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UNITED STATES DEPARTMENT OF AGRICULTURE Economic Research Service

IMPLICATIONS OF POPULATION AND OCCUPATIONAL CHANGE FOR RURAL AREAS DEVELOPMENT

Talk by John H. Southern
Farm Economics Division
at the 40th Annual Agricultural Outlook Conference
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Since rural areas possess varying quantities and qualities of human, economic and physical resources, implications of the changes outlined by the previous speakers are that development of any nature will proceed in different directions and at different rates. Sole dependence upon farming defines one area's potentials, as does another area's choice of dependence on development of all resources. Our discussion, because of time, is briefed around development opportunities in farming, and development opportunities in nonfarm activities.

In the context of our discussion we are treating development in its economic sense, that is, as an increase in real income on some basis, such as per capita, per family, per area, etc. We shall want to think of rural areas development as being measured in terms of real per capita or family income growth gained through the expansion of job and income opportunities.

There are many variables in rural economic development other than those associated with population and occupational change. It is realized that there are basic forces of technological change that sweep population geographically from one side of a continent to another, and from one occupation to another. And rural area economic development requires a national economic climate in which employment is expanding at a rate that will furnish adequate opportunity for those entering the labor force. Without this requisite the problem of creating jobs and opportunity in or near rural areas becomes extremely difficult if not impossible. However, specific types of opportunity and income development for economically lagging rural areas can become a part of overall national growth and cannot be overlooked, even in view of the difficulties.

Opportunities in Farming

with a rapidly declining total farm population and an even sharper decline in labor input requirements it would seem that little discussion is needed to appraise employment and income opportunities in the farming industry. However, as there continue to be proposals and contradictions relative to maintaining some maximum number of people in farming, it is advisable to understand what this would mean in terms of income betterment. Of course, there may be some opportunity in increasing the number of adequate income farms. But the pertinent question becomes: What is the prospect for job and income opportunity expansion in farm employment?

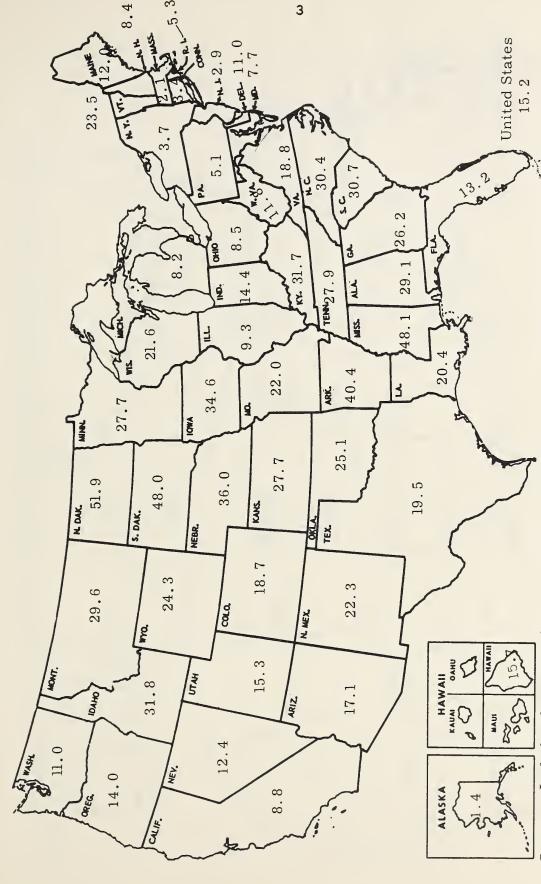
In the first place, we want to be more explicit about what has happened in farm employment and where it has happened. It is probable that we have not yet faced up to the real extent of adjustments of the labor resource out of agriculture. Of all employed males in the United States, only 8.3 percent were in farming in 1960, or 1 out of 12 workers. This was a decline from 15.2 percent in 1950 (figures 1 and 2). The proportion of farmers and farm managers, the pertinent statistic from our standpoint, in the total of employed males was only 5.5 percent in 1960, or only about 1 out of 18. At this time there are relatively few States, 5 to be exact, where employment of male workers is heavily dependent (over one-fourth of total employed males) on farming. These States are North and South Dakota, Nebraska, Iowa, and Mississippi. In North and South Dakota, 2 out of every 5 workers are employed in farming. In Mississippi, the decline in farmworkers is so rapid that probably by 1965 it will be more nearly in line with the other Southern States, that is, 15 percent or less of the employed males will be doing farmwork.

