, the component parts become interdependent. As more and more societal groups and subgroups become involved with one another for whatever reason, they become mutually dependent upon one another because of the societal need for internal order or social control.

The increasing interdependency is facilitated through improved communication channels, transportation networks, and the growth of large organizations, all of which augment various forms of social control. This adds impetus to further increases in scale and each process supports and elaborates the other [Napier, 1973:9].

One of the effects of increased interdependency is the leveling impact upon the total society. As a social
structure continues to increase in scale, the concomitant increasing interdependency tends to eliminate the radical differences among its component parts [Napier, 1973]. Although groups and subgroups within the same society may differ in the range and intensity of their relations, Napier (1973), Greer (1962), and Shevky and Bell (1955) point out that the increased technological developments and the improved communication and transportation facilities tend to remove the physical and social barriers to interaction which exist in smaller scale social structures. With the gradual elimination of these barriers, the diffusion and adoption of new ideas and techniques can occur with relative ease. Improved channels for expanded cultural exchange between component societal groups also occurs when barriers to physical and social isolation are overcome. Cultural exchange provides the mechanisms for the gradual erosion of group differences [Napier, 1973:4]. The adoption of innovative techniques and new ideas does not take place within a social vacuum, but rather involves the direct interplay of group values and beliefs. Consequently, with the removal of the previous barriers to group isolation, the elimination of societal differences gradually occurs. However, Wilson (1945) emphasizes that as the intensity of wider relations increases, local styles
disappear, though local variety diminishes with the increase in scale, variety in the same place increases.

Besides the leveling effect on the total society, increasing societal scale and interdependency have particular significance for the smaller subunits of the system [Napier, 1973:10]. The smaller subunits, or local communities are simultaneously involved in a number of processes. These include: 1) the loss of autonomy; 2) exposure to conflicting norms; and 3) fragmentation of the total social order [Greer, 1962:49]. The loss of autonomy for the smaller subunits of the social structure is inevitable because as the subunits or local communities become more fully integrated with the larger units or metropolitan communities, they lose their economic and governmental self-sufficiency [Wilkinson, 1974]. This occurs because the large organizational control centers, with which the smaller subunits are affiliated, are often located in distant metropolitan areas. Accordingly, as various functions are transferred to these distant organizational headquarters, the subunit members become less dependent upon local groups, and local autonomy is considerably weakened. Wilkinson (1974) further adds that the transfer of functions from the local to the regional area is a response to general societal trends toward structural differentiation, increased specialization and increased efficiency. However, such a transfer does
not automatically guarantee enhanced community well-being, but rather operates differently from community to community with various different social consequences [Wilkinson, 1974:51]. The social consequences not only effect different communities at different rates and times, but effect different groups within communities as well.

The smaller subunits of the system also lose autonomy as a result of the continual exposure to conflicting norms from other sectors of the society. This occurs largely through the mass media, improved transportation facilities, and the larger organizational networks upon which the local communities have become increasingly dependent. These mechanisms facilitate the rapid flow of people and ideas from different social environments into the local communities. Consequently, local community members are increasingly exposed to different and sometimes conflicting norms from the larger units which further undermines the already decreasing local autonomy.

Another predictable consequence of increased interdependency, according to Greer (1962), is the fragmentation of the local normative order. This occurs because the members of the local communities become economically dependent upon the large extended organization and some local residents may even be directly employed by the large organizational units. Napier (1973) notes that such a
situation could result in the increase in the assimilation and acculturation of the smaller scale subsystem into the larger units to the extent that local community groups eventually cannot be easily distinguished from the other segments of the society.

Napier (1973) also points out that the increase in scale and concomitant increase in interdependency among the various components of a social system is a partial function of the exchange of goods and services. This implies that the social and economic viability of one systematic component is at least partially dependent upon other components. The Wilsons (1945) suggest that although the interdependency among the component parts of a social structure varies with the scale of a society, their dependency remains relatively the same. However, increased interdependency involves coordinated activity, i.e., centralization [Wilson, 1945] for the mutual benefit of the entire system. To achieve centralization local communities must consider the implications of individual action upon the component parts. Accordingly, local activity may become subordinated in order to achieve increased viability of the entire system [Napier, 1973:10]. This may result in further loss of autonomy for local communities because of the delegation of decision making to other segments of the system.
Greer (1962) indicates that as societies increase in scale, social order and control must be maintained at local community level. Wilson (1945:100) adds that in large scale societies, complexity and control are interrelated. Napier (1973) observes that a central control unit, i.e., centralization, is necessary to effectively coordinate various subsystems and total systematic functions as well. These functions are most often delegated to metropolitan communities because of concentrations of population, political power, and technological expertise located within these areas. Galle (1963) and Pappenfort (1959) note that because of the concentrations of population and power, urban areas dominate large geographical areas. The large organizational control units are located in these metropolitan areas, and consequently, metropolitan areas become increasingly interdependent with nonmetropolitan areas as society increases in scale and vice versa.

In reality, social structure is nothing but the form of culture and there can be no separation of the two [Wilson, 1945:115]. Consequently, metropolitan areas are the loci for new attitudes and behavioral patterns which necessarily accompany structural and social change. "The adoption of common practices, ideas and normative structure enhances integration of the various component subsystems" [Napier, 1973:11].
Since the dominant integrating role is assumed by the metropolitan units, the behavioral patterns of the smaller subunits become, over time, increasingly similar to the dominant sectors of the system. Consequently, individuals and groups in rural areas are exhibiting similar behavioral patterns as individuals and groups in urban areas [Greer, 1962; Napier, 1973]. One may conclude from this discussion that the scale of rural areas has been gradually increasing and will continue to do so. The next section examines several explanatory factors involved with the increasing scale of rural areas.

Increasing Scale of Rural Areas

For numerous years a controversy has existed in sociology regarding the existence of rural-urban differences in attitudes and behavioral patterns. The controversy is complicated by a host of definitional and conceptual problems resulting in a general lack of consensus. However, it can be argued that although rural-urban differences do exist, they are a matter of degree rather than basic differences [Duncan, 1957; Stewart, 1958; Schnore, 1966; Napier, 1973].

As noted in the previous section, rural areas are becoming increasingly interdependent with urban areas and consequently becoming higher in scale [Shevky and Bell, 1955; Greer, 1962; and Napier, 1973].

As noted in the previous section, rural areas are becoming increasingly interdependent with urban areas and
consequently becoming higher in scale [Shevky and Bell, 1955; Greer, 1962; and Napier, 1973]. Evidence to support this assertion is quite extensive. Nelson (1957) has examined various structural aspects of economic organization and found similarities in the utilization of technological developments and values of cooperation for more efficient means of production between urban and rural groups. Technological innovations and urban business practices are utilized not only by rural farmers, but rural nonfarm groups as well. Fuguitt (1963) asserts that the degree of interdependence between rural and urban areas in America has been increasing over time. He suggests that the increased interdependence and concomitant increase in similarity of behavioral patterns are connected to four interrelated sets of trends. They include: 1) changes in transportation and communication, 2) changes in trade, institutional and social relationships; 3) rural occupational changes; and 4) population changes [Fuguitt, 1963:248]. The trends are quite similar to the processes associated with increases in social scale elaborated by the Wilsons (1945), Shevky and Bell (1955), Greer (1962), and Napier (1973). Essentially, rural areas have become increasingly interdependent with urban areas because of the transportation and communication advances as well as increased trade and migration patterns which have contributed to the reduction of the physical, cultural, and social isolation which
previously existed between the two areas. Fuguitt's (1973) observations about the changes in trade and social relationships are also consistent with Greer's (1962) position concerning the increasing span of organizational networks. The organizational networks provide the necessary structural framework for the proliferation of trade and institutional relationships. The increase in these activities cannot occur without the necessary coordinated activity and procedural guidelines provided by the organizational networks.

Changes brought about in rural occupations are also consistent with Greer's (1962) and the Wilsons' (1945) theoretical perspective. Changes in rural occupations have occurred due to the expanded energy transformation. Increased use of non-human forms of energy has substantially reduced the number of people employed in subsistence agriculture and permitted the development of alternative forms of economic production and cooperation. All of the above-mentioned changes have contributed to rural population changes. Numerous rural areas have also expanded their population base, primarily through in-migration, because they have become increasingly desirable environments in which to live and work.

Napier (1973) suggests that a disproportionate amount of emphasis has been placed upon the contributions of high
scale upon low scale groups. Cultural exchange is a dy­
namic process and it involves the reciprocal flow of ideas,
values, and beliefs between social groups. Consequently,
rural migrants to urban areas diffuse their behavioral
patterns to urban areas, which suggests that the increased
cultural exchange between the two groups should result in
a leveling effect between both groups.

If social scale theory is followed to its logical con­
clusion, it could be postulated that rural-urban differences
would eventually become completely eliminated. This part­
point of view, however, is predicated upon the assumption
that change occurs in predictable patterns and at the same
rate. The Wilsons (1945) point out that the larger the
scale of a society, the more rapid the rate of change.
However, to actually achieve total similarity among all
of the various subunits of a society, the smaller scale
subunits would have to increase in scale or change at a
more rapid rate than the higher scale units. The smaller
scale subunits would have to increase at a more rapid rate
simply to catch up with the larger scale units. Napier
(1973) adds that for the units and subunits to remain simi­
lar they must change at the same rate. However, due to
differential rates of change, it is highly improbable that
all units and subunits will experience change at the same
rate. The Wilsons (1945) suggest that uneven change, or
disequilibrium, is a change in one respect without a change in other respects. Accordingly, the various units and sub-units of a society could either be changing rapidly, slowly, or not at all, and this could easily negate the assertion that all rural-urban differences will be eventually eliminated [Napier, 1973:12].

Napier (1973) suggests that the legitimacy of the social scale model may be questioned because it argues that rural-urban differences are eroding over time, while at the same time it proports that differences should remain identifiable. However, the discrepancies can be explained. The social scale model, with its interdependency conceptual framework, analyzes why rural-urban similarities should occur on an aggregate basis, and the "...differential change component of the theory should be useful in explaining the dissimilarities between specific systematic components" [Napier, 1973:12-13]. The basic notion involved with the scalar model is that the increased societal interdependence has significantly contributed to the elimination of many of the previous identifiable differences which have existed between rural and urban groups on an aggregate basis [Napier, 1973]. However, significant rural-urban differences still remain identifiable, and these differences are important for understanding human behavior.
Application of the Scalar Model to Rural Industrialization

The scalar model with its interdependency conceptual framework can be utilized to provide an explanation for the similarities of attitudes of two different community groups involved in various aspects of the community development process. Increasingly, societal interdependence has been shown to contribute significantly to the gradual elimination of many of the previous identifiable differences which have existed between rural and urban groups. An integral aspect of the scalar model involves the characteristic changes that social structures undergo in the gradual movement from low to high scale. These changes include:

1) extensive use of nonanimal energy sources; 2) a high level of technological expertise and extensive use of sophisticated mechanical equipment for production; 3) mass communication and transportation; 4) elaborate systems of social organization and social control; 5) mutual dependency of societal members; 6) increased population redistribution in space; and 7) interdependency of component societal subgroups.

Previous sections have shown that rural areas are currently undergoing these characteristic scalar changes. Consequently, it is argued that a social scale theoretical framework will be appropriate for the analysis of attitudes toward rural industrialization held by rural residents and recent in-migrants.
The scalar model emphasizes that material technological advances and social structural developments are crucial for the societal movement from low to high scale. Industrialization may be viewed as one means by which rural communities can increase their economic and social organizational ties, i.e., interdependency with other societal groups while providing the necessary growth to prevent the deterioration of rural communities.

While rural industrialization programs and policies have been advocated and developed, Beale (1976), Carpenter (1977), Blackwood and Carpenter (1978), and Thomas and Bachtel (1978) report that numerous nonmetropolitan counties are experiencing high population growth rates, primarily through in-migration, and noneconomic considerations appear to be related to reasons for this particular migration. Blackwood and Carpenter (1978) suggest that preferences for living in rural areas may best be understood as manifestations of anti-urbanism. It is argued that the recent urban in-migrants move into rural areas because the high scale urban areas have become dysfunctional for them. Many of these recent in-migrants as well as industrial firms are relocating in rural areas to escape the negative aspects of large metropolitan areas. It could be argued that industrial development would make rural areas susceptible to many of the same problems currently confronting urban areas, thereby negating any of the positive benefits
associated with moving into rural areas. However, as pointed out in previous sections, rural areas have become increasingly attractive areas in which to live and work because they are able to provide many of the services and job opportunities as urban areas without the dysfunctional side effects, such as high crime rates, pollution, labor strikes, traffic problems and deteriorating neighborhoods.

