AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

For Check Out Only!

Agricultural Economics
Report No. 32

Small Business Management
Research Reports

Community Resource Development Guides

•

FEBRUARY 1964

Prepared by

The Department of Agricultural Economics, North Dakota Agricultural Experiment Station, in cooperation with the Engineering Experiment Station, North Dakota State University of Agriculture and Applied Science, and the North Dakota Economic Development Commission for the Small Business Administration, Washington, D. C.

DEPARTMENT OF AGRICULTURAL ECONOMICS
NORTH DAKOTA AGRICULTURAL EXPERIMENT STATION
NORTH DAKOTA STATE UNIVERSITY
FARGO, NORTH DAKOTA

FOREWORD

This Small Business study, Community Resource Development Guides, has been conducted and prepared under the direction of Professor Marion B. Richardson, Project Director for North Dakota State University.

The research was financed by a grant made by the Small Business Administration, United States Government, under the authority of Public Law 699 (85th Congress).

Only a limited number of copies of this report have been printed. It is available for reference in any of the Small Business Administration offices throughout the United States or at many reference libraries. Copies of the report also may be purchased for $1.00 directly from the Department of Agricultural Economics, North Dakota State University.

Summaries of this study have been printed and are available in reasonable quantities. These summaries may be secured from SBA field offices or from the Small Business Administration, Washington 25, D.C.

The Small Business Administration assumes no responsibility for the accuracy of the data contained herein, nor does it necessarily endorse any opinions, conclusion or recommendations which may be a part of this report.

Eugene P. Foley
Administrator
Small Business Administration

Small Business Management
Research Reports

COMMUNITY RESOURCE DEVELOPMENT GUIDES

Prepared by the
Department of Agricultural Economics
North Dakota Agricultural Experiment Station
North Dakota State University of Agriculture and Applied Science
Fargo, North Dakota
under the
Small Business Administration
Management Research Grant Program

Fred R. Taylor, Thor A. Hertsgaard, Elmer C. Vangsness
and Leonard M. Paulus

February 1964

LIST OF TABLES

TABLE OF CONTENTS

SUMMARY

Agriculture provides more jobs than any other industry in North Dakota. However, employment in farming is decreasing as a result of the adoption of new technology and increased mechanization. The increase in employment in other primary industries such as mining, manufacturing, and construction has not been sufficient to offset the decrease in employment opportunities in agriculture. Lack of employment opportunities has resulted in decreased population in rural areas with a subsequent loss of income for local businesses. A decline in economic activity might also result in a decrease in the tax base and a consequent per capita increase in the fixed costs of state and local governments.

Population decline and the associated decrease in economic activity presents a continuing adjustment problem for the social and economic institutions within the community. Communities must meet this challenge by intelligent planning which is based on an objective evaluation of their situation. Some communities have opportunities for economic expansion through development of community resources. Others may not enjoy these opportunities but should be aware of this fact and plan their future accordingly.

Communities that adequately plan their future will be the most successful in resource development. Guidelines are needed to provide an orderly resource development program. Some of these are:

1. Develop a representative organization through which community problems can be discussed.

2. Analyze recent economic and social trends and changes in the economy of the area.
3. Study the national, regional, and state forces which influence social and economic activity within the area.
4. Compile an inventory of the resources, facilities, services, and assets of the area.
5. Appraise the development potential of the area's resources.
6. List promising alternative courses of action.
7. Select specific development projects that will have a significant economic effect, are consistent with existing resources and trends, and are consistent with the attitudes, values, and capabilities of the people.
8. Formulate and implement selected projects.
9. Evaluate the progress and procedures that may be most useful in future efforts.

Costs and resource requirements of selected industries are needed by communities in determining the feasibility of these industries for their area. These data will enable the community to make accurate appraisals of the availability of the raw materials, labor, water, adequate sewage disposal facilities, market outlets for finished products, and investment and operating capital.

Previous research has indicated that agriculturally related industries would have the greatest potential for most North Dakota communities. Industries producing low bulk-high value commodities and those industries

requiring large quantities of raw materials conveniently available on a low cost basis would also have considerable potential. In cities where educational and research institutions are located, research orientated industries would have a real potential. Guides included in this study should provide working procedures for communities interested in economic growth through industry development.

Forward looking communities should assemble all available facts and objectively evaluate these facts in determining the best course of action for the use of their resources. Failure to collect and correctly interpret all the facts could result in the failure of the community to take advantage of opportunities for economic growth or, on the other hand, may lead to economic waste through the investment in enterprises which are doomed to failure. Communities which plan their future wisely on the basis of sound decisions arrived at through the careful consideration of all the facts may succeed in stimulating economic growth and will avoid the error of promoting ventures which are not economically feasible.

INTRODUCTION

Historically, North Dakota has been largely an agricultural state. North Dakota's farms and the agricultural business servicing, supplying and marketing the products of agriculture have provided the major source of revenue for the various subdivisions of government.

Modern technology which has led to fewer and larger farms has meant fewer people, fewer jobs and losses of revenue to the rural communities. This has resulted in an increased per capita cost of maintaining acceptable levels of education, community services and other social services.

People moving off farms have had to move to larger communities and out of state because job opportunities did not exist in the local community. These adjustments have led to increasing demands for information and help concerning procedures for resource development and the economic potential of specific industries which would help provide additional employment opportunities for residents of rural communities in North Dakota.

These demands have led to the development of a number of studies relating to economic development. This study is a part of this over-all effort to supply rural communities with guidelines which they can use to evaluate their social situations and make plans for action program. This study is divided into two parts:

Part I - Guides for Resource Development

The purpose of this part of the study is to provide guidelines helpful to various groups, communities and areas interested in the logical development of their human and physical resources.

The specific objectives are:

1. To outline a procedure that may be used in organizing resource development groups on a community, county or area level.
2. To develop guides for conducting resource fact surveys.
3. To develop a suggested guide for determining the feasibility of industrial development.

Part II - Resource Requirements for Selected Agricultural Processing Industries

The purpose of this part of the study was to collect information on the various costs and resource requirements necessary for selected agricultural processing industries.

The specific objectives are:

1. To assemble information on the basic requirements for selected agricultural processing industries.
2. To determine the economic feasibility of selected industries for North Dakota communities.

The total number of people in North Dakota has changed little in the past 20 years as contrasted with a 36.6 per cent increase for the United States. The number of rural farm people has decreased 37.5 per cent in North Dakota and 48.8 per cent in the United States during the period 1940 to 1960. This decrease in North Dakota has been somewhat offset by an increase of 68.8 per cent in the urban population and a 12.5 per cent increase in the rural nonfarm population. Adjustments in social and

economic institutions are called for in the rural areas of decreasing population as well as in the urban areas of increasing population (Table 1).

TABLE 1. POPULATION CHANGES, NORTH DAKOTA, 1940 TO 1960

Residence	1940		1950		1960	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
Urban	131,923	20.6	164,817	26.6	222,708	35.2
Rural Nonfarm	182,514	28.4	200,332	32.3	205,340	32.5
Rural Farm	327,498	51.0	254,487	41.1	204,398	32.3
Total Population	641,935		619,636		632,446	

Source: United States Department of Commerce, Bureau of the Census, U.S. Census of Population, 1940, 1950, and 1960.

The youngest and oldest age groups had considerable increases during this 20-year period while the total population was fairly stable. The 40- to 64-year-old group remained relatively constant, whereas the most productive age group (15 to 39 years old) had considerable decreases in numbers as well as in per cent of the total population (Table 2).

TABLE 2. AGE GROUP DISTRIBUTION, NORTH DAKOTA, 1940 TO 1960

Age Group (years)	1940		1950		1960	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
0-14	190,590	29.7	192,176	31.0	217,685	34.4
15-39	259,207	40.4	227,818	36.8	199,614	31.6
40-64	152,748	23.8	151,446	24.4	156,556	24.8
65 & over	39,390	6.1	48,196	7.8	58,591	9.2

Source: United States Department of Commerce, Bureau of the Census, U.S. Census of Population, 1940, 1950, and 1960.

There was an overall increase of 6.9 per cent in the number of households from 1950 to 1960. The average number of persons per household decreased from 3.70 in 1950 to 3.55 in 1960 (Table 3).

TABLE 3. NUMBER OF HOUSEHOLDS, NORTH DAKOTA, 1950 AND 1960

Residence	1950	1960	Per Cent Change, 1950 to 1960	Persons Per Household, 1960
Urban	45,150	63,110	+39.8	3.34
Rural	117,034	110,252	-5.8	3.67
Total	162,184	173,362	+6.9	3.55

Source: United States Department of Commerce, Bureau of the Census, U.S. Census of Population, 1950 and 1960.

The net out migration during the 1940's was equivalent to 18.8 per cent of the 1940 population and the net out migration during the 1950's was equivalent to 16.9 per cent of the 1950 population. During the 1950's, the state of North Dakota "lost" slightly more than 10,000 persons per year from out migration. This continued out migration has implications for the many facets of the social, political, and economic organizations in North Dakota. Adjustments are needed in schools, churches, political representation, businesses, public utilities, taxation, land use and resource use (Table 4).

TABLE 4. TOTAL POPULATION, NATURAL INCREASE, AND NET MIGRATION, NORTH DAKOTA

1940 to 1950		1950 to 1960	
Population (1940)[a]	642,560	Population (1950)	619,636
Population (1950)	619,636	Population (1960)	632,446
Ten-Year Change	-22,924	Ten-Year Change	+12,810
Excess of Births Over Deaths, 1940-1950	98,089	Excess of Births Over Deaths, 1950-1960	117,635
Net Migration	-121,013	Net Migration	-104,825
Per Cent Net Migration	-18.8	Per Cent Net Mirgration	-16.9

[a]The 1940 Census figure was adjusted to include the out-of-state college students as residents at the location of the institution they were attending in order to adjust to the 1950 Census definition.

Source: "Population Changes in North Dakota Counties," North Dakota Farm Research, September-October, 1954, pp. 3-10.

"Population Changes in North Dakota Counties, 1950-1960," North Dakota Farm Research, July-August, 1961, pp. 13-17.

Agriculture provides more jobs than any other industry group in North Dakota. In 1950, 44.2 per cent of the employed persons were engaged in agriculture. This had decreased to 32.8 per cent of the employed labor force in 1960. Continuing adjustment trends from such forces as mechanization and technology are likely to further reduce the needs for farm labor in the future (Table 5).

TABLE 5. EMPLOYMENT BY INDUSTRY GROUPS, NORTH DAKOTA, 1950 AND 1960

Industry Group	1950 Number	1950 Per Cent	1960 Number	1960 Per Cent	Per Cent Change 1950 to 1960
Agriculture	98,905	44.2	70,129	32.8	-29.0
Mining	756	.3	2,017	.9	167.2
Construction	11,256	5.0	11,426	5.3	1.4
Manufacturing	6,519	3.0	7,856	3.7	16.5
Trade (wholesale and retail)	39,580	17.7	42,975	20.2	8.6
Services (including domestic)	44,130	19.8	50,857	23.8	15.2
Education	10,083	4.5	14,108	6.6	39.9
Public Administration	8,336	3.7	10,317	4.8	23.8
Others and Not Reporting	3,977	1.8	3,976	1.9	
Total Employed	223,542	100.0	213,661	100.0	-4.4
Total Unemployed	8,811		12,658		43.7
Armed Forces	234		4,335		
Total Labor Force	232,587		230,654		-.8

Source: United States Department of Commerce, Bureau of the Census, U.S. Census of Population, 1950 and 1960.

The above figures show that other industries are not providing additional employment opportunities within the state to offset these reductions in agriculture. The other basic industries of mining and manufacturing combined provided only 3.3 per cent of the jobs in 1950 and increased slightly to 4.6 per cent in 1960. The total number of persons employed in civilian occupations declined by 4.4 per cent although there was a 2.1 per cent increase in the population during this 10-year period.

The average acreage per farm has increased by 20 per cent, while the number of farms in the state has decreased by 16 per cent from 1949 to 1959.

This increased size coupled with the higher land values has more than doubled the value of the average farm during this period (Table 6).

TABLE 6. NUMBER, SIZE, AND AVERAGE VALUE OF FARMS, NORTH DAKOTA, 1949-1959

Item	1949	1954	1959
Number of Farms	65,401	61,943	54,928
Average Size (acres)	603	676	755
Value of Land and Buildings Per Farm (dollars)	18,011	24,505	39,569

Source: United States Department of Commerce, Bureau of the Census, U.S. Census of Agriculture, 1959.

Although there has been a considerable decrease in the number of farms, there has been a slight increase in the number and per cent of farm operators working off their farms (Table 7).

TABLE 7. FARM OPERATORS BY OFF-FARM WORK, NORTH DAKOTA, 1949-1959

Farm Operators Working Off Their Farms	1949		1954		1959	
	Number	Per Cent	Number	Per Cent	Number	Per Cent
(days)						
1-49	8,919	13.7	8,898	14.4	7,842	14.3
50-99	1,935	2.9	1,869	3.0	2,486	4.5
100 or more	4,563	7.0	4,452	7.2	5,610	10.3
Total Reporting	15,417	23.6	15,219	24.6	15,938	29.1

Source: United States Department of Commerce, Bureau of the Census, U.S. Census of Agriculture, 1959.