For the 48 contiguous States, the change from 1950 to 1960 in dependence on farming for employment can be characterized as follows:

	1950	<u>1960</u>
Little dependence (less than 10 percent of male workers)	12 states	26 states
Moderate dependence (10 to 24.9 percent of male workers)	19 states	17 states
Heavy dependence (25 percent and over of male workers)	17 states	5 states

Actually, the total number of States with little dependence on farm employment will be increasing since several in the moderate category are now barely over 10 percent. Additional States will be taking on employment characteristics similar to New York, Massachusetts and Connecticut where only about 2 out of every 100 male workers are employed in agriculture.

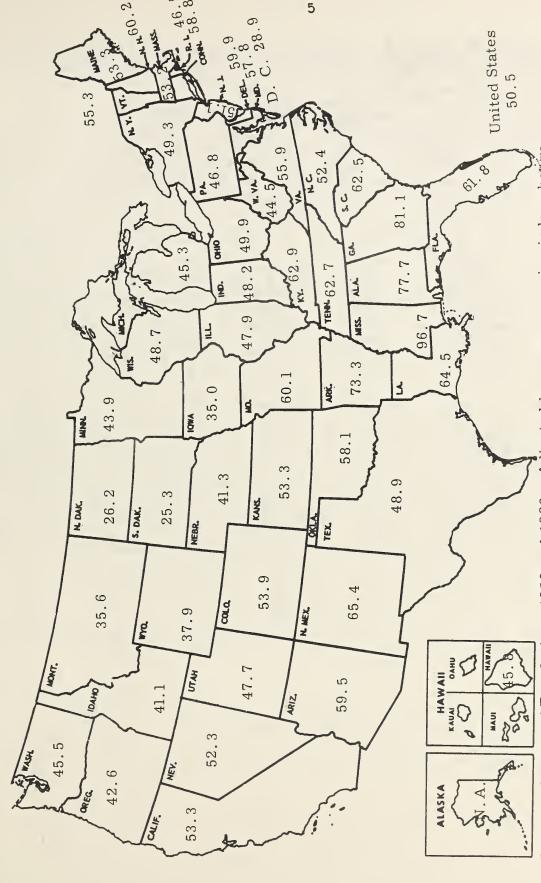
It is significant that the relative and absolute declines in agricultural employment have been greatest in the lowest income States of the South and Southeast. (Such highly farm-oriented States as Texas, Oklahoma, Alabama, and Georgia, among others, have moved rather sharply toward nonfarm employment.) These are historically the areas where the decline from an income betterment standpoint should have been the greatest. It is no coincidence that some of the largest relative gains in median family incomes occurred in those States with the most rapid decline in employment dependence on farming (figure 3). While the U. S. median family income in constant dollars was increasing by about 50 percent from 1950 to 1960 (\$3,774 to \$5,657), most of the States with sharp declines in farm employment had median family income increases of 60 percent or more. Mississippi, with one of the sharpest declines in such employment -- from 48 percent of the male labor force in 1950 to 26 percent in 1960 -- had a median family real income increase of 97 percent,



U. S. Summary - Census of Agriculture, 1950. farm laborers, and unpaid family laborers, Table 77 - General characteristics, Source: Includes farmers, farm managers,

General Social and Economic Characteristics U. S. Census of Population, 1960,

PERCENT INCREASE FROM 1949 TO 1959 IN MEDIAN INCOME OF ALL FAMILIES (Constant Dollars)



Adjusted by consumer price index change Census of Population, 1950 and 1960. between 1950 and 1960 Source:

from \$1,466 to \$2,884. This was nearly four times the rate of income increase for North and South Dakota, where heavy dependence on farm employment has continued.