In summary, the trend toward increasing rural industrialization and increased in-migration may be viewed as eventuating in the gradual movement from traditional forms of social structure to more modern, interdependent forms. These modern structural forms are all interrelated to systems in which each set of characteristics exhibits and exercises its own independent effect [Timms, 1975]. Rural areas have experienced structural differentiation and have become desirable places for manufacturing expansion and in-migration. These rural areas are able to provide many of the qualities of life urban type amenities without the previously discussed dysfunctional side effects generally associated with an urban way of life. In other words, rural areas have not yet reached the stage where industrialization will produce the negative consequences associated with a large scale type of social structure. The variables and hypothesis utilized for this research will be discussed in the following section.
Variables and Hypotheses

Dependent Variable

The dependent variable for this research is attitudes toward rural industrialization. Residents of rural communities experiencing increased manufacturing activity may have positive, negative, or neutral attitudes toward industrialization, depending upon how they are affected by the industrial activity and the resulting community changes [Wright, 1974]. Fishbein (1967) suggests that positive attitudes toward a concept or belief is in itself a statement of preparation or readiness for response toward that alternative. However, attitudes are not behavior, but a precondition of behavior [Pierce, 1976:59]. Therefore, the dependent variable of this research is a measurement of a precondition of behavior, or respondent attitude orientation toward action on rural industrial development.

The dependent variable is comprised of several attitude components which consist of three basic themes. First, industrialization is not needed or should not be developed; second, industrialization will create problems for local people; and third, industrialization will make the area a better place in which to live. This measurement device was selected from previous research [Maurer, 1977] in order to compare rural industrialization attitudes of recent urban in-migrants with those of long term rural residents.
Independent Variables

The independent variables included in this study were selected after an extensive review of literature relevant to rural industrialization, in-migration, and social change. The variables selected were: age, income, occupation, education, and unemployment. These variables were chosen because they are indicative of the sociocultural characteristics (age, income, and unemployment) and past activities (education and occupation) of both recent in-migrants and long term rural residents. In addition, these variables were utilized to determine and compare the sociocultural characteristics of individuals opposed to or in favor of rural industrial development.

Age

Age is a variable that has often been shown to be associated with a more traditional or conservative type of value orientation [Photiadis, 1960]. In a community experiencing social change, the older individuals may perceive the anticipated changes as more threatening than would the more easily adaptable younger individuals. Older individuals who have achieved a position in their community may fear that they will not be able to maintain their present status positions in a restructured community [Wright, 1974]. Also, numerous rural areas have a significant proportion of older residents because of the historic pattern of out-migration of rural youths [Fuguit, 1963].
Rural groups seeking to industrialize must be aware of limitations imposed upon them by disproportionate older populations. Maurer and Napier (1978) and Summers, et al. (1976) note that younger individuals are more likely to become employed by rural industries due, in part, to the fact that employers prefer younger employees because they have more years remaining for employment. Summers, et al. (1976) note that older individuals generally perceive very little personal benefit from rural industrialization activity. However, Maurer (1977) found that age had a significant positive relationship with attitudes toward industrial development in Southeastern Ohio. He suggests that older individuals perceive that the effects of industry upon the region will be indirectly beneficial to them, and as a result, they exhibit favorable attitudes toward industrialization.

In terms of social scale perspective, older rural residents have previously been socialized into a lower social scale environment than younger residents. Although older residents may tend to perceive change as threatening, they exhibit favorable attitudes toward industrial development because such developments are perceived as one of the means of alleviating many of their current community development problems and benefitting their area, and ultimately themselves.
Occupation

Occupation has been shown to be an important predictor of social status [Miller, 1977] and individuals having relatively lower socioeconomic status tend to be less adaptable to rapid change situations [Bluestone, 1972]. These individuals may perceive change as more of a threat, or risk, because they do not have the social skills necessary for rapid adjustment [Wright, 1974]. Also, individuals in lower socioeconomic status positions are less likely to have the necessary skills to benefit from a development situation. They tend to have less knowledge of and access to employment situations than higher status individuals and consequently they are less likely to be able to take advantage of the opportunities and benefit from such situations [Wright, 1974]. Maurer (1977) points out that in Southeastern Ohio, persons in the professional, or higher skilled occupations, exhibit more favorable attitudes toward rural industrial development than persons in the less skilled occupations.

In terms of a social scale theoretical perspective, individuals who possess higher skills should be more committed to a higher scale environment than less skilled individuals because the higher skilled individuals are in a better position to compete in the high scale job market. Highly trained people should exhibit favorable attitudes toward rural industrial development because their chances
of benefitting from the increased employment opportunities are better than for lower skilled individuals.

Income

Income is frequently used as one of the indicators of social status, because, persons with large incomes tend to have higher social status [Miller, 1977]. As previously pointed out, persons in the lower socioeconomic levels, i.e., income levels, tend to be less adaptable to social change situations. Summers, et al. (1978:3) and Summers (1973:21-22) point out that lower income individuals have been found to be less actively engaged in rural industrialization employment because of less training, fewer skills, and less education than other income groups. However, in Southeastern Ohio, Maurer (1977) found that income did not have a significant, direct effect upon attitudes toward rural industrialization. Maurer (1977) suggests that all persons, regardless of income level, will perceive the effects of industrialization upon the region as indirectly beneficial to them.

Education

Education is an indicator of an individual's past activities with respect to formal training, and is an indirect measure of skill level associated with occupation. In this context, it is assumed that an individual is employed in an occupation for which he/she was formally trained.
Bluestone (1972) suggests that deficiencies in education severely limits the opportunity an individual has to change occupations. Killingsworth (1964) points out that individuals with more education are less likely to have problems finding employment, possess higher skills, and receive higher salaries than persons in the lower educational achievement levels. Summers (1973) notes that individuals with more education have an advantage over less educated persons when competing for new jobs created by rural industrialization because the higher educated individuals require less time and effort to train. Burdge (1973) reports that respondents with higher incomes have more favorable attitudes toward development than lower income respondents. However, Maurer (1977) found that education did not have a significant direct affect upon attitudes toward rural industrialization. He suggests that all persons regardless of education attainment level will perceive the effects of industrialization upon the region as indirectly beneficial to them.

The Wilsons (1945) note that as societies increase in scale and complexity, they also increase in the control of the material environment. Control of the material environment is dependent upon the educational level of the societal members. Due to the extensive use of sophisticated mechanical mechanisms and increase in the organizational network high scale structures require higher levels of formal
educational attainment for societal members. Individuals who already possess high formal educational attainment levels should be more favorable to rural industrial development, because they already possess the formal educational skill levels necessary to benefit from the industrial development.

Unemployment

Unemployment may be used as an indicator of past activities. In numerous instances unemployed persons have lower formal educational attainment, and lower income levels than employed persons [Bluestone, 1972]. Summers, et al. (1975) notes that one of the expectations associated with rural industrial development is the reduction of local unemployment. Due to the increased specialization and reliance on sophisticated technology and organizational networks unemployed persons should have unfavorable attitudes toward rural industrialization. Unemployed individuals, in most cases, do not have the necessary high skill levels, formal education, or income levels to perceive any benefit from industrial activity.

In-Migration and Attitudes Toward Rural Industrialization

Recent in-migration into rural areas has been shown in previous sections to be a phenomenon with the potential to
produce long term consequences for rural areas. In general, migrants tend to be heavily represented in the lower age categories compared with residents of the receiving communities [Mangalom, 1968]. This situation was also observed in a recent study of the rural turnaround in Southeastern Ohio [Thomas and Bachtel, 1978]. Thomas and Bachtel (1978) further add that recent Southeastern Ohio in-migrants were employed in a variety of occupational types and generally possess higher skills than local residents. In addition, only five percent of the recent in-migrants were unemployed, and in terms of income levels and educational attainment, the recent in-migrants to Southeastern Ohio tend to be represented in the higher income and education categories [Thomas and Bachtel, 1978].

The increase in rural social scale and independency has been shown to be one of the factors contributing to the modernization of rural life which has subsequently made numerous rural communities desirable environments for in-migration. Many of the recent in-migrants associated with the rural turnaround are migrating from urban areas because the large scale structure within urban areas has reached the point where it has become dysfunctional for them. Their reasons for migrating involve a growing sense of the increasing urban problems of pollution, crime, congestion, social alienation, and various other real or
suspected problems of large-scale massing of people [Beale, 1975]. Numerous rural areas have recently become desirable locations for industry and in-migration, due to increasing social scale; however, the increase in social scale within rural areas are occurring at a slower pace then changes in social scale in urban areas. The uneven increase in social scale is partially due to the fact that the interdependency among the component parts of a social structure varies with the scale of a society [Wilson, 1945]. In addition, the dominant integrating role is assumed by the metropolitan units [Napier, 1973], and while rural areas are undoubtedly increasing in scale the changes are slower. Consequently, it is assumed that recent urban in-migrants perceive the increase in rural social scale to be occurring at a slower pace and as a result the dysfunctional side effects normally associated with very high scale systems do not affect attitudes toward industrialization in rural areas at this particular point in time. Given that the increase in social scale on a societal basis has eliminated many of the previous differences which have existed between rural and urban groups, and given that rural areas have not reached the stage where industrial development should be perceived as creating dysfunctional side effects, it is hypothesized that recent in-migrants from urban areas will not differ significantly from long term rural residents.
with regard to attitudes toward rural industrialization. However, due to the fact that recent in-migrants from urban areas have lived, worked and have had more personal experience with large-scale social structures than long term rural residents, it is hypothesized that recent in-migrants from urban areas will be significantly different from long term rural residents in terms of perception of potential adverse effects of rural industrial development upon the community.

The scope of social interaction or social scale refers to the characteristics of a social system produced by particular patterns of social behavior. Given that socio-cultural characteristics and past social activities are identifiable components associated with social structures, it is hypothesized that age, income, education, occupation and unemployment will be positively associated with attitudes toward rural industrial development among recent in-migrants from urban areas. In addition, it is hypothesized age, income, education, occupation and unemployment will be positively associated with attitudes toward rural industrial development among long term rural residents. It is further hypothesized that recent in-migrants from urban areas will not differ significantly from long term rural residents with regard to the operation of the independent variables (age, income, education, occupation and unemployment) upon attitudes toward rural industrial development.
CHAPTER III

RESEARCH METHODOLOGY

The Study Area

The research area selected for investigation in a five-county region located in the unglaciated, Appalachian area of Southeastern Ohio. The study area, which is primarily rural, includes Athens, Gallia, Jackson, Meigs and Vinton counties. The city of Athens is the only community over 10,000 in population. Small-scale agriculture, timber, and coal mining industries have historically comprised the major occupational activity of the local economy. The study area has never been in the mainstream of Ohio's industrial activity and local industries have tended to be small or natural resource oriented. During the Great Depression years of the 1930's, the area's extractive industries began to experience a general decline, which as resulted in a decline in the economic viability of the area. The region may be further characterized by low family income and high unemployment rates (see Table 1).

The study area has experienced either very slow growth or population decline between 1940 and 1970. All of the
## TABLE 1: Profile Statistics for GROW Counties, 1970

<table>
<thead>
<tr>
<th>County</th>
<th>Athens</th>
<th>Gallia</th>
<th>Jackson</th>
<th>Meigs</th>
<th>Vinton</th>
<th>Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Urban</td>
<td>51.2</td>
<td>29.7</td>
<td>45.1</td>
<td>27.6</td>
<td>0</td>
<td>75.3</td>
</tr>
<tr>
<td>Median Age</td>
<td>23.0</td>
<td>30.4</td>
<td>30.6</td>
<td>31.9</td>
<td>29.2</td>
<td>27.7</td>
</tr>
<tr>
<td>Percent Under 18 Years</td>
<td>25.2</td>
<td>32.0</td>
<td>35.1</td>
<td>34.0</td>
<td>35.9</td>
<td>35.1</td>
</tr>
<tr>
<td>Percent 65 Years</td>
<td>9.1</td>
<td>11.4</td>
<td>13.0</td>
<td>13.8</td>
<td>12.5</td>
<td>9.4</td>
</tr>
<tr>
<td>Median Education</td>
<td>12.2</td>
<td>10.0</td>
<td>10.5</td>
<td>10.5</td>
<td>10.1</td>
<td>12.1</td>
</tr>
<tr>
<td>Median Income</td>
<td>$7,628</td>
<td>$6,915</td>
<td>$6,635</td>
<td>$6,485</td>
<td>$6,334</td>
<td>$10,313</td>
</tr>
<tr>
<td>Percent Under Poverty Level</td>
<td>13.1</td>
<td>19.1</td>
<td>20.5</td>
<td>22.1</td>
<td>19.9</td>
<td>7.6</td>
</tr>
<tr>
<td>Percent Nonwhite</td>
<td>3.1</td>
<td>4.5</td>
<td>0.8</td>
<td>1.3</td>
<td>0.3</td>
<td>9.4</td>
</tr>
<tr>
<td>Percent Employed in Manufacturing</td>
<td>13.2</td>
<td>15.0</td>
<td>30.8</td>
<td>18.2</td>
<td>29.7</td>
<td>35.6</td>
</tr>
<tr>
<td>Percent Employed in White-Collar Occupations</td>
<td>49.0</td>
<td>37.3</td>
<td>36.7</td>
<td>34.9</td>
<td>28.7</td>
<td>45.4</td>
</tr>
<tr>
<td>Percent Unemployed</td>
<td>5.9</td>
<td>6.0</td>
<td>7.6</td>
<td>7.5</td>
<td>8.3</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, Series PC(1)-B37 and PC(1)-C37
five counties experienced out-migration in the 1950's, and all but Athens County lost population in the 1960's.