Some of the factors that have contributed to changes in the public schools are a decreasing rural population, improved roads and better transportation, state legislation, and a general desire for more adequate school

facilities and educational opportunities. There has been a 40.5 per cent decrease in the total number of school districts and a 49.6 per cent decrease in the number of schools operated during the 13-year period from 1947 to 1960 (Table 8).

TABLE 8. NUMBER OF SCHOOL DISTRICTS AND SCHOOLS, NORTH DAKOTA, 1947-1960

Year	Number of School Districts	Number of Schools
1947	2,271	3,501
1950	2,250	3,272
1955	2,055	2,964
1960	1,351	1,763

Source: Biennial Reports of the Superintendent of Public Instruction, Bismarck, North Dakota, 1960.

The decreasing number of rural farm people has resulted in a smaller number of active open country churches. During the more recent years, the increases in city located churches has about offset the decreases in open country located churches (Table 9).

TABLE 9. NUMBER OF NORTH DAKOTA CHURCHES BY LOCATION, 1926-1960

Location[a]	1926	1936	1955	1960	Change, 1926-1960 Number	Change, 1926-1960 Per Cent
Open Country	877	740	523	466	-411	-47
Village	1,227	1,186	1,338	1,258	+31	+3
City	168	171	238	297	+129	+77
State Total	2,272	2,097	2,099	2,021	-251	-11

[a]A village is defined as a place of less than 2,500 inhabitants and a city as over 2,500.

Source: Religious Census of North Dakota, 1955 and 1960.

Communities may be classified as growing, static, or declining in activity and population. Some community leaders are alert to the forces that are causing these changes. Many of these leaders are asking for information that will prove helpful in arriving at solutions to their resource adjustment problems.

Technological changes in agriculture are likely to continue to reduce farm labor requirements and to result in a continuing movement of people out of agriculture.[1] This excess labor resulting from the decreased labor requirements on farms could be utilized in the local communities if employment opportunities were available. However, since very few alternative employment opportunities are available in many rural communities, people leaving the farms have often left the state. Some of the economic pressures resulting from farm population losses could be relieved if additional non-farm employment opportunities were available in economically feasible industries within North Dakota.

Previous research has indicated that agriculturally related industries would have the greatest potential for most North Dakota communities. The agricultural sector of the economy presents a large and expanding market for many products of industry and is an important market for many types of services, as well as providing employment for large numbers of the population who market and distribute agricultural products.[2]

---

[1] The North Dakota Economy, North Dakota Agricultural Experiment Station Bulletin 428, Thor A. Hertsgaard, Fred R. Taylor, Alvah R. Tetrault, Oct. 1960.

[2] Ibid., p. 14.

Many North Dakota communities, through the activities of such agencies as the North Dakota Economic Development Commission, the Small Business Administration, and such programs as the Rural Area Development Program, Community Betterment Programs, and Area Redevelopment programs, have been encouraged to consider the establishment of some type of agricultural processing industry. This would result in greater non-farm employment opportunities in local communities. Several alternatives may be used by communities to attract or establish an industry. These are:

1. Attempt to attract outside industry to the community.
2. Finance and establish an industry using local capital.
3. Provide a building or part of the capital to attract outside industry.
4. Obtain an agreement for some regional or national industry to market the products produced by the local industry.

Processing plants of various types have already been established in a number of North Dakota communities. These include cheese plants, dry milk plants, potato flake plants, slaughter plants, brewery, feed processing plants, straw processing plants and others related to the agricultural output of the community.

The report, "A Survey and Study of North Dakota's Potentials for Industrial Economic Development," prepared by the Engineering Experiment Station as a part of this study discusses the distribution of small plants in North Dakota in Chapter III. This study lists sixty-two plants fabricating metal products, four foundaries, thirty-seven plants manufacturing farm machinery and equipment, and one hundred-forty repair shops.

The study also reports approximately 2,200 plants were engaged directly in the processing of agricultural products. It reports that some 153 companies of the 313 contacted were engaged primarily in sales and service industries.[3]

Increased emphasis on livestock and poultry production as a means of supplementing and increasing the income of North Dakota's cash grain farms may well lead to increased opportunities for the expansion of allied industries.

---

[3]A Survey and Study of North Dakota's Potentials for Industrial Economic Development, Engineering Experiment Station, North Dakota State University, Fargo, North Dakota, March 1964.

PART I - GUIDES FOR RESOURCE DEVELOPMENT

Sound, adequate, forward-looking planning is essential for successful community resource development. The success of a resource development effort will depend primarily upon the adequacy of the planning, the cooperation, imagination, enthusiasm, initiative and leadership of the local people.

Guides to help communities compare the resources, facilities, and services available with the resource requirements of potential industries will aid in securing industries best adapted to the local situation. This procedure will avoid the dissipation of time, energy, and money in attempting to secure industries with limited potentials for success. This part of the study presents in step-by-step fashion certain guides to orderly, constructive and successful evaluation and development.

Suggested Procedure for Organizing a Resource Development Committee

The social and economic conditions of an area are seldom so good that they cannot be improved. The type of development needed to build communities will vary by areas and regions, but the need for improvement exists in all areas. The changing nature of conditions around us, plus the ever present desire to obtain a higher level of living, give rise to a constant need for adjustment, growth, and expansion.

The success of any resource development effort will depend on the effectiveness of the working organization. An appropriate organizational structure is necessary for efficient social action and leadership development.

Persons undertaking the task of organizing development groups should consider the following guides:

1. The purpose of an organization is action to accomplish something. Development organizations should serve as a means of enabling people to accomplish given ends.
2. No two situations require exactly the same pattern of organization for resource planning and action.
3. Resource development will involve many projects which must be coordinated. This coordination function can be more effectively provided by a basic organization that has some degree of continuity rather than a separate organization for each project.
4. Resource development activities usually will require action and, therefore, organizations at several different levels. Common basic levels are the community, the county, multi-county districts, and the state.

A successful resource development program requires the concerted efforts of all groups, agencies, organizations, and individuals in an area. The success of community or area resource improvement will depend primarily upon the imagination, enthusiasm, initiative, and leadership of the local people. If these traits are lacking in an area, little can be accomplished by outside assistance and motivation.

Some of the characteristics of a progressive community include:

1. Leaders who recognize the many aspects of the entire community

2. Citizens who have the desire and ability to motivate economic and social improvements
3. Institutional arrangements conducive to effective solution of problems, and
4. A strong sense of community loyalty.

Decision making and action for economic and social improvement occur at five different levels. These are: the family, municipal and/or county groups, multi-county groups, state organizations, and federal organizations. Each of these has a sphere of influence and can most effectively operate within that sphere. Attempts to create action programs outside of its domain often result in frustration and failure.

Many organizations, groups, and agencies in a community may be engaged in various aspects of economic or social development. These varied activities may be coordinated by the organization of a resource development committee or council at the community, county, or area level. The procedure for the organization of a resource committee may be applicable to either of the three levels. However, the projects, goals, and programs may vary greatly from one level to another.

Guide to Establishing a County Resource Development Program

The following steps are suggested as a general guide in establishing a County Resource Development Program.[4] Local conditions will determine the variations from this procedure that may be more successful. Local

[4]Considerable material for this guide was secured from Suggested Guidelines for Extension's Organizational and Educational Responsibilities in the Rural Areas Development Program, AO-125 (6-61), Federal Extension Service, United States Department of Agriculture, Washington, D.C.

community betterment and area development groups may use a similar process. Local communities should rely upon an established organization to sponsor the initial phases of this procedure at the local level, while the Extension Service assumes this responsibility at the county level.

Step 1

The County Extension Agent calls a meeting of the key leaders in the county when sufficient interest appears present.

These leaders should include representatives from farm organizations, agricultural agencies, county government, credit and banking, Chambers of Commerce, newspapers, community betterment groups, schools and churches. This group should determine the potentials of a county-wide resource program. Major topics to be reviewed in determining this potential are: the present economic situations, major problems, long-range trends, type of organization, means of gaining support, and the procedure for maintaining a program. Invitations to representatives of all major interest groups are provided by these key leaders. They select a temporary chairman.

Step 2

The temporary chairman calls a meeting of the invited representatives from all major interest groups in the county. This representation will serve as the nucleus of the County Resource Development Committee. Membership should be from farm organizations, churches, business, industry, credit and banking, news media, schools, county and town government, health and welfare groups, government agencies, women's clubs, youth groups, community betterment committees, civic and service clubs, and other organizations.

The key leaders present material describing the county situation. Outside resource personnel may be helpful in this phase. Information should include agricultural and industrial trends plus economic, social, and educational problems that may be more adequately solved through a program of resource development.

Step 3

A County Resource Development Committee should be organized from this nucleus of leaders. An overall chairman and secretary should be elected. Subcommittees for various phases of development should be selected. This may consist of a relatively small number since as agricultural development, business and industry, and social and civic services. Committee selections including leaders presently engaged in development activities are recommended. Groups already active in development should be utilized.

Additional subcommittees may be organized or appointed as the activities and projects increase in depth and scope. Subcommittees should be set up according to the need to work on given problems or projects rather than setting up a large number based on a predetermined list of subjects or commodities. A technical panel consisting of governmental agency employees at the county level may be organized to serve as an advisory group.

Step 4

Publicity should be prepared to adequately inform the public of the need for a program. Keeping the public informed of the activities and

projects of this program will be valuable in gaining and maintaining their interest and support.

Step 5

Subcommittees have the general responsibility for planning and completing resource surveys and economic studies in their area of interest. Much factual information can be assembled from secondary sources to guide committees in their deliberation and planning for projects.

Surveys of the community resources including educational, water, sewer, power and other community facilities will provide primary data not available from other sources. It is also important to survey the business facilities, the labor supply, the housing available and area served by the community.

The resource materials assembled should be evaluated by the sub-committees with outside specialists if needed. This inventory should present a physical and economic picture of the area. It should indicate some of the development trends that may need to be accelerated or retarded.

The assembled information can be used to determine the facilities available or not available, the areas of strength and of weakness, industries which the present resources will handle and those which require more than is presently available. It will also indicate improvements that must be considered if there is sincere interest in providing resources required by industries who require certain resource minimums which are not now presently available.

Step 6

The resource materials assembled, evaluated and inventoried in Step 5 should be presented to the entire Resource Development Committee for its consideration. The people of the county should also be adequately informed of the implications and potentials indicated by the survey findings.

Step 7

Specific program goals that may accomplish the desired adjustments should be determined by the Resource Development Committee. Short-range goals that may be achieved within a year or two will provide committees with examples of success and stimulate their continued interest. Short-range goals might include increased fertilizer use, improved recreation programs, additional adult education courses, home and business improvements, home beautification, and other short-run programs easily accomplished.

Long-range goals may require up to 10 years or longer to achieve. Many of the adjustments and developments that may have the greatest impact on the area will need a longer development period. Long-range goals might include industrial development, area livestock expansion, tourist industry expansion, formation of an active development corporation, and civic and community improvements of a long-run nature.

Step 8

Subcommittees will need to implement action programs to reach the determined objectives. Facts must be secured that will help determine the feasibility of the projects. Interest must be stimulated to insure the support of the general public. Technical and financial assistance must

be obtained for the planned project. An overall evaluation of the many factors that may determine its success or failure must be made before activating the planned project. Finally, the planned course of action should be completed, the results evaluated, and the plans adjusted accordingly.

Functions of a County Resource Development Committee

A County Resource Development Committee should serve several major functions:

1. Coordinate efforts of county-wide groups
2. Coordinate efforts of local community development groups
3. Study problems and undertake projects which affect the development of the whole county.

Certain basic factors should be recognized by groups initiating a rural resource development program. The program should be realistic in terms of the quantity and quality of potentially available resources. The attitudes, opinions, wants, and desires of the people involved should have primary consideration in the development of a program.

Resource Development Program Summary

1. An inventory of the human, physical, and institutional resources of the area
2. An analysis of the recent changes and trends indicated by the resource inventory

3. An evaluation of the present resource base to help indicate those developments that may have the greatest potential for success
4. An organization of working committees to conduct the program and coordinate activities
5. A determination of the necessary projects and improvements that are consistent with the goals and objectives of the people
6. Adequate publicity to properly inform the public of proposed developments
7. A program of information and publicity to secure proper community cooperation
8. A community action program to carry out plans
9. A continuous evaluation of the planning, action phase, and results of the program.

Guides to Fact Surveys

A Resource Development Program should start from the present resource base. This emphasizes the need for a comprehensive inventory and analysis of the physical and human resources presently available.

There are important values in going through a fact-finding procedure. Facts are the basic tools needed in planning for effective development projects. The fact-finding process serves to develop teamwork and identify new leadership. More local people are given an opportunity to participate in the program through surveys, discussions, and committee assignments. Fact finding promotes a greater and broader understanding of local resources

and problems by the participants. Fact-finding operations therefore help contribute to understanding, teamwork, and community readiness to support a development program.