Another measure of decreasing dependence on farming is the off-farm employment of the farm population. We usually think that the farm population is just that -- farm population. But such is no longer the case. In 1960, for the United States as a whole, about 32 percent of the farm males reported their major occupation to be something other than farming (table 1). This was an increase of relatively one-third from 1950 to 1960. In many States the proportion of farm males reporting nonfarm occupations doubled during the decade. This is significant from an income standpoint and from the standpoint of who is and who is not a farmer. The situation is that many who still are counted as farmers are merely that by definition, their chief work activity is in another occupation. In some of the Southern States, close to 40 percent of the male farm population reports nonfarm occupations. In such States as Ohio and Pennsylvania the proportion is even higher. It is only in States like North and South Dakota, Iowa, and Nebraska that farmers are farmers, so to speak. Thus, in States and regions where total employment has moved away from farming, the trend has been for farm residents themselves to adjust to nonfarm employment or retirement while nominally being labeled as farmers.

There is further implication and significance in these occupational changes. The large numbers of farmers and farm families who have shifted to other major occupations while remaining nominally in farming are in a position to shift quickly and completely out of the farm classification. In contrast with most agricultural adjustments, the move into other work involves no additional financial burden. Our rural development studies show that thousands of part-time farmers or small farmers can cease their current farm activity without decreasing money incomes. In many instances, money incomes might even be increased by ceasing to farm. The chief income feature of part-time farming or of rural living among thousands of families is the rental value of the home, some home-produced foods and the security feature of owning a resource -small though it may be -- that continues to increase in value at a rate comparable to returns that might be obtained if funds were invested elsewhere. It is entirely probable that over a short period of time, we shall see thousands of these nominal and small (Economic Class V and VI) farmers dropping out of active farming. Once this happens, their position is irreversible, and we can expect a much smaller number of farmers even in the short-run.

As people have left farming, there has been some opportunity created for higher incomes through the enlargement of farms that remain. However, in the aggregate this means fewer farmers rather than more. For example, research has shown that an adjustment in farm size to achieve a level of production for adequate incomes always results in a drastic reduction in total farms. In three commercial farm areas of the South, adjustments in farm size to return

Table 1.- Occupations of rural farm population, United States and selected States, 1960

	Number of	Rural farm total employed persons		Rural farm total employed males	
	farms <u>l</u> /	Number	Percent nonfarm	Number	Percent nonfarm
United States 2/	3,710,503	4,673,003	41.0	3,693,003	31.9
States 3/					
Alabama	115,788	124,763	49.9	97,014	41.0
Mississippi	138,142	156,948	40.2	120,289	31.3
North Carolina	190,567	264,249	43.6	196,864	35.0
Missouri	168,672	194,337	40.7	154,862	31.9
Kentucky	150,986	172,7,0	40.8	141,484	30.2
Texas	227,071	246,247	38.4	199,758	29.9
Oklahoma	94,676	88,767	44.4	72,077	36.3
Iowa	174,707	236,813	23.8	196,932	15.5
Nebraska	90,475	112,631	18.4	95 , 352	10.2
North Dakota	54,928	69 , 876	14.2	60 , 337	8.6
Montana	28,959	38,123	26.0	32 , 346	17.6
California	99,274	124,710	41.8	97 , 882	32.4
South Dakota	55 , 727	73,668	16.1	62,218	9.0
Pennsylvania	100,052	134,293	49.6	102,733	41.2
Ohio	140,353	188,647	52.3	146,370	43.9
New Wexico	15,919	17,753	38.1	14,682	29.5
Utah	17,811	14,103	52.7	11,251	43.1

^{1/} U. S. Census of Agriculture General Report (Farms and Land in Farms).

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^{2/} Census of Population, U. S. Summary, C Series, table 87.