In the turnaround period of 1970 to 1975, all of the counties except Athens have experienced net in-migration (See Table 2). Population change in Athens County are quite different because Ohio University is located there and the county's demographic profile reflects changes in the University's enrollment patterns. Consequently, if the city of Athens is excluded from the analysis, Athens County conforms to the general population trends of the other area counties within the study area (See Table 3).

The arrival of a large coal mining operation and the installation of a power plant in 1972-73 provided the stimuli for substantial population and employment increases. Based on these anticipated social and economic changes, the College of Agriculture at The Ohio State University selected the five counties for intensive research and concentrated development efforts under the Title V of the Rural Development Act of 1972. The project was given the title, "Generating Rural Ohio Wealth," with the acronym GROW. This study represents one aspect of the GROW research program.

Sample Selection

Two different samples were drawn from within the five-county area. The first sample was drawn in 1975 and consisted of a systematic random sample of area residents.
TABLE 2: Net Migration Rate, Five Counties, 1950-60, 1960-70, and 1970-75

<table>
<thead>
<tr>
<th>County</th>
<th>1970-75</th>
<th>1960-70</th>
<th>1950-60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athens</td>
<td>-10.1</td>
<td>10.5</td>
<td>-6.3</td>
</tr>
<tr>
<td>Gallia</td>
<td>9.0</td>
<td>-8.5</td>
<td>-5.4</td>
</tr>
<tr>
<td>Jackson</td>
<td>3.8</td>
<td>-12.8</td>
<td>-6.6</td>
</tr>
<tr>
<td>Meigs</td>
<td>6.5</td>
<td>13.2</td>
<td>-11.6</td>
</tr>
<tr>
<td>Vinton</td>
<td>6.2</td>
<td>-14.3</td>
<td>-15.4</td>
</tr>
</tbody>
</table>

The second sample was drawn in 1977 and consisted of a purposive sample of recent in-migrants. The first sample is composed of 1,493 adult residents of the multi-county region who were personally interviewed by trained personnel in the summer and autumn of 1975. The second sample consists of respondents who were randomly selected from a new residents list compiled with assistance from rural mail carriers and surveyed with a mailed questionnaire during the summer and autumn of 1977.

The two year time differential is not expected to affect long term rural residents attitudes toward industrial development. Continuous monitoring of the study region failed to show any major stimulus which would significantly alter long term rural residents attitudes toward industrialization.

The First Sample: 1975 Survey

The first sample was obtained using a systematic random sampling method [Blalock, 1968:397-399; Napier, 1971, 1974, 1976; Wright, 1972, 1974] and 1,493 respondents were selected from within the five-county study area. Non-professional interviewers were employed to administer the questionnaire and they were not informed of the expectations of the study in order to prevent the interviewers from communicating responses to the subjects [Rosenthal, 1966; and Garden, 1969]. The interviewers were instructed
in sampling techniques and procedures, in addition to questionnaires administration. Every fifth occupied dwelling was selected, following random selection of the first occupied dwelling by the interviewer. If the subject either declined to be interviewed or was not at home, the interviewer was instructed to go to the next house until an interview was granted. Upon completion of an interview, the original sampling procedure was resumed.

Sample clustering was prevented by the use of detailed county maps secured from the Ohio Department of Transportation [Napier, et al., 1977]. This method allowed for a pictorial display of the sampling distribution of the townships, villages and towns. An estimated 95 percent of the subjects agreed to participate in the study, and were personally interviewed with a structured questionnaire.

The population of the individual counties vary from under 10,000 in Vinton County to over 50,000 in Athens County, but a sample size of approximately 300 respondents were selected from each county. The decision for equal county sample representation means the more rural counties were somewhat over-represented. It is often suggested that development should occur in a regional context [Warren, 1972; Whiting, 1974; and Wilkinson, 1974], however, the implementation of regional development programs is contingent upon local people recognizing that a viable development region exists. Essentially, local people must perceive
TABLE 3: Comparison of County and City Population Change for Athens, Jackson and Gallia Counties, 1970-1975

<table>
<thead>
<tr>
<th>Area</th>
<th>Percent Population Change 1970-1975</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athens County</td>
<td>-7.5</td>
</tr>
<tr>
<td>Athens City</td>
<td>-18.3</td>
</tr>
<tr>
<td>Balance of County</td>
<td>+0.8</td>
</tr>
<tr>
<td>Jackson County</td>
<td>+7.2</td>
</tr>
<tr>
<td>Jackson City</td>
<td>+2.9</td>
</tr>
<tr>
<td>Balance of County</td>
<td>+8.9</td>
</tr>
<tr>
<td>Gallia County</td>
<td>+9.7</td>
</tr>
<tr>
<td>Gallipolis City</td>
<td>-5.2</td>
</tr>
<tr>
<td>Balance of County</td>
<td>+16.0</td>
</tr>
</tbody>
</table>

that a development region is a reality [Napier, et al., 1977:3]. Pierce (1977) also points out that regional development decision-making normally considers equal input from the counties involved. Consequently, equal county sample representation was considered appropriate.

A significant portion of Athens County's population is concentrated in the city of Athens, which has numerous professionals and students associated with Ohio University. The city of Athens was under sampled to prevent this atypical group from dominating the sample.

The socio-demographic characteristics of the first sample population indicate that the respondents were generally middle-aged people with very few children living at home and a slight majority of the sample was female. The average income was between $9,000 and $9,999, and the average education was high school level [Napier, et al., 1977]. The respondents were generally long term residents with an average length of residence of over 30 years, and basically working class. The occupational categories containing the largest percentage of respondents were unskilled labor and skilled blue collar labor. A summary of the socioeconomic characteristics of the first sample is presented in Table 4.

The population of the five-county area, compared to the rest of Ohio, tends to be older, less educated, and
### TABLE 4: Sample Frequencies and Summary Statistics for the Independent Variables (N = 1493). Total 1975 Survey

**Gender**  
Male 669 (44.8%)  
Female 820 (54.9%)  
Not Reported 4 (0.3%)

**Age**  
\( \bar{X} = 44.4 \)  
Standard Deviation = 16.9

**Education**  
\( \bar{X} = 11.6 \)  
Standard Deviation = 3.4

#### Income

<table>
<thead>
<tr>
<th>Income</th>
<th>( n )</th>
<th>%</th>
<th>( n )</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0-$999</td>
<td>40</td>
<td>2.7</td>
<td>82</td>
<td>5.5</td>
</tr>
<tr>
<td>1,000-1,999</td>
<td>37</td>
<td>2.5</td>
<td>93</td>
<td>6.2</td>
</tr>
<tr>
<td>2,000-2,999</td>
<td>72</td>
<td>4.8</td>
<td>44</td>
<td>2.9</td>
</tr>
<tr>
<td>3,000-3,999</td>
<td>81</td>
<td>5.4</td>
<td>65</td>
<td>4.4</td>
</tr>
<tr>
<td>4,000-4,999</td>
<td>82</td>
<td>5.5</td>
<td>61</td>
<td>4.1</td>
</tr>
<tr>
<td>5,000-5,999</td>
<td>84</td>
<td>5.6</td>
<td>36</td>
<td>2.4</td>
</tr>
<tr>
<td>6,000-6,999</td>
<td>74</td>
<td>5.0</td>
<td>27</td>
<td>1.8</td>
</tr>
<tr>
<td>7,000-7,999</td>
<td>93</td>
<td>6.2</td>
<td>26</td>
<td>1.7</td>
</tr>
<tr>
<td>8,000-8,999</td>
<td>93</td>
<td>6.2</td>
<td>17</td>
<td>1.1</td>
</tr>
<tr>
<td>9,000-9,999</td>
<td>77</td>
<td>5.5</td>
<td>77</td>
<td>5.1</td>
</tr>
<tr>
<td>10,000-10,999</td>
<td>145</td>
<td>9.7</td>
<td>No Response</td>
<td>87</td>
</tr>
</tbody>
</table>

#### Occupation

<table>
<thead>
<tr>
<th>Occupation</th>
<th>( n )</th>
<th>%</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unclassified</td>
<td>63</td>
<td>4.2</td>
<td></td>
</tr>
<tr>
<td>Service Worker</td>
<td>117</td>
<td>7.8</td>
<td>20.1%</td>
</tr>
<tr>
<td>Farmer</td>
<td>119</td>
<td>8.1</td>
<td></td>
</tr>
<tr>
<td>Unskilled Laborer</td>
<td>403</td>
<td>27.0</td>
<td></td>
</tr>
<tr>
<td>Skilled Blue Collar</td>
<td>380</td>
<td>25.5</td>
<td></td>
</tr>
<tr>
<td>White Collar</td>
<td>182</td>
<td>12.2</td>
<td></td>
</tr>
<tr>
<td>Manager-Administrator</td>
<td>87</td>
<td>5.3</td>
<td>27.4%</td>
</tr>
<tr>
<td>Professional</td>
<td>140</td>
<td>9.4</td>
<td></td>
</tr>
</tbody>
</table>

Source: Napier et al., 1977.
to have lower incomes. In general, a smaller proportion of individuals are employed in the professional and managerial categories. The area has a larger proportion of farmers and service workers than the state as a whole.

In addition, information from Ohio Labor Market Information (1975; 1977) indicate that although the five county study area unemployment rates have decreased since 1975 they still remain higher than the 1977 State of Ohio averages.

Instrument Construction: 1975 Survey

A structured questionnaire was developed for the first study, and designed to be self-administered. An interviewer was, however, present to explain and answer questions pertaining to directions or orally present the questions if the respondent desired or was incapable of reading. Attitudes toward rural industrialization were measured with Likert-type scales [Edwards, 1957]. The attitudinal variables were adapted from previous research and specifically modified to fit rural industrialization [Napier, 1971, 1972, 1975; Napier and Wright, 1974, 1976; Napier, et al., 1977]. The independent variables were included in the demographic and social characteristic sections of the questionnaire. The questionnaire content was formulated from several sources. The questionnaire was pretested using a comparable group randomly selected from an adjacent county [Napier, et al., 1977:4] to determine if revisions were necessary.
Basic revisions were made and the instrument was reviewed by professional community development specialists and selected local leaders for further clarity and relevance [Napier, et al., 1977; Pierce, 1976].

The interviewers were selected primarily from the five-county area to enhance the rapport between interviewer and respondent. However, the interviewers were not permitted to gather data from their own communities of residence in order to minimize the probability they would interview personal acquaintances and bias the interview or ask sensitive questions such as income [Napier, et al., 1977].

The Second Sample: 1977 Survey

The major methodological problem associated with the second survey was obtaining a representative sample of recent in-migrants who had moved from outside the five-county area to the five-county study region. Several sources were considered, but subsequently rejected because of a lack of reliability or the possibility of obtaining a biased sample. The sources that were rejected included various types of official documents such as school enrollment registrations, property transfers, and utility company records. Preliminary investigations indicated that township trustees would be a possible source of information
relative to residential changes in their respective townships, but subsequent contact was initiated with several trustees in one of the study counties with little success. A very small percentage of the trustees who were contacted were knowledgeable about residential change, and even knowledgeable trustees could not provide the detailed information required for obtaining an adequate list of in-migrants from which to draw a representative sample [Thomas and Bachtel, 1978].