The various categories of facts which should be considered include:

1. The human resources
2. The physical aspects of an area
3. Other social and economic institutions.

The most satisfactory type of resource development program consists of the coordinated considerations of these phases. The primary emphasis should be on the people of the area. Economic and social adjustments must be consistent with their goals and objectives.

An inventory of the resources of an area should be compiled in the early stages of a program. This fact survey will help provide basic information necessary for the determination of sound development. A considerable amount of data may have been compiled previously or much of it may be secured from secondary sources such as the federal censuses, state research reports, and other publications.

The suggested resource inventory presented below is designed as a guide to the systematic collection of data which may be the most helpful in appraising the resources and determining the future development of an area.[5] Various area committees need not follow this outline exactly, but may select the specific information that their survey time and funds may allow.

---

[5]Drawn heavily from Suggested Content of an Overall Rural Areas Economic Development Program, Office of Rural Areas Development, United States Department of Agriculture, Washington, D.C., June, 1961.

Suggested Outline of a Resource Inventory Survey

I. Human Resources

A. Population changes during past twenty years, by ten-year intervals

1. Rural farm
2. Rural nonfarm
3. Urban

B. Population characteristics during past twenty years, by ten-year intervals

1. Age group distribution
2. Sex distribution
3. Educational attainment

C. Net migration by ten-year intervals

D. Dependencies ratios during past twenty years, by ten-year intervals

1. Persons 0-14 compared to number 15-65 years old
2. Persons over 65 compared to number 15-65 years old

E. Distribution of farm and nonfarm families and/or consumer units by income levels (most recent year available)

F. Composition of labor force during past twenty years, by ten-year intervals

1. Employment by major occupation groups
2. Employment by industry groups
3. Unemployed
4. Employment potential of unemployed and underemployed

G. Historical background, traditions, and attitudes of the areas populace

II. Physical Resources

A. Physical factors

1. Geographic location
2. Topography
3. Weather and climate

a. Temperature
b. Rainfall
c. Humidity

B. Agricultural

1. Number and size of farms during past twenty years, by five-year intervals
2. Value of investment per farm
3. Economic classes of farms
4. Soils maps
5. Land use (changes during past twenty years)
6. Crop acreage and production during past twenty years
7. Livestock and poultry numbers and production during past twenty years
8. Projected number of farms to some future date
9. Forestry resources
10. Agricultural raw materials with potential for processing

C. Non-Agricultural

1. Mineral resources (lignite, natural gas, oil, peat, bentonite, clay, sand and gravel, limestone, salt, sulfur, sodium sulfate, uranium, etc.)
2. Water resources
3. Wildlife
4. Scenic or recreational resources
5. Other undeveloped natural resources
6. Firms and industries by type and employment

III. Service, Institutional and Marketing Resources

A. Power and fuel available

1. Electrical
2. Fuel and gas
3. Coal

B. Transportation and communications

1. Railroads
2. Highways and truck service
3. Bus system
4. Airports and air service
5. Mail service
6. Telephone
7. Telegraph
8. Radio and television
9. Newspapers and periodicals
10. Warehouses
11. Storage

C. Water and sewage facilities

D. Agricultural marketing facilities

E. Trade and service facilities

1. Wholesale trade firms
2. Retail trade firms
3. Service businesses
4. Tourist trade
5. Professional services

F. Financial institutions

1. Commercial banks and aggregate deposits
2. Savings institutions and aggregate deposits
3. Other credit facilities

G. Schools and colleges

H. Hospitals and clinics

I. Health services

J. Public welfare

K. Other community services and facilities

1. Churches
2. Libraries
3. Recreation, parks, and playgrounds
4. Entertainment
5. Cultural
6. Police
7. Fire protection
8. Hotels and motels
9. Housing
10. Fraternal and social clubs

L. Other civic affairs

1. Government (type, attitude to industry)
2. Taxes (state and local)
3. Bonded indebtedness
4. Civic organizations
5. Zoning regulations

IV. Locational Resources

A. Raw materials

B. Markets

C. Trade area

D. Potential consumers of recreational services

V. Economic Development Potential

A. Trade area

1. Unavailable goods or services that may be added to improve the local economy
2. Expansion of the trade territory

B. Prospects of present industries

1. What industries have been successful?
2. What industries have been unsuccessful?
3. Are there major disadvantages to present industries?
4. What expansion possibilities exist for present industries?
5. Can agriculture expand various enterprises?

C. Prospects for new industries

1. What advantages are present for various types of industries?
2. How does the area rate on the following basic industrial location factors?

a. Procuring materials
b. Markets
c. Transportation and distribution facilities
d. Favorable competitive position
e. Labor
f. Availability of financing
g. Power
h. Industrial fuel
i. Water
j. Sewage disposal
k. Plant site
l. Community characteristics
m. Others

3. What improvements in facilities are needed?

   a. Transportation
   b. Utilities
   c. Industrial sites
   d. Business center
   e. Other

4. Can the industrial base be improved by:

   a. Organizing a Development Committee
   b. Formation of an Industrial Development Corporation
   c. Advertising the area
   d. Assembling a list of prospects and contacts for potential industries
   e. Engaging an industrial development consultant
   f. Enlisting the help of utility and railroad company industrial development departments

The above outline has suggested the major topics to be considered in compiling a resource inventory of an area. The various aspects of these topics will be further discussed in the following section.

Human Resources

The number and kind of people has a great influence on the types of social and economic activities of an area. The survey of human resources should show the past and present characteristics of the people and their economic situation in terms of income. What were the changes in number, age groups, sex distribution, and educational attainment of the population during the past twenty years by ten-year intervals? What were the changes in population by classification of rural farm, rural nonfarm, and urban persons? Has there been a net out migration from the area? What factors have been instrumental in motivating the changes shown in this inventory compilation? What is the present income situation in the area? What have been the trends in employment? What changes have taken place in the labor

force by types of occupations? Do the unemployed and underemployed possess adequate skills for potential employment? What do these trends indicate if projected into the future? Do the historical background, tradition, and present attitudes of the local people provide a favorable "tone" for resource development?

One of the most important resources of an area is the local people. It is difficult to tabulate the many attributes of the local population that may be instrumental in giving impetus to a successful program of resource development. The enthusiasm, capabilities, and cooperation of local leaders may be of equal or greater importance than many of the measurable items that have been suggested in the inventory. Generally, past performance and present attitudes may be the best measure of this factor.

Physical Resources

A description of the physical features of the area such as geographic location, topography, and climate should be included.

The primary industry of most areas in North Dakota is agriculture. It is, therefore, important that the past and present status as well as the future potential of this basic industry be adequately considered. Have farm operations adjusted to permit the adoption of new technologies and efficiencies? Does present land use, crop and livestock production indicate that there are possible changes in resource combinations that may increase the income of the area? Are proper adjustments made in agricultural enterprises consistent with changing interregional production advantages and

price patterns? What agricultural enterprises indicate a comparative advantage for expansion? How many farms could or should this area contain that would provide the farm family with an adequate livelihood?

Information on mineral resources and others may be difficult to secure. Consultations with industry representatives and government agencies concerned with the specific resource should be helpful. What industries are presently utilizing the physical resources of the area? What physical resources are present in quantity, quality, availability, and cost that offer potentials for development?

Service, Institutional and Marketing Resources

Communities and areas need many different types of services, utilities, and facilities. These items should be evaluated to determine whether they are adequate for present as well as future needs of the area.

Are power and fuel available at satisfactory rates from a dependable source with a minimum fluctuation in supply? Are transportation and communication facilities and services adequate for the area? Are freight rates and services acceptable to existing industry and potential expansion? Are the supply, quality, and cost of water satisfactory? Are facilities adequate for the proper disposal of sewage and other wastes?

Are marketing facilities for agricultural products efficiently organized to provide the needed services? Are there opportunities for establishing new retail, service, wholesale, tourist or professional services and establishments in the area to provide an unfilled need? Have the present facilities and services adjusted to the changing situations? Are there any types of professional services or facility which the area needs such as credit facilities, legal services, and so on whose presence might attract people to the area for other goods and services?

Are satisfactory educational opportunities provided for the area by public and private schools? Are counseling and guidance, adult education, trades and vocational training, and higher education available in the area? Is attention given to drop-outs, the handicapped, and the retarded? What facilities are available in the area for education, health, religious and social life, recreation, and professional services? Are these facilities adequate to provide the desired services? Are other services such as fire and police protection adequate?

What is the attitude of the local government toward industry? What are the major sources of income to provide revenue for local government expenditures? What are the state, county, and local assessment levels for various taxes? What is the financial indebtedness of the local government?

Every small town cannot expect to provide all the services and facilities that local residents desire. The cooperation of a number of these smaller towns in a combined effort may result in such advantages as more specialized medical facilities, enriched school programs, additional recreational and cultural activities, and more complete banking services than would be possible on an individual basis. Likewise, the cooperation of smaller towns with a larger central city to provide such services may be mutually beneficial.

Locational Resources

The various locational advantages with respect to such factors as raw materials, nearness to markets, and other natural resources should be determined. These locational resources should be helpful in determining the type of goods for which the area may have a comparative advantage in producing, processing, or manufacturing. What physical resources are readily available in quantity and quality that may provide a cost advantage compared to other areas of supply?

What is the trading area--cities, counties, or states--generally served by existing processors, manufacturers, wholesalers, and retailers? Does this market area provide advantages of location relative to transportation and distribution costs or delivery time from the plant to the customer? What is the population, purchasing power, and other characteristics of the market area?

Economic Development Potential

Information compiled in this section should be beneficial in determining how to strengthen the economic base. The economic base of the area may be improved through:

1. An expansion of those crop and livestock enterprises for which the area has a comparative advantage
2. Improvements in the levels of efficiency within agriculture
3. Improvements in the levels of efficiency of retail and service establishments in the area
4. Added facilities for goods and services presently not available in the area that may attract additional customers
5. Expanding those industries that are presently successful.
6. Processing locally produced raw materials for local and other markets
7. Producing or fabricating other locally consumed products that are now imported

8. Obtaining a new factory or branch plant for the local area
9. Concentrating on enterprises and industries for which the area has a locational advantage
10. Developing possible scenic or other tourist attractions.

In addition to the basic data and primary comparisons which are suggested in the outline, subjects for more detailed investigation will present themselves as the primary data are collected and analyzed. These should be incorporated into the inventory survey if possible, unless they tend to retard the analysis and publication of more vital material. The attempt to include too much in an inventory survey may be equally as serious an error as collecting too little information.

A survey can consist of an extensive study of the needs and resources of an area involving a large professional staff or it can be a brief study of a particular situation. Between these extremes are the many possibilities of the extent of a survey.

For example, a relatively simple mail survey may be sent to area residents patronizing the community business establishments. This survey may consist of just two questions as follows:

1. What are your criticisms of and suggestions for improving industries, businesses, stores, shops, trade and professional services, and labor now in the area?
2. What new facilities and services do you think are needed and would be supported?

The tabulation of replies to this mail survey could provide valuable suggestions to be pursued by action committees.

The local resource development committee should view the resource inventory as the beginning of a program and not the end of their study. The resource inventory can be used by the committee as follows:

1. To provide a comprehensive catalog of the area's resources
2. To provide the basic information for an evaluation of these resources
3. To provide the basic information for an analysis of changes and trends
4. To provide information helpful in determining goals and objectives for social and economic growth
5. To provide information for making projections about the future of the area
6. To provide the information useful in selecting economic activities which appear to have some local growth potential

Guide for Evaluating an Area's Resources for Industrial Development

Resource development committees can aid the expansion of existing industries and the establishment of new industries that will provide additional job opportunities and strengthen the local economy. These efforts will be more effective if they are based on a thorough analysis of the particular advantages and opportunities the area offers as a location for specific types of industries.

One of the greater potentials for industrial development in North Dakota may be the processing of agricultural commodities. It becomes difficult to relocate or costly to remodel a plant for a change in operations after a plant has been established. Consequently, it is essential to carefully consider the many aspects that may have an effect on the overall operating success of a firm. The decision to establish a processing plant should be based upon the careful evaluation of a great many economic and technical factors.

A guide, shown on page 37, has been designed to assist development committees in analyzing the major requirements that should be considered before investing in a processing operation. The checklist may indicate factors that would require corrective action before a plant would be feasible. A similar analysis may be used for evaluating the potential of other types of industries.

A major factor not included in the checklist is management. This includes coordination of the many phases of production and marketing needed for a successful operation. All other factors required for successful operation may be available, but without proper management failure generally results.

Raw Materials

Consideration should be given to the availability of the necessary raw materials in suitable quantity, quality, and accessibility at satisfactory prices. Related operations that may compete excessively for needed raw materials should be recognized. The long-term production outlook for the supply of raw materials should be carefully estimated. The

CHECKLIST

Major Factors to Consider in Determining if it is Practical to Establish a Processing Plant in this Community

Type of Operation_____

Size of Operation_____

Factors	Required for Operation	Available		If No, What Action is Needed?
		Yes	No	
1. Raw materials				
2. Markets				
3. Transportation facilities				
4. Distribution facilities				
5. Favorable competitive position				
6. Labor				
7. Availability of financing				
8. Power				
9. Industrial fuel				
10. Water				
11. Sewage disposal				
12. Plant site				
13. Community characteristics				
14. Others				

adequate procurement of other materials and supplies needed in this operation are also important.