^{3/} Census of Population, Individual State Reports, C Series, table 57.

adequate labor-management incomes of \$4,500 would result in a reduction in farm numbers and labor requirements of some 50 percent. $\underline{1}$

In low income farm areas the extent of adjustments required is much greater. In a low-farm-income county of Eastern Oklahoma a system of farming suitable to the area and returning a labor-management income of \$2,500 would reduce the existing 1,200 farms in the county to about 215 farms. 2/ In a similar but larger area in Missouri, adequate adjustments to obtain a net return of \$2,000 would reduce the number of farms from about 10,500 to about 3,200 or to about 2,800, depending upon the type of farming involved. 3/

In addition to the goal of achieving some minimum level of income for higher levels of living, there are technological forces in the highly competitive commercial farm sector that continue to press for greater efficiency, fewer labor inputs and fewer and fewer people employed in farming. Brewster has indicated that an annual capital growth rate of some 3 percent will be necessary for commercial farmers to keep up with technological advances. 4/ If one assumes that farm families will want to maintain and advance their levels of living, there will be additional pressure for an increase in capital growth. In an industry with a highly inelastic demand for its total product, this means continuous pressure for fewer and fewer operators to produce the products. This is demonstrated by the trends of only a 10-year period. In 1949 farmers producing less than \$10,000 in total sales were producing nearly one-half of the total farm product. By 1959 these small farmers were producing only some 28 percent of the total product (table 2). In 1959 farmers with \$10,000 or more in gross sales were producing the remaining 72 percent of the total product. At the rate of change occurring over the decade, there is every reason to estimate that some 80 percent of the total gross sales in 1962 will be produced by some 22 percent of the total farms. The proportion of these farms will increase as the smaller farms continue to decline in number.

Further evidence of the pressure for income maintenance among farm people is the continued decline of their income position relative to the nonfarm sector. On an aggregate basis, 43.5 percent of farm families in 1947 had

^{1/} J. S. Plaxico and J. W. Goodwin, "Adjustments for Efficient Organization for Farms in Selected Areas of the South," <u>Southern Agriculture -- Its Problems and Policy Alternatives</u>, Agricultural Policy Institute, Raleigh, N. C., Jan. 1961.

^{2/} Unpublished data from cooperative studies of the Economic Research Service and Oklahoma Agricultural Experiment Station.

^{3/} Ronald Bird and Frank Miller, Profitable Adjustment on Farms in Eastern Ozarks of Missouri, Mo. Agr. Expt. Sta. Res. Bul. 745, July 1960.

^{4/} John M. Brewster, A Changing Organization of American Agriculture, paper prepared for the Agricultural Committee of the National Planning Association, Washington, D. C., Oct. 1961.

Table 2.- Percentage of sales accounted for by size of farm group

		1949		1954		1959	
Size of farm sales		Percent of farms	Percent of sales	Percent of farms	Percent of sales	Percent of farms	Percent of sales
Und	ler \$2,500	61.2	12.2	56.0	9.2	44.2	5.3
\$2,	500 - \$4,999	16.4	13.5	17.0	12.1	16.7	7.5
\$5,	000 - \$9,999	13.4	22.8	14.8	20.5	17.6	15.5
\$10	,000 or more	9.0	51.5	12.2	58.2	21.5	71.7
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: U. S. Census of Agriculture.

incomes falling in the lowest income quintile of the nonfarm group (table 3). By 1954 this had increased to 57.5 percent and by 1959 to 59.1 percent. If levels of living aspirations of farm families continue to expand in order to achieve parity with nonfarm levels of living, it is apparent that there has been real loss in relative position among families remaining in farming. This piling up of farm families at the lower end of nonfarm income distribution may have been slowed somewhat as shown by the small change from 1955 to 1960. Uch of the income erosion among farm families has been at the upper income levels. In 1947, one-fourth of all farm families had incomes that placed them in comparable income brackets with the upper 40 percent of nonfarm groups. By 1960 the proportion of such farm families had declined by nearly one-half, to 13.2 percent.