A second, and more successful attempt involved contacting local postmasters and rural mail carriers [Thomas and Bachtel, 1978]. A large post office within the region was used as a pretest of the methodology and subsequently proved to be a successful method for obtaining the sample. Permission was secured from two United States Postal Service Sectional Centers serving the study area to contact local post office personnel for the purpose of obtaining the names and addresses of recent in-migrants [Thomas and Bachtel, 1978]. A letter requesting off-duty cooperation by the postal staff was sent to each of the 63 local post offices in the five-county area. The 63 individual post offices were personally visited and the purpose of the study explained. Forms requesting names and addresses of recent in-migrants were left with each postmaster and/or rural mail carrier. A postcard reminder was sent within
two weeks, and only two of the 63 post offices refused to cooperate. The potential for sampling bias was perceived to be quite low because the number of recent in-migrants not receiving U.S. mail delivery would be very low.

The cooperating post office personnel were requested to list any permanent resident on their mail route who had moved into the area in 1970 or later. This procedure resulted in a list of approximately 3,500 names from the five-county area [Thomas and Bachtel, 1978]. The study was limited to small villages, towns, rural open country and excluded the area's three largest cities. The cities of Athens, Gallipolis and Jackson were eliminated from the analysis because the study was primarily concerned with nonmetropolitan population change. Evidence from current Population Reports (1976) indicates the exclusion will have a minimum effect on the results of the research. This is due to the fact that the recent in-migrants are predominantly moving into open country areas, small towns and villages and not the larger study area cities. In addition, an examination of the 1975 survey data indicates that very few differences exist between the rural and urban respondents with respect to attitude toward rural industrial development. Essentially, the five county region may be viewed as a relatively homogenous area with minimal differences existing between rural and urban groups.
within the area [Pierce, 1976; Maurer, 1977]. Consequently, the exclusion of the three largest study area cities in the 1977 survey is expected to have a minimum effect on the results of the research.

Sample Selection: 1977 Survey

The second sample was selected from the 3,500 names obtained from the area post offices. Every third name was selected from the new residents list and this procedure produced 1,134 subjects. Each subject was mailed a letter explaining the nature of the study, a questionnaire, and a self addressed stamped return envelope.

The original list of names was in proportion to the total population size of each of the five counties in the study area. Thus, no attempt was made to weight the sample. In addition, the study was intended to view the area as a five county region and not to specify county results under the findings show unusual differentials [Thomas and Bachtel, 1978]. A summary of the socioeconomic characteristics of the second sample is presented in Table 5.

Instrument Construction: 1977 Survey

A structured instrument was developed for the data collection of the in-migrant phase of the study, and mailed to the subjects. The questionnaire was self-administered, and directions were included. Attitudes toward rural
TABLE 5: Sample Frequencies and Summary Statistics for the Independent Variables. Total 1977 Survey; W=222

<table>
<thead>
<tr>
<th>GENDER</th>
<th>Male 190 (85.6%)</th>
<th>Female 32 (14.4%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>Median = 33.5</td>
<td></td>
</tr>
<tr>
<td>EDUCATION</td>
<td>Median = 12</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCOME</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 0-$ 3,000</td>
<td>20</td>
<td>9.3</td>
</tr>
<tr>
<td>3,000-4,999</td>
<td>16</td>
<td>9.3</td>
</tr>
<tr>
<td>5,000-6,999</td>
<td>13</td>
<td>6.0</td>
</tr>
<tr>
<td>7,000-9,999</td>
<td>35</td>
<td>16.3</td>
</tr>
<tr>
<td>10,000-14,999</td>
<td>58</td>
<td>27.0</td>
</tr>
<tr>
<td>15,000-19,999</td>
<td>36</td>
<td>16.7</td>
</tr>
<tr>
<td>20,000-24,999</td>
<td>18</td>
<td>8.4</td>
</tr>
<tr>
<td>25,000-+</td>
<td>19</td>
<td>8.8</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCCUPATION</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unclassified</td>
<td>16</td>
<td>7.4</td>
</tr>
<tr>
<td>Disabled</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>Service Worker</td>
<td>6</td>
<td>2.8</td>
</tr>
<tr>
<td>Farm Owner</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>Semiskilled and Unskilled</td>
<td>42</td>
<td>19.5</td>
</tr>
<tr>
<td>Skilled Blue Collar</td>
<td>59</td>
<td>27.4</td>
</tr>
<tr>
<td>White Collar</td>
<td>37</td>
<td>17.2</td>
</tr>
<tr>
<td>Manager-Administrator</td>
<td>13</td>
<td>6.0</td>
</tr>
<tr>
<td>Professional</td>
<td>36</td>
<td>16.7</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>

industrialization were measured with Likert-type scales [Edwards, 1957]. The attitudinal variables were adapted and slightly modified from the original attitudinal items used in the 1975 study [Napier, et al., 1977]. The independent variables were included in the demographic and social characteristic sections of the questionnaire. The questionnaire was critiqued by colleagues and pretested by a random sample from the new residents list. Basic revisions were made and the instrument finalized [Thomas and Bachtel, 1978].

Response: 1977 Survey

Approximately 3 weeks after the initial mailing, a postcard reminder was sent to non-respondents [Dillman, et al., 1974]. One month later, a random sample of the non-respondents were contacted by means of a statewide telephone system, and 234 phone calls were made. The information from the phone calls plus information from previously returned questionnaires revealed that many of the individuals identified on the new residents list were not area in-migrants, as defined for the study purposes. The definition of in-migrants used for the study were people who had moved into the area from outside the five-county region. However, due to the method of sample selection some individuals were inadvertently placed on the new residents list as a result of intraregion residential
mobility because they were simply new to the postal area. The phone calls to the random sample of non-respondents revealed that 134 or 57.7 percent of the telephone survey respondents were intra-county or intra-area movers. The telephone survey indicated that numerous non-respondents did not complete and return the questionnaire because the questions were directed toward migrants from outside the study area. This finding indicates that the utilization of rural mail-carriers for obtaining suitable in-migrants must be used cautiously. However, the 1977 questionnaire included detailed prior residence information which enabled the identification and elimination of intra-area movers from the final sample.

Due to the telephone survey information, the response rate may be interpreted in several different ways. The original sample of 1,134 yielded 303 returned questionnaires, or a response of 26.7 percent. However, 81 of the 303 respondents were intra-county or intra-area movers, and not area in-migrants. The removal of the 81 respondents from the sample produced a sample of 222 people who conformed to the study criteria for classification as in-migrants. This action lowered the response rate to 19.6 percent.

A higher response rate may be obtained if several assumptions are made from the telephone survey. Of the
234 telephone respondents, 137 reported that they were intra-region migrants. This means that assuming the telephone survey was representative of all non-respondents, only 480 or 42.3 percent of 1,134 who received the questionnaire would have been defined as in-migrants. A return of 222 questionnaires then represents a 46.3 percent return rate. The telephone calls to non-respondents were made at random in all five counties, consequently the above assumption would appear to be reasonable [Thomas and Bachtel, 1978]. Although intra-area movers were unexpectedly included on the new residents list, which complicates the calculation of the response rate, the identification of prior residents automatically eliminates intra-area movers from the final sample. Consequently, with the identification and removal of intra-area movers the rural mail-carriers method of in-migrant sample selection appears to be a valid method of sample collection.

The Final Sample

Data from the two samples were used for analysis purposes, but analyzed separately. A total of 928 cases were selected from the two data sets and subsequently categorized into two different groups. The first group contains 780 respondents from the 1975 survey, while the second group consists of 148 respondents from the 1977 survey.
The first criteria for selecting the 780 respondents from the 1975 survey involved identifying respondents who had resided within the five-county study area for 15 years or longer. The 15 year residence criteria was selected to insure that the respondents had a long acquaintance with the area to facilitate informed participation with regard to local development problems and issues [Graber, 1974]. In addition, one of the study objectives involved the identification of factors associated with rural-urban differentiation. The dividing time at 15 years of residence was established in order to make sure the 1975 survey respondents were sufficiently acculturated into the study area.

The second criteria for selecting the 1975 survey respondents involved several limiting factors for the present research. One of the objectives of the 1975 survey involved identifying perceived geographic boundaries of the study area. As a direct result, the 1975 survey attitude questions were structured around a regional concept of industrial development [Napier, et al., 1977 and Pierce, 1976]. The 1977 survey was not concerned with regional perceptions per se and the 1977 survey attitude questions were structured around a county context of industrial development. For example:
1975 Survey:

Industries should not be encouraged to locate in my region.

1977 Survey:

Industries should not be encouraged to locate in my county

In order to properly identify the region to which the 1975 respondents identified, the interviewer showed the respondent a graphic display of six different regions. The 1977 survey data was collected with a mail questionnaire and due to space limitations the six different regional maps could not be included. Consequently, in order to avoid problems associated with the identification of in-migrants' perceived geographical region, the word county was substituted for region.

The wording of 1977 survey attitude items differ slightly in wording, but the difference in wording was controlled for. The 1975 survey data indicated that the geographical region to which the greatest majority of people identified was the county of residence [Napier, et al., 1977:6]. Thus, only respondents who identified county of residence were included in the final sample. This was done in order to insure that the attitude variables from both surveys were as similar in meaning as possible.
The second group of the final sample consists of 148 respondents from the 1977 survey who migrated into the study area from a metropolitan area (Standard Metropolitan Statistical Area). The remaining 74 respondents (148 + 74 = 222) from the 1977 survey were not included because they had migrated into the study area from nonmetropolitan areas. In order to identify factors associated with basic rural-urban differences, it was necessary to limit the analysis to persons who had migrated from an urban area.

**Operationalization of the Attitude Variables**

A Likert-type scale was used to gather data for the attitudes toward rural industrial development in both studies. The scale items had been constructed and used in previous research [Napier, 1971, 1972, 1975; Napier and Maurer, 1978; and Maurer, 1977], and subsequently modified to assess attitudes toward rural industrialization. The attitude scale items include general evaluations of industrial development which is an approach that has been utilized in previous research [Hough and Clark, 1969; Pierce, 1976 Maurer, 1977; and Maurer and Napier, 1978]. The evaluations include: the overall benefit, general need and encouragement for industrial development within the five-county study area as well as general problems associated with industrialization including pollution problems. Essentially, the scale items involve the various
indirect efforts of industrial development upon the study area.

Six items were used to measure attitudes toward rural industrial development. The six items were designed to measure respondent attitudes toward industrial development on a county basis. The six scale items and response scores are:

1. Industrial development is not needed in my county.  

2. Industrial development in my county will create many problems for people living here.  

3. Industries should not be encouraged to locate in my county.  

4. Industrial development will make my county a better place in which to live.  

5. New jobs are more important to me than the air or water pollution that new industries may cause.  

6. Industrial development will benefit my county.  

There were five possible responses to each of the scale items: strongly agree (SA), agree (A), undecided (U), disagree (D), and strongly disagree (SD). The responses were weighted from 1 to 5, depending upon whether the statement was positive or negative. The higher scale scores were
defined as being positive toward rural industrial development [Maurer, 1977:63].

**Operationalization of the Independent Variables**

The variables used as independent variables in this research include age, income, occupation, education and unemployment. These variables were selected because they represent important explanatory variables with respect to the increase in social scale as discussed in the previous chapter. These variables are indicative of relevant socio-economic characteristics and past activities of long term rural residents and recent in-migrants. The utilization of two different surveys somewhat limited the selection of independent variables used in the final sample because only similar type variables could be used for comparative purposes.

The variables were operationalized in the following manner:

1) The respondent's age was measured in number of years.

2) The respondent's education was measured in number of years.

3) The respondent's occupation was reported as the principal occupation of the primary income earner. If the major income earner was retired, the principal occupation before retirement was
used. The occupation item on both questionnaires was open-ended, and the responses were coded into eight categories based upon the census occupational classification. The occupational categories, from low to high were: unclassified, service worker, farmer, unskilled laborer, skilled blue collar laborer, white collar, manager-administrator and professional. The weights assigned to the categories ranged from 1, for unclassified, through 8 for professional.

**Item Analysis of the Attitude Scale**

The reliability of the rural industrialization attitude scales were tested using a Kuder-Richardson item analysis computer program [Johnson and McCabe, 1975; and Kuder and Richardson, 1937]. The method evaluates each of the items in the scale individually in addition to providing a total scale reliability for a Likert-type scale. Reliability is determined by examining the internal consistency of the scales, and this is achieved by correlating the total scale scores minus the item score with the individual item values. Both the item and scale reliability coefficients may vary between 0.0 and 1.0, and a general "rule of thumb" is that a value of 0.3 is necessary to be significant [Johnson and McCabe, 1975].
The Kuder-Richardson item analysis program was performed on the rural industrialization attitude items for the total sample plus the long term rural resident and recent in-migrant sub-samples. The analysis indicated that five items were significantly higher than the 0.3 level. The total test reliability for the scale was 9.8384, 0.8930 for recent in-migrants from urban areas and 0.8002 for long term rural residents (See Tables 6 and 7). Because the reliability coefficients were statistically significant, it was assumed that the scale items were sufficiently intercorrelated to be combined into a composite scale.