Markets

One of the most important factors to consider is the availability of a ready market for the goods produced. Locational advantages may be realized for nearby population centers. Product consumption trends, population changes, consumer characteristics, and market commitments within the proposed marketing area should provide information valuable in assessing the market potentials.

Transportation Facilities

An analysis should be made of the needed transportation facilities--rail, water, highway, pipeline, or airway. Are there seasonal interruptions of service? Are the rates and services acceptable to the planned major market areas?

Distribution Facilities

It should be determined if adequate services are available for the storage, grading, and distribution of the produced goods. Are terminal facilities, financial services, and other aids to the efficient movement of goods and transfer of ownership available?

Favorable Competitive Position

The primary objective of an industrial enterprise is to deliver the product to the customer at a cost equal to or less than that of competitors. Costs will depend upon the combination of resources and the levels of

efficiency attainable through proper management. This cost of goods will depend upon the cost of procuring the materials, fabricating the materials, and distributing the finished product to the consumer. An estimated cost figure should be computed to indicate the competitive position in relationship to existing operations and markets.

Labor

The work force initially needed on a full-time, seasonal, or part-time basis should be determined. What amount of skilled, semi-skilled, and common labor is needed at what wage levels? The work habits and attitudes of prospective workers may be more important than the skills they already have. Specialized training can be given new employees. Is there an adequate supply of dependable and productive workers available in the area?

Power

Is there a dependable source of electrical power available to supply the requirements of this operation? Are the industrial rates acceptable to this industry?

Fuel

Determinations should be made of the type of industrial fuel that may be most economical to use. This will require information relative to the source, supply, analysis, and cost of electricity, coal, oil, and natural gas.

Water

The present and potential sources of water should be adequate for present and future needs. The water supply should be of the proper quality and available at satisfactory rates.

Sewage Disposal

Adequate facilities are needed for the proper disposal of sewage and other wastes. Does this operation require special facilities to properly dispose of sewage and wastes? Are the present facilities adequate or will additional investments be needed?

Financing

The capital needed for buildings, equipment, operating, and inventories should be determined. Proper planning and budgeting to insure adequate sources of financing is essential to the success of the operation.

Plant Site

Various features of the plant site should receive consideration. The plant site should consist of an area adequate in size for buildings, storage, parking, and possible expansion. Drainage, ground water level, and soil bearing capacity should be satisfactory. Transportation facilities and utilities need to be accessible. Industrial zoning may be beneficial. Determination of the features needed for the plant structure will provide information relative to the possibility of using present structures. The costs and terms for the lease or purchase of buildings and site should be considered.

Community Characteristics

Community services and attitudes have a considerable bearing on the possible success of an industrial enterprise. Taxes, laws, regulations, attitudes and services may range from wholehearted cooperation to outward hostility toward the industrial enterprise. Many of these factors are difficult to measure in monetary terms. An assessment of past experiences may be helpful in determining these factors in a community.

Others

Various other factors of special importance to a certain industrial enterprise may require consideration. These may include specific repair facilities, technical services, police protection, or special fire protection needs, and others.

Communities seek to attract new industries to increase tax revenues, provide job opportunities for unemployed or underemployed residents, and diversify the economic base. The economic structure of the community may be weakened rather than improved by:

1. Speculative industries that attract additional employees to the area only to leave them unemployed if the venture fails
2. Seasonal industries that do not complement existing employment patterns resulting in periods of increased seasonal unemployment
3. Industries that demand tax concessions, free plant facilities, or other inducements beyond the community's ability to afford them

4. Industries that may require sewage, water, and utilities that cost the community more than the benefits derived from the industry locating in the community
5. Industries that are unwilling to bear their share of taxes and to support community betterment activities

Procedural Steps in Evaluation Process

A step-by-step procedure that considers the resources, facilities, and services available in a community compared with the requirements of potential industries would be beneficial. The use of this framework will be helpful to area development groups in selecting those industries that appear best adapted to the area's advantages. Groups can concentrate their efforts toward securing or developing these industries and avoid the dissipation of time, energy, and money on others with less chance of success.

The completion of the Resource Inventory Survey, previously outlined (pages 25-33), which includes the human, physical, service and marketing, locational and development potential of the area, should provide most of the essential information available about the area. Comparing the major factors required by various industries to those available as indicated by the area inventory will eliminate those industries from consideration for which the area cannot presently or in the future provide the needed factors. Factors required for different industries will vary in importance. Normally, the most essential factors will include the availability of raw materials and markets and costs which compare favorably with other locations.

For example, a sugar refinery should be located close to the required raw material, sugar beets; whereas, a soft drink bottling plant may procure extracts and flavorings from a considerable distance. Conversely, the sugar refinery may be located a considerable distance from its market, whereas the bottling plant should be relatively close to its market.

Proceeding through the list of basic factors in a similar fashion will help the development organization to select those industries with the greatest chance of success.

There is no magic formula for the strengthening of an area's economic base. Groups that will systematically inventory their advantages and concentrate on the industries that logically fit into this framework should show the most progress.

The following is a procedure that resource groups may follow in the systematic development of their economic base:

1. Compile an inventory survey of the area resources, facilities, and services.
2. Analyze the area's advantages for economic development.
3. Select potential developments through an appraisal of the area's advantages.
4. Determine as accurately as possible the various requirements for the enterprises selected for development.
5. Concentrate on a small number of developments that appear to have the best chance of success.

6. Recognize the limitations that may result in the failure of an enterprise as well as the favorable factors. If these limitations cannot be overcome for a certain enterprise, transfer the committee's efforts to another enterprise.
7. Continually evaluate the progress and procedures that may be useful in future efforts.

Application of Guides for Plant Selection

This section is addressed to the application of a procedure for fitting potential industries to the resource base and institutional arrangements unique to a specific community. The community example used is Walhalla, North Dakota, situated in Pembina County. The information and empirical data used are taken from an Industrial Fact Survey compiled in 1960.[6]

The Walhalla area is typical of many North Dakota communities in that the mixed farming operations include small grain and livestock production. The Walhalla area produces durum wheat, hard red spring wheat, oats, flaxseed, malting and feed barley. A significant amount of potatoes is also produced in this area. Livestock enterprises include beef cattle, beef feeding, dairy cows, sheep, and hogs.

The access to markets, on a competitive basis, is one of Walhalla's major problems. The sparsity of population in the surrounding area considerably limits the potential of the local markets. The town of

---

[6]Tetrault, Richard, Industrial Fact Survey, Walhalla, North Dakota Walhalla State Bank, September, 1960.

Walhalla has a population of 1,432 persons. The nearest metropolitan markets include Winnipeg, Duluth-Superior and Minneapolis-St. Paul.

Walhalla is served by a branch line of the Great Northern Railroad. Two truck lines and a bus line provide freight and passenger service over paved state highways. The municipal airport has three turf runways adequate for private aircraft. The enumeration in 1960 showed 591 persons in the town's labor force. In addition, there were 425 agricultural employees and 548 active farmers within a 10-mile radius of Walhalla.

The utilities available in Walhalla appear adequate except for sewage disposal. This will be rectified upon completion of a planned sewage lagoon system. Electrical power is supplied by Otter Tail Power Company. Various fuels such as coal, oil, and propane gas are available. Two surface wells have an approximate daily pumping capacity of 187,000 gallons of water. A ground water study revealed an unlimited aquifer of mineralized water at a depth of about 300 feet. Construction of the Pembilier Reservoir a short distance upstream from Walhalla on the Pembina River would also provide a dependable source of municipal water.

The Walhalla area has a number of mineral resources that include Fuller's Earth, cement rock, brick shales, sand, and gravel.

The economy of the Walhalla area is mainly based on its agricultural production. Consequently, efforts directed towards the improvement of the basic industry of agriculture or the processing of agricultural products may result in the fastest economic growth.

A preliminary comparison of the resources of the area compared with the major requirements of various industries can be beneficial. This

comparison may automatically eliminate many industries because they require basic factors which the area does not offer.

There are many types of industries that could be compared with the resources of the area in determining the potential for development. However, only three examples will be used to indicate the procedure that may be helpful. Obviously, the Walhalla area offers very little potential for the wood or paper products industries. The absence of stands of commercial timber for the needed raw materials would be a major limiting factor.

The potential of a concrete block plant and other bulky, heavy products whose value is low relative to weight may generally be eliminated. The major limiting factor would be the restricted market. Transporting these products to more distant markets may place this firm in an unfavorable competitive position.

Certain industries could be eliminated from consideration on the basis of an inadequately trained labor force. For example, many phases of the electronic industry require highly skilled technicians and considerable research facilities. The lack of a highly trained labor force may be one of the major limiting factors in establishing an electronic industry.

Two examples have been selected to provide a basis for illustrating the guides discussed previously. The two operations selected are potato flake processing and cheddar cheese production.

Pembina County generally produces about four million bushels of potatoes a year. The process of producing potato flakes reduces the

weight to about one-eighth that of the original potato. The basic requirements for a potato flake plant are discussed in Part II of this study, under the title "Potato Flake Processing" on pages 76-78. The case study on page 48 shows these requirements compared with their availability in the Walhalla area.

The main limiting factors appear to be markets, competitive position and sewage disposal. A marketing commitment with a national merchandising distribution concern may help insure proper movement of the finished product. This assumes that proper quality standards are maintained and that this quality product can be processed, transported, and delivered to the consumer at a price equal to or lower than competitors.

Sewage and waste disposal facilities could be jointly developed by the town and plant for their mutual benefit. A planned sewage lagoon system has been under consideration in Walhalla.

Another agricultural processing operation considered was a cheddar cheese plant. The case study on page 49 shows the basic requirements compared with their availability in the Walhalla area.

All the basic requirements appear satisfactory except the availability of the raw material, manufacturing milk. The production of milk that may be readily available for this plant appears limited. Until there is an increase in milk production, the establishment of a cheese plant would be impractical.

The examples provide a pattern for comparing the requirements with the resources available in the area. This procedure is not restricted to agricultural processing operations, but can be used to determine the feasibility of non-agricultural industries as well.

POTATO FLAKE PROCESSING CASE STUDY
WALHALLA, NORTH DAKOTA

Size of Operation 15,000 pounds of flakes per day

	Factors	Required for Operation	Available
1.	Raw materials	Field run potatoes, 1,200 cwt per day	yes
2.	Markets	15,000 pounds of potato flakes per day	(Market commitment must be secured)
3.	Transportation facilities	Rail, truck	yes
4.	Distribution facilities	Wholesale and retail	yes
5.	Favorable competitive position	(Must budget out depending on markets and production efficiency level)	
6.	Labor	35 employees (including office help) for bulk packing	yes
7.	Financing	Initial building $200,000 Initial equipment $290,000 Operating capital $119,025 per month	yes
8.	Electrical power	Estimated $50 per day	yes
9.	Industrial fuel	2,000 gallons per day	yes
10.	Water	6,240 gallons per hour or 150,000 gallons per day	yes
11.	Sewage and waste disposal	Liquids and potato waste disposal	no
12.	Plant site	33,000 square feet of building space	yes
13.	Community characteristics	Taxes, attitude, laws, and regulations	yes

CHEDDAR CHEESE PROCESSING CASE STUDY
WALHALLA, NORTH DAKOTA

Size of Operation 60,000 pounds of manufacturing milk per day

	Factors	Required for Operation	Available
1.	Raw materials	Manufacturing milk from 2,500-3,000 cows within a radius of 30 miles for can deliveries	(questionable)
2.	Markets	6,000 pounds of cheese per day	(Market commitment must be secured)
3.	Transportation facilities	Railroad and paved highway	yes
4.	Distribution facilities	Wholesale and/or retail	yes
5.	Favorable competitive position	(Must budget out depending on markets and production efficiency levels)	
6.	Labor	12 employees	yes
7.	Financing	Initial building $117,000 Initial equipment $ 81,300 Operating capital $ 1,986 per day	yes
8.	Electrical power	About 456 kilowatt hours per day	yes
9.	Industrial fuel	About 240 gallons per day	yes
10.	Water	8,700 gallons of water per day	yes
11.	Sewage and waste disposal	Liquids, whey, and wastes	no
12.	Plant site	9,710 square feet of building space	yes
13.	Community characteristics	Taxes, attitude, laws, and regulations	yes

The following advantages are offered by Walhalla for economic growth through industrial development:

1. An adequate source of dependable labor
2. Adequate sources of agricultural products such as small grains and potatoes
3. Satisfactory community characteristics conducive to industrial growth
4. Ample sources of water, power, and fuel
5. Freedom from congestion.

The following are disadvantages that may serve to retard industrial development in Walhalla:

1. The major metropolitan markets are quite distant.
2. The sewage disposal system is not completed.
3. The economy is primarily agriculturally orientated without any major industrial nucleus upon which to expand.