The previous paper 5/ implies that there is practically no difference now between farm and nonfarm families in their standards of living (that is, their aspirations). If large groups of families would voluntarily reduce their level of living goals, the rates of return from employment could and would vary greatly by individuals and by areas. Marginal labor productivity rates, as measured by wages, could be widely divergent. There would not be particular pressures for heavy migration. But as level-of-living aspirations of farmers have moved higher, they are forced along with others to take positive steps for higher incomes. The income position in farming will continue

^{5/} Louis J. Ducoff, Changing Occupations and Levels of Living of Rural People, 40th Annual National Agricultural Outlook Conference, Washington, D. C., Nov. 14, 1962.

Table 3.- Percentage of farm operator families with incomes that place them in specified quintiles of the nonfarm family income distribution, United States

	Quintiles of the nonfarm family income distribution					
Year	5 (Lowest)	4	3 (Middle)	2	l (Highest)	
	Percent of farm operator families					
1947 <u>1</u> /	43.5	18.3	13.1	12.7	12.4	
1955 <u>2</u> /	57.5	16.7	10.1	10.8	4.9	
1960 <u>2</u> /	59.1	17.4	10.3	6.9	6.3	

Source: Calculated from income distribution data available in;

to exert dual though not inseparable pressures -- (1) a continual striving for technological advance and efficiency, and (2) an incentive for people, particularly youth entering productive life, to continue the stream of movement toward other occupationa.

Opportunities in Nonfarm Activities

We have taken a look at the employment and income opportunities in farming. The obvious overall implication is that rural areas, in the absence of heavy outmigration, must look to nonfarm development to solve problems of underemployment and unemployment. Now we want to explore some of the implications of population and employment change on opportunities in other types of economic activity in rural areas. One could spend a great deal of time on the potentials for any one aspect of nonfarm development. I am going to place emphasis on three broad types of activities that add to or expand economic opportunities. These are recreational developments, developments in the public sector, and developments in industry and service activities.

Much has been written, and rightly so, about the need for recreational developments in the United States. Population and employment shifts have resulted in a large urban-oriented population that has the time, the financial resources, and the need for outdoor recreation. Putting the demand and the supply picture of recreation together, there is obvious opportunity for

 $[\]underline{l}$ Income Distribution in the United States, Office of Business Economics, U. S. Department of Commerce, 1953.

^{2/} Survey of Current Business, April 1962, Office of Business Economics, U. S. Department of Commerce.

economic expansion in this activity. Some excellent overall evaluations are available in the many reports of the Outdoor Recreation Resources Review Commission, the results of these studies will not be repeated here. The Department of Agriculture recognizes the problem and the need and through the Food and Agriculture Act of 1962 has obtained authorization to make loans for recreation development and facilities to individual farmers and to associations serving farmers and other rural people.

In large recreational complexes, such as the development in the Ozarks region of Missouri and Arkansas, our research furnishes evidence that a local economy can integrate recreational enterprises into the overall economic activity of the area. In part of this extensive complex (some 31 counties in Missouri) tourists were spending about \$72 million in 1960 with a prospective expansion to some \$125 million by $1970 \cdot 6$ By the latter date, it is estimated that these expenditures may represent 40 percent of gross sales of all retail and service firms in the area, approximately 10 percent more than the value of all farm products now produced in the area.

The development of recreational resources in the area has given local people new job and income opportunities. Over 5,000 employees were hired as a direct result. Some 97 percent of these jobs have been filled by local people, most of whom apparently would otherwise have been unable to adjust to higher productive pursuits either in or outside of the area. Thus, recreation in a development complex can furnish employment to hundreds and even thousands of area people.

Another aspect of recreation concerns it as an enterprise on farmland and other private holdings. There are examples from all parts of the Nation of the farmer or landowner developing a fairly successful recreation enterprise. However, at this time we have no real evaluation of this type of recreational facility in terms of employment and income furnished, costs and returns, and management problems involved. Current research is furnishing us the required data to make appraisals of this potential. It is obvious that in some instances there will be opportunity for supplementary income from recreation enterprise development on farms. It is not too early to say that there will be some successful development and specialization in this enterprise.