Analyses Used for Testing Theoretical Model

The relationships among the variables used in the study were analyzed by multiple regression, analyzing of variance, multiple correlation and statistical techniques. In order to permit parametric analysis it is assumed that the Likert scale total scores meet the requirements of ordered metric measurement. Likert scale measurements do not conform to a strict interval level, however, ordered metric scales may be analyzed by parametric statistics because ordered metric measurement approximates metric interval level measurement. Labovitz, 1970; Nie, et al., 1975:6; and Abelson and Tukey, 1959, argue that the error
TABLE 6: Item and Scale Reliabilities for the Attitude Toward Rural Industrialization Scales, Recent In-migrants from Urban Areas (N=148)

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean Item</th>
<th>Standard Deviation</th>
<th>K-R Test Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ATTITUDE TOWARD RURAL INDUSTRIALIZATION SCALE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial development is not needed in my county.</td>
<td>3.671</td>
<td>1.3546</td>
<td>0.8185</td>
</tr>
<tr>
<td>Industrial development in my county will create many problems for people living here.</td>
<td>3.029</td>
<td>1.3677</td>
<td>0.5982</td>
</tr>
<tr>
<td>Industries should not be encouraged to locate in my county.</td>
<td>3.664</td>
<td>1.3017</td>
<td>0.7985</td>
</tr>
<tr>
<td>Industrial development will make my county a better place in which to live.</td>
<td>3.450</td>
<td>1.4309</td>
<td>0.8054</td>
</tr>
<tr>
<td>Industrial development will benefit my county.</td>
<td>3.586</td>
<td>1.2928</td>
<td>0.8555</td>
</tr>
<tr>
<td>Total Scale</td>
<td>17.400</td>
<td>5.7901</td>
<td>0.8930</td>
</tr>
</tbody>
</table>

*A value of 0.3 for both an item and a scale is considered statistically significant.*
TABLE 7: Item and Scale Reliabilities for the Attitude Toward Rural Industrialization Scales, Long Term Rural Residents (N=780)

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean Response</th>
<th>Standard Deviation</th>
<th>K-R Test Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATTITUDE TOWARD RURAL INDUSTRIALIZATION SCALE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial development is not needed in my region.(^a/)</td>
<td>4.265</td>
<td>0.9447</td>
<td>0.6678</td>
</tr>
<tr>
<td>Industrial development in my region will create many problems for people living here.</td>
<td>3.674</td>
<td>1.0809</td>
<td>0.5195</td>
</tr>
<tr>
<td>Industries should not be encouraged to locate in my region.</td>
<td>4.190</td>
<td>0.9674</td>
<td>0.6379</td>
</tr>
<tr>
<td>Industrial development will make my region a better place in which to live.</td>
<td>4.079</td>
<td>0.9481</td>
<td>0.6801</td>
</tr>
<tr>
<td>Industrial development will benefit my region.</td>
<td>4.215</td>
<td>0.8426</td>
<td>0.6884</td>
</tr>
<tr>
<td>Total Scale</td>
<td>20.4243</td>
<td>3.7160</td>
<td>0.8002</td>
</tr>
</tbody>
</table>

\(^a\)/Region is synonymous with county. See page in Chapter III for a detailed explanation.
which may result from the lower level measurement is compensated by the more powerful statistical analysis.

Multiple regression was used to analyze the relationships between age, income, education, occupation, unemployment, number of years in the county and the rural industrialization composite attitudinal scale. The income, age and education variables were considered appropriate for regression analysis because they meet the metric measurement assumption of fixed and equal intervals. Unemployment was included as a two category dummy variable and occupation was included in the regression analysis as a categorical variable. Linear relationship among the variables were assumed.

Analysis of variance was utilized to analyze the relationships between long term rural residents and recent in-migrants from urban areas attitudes toward rural industrialization. Analysis of variance was considered appropriate because the independent variable can be all nonmetric or combinations of metric and nonmetric variables [Nie, et al., 1975].
CHAPTER IV

RESEARCH FINDINGS

The major objective addressed in this chapter is the evaluation of the research hypothesis suggested from theory discussed in Chapter II. Before the hypotheses were tested, the response frequencies of the individual attitude items comparing the scale measuring attitudes toward rural industrialization were examined. The scale consisted of five individual attitude items selected on the basis of the Kuder-Richardson item analysis program (See Tables 6 and 7). The responses to the attitude items indicate that a large majority of long term rural residents exhibit favorable attitudes toward industrial development (See Table 8). The response frequencies also indicate that a majority of recent in-migrants from urban areas exhibit favorable attitudes toward industrial development (See Table 9). With regard to the individual attitude items, a majority of both recent in-migrants and long term rural residents responded favorably to all of the items except one (See Table 9). The response to the second attitude item indicated that 45.9 percent (strongly agree and agree
### TABLE 3: Attitudinal Item Response Frequencies - Long Term Rural Residents,
Percentages in Parenthesis (%), N = 780, (A value of 3.01 or above indicates favorable attitudes toward rural industrial development.)

<table>
<thead>
<tr>
<th>I. Industrial development is not needed in my region.</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 (2.1)</td>
<td>43 (5.5)</td>
<td>47 (6.0)</td>
<td>286 (36.7)</td>
<td>388 (49.7)</td>
<td></td>
<td>4.27</td>
<td>0.95</td>
</tr>
<tr>
<td>II. Industrial development in my region will create many problems for people living here.</td>
<td>22 (2.8)</td>
<td>133 (17.1)</td>
<td>93 (11.9)</td>
<td>361 (46.3)</td>
<td>171 (21.9)</td>
<td></td>
<td>3.67</td>
</tr>
<tr>
<td>III. Industries should not be encouraged to locate in my region.</td>
<td>19 (2.4)</td>
<td>50 (6.4)</td>
<td>41 (5.3)</td>
<td>324 (41.5)</td>
<td>364 (44.4)</td>
<td></td>
<td>4.19</td>
</tr>
<tr>
<td>IV. Industrial development will make my region a better place in which to live.</td>
<td>290 (37.2)</td>
<td>341 (43.7)</td>
<td>85 (10.9)</td>
<td>49 (6.3)</td>
<td>15 (1.9)</td>
<td></td>
<td>4.08</td>
</tr>
<tr>
<td>V. Industrial development will benefit my region.</td>
<td>316 (40.5)</td>
<td>369 (47.3)</td>
<td>52 (6.7)</td>
<td>33 (4.2)</td>
<td>10 (1.3)</td>
<td></td>
<td>4.22</td>
</tr>
</tbody>
</table>
### Table 9: Attitudinal Item Response Frequencies - Recent In-migrants from Urban Areas
Percentages in Parenthesis (%), N=148 (A value of 3.01 or above indicates favorable attitudes toward rural industrial development.)

<table>
<thead>
<tr>
<th></th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Industrial development is not needed in my county.</td>
<td>16 (10.9)</td>
<td>16 (10.9)</td>
<td>22 (15.0)</td>
<td>39 (26.5)</td>
<td>54 (37.7)</td>
<td>3.67</td>
<td>1.36</td>
</tr>
<tr>
<td>II. Industrial development in my county will create many problems for people living here.</td>
<td>22 (15.1)</td>
<td>45 (30.8)</td>
<td>23 (15.8)</td>
<td>29 (19.9)</td>
<td>27 (18.5)</td>
<td>3.04</td>
<td>1.36</td>
</tr>
<tr>
<td>III. Industries should not be encouraged to locate in my county.</td>
<td>15 (10.3)</td>
<td>16 (11.0)</td>
<td>19 (13.0)</td>
<td>51 (34.9)</td>
<td>45 (30.8)</td>
<td>3.65</td>
<td>1.30</td>
</tr>
<tr>
<td>IV. Industrial development will make my county a better place in which to live.</td>
<td>48 (32.7)</td>
<td>38 (25.9)</td>
<td>21 (14.3)</td>
<td>18 (14.2)</td>
<td>22 (15.0)</td>
<td>3.49</td>
<td>1.44</td>
</tr>
<tr>
<td>V. Industrial development will benefit my county.</td>
<td>42 (28.4)</td>
<td>55 (37.2)</td>
<td>21 (14.2)</td>
<td>14 (9.5)</td>
<td>16 (10.8)</td>
<td>3.63</td>
<td>1.29</td>
</tr>
</tbody>
</table>
categories combined) of the recent in-migrants from urban areas believe industrialization will create various types of problems for individuals living in the area.

Techniques for Analysis

The Likert-type scale items were assumed to produce metric measures [Abelson and Tukey, 1959; Laboitz, 1970] which permitted the use of parametric statistics for hypothesis testing. Multiple regression, analysis of variance and tests of equality between two sets of regression coefficients were used to test the research hypotheses presented in Chapter II. The discussion of the rationale for the selection of the techniques is presented in the following section.

Analysis of Variance

Analysis of variance was utilized to determine the existence of differences between recent in-migrants from urban areas and long term rural residents' attitudes toward rural industrial development. Blalock (1960) notes the application of analysis of variance for analyzing the differences between means of groups. The analysis of variance essentially makes a comparison of between group variance with within group variance and the significance of the comparison is reported as an F-ratio. In addition to the F-ratio, the statistic eta-square is also calculated and
is interpreted as the proportion of variance in the dependent variable explained by the independent variables [Nie, et al., 1975]. The comparison between recent in-migrants from urban areas and long term rural residents was made in an attempt to determine the effect of in-migrant status on attitudes toward rural industrial development.

Findings of the Analysis of Variance

The hypothesis presented in Chapter II was stated as follows: Hypothesis I: Recent in-migrants from urban areas will not differ significantly from long term rural residents with regard to attitudes toward rural industrialization. To test the hypothesis, analysis of variance was made. The analysis of variance yielded a significant difference between the groups. The F-ratio was significant at the .001 level, however the eta-square was very low (See Table 10). The hypothesis must be rejected, but the magnitude of the eta square indicates that very little variance was explained. This means the finding is of little substantive importance.

One of the five attitude items was disaggregated from the scale and analyzed separately in order to test long term rural residents and recent in-migrants from urban areas attitudes toward industrialization creating problems for persons living within the study area.
The hypothesis developed in Chapter II was stated as follows: Hypothesis II: Recent in-migrants from urban areas will be significantly different from long term rural residents in terms of perception of adverse effect of rural industrial development upon the community.

An analysis of variance test was conducted on the data set to test the hypothesis. The analysis of variance revealed a significant difference between the groups. The F-ratio was significant at the .001 level, however, the eta-square was very low, which means that the finding has little substantive meaning. The hypothesis must be accepted. The summary statistics for the analysis of variance are presented in Table 11.

Findings of the Correlation and Regression Analyses

Multiple correlation and step-wise regression analyses were used to test the hypotheses discussed in Chapter II. Step-wise regression analysis was utilized to provide a concise appraisal of the relative importance of the independent variables premised to influence attitudes toward rural industrial development when all factors were simultaneously considered.

Step-wise regression technique evaluates the relative importance of each independent variable in terms of unexplained variance in the dependent variable. The variable
TABLE 10: Recent In-migrants from Urban Areas and Long-term Rural Residents Compared on the Basis of Attitudes Toward Rural Industrial Development

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1277.983</td>
<td>1</td>
<td>1277.983</td>
<td>75.782</td>
<td>0.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>15632.779</td>
<td>927</td>
<td>16.864</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ETA = 0.2749

ETA SQUARED = 0.0756
which explains the largest amount of unexplained variance enters the model at each step. The data for each group (recent in-migrants from urban areas and long term rural residents) were analyzed separately (see methods chapter for rational). The regression analysis for the recent in-migrant from urban areas data set is presented in Table 12. The regression analysis for the long term rural residents data is presented in Table 13.