The conclusions which might be drawn for the Walhalla area are:

1. Primary emphasis should be placed on improving the basic industry, agriculture.
2. The greatest opportunity for industrial growth is through developing agricultural processing operations.
3. Other industrial development efforts should be directed at industries that produce high-value, lightweight products. This would help to overcome the unfavorable aspect of distant markets and high freight costs.

PART II. RESOURCE REQUIREMENTS FOR SELECTED AGRICULTURAL PROCESSING INDUSTRIES

The resource requirements and costs of selected industries become important guides which may be used by communities in appraising the suitability of industries for their communities.

Communities should consider the availability of raw materials, labor supplies, water and sewage disposal facilities, market outlets for the finished products, and investment and operating capital requirements. Consideration must also be given to the availability of an adequate volume of raw material and special needs and requirements of the industry.

This part of the study is intended to serve as a guide for communities interested in evaluating their potential for any industry examined in this report or alternative industries not discussed in this part of the study. Additional investigations and evaluations must be made by communities interested in industries not included in this study or for plants of specific sizes under different cost situations.

The research data used in this part of the study are in most instances the latest available in published form for the industry investigated. Most research studies on processing industries provide data on only one or a few operations and/or plant sizes. Therefore, it was necessary in many cases to refer to rather old publications to provide the guideline or benchmark data that were needed to illustrate resource requirements. These data must be used with care and are provided to serve as a starting point and illustrations of typical cost economies of scale and type of operation.

Butter Processing

Costs and requirements were considered separately for various size creameries depending upon whether they received farm-separated cream or whole milk (Table 1). The information was obtained from several studies conducted by the Minnesota and Iowa Agricultural Experiment Stations.

The Iowa studies determined that labor and equipment were the largest cost items.[7,8] The Minnesota study stated that administration and equipment were the largest cost items.[9] The difference can be partly explained because the Iowa studies allocated clerical and management salaries to labor expense while the Minnesota study had clerical and management salaries allocated to administration expense.

All three studies determined that economies of scale were present as plant size increased. The main items resulting in lower processing costs were labor, equipment, and buildings.

Processing costs were higher for whole milk creameries than for creameries receiving farm-separated cream. Larger capital investment and higher labor requirements were factors resulting in higher processing costs for whole milk plants. However, additional revenue would be realized from skim milk in whole milk creameries.

Labor requirements included all workers used for management, clerical, and operating labor in the creamery. Most part-time workers were employed on a half-time basis.

Fuel and electricity requirements for whole milk creameries were determined in the Minnesota study.[9] Daily fuel consumption ranged from 47 to 52 gallons for an annual volume of 457,580 pounds of butter and from 190 to 196 gallons for an annual volume of 3,204,063 pounds of butter.

Daily electricity requirements ranged from 153 to 176 kilowatt hours for an annual volume of 457,580 pounds of butter and from 798 to 826 kilowatt hours for an annual volume of 3,204,063 pounds of butter.

Building size varied among the various studies for similar plant capacities. Floor space for creameries receiving farm-separated cream increased from 2,400 to 10,368 square feet as annual volume increased from 360,000 to 2,880,000 pounds of butter annually.[7] Whole milk creameries had varying floor space requirements among studies. The Iowa study reported requirements ranging from 5,441 to 8,721 square feet as annual volume increased from 500,000 to 2,000,000 pounds of butter.[8] The Minnesota report determined floor space requirements ranging from 3,483 to 5,718 square feet as annual volume increased from 457,580 to 3,204,063 pounds of butter.[9]

The main factor accounting for the difference in operating costs between whole milk creameries and creameries receiving farm-separated cream was the difference in raw material costs. The cost of cream was $.60 per pound of butterfat while the cost of whole milk was $3.00 per hundredweight. Raw material costs were 48.78 cents per pound of butter for creameries receiving farm-separated cream compared to 70.55 cents per pound for whole milk plants.

---

[7]Frazer, J. R.; Nielsen, V. H.; and Nord, J. D., The Cost of Manufacturing Butter, A Study Based on Data from 13 Iowa Creameries, Research Bulletin No. 389, Iowa Agricultural Experiment Station, Ames, Iowa, June 1952, pp. 818-821.

[8]Frazer, J. R.; Nielsen, V. H.; and Ladd, G. W., Manufacturing Costs: Whole Milk Creameries, Special Report No. 17, Iowa Agricultural Experiment Station, Ames, Iowa, December 1956, pp. 7-9.

[9]Knudtson, Arvid C., and Koller, E. Fred, Processing Costs of Whole Milk Creameries, Technical Bulletin No. 236, Minnesota Agricultural Experiment Station, St. Paul, Minnesota, June 1960, pp. 32-36.

TABLE 1. BUTTER PROCESSING COSTS AND REQUIREMENTS

Annual Plant Volume	Processing Costs	Building & Equipment Investment	Operating Costs		Labor Requirements	
			Per Lb.	Per Day	Full-Time	Part-Time
(pounds butter)	(cents/pound)	(dollars)	(cents)	(dollars)	(number of employees)	
Farm-Separated Cream[a]						
360,000	4.77	56,983	52.00	624	1	1
720,000	3.52	61,631			2	2
1,080,000	3.56	85,733	51.53	1,855	5	
1,440,000	3.55	106,249			7	1
2,160,000	3.26	152,724	51.36	3,698	10	1
2,880,000	2.96	159,424	51.20	4,915	12	2
Whole Milk						
457,580[b]	11.31 - 7.77	119,355				
1,019,555[b]	5.78 - 5.06	143,464				
1,720,247[b]	4.53 - 4.21	173,626				
3,204,063[b]	3.10 - 3.00	216,025				
500,000[c]	9.42	161,090	76.65	1,050	3	2
1,000,000[c]	7.18	207,320	75.58	2,071	7	
1,500,000[c]	6.26	239,020	75.15	3,089	10	1
2,000,000[c]	5.62	264,740	74.79	4,098	13	

[a]Iowa Agricultural Experiment Station, Research Bulletin No. 389, June, 1952, pp. 789-860.

[b]Minnesota Agricultural Experiment Station, Technical Bulletin No. 236, June, 1960, pp. 1-51.

[c]Iowa Agricultural Experiment Station, Special Report No. 17, December, 1956, pp. 1-20.

Nonfat Dry Milk Production

Requirements for spray drying operations were obtained from studies conducted by the Minnesota and Iowa Agricultural Experiment Stations and by personal visits with area plant managers (Table 2). The operation could be either a specialized drying plant or part of a diversified dairy plant operation.

Processing costs decreased as plant volume increased in the studies which had plants classified according to volume.[10,11] Two area plants which were visited by the author reported processing costs, excluding hauling costs, of 2.70 and 3.10 cents per pound of powder.

Hauling costs were not included in processing costs; however, one Minnesota study reported an average hauling cost of $.87 per hundredweight of powder.[11] The hauling cost for a particular plant would depend mostly upon the hauling distance.

Labor requirements were obtained by personal visits with plant managers in the area. One plant with a drier capacity of 2,000 pounds per hour employed seventeen workers for a three-shift operation; however, labor was not included for hauling or receiving. Another plant which had two driers with a total capacity of 3,650 pounds per hour employed fifty workers, including hauling and receiving labor, for a three-shift operation.

Fuel is an important input for nonfat dry milk plants. A Minnesota study indicated fuel requirements for five plants using fuel oil.[12] Fuel oil consumption ranged from 0.14 to 0.18 gallon per pound of powder.

Operating costs for a plant producing 1,200 pounds of powder per hour were determined from the latest Minnesota publication and from information

gathered from plant managers.[12] The largest operating expense was raw materials which cost 9.30 cents per pound of powder. Labor and hauling costs were the next major cost items.

---

[10]Kolmer, Lee; Homme, Henry A.; and Ladd, G. W., Spray Drying Costs in Low-Volume Milk Plants, Special Report No. 19, Iowa Agricultural Experiment Station, Ames, Iowa, September 1957, p. 7.

[11]Butz, Dale E., and Koller, E. Fred, Costs of Drying Milk in Minnesota Plants, Bulletin No. 413, Minnesota Agricultural Experiment Station, St. Paul, Minnesota, May 1952, p. 17.

[12]Juers, Linley E., and Koller, E. Fred, Costs of Drying Milk in Specialized Drying Plants, Station Bulletin No. 435, Minnesota Agricultural Experiment Station, St. Paul, Minnesota, June 1956, p. 12.

TABLE 2. COSTS AND REQUIREMENTS FOR NONFAT DRY MILK PLANTS (SPRAY DRYING)

Annual Volume	Processing Costs	Building & Equipment Investment	Operating Costs		Water Requirements
			Per Lb.	Per Day	
(pounds powder)	(cents/pound)	(dollars)	(cents)	(dollars)	
2,679,500[a]	4.48	153,292 (650 lbs./hr drier)	13.46	2,585 (19,200 lbs. of powder per day)	
3,174,700[a]	4.27				
3,850,000[a]	4.20				11.2 gal./lb. of powder (650 lbs./hr. drier)[a]
(million pounds)					
0.0 - 3.9[b]	5.03	300,000 (1,200 lbs. per hr. drier)[d]			
4.0 - 5.9[b]	4.54				
6.0 and over[b]	3.97				
Average all plants[b]	4.43				
18 Minnesota plants[c]	3.43 - 7.45				

[a]Iowa Agricultural Experiment Station, Special Report No. 19, September, 1957, pp. 1-12.

[b]Minnesota Agricultural Experiment Station, Bulletin No. 413, March, 1952, pp. 1-30.

[c]Minnesota Agricultural Experiment Station, Station Bulletin No. 435, June 1956, pp. 1-24.

[d]Estimate obtained from a plant operator.

Combination Butter-Nonfat Dry Milk Production

Plants producing butter and nonfat dry milk were considered in this section (Table 3). Five plants using roller driers and seven plants using spray driers were included.[13] Processing costs were expressed per 1,000 pounds of milk received.

Economies of scale existed as plant capacity increased although processing costs were higher for comparable size plants using spray driers. Labor costs were lower for plants using spray driers; however, they had higher costs for nonfat dry milk supplies, fuel, electricity, office and factory supplies, repairs, depreciation, and for interests, taxes, and insurance.

Labor requirements in Table 3 included plant, laboratory, and office personnel; however, management personnel were not included. Labor requirements were higher for plants using roller driers.

Fuel oil requirements were greater for plants using spray driers than for plants with roller driers. Daily fuel consumption ranged from 833 to 1,853 gallons for plants with roller driers and from 957 to 4,264 gallons for plants with spray driers.

Electricity requirements were also higher for plants with spray driers. Economies of scale weren't present for electricity. Daily consumption ranged from 709 to 1,711 kilowatt hours for plants with roller driers and from 919 to 4,822 kilowatt hours for plants with spray driers.

Capital investment in buildings and equipment was greater for comparable size plants with spray driers. Larger buildings and higher

equipment costs were two factors which resulted in higher capital investment for plants with spray driers. Floor space for plants with roller driers ranged from 6,500 to 12,600 square feet, while floor space for plants with spray driers ranged from 8,300 to 26,200 square feet.

Operating costs were determined using the costs from the Oregon study plus the cost of raw materials.[13] Raw material costs were calculated on the basis of a price of $3.00 per hundredweight for milk or $30.00 per 1,000 pounds of milk. Besides raw materials, labor and fuel were the most important cost items.

[13]Nelson, Glen T., Input-Output Relationships in Specialized Butter-Powder and Cheese Plants, Station Technical Bulletin No. 32, Oregon Agricultural Experiment Station, Corvallis, Oregon, July 1954, pp. 1-24.

TABLE 3. COSTS AND REQUIREMENTS FOR COMBINATION BUTTER-NONFAT DRY MILK PLANTS[a]

Average Daily Volume	Processing Costs	Building & Equipment Investment	Operating Costs		Labor Requirements
			Per 1,000 lbs. Milk	Per Day	
(pounds milk)	(dollars/1,000 lbs. milk)	(dollars)	(dollars)	(dollars)	(no. of employees)
Roller Driers					
47,600	7.77	225,500	37.16	1,769	9 - 10
57,200	7.15	228,900			9 - 10
71,400	6.60	238,000			11
95,200	6.53	310,000			14 - 15
118,800	6.42	368,900	36.00	4,277	17 - 18
Spray Driers					
47,600	9.51	310,500	38.73	1,844	8 - 9
57,200	8.77	316,500			9 - 10
71,400	7.94	332,000	37.36	2,668	10 - 11
95,200	7.52	422,100			12 - 13
118,800	7.42	484,500	36.92	4,386	16 - 17
158,700	6.99	631,000			18 - 19
253,800	6.23	807,100	35.82	9,091	24 - 25

[a]Oregon Agricultural Experiment Station, Station Technical Bulletin No. 32, July, 1954, pp. 1-24.

Cheese Production

Information concerning cheese manufacturing was obtained from two Oregon studies and a United States Department of Agriculture publication (Table 4). Differences in manufacturing costs among studies may be partly explained by differences in the type of cheese manufactured and the type of packaging used.

Results of the Oregon studies indicated processing costs decreased with increased plant capacity.[14,15] The major cost items were labor, fixed costs, and supplies.