The second area of nonfarm activity which can only be touched upon is that of public sector industries and services. This is a phase of the economy which most authorities describe as expanding, and it should be looked upon as an opportunity for economic development in lagging rural areas. Much of what has happened in population trends and occupational changes obviously has reduced the potentials of some areas for the location of public sector industries. In some instances there is a defense and security aspect which might dictate the locational criteria of such investment.

^{6/} Ronald Bird and Frank Miller, Where Ozark Tourists Come From and Their Impact on the Local Economy, No. Agr. Expt. Sta. Res. Bul. 798, March 1962.

Also, some public sector activities are dependent on locational principles operating in the general economy. But taking all these into account, it should be possible and highly desirable to make some real contribution to rural economic development through the judicious location of public sector investments. Such development might be in the nature of decentralization of some present public sector activities as well as the location of new or expanding activities. No estimate of this potential is possible here, but it is one that lends itself to real policy and program consideration as means are sought to increase job and income opportunities in rural or small city America.

Our third broad type of activity is one that already is occurring in much of the rural and small city countryside, that is, the establishment of industries of a manufacturing and service nature. To understand the extent of this development it is worthwhile to repeat that 32 percent of all farm males are now employed in nonfarm activities and that rural people working as craftsmen, foremen, and operatives outnumber farm operators more than two to one. So, extensive development that allows rural persons including farmers to adjust to higher income opportunities has occurred. The need for the expansion of these opportunities continues if a viable development situation is to be maintained as a policy goal. The extent of this need is revealed in the continued heavy outmigration of persons, along with a large number of underemployed still on farms. Rural development research shows underemployment on farms to be the equivalent of 1.1 million unemployed males in the age group 20 to 64. 7/Some additional number of underemployed exist among the rural nonfarm families, particularly among the 2.4 million families with incomes in 1959 under \$2,500. The question becomes: In view of the population and occupational changes that have already occurred what are the potentials for expanding this type of development so that more persons in rural United States can participate in an expanding labor market?

Population shifts described in the previous papers have left many towns, small cities and rural areas in a situation where economic development is made more difficult. These have lost the necessary population base on which economic development must depend, or have declined to such an extent that any further loss will be critical. Rural areas and small towns have suffered the greatest impact of this loss. It is an accepted criterion that there is some minimum level of services and institutional facilities which must exist if an area maintains a viable situation for economic development. What these facilities and institutions are and the size of them may vary, but it is apparent that there must be certain minimum services such as schools, medical and health facilities, shopping centers, product and supply markets, the tax base for public revenue purposes, etc. On the other hand, areas where growth has occurred have attained the advantages of agglomeration of market structure and size, or competitive advantage in various economic activities, and

^{7/} Frank T. Bachmura, "Impact of Development Commissions on Economic Growth in the South," Economic Research Service, Washington, D. C. Estimates made by Robert B. Glasgow and William E. Hendrix. For comparative purposes total nonfarm unemployment amounted to 3,294,000 persons on November 1, 1962, according to official statistics of the Department of Labor.

of the general accrual of public service facilities necessary for continued growth. Thus, in the latter areas the economic development potential has been enhanced by population changes, and in the former, potentials under existing circumstances have been lessened.

Research by Ruttan, as well as other studies, shows that industrial decentralization and the impact of nonfarm employment growth is redounding primarily to areas and localities that have fairly large economic development complexes, or to urban and metropolitan centers. 8/ In terms of the agglomeration process in labor and product markets, this is what could be expected. In a manner the 1960 Census of Population indicates the extent of areas that might have suffered real handicaps in growth potential. For example, there are 991 counties with no population center over 2,500. There are 1,176 counties with population centers between 2,500 and 9,999. The dispersal of industrial activity or the establishment of new activities will not often seek those areas that have little labor supply potential or that do not have the social overhead investments to attract outside enterprise. However, a great deal of development has occurred in small complexes, particularly in the centers of from 5,000 to 10,000 population, from 10,000 to 25,000 population, and from 25,000 to 50,000 population. These potential growth centers had significant population increases during the last decade. They grew at the rate of 19.4, 47.9, and 69.2 percent, respectively. These centers make up small city America and probably furnish the bulk of employment opportunities to rural people. Interregional differences in economic change operate to further concentrate economic development activities, but such concentration in some instances and overage period of time may introduce divergencies that overcome some of the comparative advantages enjoyed by large and complex growth centers. As an example, some location and relocation of industrial activities in towns and small cities is occurring as a realistic appraisal is made of increasing total costs involved in further concentration of industrial activity. Wage differentials that have widened because of agglomeration of economic activities are an example of a factor that could work in the other direction. Also, efforts on the part of many local communities have resulted in overcoming some of the costs of industry relocation or new plant establishments. 9/ However, it is absolutely necessary that the agglomeration tendencies of current economic growth centers be recognized, both for understanding the general problem and need of national economic growth, and for public policy which means to direct growth toward specific areas or regions.