Separate regression analysis techniques were performed for recent in-migrants from urban areas and long term rural residents. Individual regression analyses were performed on both groups due to the fact two different survey questionnaires, with a two-year time differential, were utilized for this research. Although the same variables were used for both surveys, the intervening two year time lag between the two data collection periods will affect specific variables such as age, income and unemployment measures. In addition, one of the primary purposes of the present study was to compare long term rural residents' attitudes toward rural industrial development with recent in-migrants from urban areas attitudes, and consequently, the two groups were not combined.
TABLE 11: Summary Statistics for the Analysis of Variance: Recent In-migrants from Urban Areas and Long-term Rural Residents Compared on the Basis of Perception and Adverse Effects of Rural Industrial Development

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Degrees of Freedom</th>
<th>Mean Square</th>
<th>F-Ratio</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>49.318</td>
<td>1</td>
<td>49.318</td>
<td>38.584</td>
<td>0.001</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1181.041</td>
<td>924</td>
<td>1.278</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ETA = 0.2002
ETA SQUARED = 0.0401
TABLE 12: Stepwise Regression Findings for Selected Independent Variables and Attitude Toward Rural Industrialization Scale Scores: Presented in Standardized and Unstandardized Coefficient Forms with Standard Error of the Estimates for b's in Parentheses (recent in-migrants from urban areas)

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.265^a/*</td>
<td>-0.327 *</td>
<td>-0.336 *</td>
<td>-0.340 *</td>
<td>-0.331 *</td>
</tr>
<tr>
<td>Occupation</td>
<td>--</td>
<td>0.164</td>
<td>0.142</td>
<td>0.153</td>
<td>0.150</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td>0.588</td>
<td>0.510</td>
<td>0.548</td>
<td>0.537</td>
</tr>
<tr>
<td>Unemployment</td>
<td></td>
<td></td>
<td></td>
<td>-0.170</td>
<td>-0.171</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.020</td>
</tr>
<tr>
<td>(Constant)</td>
<td>23.34</td>
<td>21.99</td>
<td>20.92</td>
<td>28.63</td>
<td>28.16</td>
</tr>
</tbody>
</table>

Adjusted Coefficient of Determination ($R^2$)  

0.063 0.079 0.088 0.108 0.101

*Significant at the .05 level.

^a/ Beta coefficients
^b/ Unstandardized regression coefficients (b)
^c/ Standard error of the b
TABLE 13: Stepwise Regression Findings for Selected Independent Variables and Attitude Toward Rural Industrialization Scale Scores:
Presented in Standardized and Unstandardized Coefficient Forms with Standard Error of the Estimates for b's in Parentheses (Long Term Rural Residents)

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-0.110&lt;sup&gt;a/*&lt;/sup&gt;</td>
<td>-0.115&lt;sup&gt;*&lt;/sup&gt;</td>
<td>-0.116&lt;sup&gt;*&lt;/sup&gt;</td>
<td>-0.097&lt;sup&gt;*&lt;/sup&gt;</td>
<td>-0.091&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td>-0.373&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-0.389</td>
<td>-0.393</td>
<td>-0.330</td>
<td>-0.310</td>
</tr>
<tr>
<td></td>
<td>(0.127)</td>
<td>(0.127)</td>
<td>(0.127)</td>
<td>(0.132)</td>
<td>(0.139)</td>
</tr>
<tr>
<td>Education</td>
<td>-</td>
<td>-0.091&lt;sup&gt;*&lt;/sup&gt;</td>
<td>-0.112&lt;sup&gt;*&lt;/sup&gt;</td>
<td>-0.109&lt;sup&gt;*&lt;/sup&gt;</td>
<td>-0.111&lt;sup&gt;*&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-0.226</td>
<td>-0.278</td>
<td>-0.271</td>
<td>-0.276</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.093)</td>
<td>(0.097)</td>
<td>(0.097)</td>
<td>(0.098)</td>
</tr>
<tr>
<td>Occupation</td>
<td>-</td>
<td>-</td>
<td>0.066</td>
<td>0.070</td>
<td>0.063</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.155</td>
<td>0.165</td>
<td>0.149</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.093)</td>
<td>(0.093)</td>
<td>(0.097)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-0.063</td>
<td>-0.064</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-0.597</td>
<td>-0.610</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(0.371)</td>
<td>(0.372)</td>
</tr>
<tr>
<td>(Constant)</td>
<td>21.78</td>
<td>22.52</td>
<td>22.11</td>
<td>22.90</td>
<td>22.72</td>
</tr>
</tbody>
</table>

Adjusted Coefficient of Determination ($R^2$)  
- 0.011  
- 0.018  
- 0.020  
- 0.022  
- 0.021

*Significant at the .05 level.

<sup>a/</sup> Beta coefficient

<sup>b/</sup> Unstandardized regression coefficients (b)

<sup>c/</sup> Standard error of b
Findings of the Multiple Correlation Analysis: 
Recent In-Migrants From Urban Areas Model

The hypothesis presented in Chapter II was stated as follows: age, income, education, occupation and unemployment will be positively associated with attitudes toward rural industrial development among recent in-migrants from urban areas. To test the merits of the hypothesis multiple correlation analysis was utilized to determine the strength of the relationship between all of the pairs of variables used in the recent in-migrants' from urban areas regression model. The correlation matrix, which is presented in Table 14, indicates that one independent variable was significantly correlated with attitudes toward rural industrial development. However, the correlation was very low. The .05 level of significance was the lowest acceptable level in the present research.

Education had a negative correlation of -0.265, which is significant at the .05 level. As education increased for recent in-migrants from urban areas, attitudes toward rural industrial development became less favorable. The remaining four independent variables (age, income, occupation and unemployment) were not significantly correlated with attitudes toward rural industrial development.
Regression Analysis: Recent In-Migrants From Urban Areas Model

The step-wise regression technique was utilized to examine the relationship between all of the independent variables (age, income, education, occupation and unemployment) and recent in-migrants from urban areas attitudes toward rural industrial development.

The first variable to enter the regression analysis was education, which subsequently yielded a multiple R and adjusted R-square of 0.265 and 0.063, respectively. This shows that only six percent of the variance in attitudes toward industrial development was explained by the education variable. The F-ratio was 9.954, which is significant at the .001 level, with 132 degrees of freedom. The beta value for education was -0.265.³/ The second variable to enter the regression analysis was occupation, which yielded a multiple R of 0.305 and an adjusted R-square of 0.079. The second variable increased the explained variance by one percent. The beta values for the two variable model was: -0.327 for education and 0.164 for occupation.

The third variable which entered the regression analysis was income. Income resulted in little addition to the explanation of attitudes toward rural industrialization.

³/ Nie, et al. (1975), points out that the B (beta) coefficient may be interpreted as the amount of standard deviation change in the dependent variable resulting from one standard deviation change in the independent variable.
The multiple R was 0.330 and the adjusted R-square was 0.088. The beta values were: -0.338 for education; 0.142 for occupation; and 0.129 for income.

The fourth variable which entered the regression analysis was unemployment, which added very little to the explained variance. The multiple R was 0.367 and the adjusted R-square was 0.108. The beta values for the four variables were: -0.340 for education; 0.153 for occupation; 0.184 for income; and -0.170 for unemployment.

The fifth and last variable to enter the regression analysis was age, which yielded a multiple R of 0.367 and an adjusted R-square of 0.101. The beta values for the five variables were: -0.331 for education; 0.150 for occupation; 0.182 for income; -0.171 for unemployment; and 0.120 for age.

The finding of the regression analysis indicates that the five variable model explains approximately ten percent of the variance of recent in-migrants from urban areas attitudes toward rural industrial development. The most important variable was education, which explained 6.3 percent of the variance.

Findings of the Multiple Correlation Analysis: Long Term Rural Residents Model

The hypothesis presented in Chapter II was stated as follows: Hypothesis IV: Age, income, education, occupation
and unemployment will be positively associated with attitudes toward rural industrial development among long term rural residents. To test the merits of the hypothesis, multiple correlation analysis was utilized to determine the strength of the relationship between all of the pairs of variables used in the long term rural residents regression model. The correlation matrix, which is presented in Table 15, indicates that three of the independent variables were significantly correlated with attitudes toward rural industrial development, but the correlations were very low.

1) The correlation for age and attitudes toward rural industrial development is -0.110, which is significant at the .05 level. As age increased there was a concomitant decrease in favorability toward rural industrial development.

2) The correlation for education and attitudes toward rural industrial development is -0.085, which is significant at the .05 level. As education increased, attitudes toward rural industrial development tended to decrease.

3) The correlation between unemployment status and attitudes toward rural industrial development is -0.091, which is significant at the .05 level. Employed respondents tend to have less favorable attitudes toward rural industrial development than employed respondents.
TABLE 14: Correlation Matrix for Attitudes toward Rural Industrial Development by Selected Independent Variables (Data for Recent In-migrants from Urban Areas Only...N=134)

<table>
<thead>
<tr>
<th></th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (X1)</td>
<td>1.00</td>
<td></td>
<td>-0.403*</td>
<td>0.064</td>
<td>-0.002</td>
<td>0.068</td>
</tr>
<tr>
<td>Education (X2)</td>
<td>1.00</td>
<td></td>
<td>0.063</td>
<td>0.378*</td>
<td>0.154</td>
<td>-0.265*</td>
</tr>
<tr>
<td>Unemployment (X3)</td>
<td>1.00</td>
<td></td>
<td>0.124</td>
<td>0.339*</td>
<td></td>
<td>-0.110</td>
</tr>
<tr>
<td>Occupation (X4)</td>
<td>1.00</td>
<td></td>
<td>0.203*</td>
<td></td>
<td></td>
<td>-0.040</td>
</tr>
<tr>
<td>Income (X5)</td>
<td>1.00</td>
<td></td>
<td></td>
<td>0.105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude Toward Rural Industrial Development (X6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>
TABLE 15: Correlation Matrix for Attitudes Toward Rural Industrial Development by Selected Independent Variables (Data for Long Term Rural Residents only...N=705)

<table>
<thead>
<tr>
<th></th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (X1)</td>
<td>1.00</td>
<td>-0.053</td>
<td>0.290*</td>
<td>-0.001</td>
<td>-0.270*</td>
<td>-0.110*</td>
</tr>
<tr>
<td>Education (X2)</td>
<td>1.00</td>
<td>0.048</td>
<td>0.314*</td>
<td>0.196*</td>
<td>-0.085*</td>
<td></td>
</tr>
<tr>
<td>Unemployment (X3)</td>
<td>1.00</td>
<td>0.081*</td>
<td>0.010</td>
<td>-0.091*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupation (X4)</td>
<td>1.00</td>
<td>0.329*</td>
<td>0.030</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income (X5)</td>
<td>1.00</td>
<td>0.045</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude Toward Rural Industrial Development (X6)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Significant at .05 level.
Regression Analysis: Long Term Rural Residents Model

The step wise regression technique was utilized to examine the relationship between all of the independent variables (age, income, education, occupation and unemployment) and long term rural residents' attitudes toward rural industrial development.

The first variable entered in the regression analysis was age, which yielded a multiple R of 0.110 and an adjusted R-square of 0.011. This shows that only one percent of the variance in attitudes toward rural industrial development can be explained by the age variable. The beta value for age was -0.110.

The second variable which entered in the regression analysis was education. The regression analysis provided a multiple R of 0.143 and an adjusted R-squared of 0.018. The beta values for age and education were -0.115 and -0.091, respectively.

The third variable which entered into the regression analysis was occupation. The addition of occupation resulted in little addition to the explanation of attitudes toward rural industrial development. The multiple R was 0.156 and the adjusted R-squared was 0.020. The beta values for the three variables were: -0.116 for age; -0.112 for education; and 0.066 for occupation.
The fourth variable which entered in the regression analysis was unemployment. The multiple R was 0.167 and the adjusted R-squared was 0.022. The beta values for the variables were -0.097 for age; -0.109 for education; 0.070 for occupation; and -0.063 for unemployment.

The last variable which entered the regression analysis was income. The multiple R was 0.168 and the adjusted R-square was 0.021. The beta values for the five variables were: -0.091 for age; -0.111 for education; 0.063 for occupation; -0.064 for unemployment; and 0.22 for income.

The findings of the regression analysis reveal that the five variable model only explains two percent of the variance attitudes toward rural industrial development for long term residents.