Labor requirements in Table 4 included all plant workers and office personnel except the plant manager. Oregon estimated one man was required per 10,000 pounds of milk received daily.[14] Management and office personnel were not included in this requirement. A USDA publication, however, indicated one man was required per 5,000 pounds of milk required daily.[16] Included were all plant workers, office personnel, and management.

Information obtained on water requirements indicated 145 gallons of water was needed per 1,000 pounds of milk received.[16] Average daily volume was 79,636 pounds of milk.

Daily fuel and electricity requirements were obtained from the most recent Oregon study.[15] Fuel requirements ranged from 80 to 682 gallons per day as plant volume increased from 15,600 to 243,700 pounds of milk daily. Electricity requirements for the same plants ranged from 126 to 1,755 kilowatt hours per day.

The capital investment requirements stated in the studies reviewed may have been relatively high because it was assumed the total volume of

milk was processed during a single shift operation. The same volume of milk could have been processed with less equipment if the plants were operating for more than one shift per day. Total floor space requirements ranged from 4,680 to 39,460 square feet as plant size increased from 15,600 to 243,700 pounds of milk daily.

Operating costs were estimated using costs from an Oregon publication and a raw material cost of $3.00 per hundredweight.[15] It was assumed the yield of cheese was 10 pounds per hundredweight of milk. Raw material cost, which was the largest cost item, was 30 cents per pound of cheese. Labor and packaging supplies were the next major cost items.

---

[14]Rowe, Gordon A., Economics of Cheese Manufacturing in Tillamook County, Oregon, Station Bulletin No. 529, Oregon Agricultural Experiment Station, Corvallis, Oregon, December 1952, pp. 15-16.

[15]Nelson, Glen T., Input-Output Relationships in Specialized Butter-Powder and Cheese Plants, Station Technical Bulletin No. 32, Oregon Agricultural Experiment Station, Corvallis, Oregon, July 1954, pp. 20-23.

[16]Owens, T. R., and Clarke, D. A., Jr., Class III Milk in the New York Milkshed: Costs of Manufacturing Dairy Products, Marketing Research Report No. 400, United States Department of Agriculture, May 1960, p. 9.

TABLE 4. COSTS AND REQUIREMENTS FOR CHEESE FACTORIES

Average Daily Volume	Processing Costs	Building & Equipment Investment	Operating Costs		Labor Requirements
			Per lb.	Per Day	
(pounds milk)	(cents/pound)	(dollars)	(cents)	(dollars)	(no. of employees)
5,000[a]	6.25				
10,000[a]	5.16				
15,000[a]	4.71				
25,000[a]	4.35				
35,000[a]	4.24				
15,600[b]	8.51	123,500	36.91	576	4 - 5
31,200[b]	6.85	159,900			7 - 8
46,900[b]	6.42	198,300			10 - 11
56,200[b]	6.09	214,400	35.33	1,986	11 - 12
75,000[b]	5.81	261,700			15
93,700[b]	5.60	308,900	34.93	3,273	17 - 18
112,500[b]	5.41	350,600	34.78	3,914	21 - 22
150,000[b]	5.22	469,800	34.59	5,190	26 - 27
243,700[b]	4.68	665,300	34.14	8,320	36 - 37
79,636[c]	7.60	239,162			16

[a]Oregon Agricultural Experiment Station, Station Bulletin No. 529, December, 1952, pp. 1-31.

[b]Oregon Agricultural Experiment Station, Station Technical Bulletin No. 32, July, 1954, pp. 1-24.

[c]United States Department of Agriculture, Marketing Research Report No. 400, May, 1960, pp. 1-57.

Turkey Processing

Modern turkey processing plants perform both the dressing and eviscerating operations in the same plant in contrast to New York dressing where dressing is performed in the processing plant and evisceration is delayed until the birds reach the consumer. Modern plants are more nearly mechanized with the use of mechanical conveyor lines, ice-making machines, and freezing equipment.

The three main classes of turkeys are fryers (roasters), hens, and toms. The capacity of a plant, which is usually measured in turkeys per hour, depends upon the class of turkeys being processed. Fryers result in more birds processed per hour but fewer pounds of turkey processed per hour.

The costs and requirements presented in Table 5 were obtained from several previous studies and from several area plants.[17,18,19] All processing costs were expressed per pound of eviscerated weight. The results of the studies indicated economies of scale were present with increased plant size. Generally labor and packaging supplies were the largest cost items.

The class of turkeys being processed also affected processing costs.[18] Processing costs were lower when processing young hens or toms than when processing breeders or fryers. Labor was the main factor resulting in differences in processing costs among classes of birds.

Labor requirements listed in Table 5, which were obtained from a California study, included all operating labor, management and supervisory personnel, and office help.[17] Area plant managers visited indicated the

requirements listed for operating labor may be high while the management requirements may be low. Additional management personnel may be needed for buying and selling. Plants visited indicated for efficient operation it would be necessary to process at least ten birds per man-hour of labor. Labor efficiency in the plants visited ranged from ten to sixteen birds per man-hour of labor.

Water requirements varied between those reported in the California study and various area plant managers' estimates. The California study stated water requirements were eight gallons per bird.[17] Plant managers estimated water requirements were between fifteen and twenty gallons per bird.

Information on electricity requirements was limited to the California study.[17] Daily electricity consumption increased from 526 to 1,277 kilowatt hours as plant capacity increased from 300 to 1,200 turkeys per hour.

Turkey processing plants required ice for cooling turkeys in chill tanks. It was usually necessary to install an ice-making machine since a ready source of ice was not usually available. The California study indicated approximately one pound of ice was required per pound of dressed turkey.[17]

The capital investment figures from the California study didn't include any allowance for freezer space, ice-making machines, or freezing equipment. Floor space requirements increased from 7,200 or 21,000 square feet as plant capacity increased from 300 to 1,200 birds per hour.[17]

Operating costs were computed using a combination of costs from several studies and plant managers. Raw material costs were 24.29 cents

per pound. The cost of live turkey was 24.00 cents per pound with a 70 per cent dressing percentage. Labor and packaging supplies were the next largest cost items.

---

[17]Abbott, John C., The Economic Implications of Recent Technical Developments in the Processing of Turkeys, Mimeographed Report No. 172, California Agricultural Experiment Station and Giannini Foundation of Agricultural Economics, Davis, California, October 1954, pp. 1-99.

[18]Rogers, George B., and Rinear, Earl H., Costs and Efficiency in Turkey Processing Plants, Economic Research Service Report No. 26, United States Department of Agriculture, August 1961, pp. 1-11.

[19]Bradford, Henry W., and Scanlan, John J., Cooperative Marketing of Turkeys, Farmer Cooperative Service Circular No. 23, United States Department of Agriculture, Washington, D.C., October 1957, pp. 1-64.

TABLE 5. COSTS AND REQUIREMENTS FOR TURKEY PROCESSING PLANTS

Plant Capacity	Processing Costs	Building & Equipment Investment	Operating Costs		Labor Requirements		
			Per lb.	Per Day	Operating Labor	Management	Office
(turkeys/hour)	(cents/pound)	(dollars)	(cents)	(dollars)	(no. of employees)		
300[a]	6.04	102,920[d]			57	2	1
600[a]	5.21	150,496[d]			90	3	2
1,200[a]	5.11	277,652[d]	39.47	39,786	180	4	3
3,000			39.47	99,465			
Less than 400[b]	6.57						
400 - 699[b]	5.87	655,000 - 660,000 (1,200 birds/hr. plant)[e]					
700 - 899[b]	5.87						
900 - 1,499[b]	5.39						
1,500 - 1,999[b]	5.57						
2,000 & over[b]	5.62						
3,100,000 - 10,373,000 lbs. dressed turkey annually[c]	6.06 - 7.23						

[a]California Agricultural Experiment Station and Giannini Foundation of Agricultural Economics, Mimeographed Report No. 172, October, 1954, pp. 1 - 99.

[b]United States Department of Agriculture, Economic Research Service Report No. 26, August, 1961, pp. 1 - 11.

[c]United States Department of Agriculture, Farmer Cooperative Service Circular No. 23, October, 1957, pp. 1 - 64.

[d]Building space for freezing and cooling facilities and freezing or ice-making equipment was not included.

[e]Estimate obtained from a plant manager.

Broiler Processing

Processing costs varied among broiler processing plants depending upon whether the birds were cut-up and packaged individually (Table 6) or packed whole in wire-bound boxes [20,21,22] (Table 7). Cut-up birds were cooled or frozen while birds packed whole were ice-packed.

Processing costs were higher for plants processing part or all of their product in cut-up form. Processing costs decreased as plant capacity increased in the respective studies. Labor and packaging supplies were the largest cost items.

Labor requirements were considered separately for operating labor, management and supervisory personnel, and office personnel. The Washington study included management, supervisory, and office personnel as one category.[21]

Information on water requirements was limited in most studies reviewed. Studies reviewed indicated water requirements ranging from about one to six gallons per bird. Greater mechanization since these studies were made, however, may result in present water requirements being even higher.

Fuel requirements, according to the Connecticut study, increased from 241 to 722 gallons per day as plant capacity increased from 2,400 to 7,200 broilers per hour.[23]

Ice was required to cool birds in chill tanks after they were eviscerated. The Washington study reported ice requirements were one pound per pound of dressed bird while an area plant manager estimated it would vary from one to two pounds per pound of dressed bird.[21]

Capital investment in buildings and equipment varied among the studies. The differences in investment may have been due to different size buildings for similar plant capacities or because of differences in the amount of equipment included in the various studies. Floor space ranged from 17,392 to 45,746 square feet as plant capacity increased from 2,400 to 7,200 birds per hour according to the Connecticut study.[23] The New Hampshire study stated floor space requirements ranging from 1,632 to 34,990 square feet as plant capacity increased from 150 to 10,000 birds per hour.[20]

Operating costs were determined for several plant sizes from the various studies. The cost of raw materials, which was the major cost item, was 18.0 cents per pound liveweight or 25.71 cents per pound dressed weight. A 70 per cent dressing percentage was assumed in all instances.

---

[20]Rogers, George B., and Bardwell, Edwin T., Marketing New England Poultry--Economies of Scale in Chicken Processing, Station Bulletin No. 459, New Hampshire Agricultural Experiment Station, Durham, New Hampshire, April 1959, p. 16.

[21]Baum, E. L.; Faris, J. E.; and Walkup, H. G., Economies of Scale in the Operation of Fryer Processing Plants, with Special Reference to Washington, Technical Bulletin No. 7, Washington Agricultural Experiment Station, Pullman, Washington, August 1952, p. 27.

[22]Donald, James R., and Bishop, Charles E., Broiler Processing Costs--A Study of Economies to Scale in Broiler Processing Plants, Agricultural Economics Information Series No. 59, Department of Agricultural Economics, North Carolina State College, Raleigh, North Carolina, June 1957, p. 37.

[23]Farrish, R. O. P., and Seaver, S. K., Factors Affecting the Output, Size, Costs and Location of Poultry Plants in Southern New England--Costs, Efficiency and Economies of Scale in Broiler Processing Plants, Bulletin No. 342, Connecticut Agricultural Experiment Station, Storrs, Connecticut, September 1959, pp. 28-29.

TABLE 6. BROILER PROCESSING COSTS AND REQUIREMENTS, PART OR ALL OF PRODUCTION CUT-UP AND PACKAGED INDIVIDUALLY

Plant Capacity	Processing Costs	Building & Equipment Investment	Operating Costs		Labor Requirements		
			Per lb.	Per Day	Operating Labor	Management & Supervisory	Office
(birds/hour)	(cents/pound)	(dollars)	(cents)	(dollars)	(no. of employees)		
80% Packaged Whole and 20% Cut-Up[a]							
150	7.13	20,434	31.52	954	11.0	2	1
300	5.85	33,157			17.5	3	1
600	5.28	69,274			29.5	3	1
1,200	4.98	138,453			53.0	5	2
1,800	4.58	174,794			72.0	6	3
2,400	4.42	226,214			90.0	8	3
3,600	4.12	299,053			125.0	11	4
5,000	3.97	376,342			166.0	15	6
7,500	3.81	537,441			233.0	20	9
10,000	3.67	676,875	29.16	57,155	295.0	25	11
Cut-Up and Individually Packaged[b]							
63	8.31	14,127	33.78	417	5		
200	7.39	29,267			14	1	
388	6.75	53,213			23	2	
563	6.41	77,870			30	3	
1,125	5.89	155,019	31.41	5,826	54	4	

[a]New Hampshire Agricultural Experiment Station, Station Bulletin No. 459, April, 1959, pp. 1 - 62.

[b]Washington Agricultural Experiment Station, Technical Bulletin No. 7, August, 1952, pp. 1 - 33.