^{8/} Vernon W. Ruttan, Dimensions of the Depressed Area Problem, Department of Agricultural Economics, Purdue University. Paper presented at annual meeting of Midwest Economic Association, Indianapolis, Ind., April 1961.

^{9/} John E. Moes, Local Subsidies for Industry, University of North Carolina Press, Chapel Hill, 1962.

Summary of Implications

we can summarize some of the implications of population and occupational change for rural economic development, repeating again that the real objective and the measure of progress is an increase in real incomes through expansion of jobs and income opportunities.

- (1) A more rapid and continuous growth of the national economy is a virtual necessity for expanding job and income opportunities in desired areas. Limited job opportunities, available primarily in metropolitan and urban complexes furnish economic opportunities only as people move to them or are able to commute. Therefore, the real and basic interest of rural areas and associated towns and cities is in policies and measures that expand total National economic growth to the extent that gains in employment can be achieved.
- (2) One of the most significant implications of population and occupational change is that <u>rural</u> America is no longer <u>farm</u> America. The decline in farm employment both absolutely and relatively has been so rapid and the shifts in population so extensive that in the aggregate farming can perform only a declining relative role in the overall economic growth picture. A concomitant is that underemployment or low income problems among the farm population are more amenable to solution because such underemployment involves fewer and fewer people.
- (3) Various studies have indicated that migration from the farm is highly sensitive to the level of unemployment in the general economy. 10/ However, one can hypothesize that this will be less true in the future. Since 70 percent of the net migration from farms is made up of youth and younger people it is probable that even the level of unemployment is not going to very greatly affect the rate of this migration. These are persons whose labor productivity in farming might approach zero, and they must seek opportunity elsewhere. A further aspect of this hypothesis relates to our productive abundance, by which a minimum level of consumption can be maintained without the problem of basic subsistence being involved. Subsistence can be had in today's abundance without the marginal farming that would only eke out an existence. In other words, a minimum level of consumption can be guaranteed by society. When this level of consumption equals or is greater than the marginal productivity in low income agriculture, and when there is

^{10/} C. E. Bishop, Economic Aspects of Changes in Farm Labor Forces, in Labor Mobility and Population in Agriculture, Iowa State University Press, Ames, 1961.

"possible" opportunity in the nonfarm sector, migration will continue to occur.

- (4) The rate of growth in the nonfarm economy and the absolute and relative declining employment in farming are of such magnitude that more and more farm youth need to prepare for other occupations. Any approach to the youth employment opportunity problem will need to involve preparation for nonfarm occupations.
- (5) Population and employment changes primarily resulting from regional economic differences in opportunities apparently have reduced the potentials of some areas and localities for development. To overcome such reductions in potentials, concerted efforts on the part of localities are required. These efforts will be more successful if they are made within the framework of total growth needs and potentials of the region and the Nation.
- (6) Finally, research, policy measures, credit and technical assistance programs need to recognize that we are dealing with a changing rural America that reflects not only farm and farm technological change, but is now characterized by a nonfarm demography and employment structure. The forces of farm technological change and the demographic and employment patterns are interacting in such manner that the emerging rural America, including the structure of commercial farming itself, cannot be understood or dealt with without integrating the social and economic data of the two phenomena.