Regression Analysis: Test of Equality Between the Sets of the Regression Coefficients

The hypothesis presented in Chapter II states as follows: Recent in-migrants from urban areas will not differ significantly from long term rural residents with regard to the operation of the independent variables (age, income, education, occupation and unemployment) upon attitudes toward rural industrial development. To test the hypothesis, Fisher's (1970) method for testing the equality of coefficients in two linear regressions was used. The statistic was used to determine if significant differences exist
between the two separate regression models (for recent in-
migrants or long term residents). Fisher's equation is:

\[
F_{k1n1 + n2 - 2k} = \frac{SSE_0 - (SSE_1 + SSE_2)/k}{(SSE_1 + SSE_2)/(n1 + n2 - 2k)}
\]

where

\(SSE_0\) = error sum of squares from pooled sample regression
\(SSE_1\) = error sum of squares from sample 1 regression
\(SSE_2\) = error sum of squares from sample 2 regression
\(k\) = number of regression coefficients in the model, \(k = 6\)

The analysis yielded a significant difference between the separate regression models. The F-ratio (15.03), was sign
ificant at the .001 level. The hypothesis must be rejected, however, the amount of variance explained within the two separate regression analysis indicate that the independent variables are relatively unimportant in the explanation of attitudes toward rural industrial development for both samples.

**Synopsis of Findings**

A synopsis of the research findings is presented below:
1) The frequencies of the attitude items indicate that an overwhelming majority of long term rural residents exhibit favorable attitudes toward industrial development.

2) The frequencies of the attitude items also indicate that a majority of recent in-migrants from urban areas exhibit favorable attitudes toward rural industrial development.

3) One of the attitude items was disaggregated from the composite attitude scale and examined separately. The frequencies of the responses to this item indicate that a majority of recent in-migrants from urban areas perceive that rural industrial development will create problems for their community.

4) Age, education and unemployment status are significantly related to attitudes toward rural industrial development among long term rural residents, but the correlation are very low.

5) Education is significantly correlated with attitudes toward rural industrial development among recent in-migrants from urban areas but the correlation is very low.
6) Recent in-migrants from urban areas and long term rural residents differ significantly with regard to the importance of age, income, education, occupation, and unemployment status upon attitudes toward rural industrial development. However, the amount of variance explained in both samples is very low.
CHAPTER V

SUMMARY AND CONCLUSIONS

The primary purpose of this research was to analyze the attitudes toward rural industrial development held by recent in-migrants from urban areas and long term rural residents within a five county area located in the Appalachian region of Ohio. The study was intended to expand on previous research efforts associated with local attitudes toward rural industrial development by collecting and evaluating similar attitudes toward rural industrialization held by recent area in-migrants. The analysis of the changing patterns of persons and groups functioning within the five county area was undertaken in order to provide decision makers with relevant information which could be used for future area development efforts. A social scale theoretical perspective was constructed and used to develop testable hypotheses. The social scale theoretical perspective created for this study views the changes taking place within rural areas as one component of the gradual urbanization of less complex social structures. Special emphasis within the theory is placed upon increasing
societal interdependence and its contribution to the gradual elimination of many of the previous identifiable differences which have existed between rural and urban groups.

The present study had three empirical objectives. The first objective was to evaluate recent in-migrants' from urban areas attitudes toward rural industrialization and determine if the attitudes exhibited by recent in-migrants were similar to those held by long term residents of the study area. A second objective was to determine if recent in-migrants from urban areas perceive rural industrial development as having the potential to create problems for persons living within the five county study area. The third objective was to evaluate the relationship between age, income, occupation, education and unemployment and recent in-migrants' from urban areas attitudes toward rural industrialization in order to determine if the relationships were similar to long term rural residents. (A more comprehensive review of the study objectives are presented in Chapter II).

Two different samples were utilized for the present research. The first sample consisted of a systematic random sample of the study area residents obtained in 1975. The second sample, obtained in 1977, was composed of recent area in-migrants. A sub-sample was drawn from the 1975
and 1977 study respondents. Individuals identified from the 1975 survey who had lived in the study area for 15 years or longer were compared with individuals identified in the 1977 survey who had migrated into the study area from an urban area.

The dependent variable for the study was termed attitude toward rural industrial development and measured with a Likert-type attitude scale composed of five items. The five individual attitude items were chosen on the basis of their reliability, which was determined by a Kuder-Richardson item analysis computer program. The five items measured general attitudes toward rural industrial development on a county basis. The concepts included in the scale involve general perceptions of the need and benefit from industrialization, as well as problems created by industrial development for individuals living within the study area.

The independent variables for the study were age, income, education, occupation and unemployment. These variables were selected because they represent important explanatory variables with respect to the increase in social scale as discussed in Chapter II. The statistical techniques used to test the hypothesis were analysis of variance, multiple regression, multiple correlation and a
test of equality between sets of regression coefficients. These statistics were selected in order to analyze the interrelationships among the variables based upon a social theoretical model.

The general state of research on rural industrial development and social scale theory has not been fully developed. However, the research findings in this study provide partial evidence which indicates that future research activity on rural industrialization within the context of a social scale perspective will be productive for the following reasons. First, the trend toward increasing industrialization in rural areas involves a series of interactive events integrated with the total society yet connected to local communities. The relationship here is quite complex, because in certain instances, local values and beliefs are not always compatible with feasible development programs and policies. The analysis of factors which inhibits and facilitates development activities must take into consideration the existing social structural situation as well as intervening structural variables. Social scale theory with its systematic interdependent conceptual framework provides a basis from which to analyze inhibiting as well as facilitating social structural attributes. Second, rural industrial development is a planned process that moves by stages from one condition or state
to the next, and involves a progression of changes in terms of specific criteria [Sanders, 1970]. A social scale theoretical framework views the gradual change of social structures from small to large scale in a similar fashion. Consequently, although the social scale theoretical model for this research was by and large repudiated, a social scale theoretical framework may nevertheless provide insightful approaches to examine the long term structural effects of rural industrial development and increased in-migration on rural communities.

In the next section a summary of the findings for the hypotheses which were tested, and the implications suggested by the analytical results are discussed. The discussion will also include areas for future research and the conclusion.

Evaluation of Hypotheses

A summary of the hypotheses derived from social scale theory outline in Chapter II will be presented in the following section. Each of the hypothesis is presented, followed by a brief discussion of the findings.

1. Recent in-migrants from urban areas will not differ significantly from long term rural residents with regard to attitudes toward rural industrial development.

The analysis of variance finding indicated that a significant difference exists between recent in-migrants from
urban areas and long term rural residents' attitudes toward rural industrial development. However, the eta-square value or amount of variance explained was very low. This finding indicates that significant differences exist between recent in-migrants from urban areas and long term rural residents regarding attitudes toward rural industrialization but migration status has relatively little influence in terms of expanding the between group variance. The hypothesis must be rejected.

II. Recent in-migrants from urban areas will be significantly different from long term rural residents in terms of perception of adverse effects of rural industrial development upon the community.

The analysis of variance finding indicated that a significant difference exists between recent in-migrants' from urban areas and long term rural residents in terms of perceptions of industrial development creating problems for persons living within the study area. This finding suggests support for the hypothesis as it was stated. However, the eta-square value was very low. The findings indicate that significant differences exist between the study groups regarding perception toward industrialization creating problems for area residents, but migration status has relatively little influence in terms of explaining the between group variance. The hypothesis must be accepted.
III. Age, income, education, occupation and unemployment will be positively associated with attitudes toward rural industrial development among recent in-migrants from urban areas.

There was a significant negative correlation of low magnitude rated between education and attitudes toward rural industrial development among recent in-migrants from urban areas. There was no apparent association between age, income, occupation and unemployment and recent in-migrants from urban areas attitude toward rural industrial development. The hypothesis must be rejected.

IV. Age, income, education, occupation and unemployment will be positively associated with attitudes toward rural industrial development among long term rural residents.

There was a significant negative correlation of low magnitude noted between age, education and unemployment and attitudes toward rural industrial development among long term rural residents. There was not a significant association between occupation and income and attitudes toward rural industrial development among long term rural residents. The hypothesis must be rejected.
V. Recent in-migrants from urban areas will not differ significantly from long term rural residents with regard to the operation of the independent variables (age, income, education, occupation and unemployment) upon attitudes toward rural industrial development.

Recent in-migrants from urban areas were significantly different from long term rural residents with regard to the relationship between age, income, education, occupation and unemployment and attitudes toward rural industrial development. The proposition was not supported, and the amount of explained variance was very low.

Implications of the Research Findings

Rural industrial development is influenced by a variety of variables and social trends not subject to the immediate control of local leadership groups. Rural development research programs must take into consideration how these exogenous trends and variables influence rural life in order to provide local decision makers with information about future trends as well as the current social situation. In addition, increased research attention is needed to identify basic rural-urban differentiation in order to provide decision makers with comprehensive information about how on-going change involves and affects rural social structures. This type of research activity may help to clarify industrial development issues and
enable leadership groups to choose appropriate strategies in order to conceptualize and plan for goal oriented change.

The research findings of the present study suggest that: 1) rural-urban differentiation still exists; 2) rural-urban differences are converging; and 3) structural variables may provide increased understanding with regard to the identification of rural-urban attitudinal differences. The implications are that initial consideration regarding support patterns for rural industrial development involve the extent to which rural residents and recent in-migrants cohere as an integrated group supporting industrialization as a viable development strategy.

The research findings indicate that while significant differences exist between both study groups with regard to attitudes toward industrialization, the differences were of degree rather than basically polarized positions. These findings suggest that only minor attitudinal differences are identifiable with in-migrant status. Since the eta-square value was very low, it can be concluded that migrant status is of relatively little consequence in understanding the variance in attitudes toward rural industrial development. This implies that while migrant status may play some role in determining variance in attitudes toward industrial development, more immediate factors are involved.
When interpreted broadly, the research findings indicate that social differentiation of structures may have potential with regard to identifying key explanatory factors associated with basic rural-urban differences. The identification of explanatory factors associated with rural-urban differences are becoming increasingly important for community development planning purposes.

Proper planning for the varied impacts of rural industrial development requires increased attention to the consequences of increased in-migration in rural areas. One of the basic underlying factors associated with rural-urban differences involves the size and distribution of population. In Chapter I, it was noted that increased rural in-migration was a recent phenomenon occurring in numerous rural areas, and often occurring simultaneously in many areas experiencing rural industrialization. In addition, a sizable portion of the rural in-migrants are migrating from urban areas. Consequently, identifiable factors associated with rural-urban differences may be beneficial to community leadership groups attempting to develop strategies for increased development activities and strategies for coping with development once they have achieved it.

Based upon a social scale perspective, it can be argued that the increasing societal interdependence has
contributed to the modernization of rural life which, in turn, has increased the desirability of numerous rural areas for increased manufacturing activity and in-migration. These developments have led to a gradual convergence of behavioral patterns and attitudes between rural and urban groups. While rural-urban behavioral patterns have been converging, there are certain sociocultural characteristics which have resisted or lagged behind the converging patterns. It is argued that the remaining differences are due to the structural differences which exist between large and small scale social units. The structural differences are the direct result of the complex set of interactions which occur between individuals and groups and their immediate structural environment.

With regard to the situation in Southeastern Ohio, urban in-migrants to the study area have recently had experience with large scale types of social structures, and accordingly, a corresponding set of specific large scale type of behavioral patterns and lifestyles. Conversely, long term rural residents have had experience with a different, smaller scale type of social structural environment. Due, in part, to the structural complexities associated with large scale social structures, particular structural-specific behavioral patterns and lifestyles have emerged. However, due to increasing societal
interdependence, both large and small scale units also share numerous similar behavioral patterns and attitudes. This viewpoint suggests that although rural-urban differences are disappearing on an aggregate basis, significant differences still remain identifiable between rural and urban groups.

This view is partially supported by the analysis of variance findings and to a lesser extent the test of equality between regression coefficients. Both study groups exhibited favorable attitudes toward industrialization, but there was a significant difference of low magnitude between the groups. In addition, there was a significant difference, of low magnitude, between both groups with regard to the problems for persons living within the study area created by industrial development. It can be argued that while recent in-migrants from urban areas have favorable attitudes toward industrial development they view industrialization as creating more problems than rural residents because they have had previous, direct contact with large scale social environments. Persons in the migrant group are more aware of the complexities and consequences involved with industrialization than rural residents. This finding partially supports the argument that different behavioral patterns and attitudes
are associated with intervening structural effects associated with different types of social structures.

The test of equality between regression coefficients indicates that both study groups were significantly different in terms of the operation of age, income, education, occupation and unemployment upon attitudes toward industrialization. However, the amount of explained variance from both regression models was very low. This finding also supports the contention that while significant differences still exist between rural and urban groups, the differences are a matter of degree rather than basically polarized positions.