TABLE 7. BROILER PROCESSING COSTS AND REQUIREMENTS, BIRDS ICE-PACKED WHOLE IN WIRE-BOUND BOXES

Plant Capacity	Processing Costs	Building & Equipment Investment	Operating Costs		Labor Requirements		
			Per lb.	Per Day	Operating Labor	Management & Supervisory	Office
(birds/hour)	(cents/pound)	(dollars)	(cents)	(dollars)	(no. of employees)		
600	3.81	49,573	20.09	3,421	18		
2,400	3.24	182,340			62		
4,800	3.07	300,310			121		
2,400	3.57	245,946	28.94	13,614	66	5	3
3,600	3.24	319,476	28.66	20,222	89	5	3
4,800	3.27	396,257	28.71	27,010	125	5	4
7,200	3.08	526,138	28.54	40,276	174	5	5

[a]Department of Agricultural Economics, North Carolina State College, Agricultural Economics Information Series No. 59, June, 1957, pp. 1 - 49.

[b]Connecticut Agricultural Experiment Station, Bulletin No. 342, September, 1959, pp. 1 - 76.

Feed Processing

Information on feed processing was obtained from United States Department of Agriculture studies, area feed plant managers, and equipment manufacturers. Processing costs, charges, and equipment investment were considered separately for grinding and mixing, pelleting, and steam or dry rolling (Table 8).

Grinding and Mixing

A United States Department of Agriculture study reported custom charges obtained from 100 Midwestern mills.[24] Average charges were: grinding and mixing, $4.17 per ton; grinding only, $2.90 per ton; and mixing only, $1.80 per ton.

Equipment costs were obtained from an equipment manufacturer for three different size plants. The amount added to the quoted equipment prices to cover freight, wiring, and installation was 47.5 per cent. The cost figures, however, do not include any costs for building remodeling, additional elevator legs, or unloading equipment.

The previously mentioned United States Department of Agriculture publication reported equipment costs for a feed mill grinding 4 to 8 tons per hour.[24] Included in the equipment costs were a truck scale and hoist and molasses-blending equipment which were not included in the previous equipment costs.

Pelleting

Pelleting was considered as beginning with the feed after it was ground and mixed. Total pelleting charges included grinding and mixing charges plus the charges for pelleting. Pelleting equipment investment was in addition to the equipment needed for grinding and mixing.

A United States Department of Agriculture study indicated a pelleting cost of $2.32 per ton for a plant producing 3,900 tons of pellets and 3,900 tons of crumbles annually.[25]

A Farmer Cooperative Service study reported pelleting costs ranging from $1.09 to $2.43 per ton for fourteen cooperative feed mills.[26] Average pelleting cost was $1.79 per ton.

Equipment costs were obtained from an equipment manufacturer and a United States Department of Agriculture study for four different plants.[25] Included in the equipment complement was a pellet mill, cooler, crumbler, shaker, and boiler. The equipment costs obtained from the equipment manufacturer included an allowance of 47.5 per cent for freight, wiring, and installation.

Steam and Dry Rolling

Cost information was not available for steam or dry rolling operations. An equipment manufacturer estimated the cost of steam rolling was between $2.00 and $2.80 per ton. Several plant managers, however, estimated they were only breaking even when charging $4.00 per ton and any profit was from the supplement added to the steam rolled feed.

Equipment investment, which was obtained from a manufacturer, was $25,550 for a dry roller and $35,455 for a steam roller. Included in the steam rolling equipment was a roller and steamer, boiler, scale and unloading facilities, air lift, and equipment for adding supplement and molasses. No building investment was included in these cost figures.

---

[24]Vosloh, Carl J., Jr.; Eskew, William R.; and Brensike, V. John, Custom Feed Milling in the Midwest--Model Plant Operations, Marketing Research Report No. 273, United States Department of Agriculture, Washington, D.C., September 1958, p. 4.

[25]Vosloh, Carl J., Jr., Labor and Capital for Pelleting Formula Feeds, Marketing Research Report No. 463, United States Department of Agriculture, April 1961, p. 18.

[26]Rickey, Lacey F., Costs of Pelleting Feeds at Selected Cooperative Feed Mills, Farmer Cooperative Service Bulletin No. 3, United States Department of Agriculture, Washington, D.C., April 1954, p. 10.

TABLE 8. REQUIREMENTS FOR SELECTED TYPES OF FEED PROCESSING

Type of Operation	Custom Charges[a] (dollars/ton)	Approximate Capacity (tons/hr.)	Equipment Investment (dollars)
Grinding and Mixing			
grinding & mixing	3.00 - 5.00	2½ - 3¼	7,057 (50 hp mill)
grinding	2.00 - 3.00	3 3/4 - 5	9,011 (75 hp mill)
mixing	1.00 - 3.00	4½ - 7½	13,060 (100 hp mill)
		4 - 8	17,443 - 24,107 (75 hp mill)[b]
Pelleting (in addition to grinding and mixing)			
	3.00 - 6.00	3	18,588 (30 hp mill)
		4 - 5	22,369 (50 hp mill)
		6 - 8	32,759 (75 hp mill)
			26,607 - 31,359 (75 hp mill)[c]
Steam Rolling	3.25 - 4.00	5 - 6	35,455 (40 hp mill)
Dry Rolling	2.00 - 3.00	5 - 6	25,550 (40 hp mill)

[a]Obtained from area feed plant managers.

[b]United States Department of Agriculture, Marketing Research Report No. 273, September, 1958, pp. 1 - 23.

[c]United States Department of Agriculture, Marketing Research Report No. 463, April, 1961, pp. 1 - 22.

Potato Flake Processing

Information concerning potato flake processing was obtained from a United States Department of Agriculture publication and the potato trade in the Red River Valley.[27] Costs and requirements were summarized in Table 9 for a plant producing 15,000 pounds of flakes per day.

The yield of flakes depended upon the solids content of the raw potatoes. The higher the solids content the higher the yield of flakes per hundredweight of potatoes and the lower the processing cost per pound of flakes. A plant manager indicated an average yield of about 12.5 pounds of flakes per hundredweight of raw potatoes.

Processing costs were about 8.5 cents per pound higher when potato flakes were retail packaged.[27] The increased processing costs resulted from higher packaging material and labor costs. Packaging materials and labor were the largest cost items.

The labor force of a typical potato flake plant would usually consist of over half women. The number of employees depended upon the type of packaging. When bulk packaging, about thirty-five employees, including office help, were required for a plant producing 15,000 pounds of flakes per day. Additional employees were required for retail packaging.

A plant producing 15,000 pounds of flakes per day would require about 104 gallons of water per minute or 6,240 gallons per hour.

Very little information is available on sewage requirements at the present time. However, waste disposal is usually a problem with most potato processing operations since most municipal sewage lagoons or treatment plants in smaller communities are not large enough to handle the additional volume of sewage.

Capital investment in buildings and equipment would approximate $500,000 for a plant capable of producing 15,000 pounds of flakes per day. A building with about 33,000 square feet of floor space would be needed. A building of this size would cost about $200,000. Total equipment cost including installation would be about $290,000.

Operating costs were determined for both retail and bulk packaging for a plant producing 15,000 pounds of flakes daily. The average cost of raw materials was $1.14 per hundredweight. Packaging materials and raw materials were the largest cost items when the potato flakes were packaged in retail containers. Raw materials and labor were the largest cost items with bulk packaging.

---

[27]Eskew, Roderick K., and others, Potato Flakes, a New Form of Dehydrated Mashed Potatoes--Estimated Commercial Cost, Agricultural Research Service Report No. 73-12, United States Department of Agriculture, April 1956, pp. 1-15.

TABLE 9. POTATO FLAKE PROCESSING COSTS AND REQUIREMENTS[a]

Plant Capacity	Processing Costs	Building & Equipment Investment	Operating Costs	
			Per lb.	Per Day
(lbs. flakes/day)	(cents/lb.)	(dollars)	(cents)	(dollars)
15,000	23.59--Retail Packaging	490,000[b]	31.74	4,761
			Retail Packaging	
	15.09--Bulk Packaging		23.24	3,486
			Bulk Packaging	

[a]United States Department of Agriculture, Agricultural Research Service Report No. 73-12, April, 1956, pp. 1 - 15.

[b]Obtained from a plant operator.

Soybean Processing

Costs and requirements considered in this study refer to the solvent extraction process which is the most common method of soybean processing (Table 10). The importance of individual cost items depended upon the size of plant.[28] Labor, interest on investment, and depreciation were generally the more important cost items.

Economies of scale existed for labor as plant size increased. The amount of labor required for a given size plant depended partly upon whether meal was handled in bulk or bagged form. Usually as plant size increased, the proportion of the meal handled in bulk increased. More labor was required when part or all of the meal was bagged.

Water was required for cleaning, steam production, and condensing vaporized solvent in soybean processing plants. All plants considered were using recirculating equipment to allow for recirculation of water used for cooling. All plants regardless of size were using 300 gallons of water per ton of soybeans.[28]

Fuel requirements were based on the amounts of steam needed for conditioning beans, plant heating, and miscellaneous uses. It was assumed all plants were using No. 6 fuel oil and that 10.86 gallons of fuel were required per ton of soybeans.[28]

It was assumed all plants were completely electrified. All plants, regardless of size, were using 40 kilowatt hours of electricity per ton of soybeans.[28]

Capital investment required for soybean processing plants varied depending upon the facilities for raw material receiving and storage,

soybean preparation and oil extraction, finished material handling and storage, and various service facilities. All facilities, except oil extraction facilities, may vary among plants.

The investment figures in Table 10 included raw material storage for eighty days processing for plants with a capacity of 400 tons per day or less and 100 days storage for plants with a capacity of 500 to 1,000 tons per day.[28] Investment in facilities for the service department, fire protection office, analytical laboratory, and railroad tracks may vary considerably among plants.

Operating costs were determined per bushel of soybeans and per day for six selected plant sizes. The cost of soybeans was assumed to be $2.58 per bushel for all plants throughout the year.

---

[28]Brewster, John M.; Mitchell, Julia A.; and Clark, Stanley P., Size of Soybean Oil Mills and Returns to Growers, Marketing Research Report No. 121, United States Department of Agriculture, Washington, D.C., November 1956, pp. 1-99.

TABLE 10. COSTS AND REQUIREMENTS FOR SOYBEAN PROCESSING (SOLVENT EXTRACTION PROCESS)[a]

Plant Capacity	Processing Costs	Building & Equipment Investment	Operating Costs		Labor Requirements	
			Per Bushel	Per Day	Bulk Meal	Bulk Bagged Meal
(tons/day)	(cents/bu.)	(dollars)	(dollars)	(dollars)		
50	40.6	756,150	2.88	5,042.00	11	13
100	33.0	1,085,594	2.84	9,947.00	15	18
150	31.2	1,501,657			18	19
200	29.8	1,854,407	2.82	19,719.00	22	24
300	27.7	2,365,239	2.81	29,452.50	27	29
400	26.6	2,830,546			33	36
500	26.4	3,526,591	2.80	48,965.00	37	40
600	26.6	4,612,301			40	44
800	25.3	5,500,076			43	47
1,000	24.1	6,251,144	2.78	97,300.00	47	52

[a]United States Department of Agriculture, Marketing Research Report No. 121, November, 1956, pp. 1 - 99.

APPENDIX A

History of Some Rural Resource Development Activities

The development of resources in our rural areas has had a varied history from the period of the early frontier era to the present. The national policies adopted in the distribution of public lands have generally added to the need for later adjustments in economic and social institutions.

Public Land Disposal Policies

The dominant policy for the transfer of government land to private hands was by auction sale to the highest bidder up until the first temporary Preemption Act of 1830. This Act and subsequent ones legalized a squatter's possession of up to 160 acres by giving him first right to buy the land. Land continued to be sold in large tracts to investors in addition to land grants made to companies for internal improvements.

The Homestead Act of 1862 allowed settlers to acquire 160 acres of land free of charge provided they farmed, built a homestead, and lived on it for five years. The immediate effect of the free-land policy was to make possible the ownership of small tracts of land by farmers to a greater extent than would have been the case without it. But the degree of effectiveness was severely retarded by inappropriate size limitations and lack of production credit for settlers in the Great Plains and the arid West, where most of the land available for homesteading was located. North Dakota had 170,000 final entries registered under the Homestead Act, consisting of 25 million acres of farm land (52 per cent of the total land

in farms in 1940). The original settlement patterns and changing technology have contributed to the need for continuing adjustments in resource combinations of economic and social institutions.

Rehabilitation in the 1930's

The depression of the 1930's and the devastating drouths of that period focused attention on a number of agricultural problems that had been almost unrecognized up to that time. Among them was the situation of the chronically impoverished small farmer who lived at a bare subsistence level even in ordinary times.[1]

These subsistence farmers had shown great powers of survival in most depression periods. They produced little for the market and bought little. However, they had for some generations been falling farther and farther behind the more progressive farmers in their standards of living and levels of income.

A new agency called the Resettlement Administration was created by presidential order in April, 1935, to assist impoverished farmers and to carry out a program of submarginal land retirement. Executive Order 7027 created the agency and directed it to:

1. Administer approved projects involving resettlement of destitute or low-income families
2. Initiate and administer a program with respect to soil erosion, stream pollution, seacoast erosion, reforestation, and flood control

---

[1]Benedict, Murray R., Can We Solve the Farm Problem, The Lord Baltimore Press, Inc., Baltimore, Maryland, 1955.