The findings of the correlation analysis also indicate that rural-urban differences are converging, but by and large, repudiate the social scale perspective with regard to identifying factors associated with both study groups' attitudes toward rural industrialization. In Chapter II it was postulated that as social structures increase in scale and complexity, they also increase their control of the material environment. Control of the material environment is dependent upon the educational level of societal members because of the high skill levels needed to operate the sophisticated mechanical mechanism and organizational networks which facilitate control. Consequently, as educational attainment level increases within
both study groups, there should be a concomitant increase in favorability of attitudes toward industrialization. The research findings indicate the opposite to be true for both groups, although the correlation was very low. This finding suggests the need for reevaluation and increased critical examination of the social scale perspective regarding the relationship among the major institutional orders of society. Questions arise about which institutions determine not only the tempo but direction of social change. A social scale perspective suggests that social conflict in both a state of society and a force for change. However, increased research attention is needed on facts concerning how social structure generates change through internal contradictions and conflict. Community leadership groups attempting to formulate industrial development strategies should be made aware that conflict and consensus may play opposite roles than normally assigned to them when social structures are experiencing change.

The correlation analysis also indicated that long term rural residents' age was negatively related to attitudes toward rural industrial development. Older individuals have previously been socialized into a lower social scale environment than younger residents. Older long term rural residents tend to perceive change as threatening and
as a result exhibit less favorable attitudes toward industrial development. This finding is contrary to Maurer (1977) finding that age had a significant positive relationship with attitudes toward rural industrial development. This implies that community decision makers must become increasingly aware of the need for in-depth assessment of the perceived needs, potential support and opposition for development programs from all community socioeconomic groups. The implications for development suggest that new and innovative methods for involving a variety of community groups, including the aged, will be necessary if broad community support for development is to be achieved. Thus, it is apparent that studies which would attempt to examine and evaluate development and change must include comparisons of the various different socioeconomic groups and make careful distinctions between them.

The correlation analysis indicate that unemployed long term rural residents tend to have less favorable attitudes toward rural industrialization than their employed counterparts. This finding was consistent with the social scale perspective. The implication for development suggest that the perception held by the rural unemployed are inconsistent with local leadership groups. Questions arise about the interrelationships of conceptualized goal-oriented
change and the various groups which comprise the relevant subsystem, i.e., community. Previous sections of the present research have stressed the need for the determination and evaluation of exogenous variables associated with development and change. However, examination of variables operating within the system are necessary to understand how limiting factors such as negative attitudes toward development may be overcome. It is argued that structural variables should be examined by rural leadership groups in order to determine factors associated with the negative perceptions of industrial development held by the rural unemployed.

**Implications for Local Development**

Previous research of attitudes toward rural industrial development [Napier, et al., 1977 and Maurer, 1977] have indicated the need for local support for development action coupled with the need for information about the resident populations' perceptions about various development strategies in order to insure sound, comprehensive planning programs. The recent increase in in-migration has added an extra dimension to finding solutions to the complex problems and consequences associated with rural industrialization. The potential for approaching conflict on a variety of issues including industrial development is a distinct possibility due to the fact that the recent in-migrants
are not a homogenous group with regard to social or economic characteristics. This would indicate a greater potential for negative implications associated with local development programs because of the increasing rural heterogenous population base.

In Chapter I, it was noted that the trends toward increased rural industrialization and in-migration was occurring in areas which have not previously exhibited growth in modern manufacturing activities or the in-migration of younger, more affluent, better educated people. In addition, it was noted that nonemployment related factors may be assuming a larger role with regard to the rural turnaround. This would also indicate the potential for negative implications for local development due to the fact that persons moving into rural areas for non-employment reasons may possess different values and beliefs concerning the desirability of rural industrialization as a viable development strategy. Planners involved with rural development strategies must be aware of the impact that recent in-migrants have upon the proposed development strategy as the host community in order to evaluate the limiting conditions associated with increased rural in-migration.
Areas for Future Research

Several questions for future research involving rural industrialization and in-migration have been raised by the present study. The long range social consequences of industrialization and in-migration may result in altogether different impacts if the two trends are occurring simultaneously or independent of one another. Additional research is needed to compare and evaluate the differential impact of both trends.

The research findings seem to indicate that structural variables may play an important role in the formation of attitudes toward development activities in light of the recent increase in rural in-migration. It has been suggested that structural differentiation produces different affects upon social relationships and behavioral patterns based on the extent of societal interdependence. Due to the fact that basic socioeconomic and demographic variables have minimal explanatory power with regard to attitudes toward rural industrial development, future research should investigate structural affects upon behavioral patterns, lifestyles and beliefs. Such data should provide insight into what impact structural modification has upon local people. This type of research effort would also help further explain basic factors underlying rural-urban differentiation.
Additional research efforts involving in-migration and rural industrial development are also needed to investigate recent in-migrants from rural areas attitudes toward industrialization. Rural to rural in-migrants' may have many similar impacts upon rural communities as recent in-migrants from urban areas, however, recent in-migrants from rural areas attitudes and beliefs may be different from in-migrants from urban areas and local residents. This type of research effort would be helpful in formulating a comprehensive analysis of increased rural in-migration and industrial development.

This research was undertaken in an effort to build upon and expand previous rural industrialization attitude research in an effort to provide comprehensive research for rural industrial development planning efforts. It is hoped that the research has provided insight with regard to increased in-migration in areas experiencing rural industrial development.
Abelson, Robert P., and Tukey, John W.

Andrews, Wade H., Bauder, Ward W., and Rogers, Everett M.

Appalachian Regional Commission

Andrews, Wade H., and Bauder, Ward W.

Beale, Calvin L.

Beale, Calvin L.

Bertrand, Alvin L., and Osborne, Harold W.

Bird, Alan R.

Blackwood, L. G. and Carpenter, E. H. 1973 "The Importance of Anti-Urbanism in Determining Residential Preferences and Migration Patterns." Rural Sociology, 43 (Spring) 31-47.


Dean, Robert D. 1973 Suburbanization of Industry in the U.S. Oak Ridge, Tenn.: Oak Ridge National Laboratory.


Dillman, Don A.

Dillman, Don A., Christenson, J. A., Carpenter, E. H. and Brooks, R. M.

Doeksen, Gerald A., Kuehn, John, and Schmidt, Joseph

Duncan, Otis Dudley

Durkheim

Edwards, Allen

Fisher, F. M.

Fishbein, M.

Frank, A. G.

Fuchs, Victor R.
1962 Changes in Location of Manufacturing in the U.S. New Haven, Conn.: Yale University Press.
Fulton, Maurice

Fuguit, Glenn V.

Fuguit, Glenn V., and Zuiches, James J.

Fuguit, Glenn V., and Beale, Calvin L.

Galle, Omar

Garrison, Charles B.

Graber, E. E.
1974 "Newcomers and Oldtimers: Growth and Change in a Mountain Town." Rural Sociology 39 (Winter) 504-513.

Greer, Scott

Hammill, A. E.

Hansen, Niles M.

Hansen, Niles M.
Hansen, Niles M.

Hansen, Niles M.

Harer, C. C. and Cheplo, D.

Harer, Claude C.
1977 "Location of Industrial Production and Distribution." Whiting, ed., Rural Industrialization, Chapter 1, Ames: The Iowa State University Press.

Harris, L., and McGuire, D.

Hitzhusen, F. J. and Gray, T. W.

Hobbs, Daryl J.

Hobhouse, L. T.

Hough, Richard L., and Clark, John P.
Hushak, Leroy J.
1977 "Growth Potential of One Five-County Grow Region in Southeast Ohio." Socio-Economic Information for Ohio, No. 591. The Ohio State University.

Johnson, Joyce, and McCabe, June
1975 Item Analysis. Revised by Roger Kobel, Data Center, College of Administrative Science, The Ohio State University, Columbus, Ohio.

Jordan, Max F.

Kain, John F.

Killingsworth, Charles C.

Kuder, G. F., and Richardson, M.W.

Labovitz, Sanford

Long, J.F.

Lonsdale, Richard E.

Lonsdale, Richard E., Kinworthy, John C., and Doering, Thomas R.
Maki, Wilbur R.

Maitland, Sheridan, and Wilbur, G. L.
1953 "Industrialization in Chickasaw County, Mississippi: A Study of Plant Workers." Bulletin 566. State College, Miss.: Mississippi State University, Mississippi Agricultural Experiment Station.

Maurer, Richard C.
1977 "Resident Attitudes Toward Rural Industrialization: A Southeastern Ohio Regional Study." Ph.D. dissertation, Department of Agricultural Economics and Rural Sociology, The Ohio State University.

Maurer, Richard C., and Napier, Ted L.
1978 "Attitudes Toward Rural Industrialization: A Test of a Social Exchange Perspective." The Ohio State University, paper presented at Rural Sociological Society Meetings at San Francisco, California.

McElveen, Jackson V.

Miller, Delbert C.

Morrison, P. A., and Wheeler, J. P.

Morrison, Peter A., and McCarthy, Kevin F.

Nash, William W.
1973 "Industry and Community Problems After a New Plant is Located." Mikes and Braithwaite, eds., Managing Rural Change, University of Georgia Printing Department.
Napier, Ted L.  
1971 "The Impact of Water Resource Development Upon Local Rural Communities: Adjustment Factors to Rapid Change." Ph.D. dissertation, Department of Sociology, The Ohio State University, Columbus, Ohio.

Napier, Ted L.  

Napier, Ted L.  

Napier, Ted L. and Wright, Cathy J.  

Napier, Ted L. and Wright, Cathy J.  

Napier, Ted L. and Maurer, Richard C.  
1977 Correlates of Commitment to Community Development Efforts. Review Paper, The Ohio State University, Columbus, Ohio.

Napier, Ted. L. and Wright, Cathy J.  

Napier, Ted L., Pierce, John M., and Bachtel, Douglas C.  
1977 A Descriptive Analysis of a Five County Attitude Study: Outdoor Recreation and Industrialization. Ohio Agricultural Research and Development Center, Research Circular 230, Wooster, Ohio.

Nelson, Lowry  
Nie, Norman H., Hull, C. Hadlai, Jenkins, Jean G., Steinbrenner, Karin, and Bent, Dale H.  

Nolan, M. F., and Heffernan, W. D.  

Pappenfort, Donnell M.  

Pierce, John M.  
1976 "The Social Psychological Dimensions of Perception and Attitude: Their Relationship to Outdoor Recreation and Tourism in a Regional Development Context." Ph.D. dissertation, Department of Agricultural Economics and Rural Sociology, The Ohio State University, Columbus, Ohio.

Pickard, J.  

Roepke, Howard  
1973 "Determinants of Industrial Location: Rural vs. Urban." Mikes and Braithwaite, eds., Managing Rural Change, University of Georgia Printing Department.

Ruttan, V. W. and Wallace, D.  

Schneiderman, James A.  

Schnore, Leo F.  

Scott, John T., Jr., and Summers, Gene F.  
Scott, John T., Jr.

Scott, John T., Jr., and Summers, Gene F.
1972  Problems and Challenges Faced by Rural Communities with Industrial Development. Center of Applied Sociology, University of Wisconsin-Madison, paper presented at North Central Regional Conference on Problems and Potentials of Rural Industrialization at Purdue University.

Simpkins, N. O.
1963  Action for Appalachian Youth. Charleston, West Virginia: Charleston Youth Community, Inc.

Simpkins, O. Norman

Shevky, E., and Bell, W.

Shevky, E., and Williams, M.

Shively, Robert W.

Sorokin

Stanfield, G. G.

Stewart, Charles T., Jr.
Smith, Courtland L., Hogg, Thomas C., and Reagan, Michael J.

Smith, David M.

Summers, Gene F., Seiber, L. H., and Wiley, G.

Summers, Gene F., Clark, John P., and Seiler, Lauren H.

Summers, Gene F.

Summers, Gene F., and Clemente

Summers, Gene F., Evans, Sharon D., Clemente, Frank., Beck, E. M., and Minkoff, Jon

Thomas, Donald W., and Bachtel, Douglas C.

Thompson, Wilber R.

Timms, D. W. G.
Tweeten, Luther
1974 "Enhancing Economic Opportunity." Whiting, editor, Communities Left Behind, Chapter 8, Ames, Iowa: The Iowa State University Press.

Tweeten, Luther, and Brinkman, George L.

Vernon, Raymond

Vieg, Karsten
1973 "Economic Forces Affecting Movement to Rural Areas." Mixes and Braithwaite, eds., Managing Rural Change, University of Georgia Printing Department.

Wadsworth, H. A.

Warren, Roland I.

Williams, James D., and Sofranko, Andrew J.

Whiting, Larry R., ed.

Wilson, Godfrey, and Wilson, Monica

Wirth, Louis
Wright, Cathy  

Zuiches, James J., and Fugquist Glen V.  