3. Make loans to finance, in whole or in part, the purchase of farm lands and necessary farm equipment by farmers, farm tenants, croppers, and farm laborers.

The name of the organization was changed to Farm Security Administration in 1937. The program devised by the Resettlement Administration had four principal parts: rural rehabilitation, land use, rural resettlement, and suburban resettlement. Many of the activities under this agency were emergency measures to assist in providing minimum subsistence levels of living for the destitute displaced farmers or rehabilitation of those remaining in farming. Improving economic conditions and increased wartime activities in the early forties resulted in a reduction in these activities. In 1946, the Farmers Home Administration was created by federal law to provide credit needs of low-income farmers. This new agency replaced the Farm Security Administration. The legislation creating this agency also terminated some of the more controversial activities undertaken in the thirties.

Land Use Planning

A system of county and state Land-Use Planning Committees was organized in 1938 which coordinated the activities of the extension agents and of all the various local employees of the United States Department of Agriculture agencies in existence at that time. It also was a means of enlisting farmers in an intelligent study of programs for the development of agriculture. This work grew out of the so-called

Mount Weather Agreement between the land-grant colleges and the United States Department of Agriculture held July 8, 1938.

By January, 1942, there were planning committees in 1,891 counties and more than 8,000 communities with almost 125,000 farm men and women serving on them. About 18,000 federal, state, and local government officials participated in the program. Perhaps the most constructive and lasting work in these local meetings was done in land classification by use capabilities and in determining conservation practices, crop rotations, and land-use adjustments most urgently needed. Many improvements in policy measures and their operation--particularly concerning the adaptation of national programs to local conditions--can be credited to these county land-use planning committees.[2] All North Dakota counties had organized land-use planning committees by 1942.

The Department of Agriculture discontinued its active participation in this program in 1942 partly as a result of the concentration upon the war effort.

Farm and Home Development

The Farm and Home Development approach to intensified farm planning was initiated by the Extension Service in 1954. The stated basic objective was to assist farm families in view of both short and long time considerations, to analyze their problems more systematically and plan their operations in light of their self-determined farm business and family living

---

[2]Schickele, Rainer, Agricultural Policy, McGraw-Hill Book Company, Inc., New York, 1954.

goals, and their existing or potential production and family living resources. This approach stressed working with the whole family together and in terms of the whole farm and home situation rather than only in terms of specific projects, problems, or subjects separately.

This procedure has been used in North Dakota since 1955. Beneficial results have been secured where individual families have properly determined their total resources, family goals, farm plans, and then taken the proper action to implement the best plan.

Program Projection

"From the start of Extension work in North Dakota in 1912 through 1954, most Extension planning and programs were conducted on an annual basis. Few, if any, attempts were made to establish long-time program goals or programs based upon expected long-time transitions. Tenure of county Extension personnel has been relatively short in many North Dakota counties and this, coupled with a lack of long-time program goals, has restricted Extension program scope and continuity."[3]

In June, 1955, the Extension Committee on Organization and Policy of the American Association of Land Grant Colleges and State Universities (usually referred to as ECOP) developed a new concept of Extension program building which it termed Program Projection. At this meeting, the committee took a firm stand on the necessity for the Cooperative Extension Service to formulate better program-making policies and procedures to do a much more

---

[3]Bale, Stanley W., An Analysis of Extension Program Projection in North Dakota, M.S. Thesis, North Dakota State University, Fargo, North Dakota, May, 1959, p. 11.

effective job of helping people to build clear-cut, long-range programs to meet their needs.

The objective of Program Projection is a more productive, prosperous, and satisfying life for the people through:[4]

1. More orderly, efficient, and satisfactory development and use of human resources
2. More orderly, efficient, and satisfying development and use of natural and community resources
3. A more satisfying family and community life
4. More productive and prosperous agriculture and related business

Extension Program Projection Planning was started in six North Dakota counties in November, 1955, and extended to 46 of the state's 53 counties by December, 1958.[5] All counties have initiated Program Projection. The county committees meet annually to review and revise projected plans.

Rural Development Program

The Rural Development Program was initiated in 1955 by President Eisenhower upon the recommendation of the United States Department of Agriculture. A report on problems of low-income farmers prepared for the Secretary of Agriculture stated:

> One of the important farm problems in this country is the development of human resources in agriculture. Farm families with low earnings make up more than a fourth of all the farm families. In the United States in 1950, there were

---

[4] Ibid., p. 16.

[5] Ibid., p. 45.

roughly 5.4 million farm operator families in all. Out of these, about 1.5 million had cash incomes under $1,000. Most of these families are on small farms.[6]

The program had three major objectives as follows:[7]

1. To help families that have the desire and ability to stay in farming gain the necessary tools, land, and skills
2. To widen the range of off-farm job opportunities
3. To help rural people enjoy more opportunities for adequate training and improved health.

The key to the program is to be found in the word rural as distinguished from agricultural, for the problem of low income was not recognized as exclusively a farm matter. Further recognition of the comprehensiveness of the program is to be found in the membership of the National Committee for Rural Development. In addition to the Department of Agriculture, the Departments of Interior, Commerce, Labor; and Health, Education, and Welfare were represented as well as the Small Business Administration and the Council of Economic Advisers.

Local efforts were coordinated by means of the County Rural Development Committee made up of the local leaders with various federal and state government agencies advising. Although the program was national in character, the underlying philosophy was to encourage local people to provide the initiative

---

[6]Development of Agriculture's Human Resources, United States Department of Agriculture, Washington, D.C., April, 1955, p. 1.

[7]Rural Development Program, Rural Resource Leaflet No. 1, United States Department of Agriculture, Washington, D.C., May, 1959.

and direction for the program in their own area. In most states, the need for interagency cooperation led to the development of state committees for rural development.

The increased emphasis on rural development is shown by the statement in the first annual report in 1956, "Twenty-four states extending from Maine to Texas and more than 50 counties and areas are participating in the Rural Development Program."[8] The fourth annual report in 1959 states, "Some 200 counties have now been included in Rural Development Program areas in 30 states and Puerto Rico."[9]

North Dakota did not have any designated pilot counties under the Rural Development Program. However, various resource development activities were undertaken by County Program Projection Committees and other groups.

The experiences and knowledge acquired under the Rural Development Program were incorporated into Rural Areas Development in 1961.

Rural Areas Development

Memorandum No. 1448, issued March 21, 1961, by the United States Department of Agriculture, directed the resources of all its agencies be used toward the elimination of the low-income, underemployment problem of rural families. This Rural Areas Development Program was an expansion and reorganization of the earlier Rural Development Program.

---

[8]"Progress in the Rural Development Program," First Annual Report of the Secretary of Agriculture, United States Department of Agriculture, September, 1956, p. 27.

[9]"Rural Development Program," Fourth Annual Report of the Secretary of Agriculture, September, 1959, p. 1.

Rural Areas Development is a method of:

1. Organizing local committees consisting of representatives from all interested groups
2. Motivating these committees
3. Assisting them to formulate economic development programs
4. Assisting them to implement such programs.[10]

The aim is to establish:

1. Efficient, profitable farms
2. Rural industries and businesses
3. Training and retraining programs for those not needed in agriculture
4. Adequate rural public facilities
5. Expansion of recreational facilities for both rural and urban people.

Within the United States Department of Agriculture, the Secretary has assigned specific responsibilities to designated agencies. The Office of Rural Areas Development has been delegated the responsibility for coordinating the work of all departmental agencies who can contribute to rural areas development. The Federal Extension Service does the organizational and educational work. The Farmers Home Administration serves as the leader for the technical panels which provides assistance to state,

---

[10]"Pegs for Rural Progress," Rural Areas Development Handbook, Agriculture Handbook No. 229, United States Department of Agriculture, Washington, D.C., April, 1962.

area, and county committees and assists with community facility projects. The Rural Electrification Administration is delegated the responsibility for assistance with project proposals. Nine other United States Department of Agriculture agencies aid in these and other activities.

By March, 1962, there were 42 states and 1,000 counties organized for participation in the Rural Areas Development Program.[11]

The State Rural Areas Development Committee for North Dakota was organized in October, 1961. Extension District Supervisors reported 37 counties had organized Rural Areas Development Committees by March, 1962.[12] Emphasis has been placed on the importance of local initiative and leadership in giving impetus and direction to accomplishments and projects at the county level. Private organizations and governmental agencies have indicated a willingness to provide assistance to local committees.

Area Redevelopment Act

The Area Redevelopment Act (Public Law 87-27) was approved by the 87th Congress on May 1, 1961. This act was designed to establish an effective program to alleviate conditions of substantial and persistent unemployment and underemployment in certain economically distressed areas. The Areas Redevelopment Administration in the Department of Commerce was designated to administer this program. Delegation of some functions for rural redevelopment areas was made to the United States Department of

---

[11]Weitzell, Everett C., Progress in RAD and ARA Presented at Six Regional Workshops on RAD, AO-50 (3-62), Federal Extension Service, January-February, 1962.

[12]Rural Areas Development Report by North Dakota Extension Service. Presented at March 27, 1962, Meeting (Mimeo.).

Agriculture. The Cooperative Extension Service provides the organizational and educational leadership. The Farmers Home Administration is responsible for technical information and service. Enterprise stimulation for the various projects is the responsibility of the Rural Electrification Administration. Other United States Department of Agriculture agencies will assist in various phases of rural redevelopment. The Department of Interior has primary responsibility for Indian Reservations designated as redevelopment areas.

The designation of eligible urban redevelopment areas was based upon the extent of unemployment. Eligible rural redevelopment areas were determined by the percentage of low-income families, unemployment or underemployment, out migration, public assistance, and previous participation in the rural development program.

Five broad types of assistance are available under the Area Redevelopment Act:

1. Loans for industrial and commercial projects
2. Loans and grants for public facilities
3. Technical assistance
4. Occupational training
5. Retraining subsistence payments.

An overall economic development program must be submitted and approved before applications for assistance can be made by designated areas. Areas designated totaled 996 plus 51 Indian Reservations in 50 states, Puerto Rico, Virgin Islands, Guam, and American Samoa.[13] Projects

---

[13] Activity Summary Report, Area Redevelopment Administration, United States Department of Commerce, Washington, D.C., February, 1963.

approved totaled 658 from 46 states, American Samoa, and Puerto Rico involving 33,658 direct permanent jobs at an expenditure of $93,135,125. This also includes the cost of 305 training and subsistence programs for 16,991 worker-trainees.[14]

Areas designated as eligible for this program in North Dakota are the four Indian Reservations.

Community Development

Good communities are not good by accident; they are products of planning, cooperation, and vision. Since the days of settlement, people have developed their communities through better churches, better schools, roads, farms, factories, homes, trading centers, and government.

An active community development group

1. Analyzes community situations, needs, and potentials
2. Determines goals
3. Plans ways and means to reach these goals
4. Develops the potentials of the community.

The objectives of community development are:[15]

1. To increase family income
2. To improve home and surroundings
3. To provide youth activities that will promote desired youth growth

---

[14] Ibid., p. 1.

[15] Community Development Goals and Objectives, Extension Folder No. 203, Agricultural Extension Service, University of North Carolina, Raleigh, North Carolina, September, 1961.

4. To improve communities through cooperative community projects.

Many examples of groups that have been organized to encourage efforts of community and neighborhood development committees could be cited. The Western North Carolina Rural Community Development Council and Agricultural Agencies was started in 1949. Their 1958 report shows 112 organized rural areas in 15 counties participating in the program. The Texas Rural Neighborhood Progress Contest has been in operation since 1946. Community development groups within the area of the Tennessee Valley Authority have been active since the late thirties.

The North Dakota Economic Development Commission was established in 1957 as authorized by the 35th legislature. The objectives of this state agency are indicated by the six point program of:[16]

1. Community betterment
2. Agricultural enlargement
3. Business and industrial expansion
4. Market and statistical analysis
5. Tourist business
6. Equity corporation

The Economic Development Commission has had considerable success in fostering community development through:

1. Urging the enlistment of all segments of the population in a program of analysis and planning directed toward community betterment

---

[16] North Dakota's Progress with Two Years of Economic Development, 1957-1959, North Dakota Economic Development Commission, Bismarck, North Dakota, 1959.

2. Encouraging all citizens to be aware of the assets, liabilities, and opportunities of their community
3. Initiating an annual betterment program contest with incentive awards of $7,500 contributed by private corporations.

The 1957-1959 progress report of the Economic Development Commission stated:

> Evidence of progress is shown by the increased number of development groups. In 1957 there were two community development groups. Two years later there were 92 development committees in 92 North Dakota cities, and of these, 34 had organized development corporations to increase job opportunities. These community development committees seek to develop the type of community in which each individual desires to live and prosper.[17]

Other policies and organizations have been developed to stimulate adjustments in our economic and social institutions. Industrial and business developments have been promoted by such organizations as The Greater North Dakota Association, Chambers of Commerce, Civic Clubs, utility companies, railways, motor carriers, insurance companies, banks, news media, and others. Adjustment activities of various types have been the concern of farm organizations, women's clubs, fraternal groups, and the many other organizations characteristic of our social and economic structure.

---

[17] Ibid.