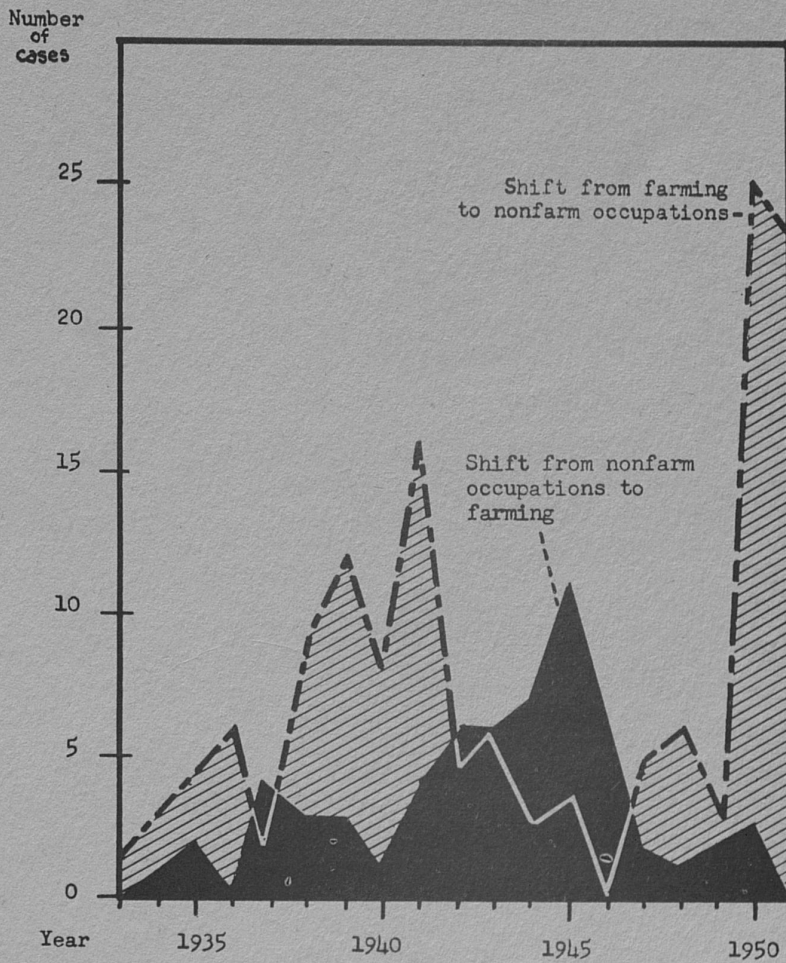


# THE FARM FAMILY IN TRANSITION

Adjustments Made by Farm Families in Western  
Kentucky as a Result of the Industrial Development of the Area



**Number of Heads of Rural Families Shifting  
Between Farming and Nonfarm Occupations,  
by Year, 1933 - 1952.**

**AGRICULTURAL EXPERIMENT STATION  
UNIVERSITY OF KENTUCKY  
LEXINGTON**

**in cooperation with the  
AGRICULTURAL MARKETING SERVICE  
UNITED STATES DEPARTMENT OF AGRICULTURE**

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THE RURAL FAMILY IN TRANSITION

Changes in Farm Families of Western Kentucky

Associated with Industrialization

by

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and

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INTRODUCTION

In few areas of the country have rural residents had greater non-agricultural employment opportunities since 1950 than have those residing in the Purchase Area<sup>2</sup> of western Kentucky. These job opportunities resulted from industrial development along the Ohio and Tennessee Rivers and in the city of Paducah in the northern part of the area. Between January 1948 and May 1954, 27 new manufacturing plants were built in the area, including the gaseous diffusion plant of the Atomic Energy Commission and the Shawnee steam plant of the Tennessee Valley Authority. These employed more than 26,000 workers during the height of construction late in 1952 and early in 1953 (Table 1). The number of jobs necessary to maintain and operate the plants, however, will be considerably less than the number employed during their construction. The significance of the number of new jobs is evident from the fact that the total nonagricultural labor force in the area in 1940 was only 30,458 persons. Employment in the area was at a peak at the time this study was made.

<sup>1</sup>/Farm Population and Rural Life Branch, Agricultural Economics Division, Agricultural Marketing Service, U.S. Department of Agriculture; and Department of Rural Sociology, University of Kentucky, respectively.

<sup>2</sup>/The Purchase Area (Census Economic Area 1) of western Kentucky consists of the eight counties (Ballard, Calloway, Carlisle, Fulton, Graves, Hickman, McCracken, and Marshall) lying between the Tennessee and Mississippi Rivers, with the Ohio River to the north and the state of Tennessee to the south.

Table 1. -List of New Manufacturing Plants in Western Kentucky, January 1948-May 1954<sup>1</sup>

Location and company	Planned Employment (Est.)	Plant Investment (Approx.)	Product
<u>Benton</u>			
Acme Sportswear Co.	35	---	Apparel
<u>Calvert City</u>			
Air Reduction Co. (Natl. Carbide Divn.)	3 00	\$10,000,000	Calcium carbide and acetylene
Air Reduction Co.	---	(Multi \$ million)	Vinyl acetate monomers
General Aniline and Film Corp.	1 00	6,000,000	Acetylene derivatives
B. F. Goodrich Chem. Co.	1 00	5,000,000	Vinyl chloride
B. F. Goodrich Chem. Co.	1 00	8,500,000	Acrylonitrile
Pennsylvania Salt Mfg. Co.	79	2,000,000	Sulphuric acid and hydrofluoric acid.
Pennsylvania Salt Mfg. Co.	93	8,000,000	Chlorine and anhydrous hydrogen chloride
Pennsylvania Salt Mfg. Co.	30	900,000	Benzene hexichloride
Pittsburg Metallurgical Co.	5 00	1,817,540	Ferro-alloys
<u>Clinton</u>			
Bugg Bros. Feed and Supply Co.	7	15,000	Feeds
Custom Bilt Fixtures, Inc.	25	---	Bank interiors and furniture
<u>Fancy Farm</u>			
Brown Thompson and Sons	15	---	Sausage
<u>Hickman</u>			
G. P. Glidewell	15	---	Lumber
<u>Fulton</u>			
Brundige Sausage Co.	6	20,000	Meat products
West Kentucky Stave Co.	12	10,000	Staves
<u>Murray</u>			
Calloway Mfg. Co.	250	250,000	Work clothes
Gee-Gee Popcorn Co.	6	75,000	Packaging popcorn
Winslow Engineering Co.	25	75,000	Filter elements
<u>Paducah</u>			
AEC Gaseous Diffusion Plant	22,000 <sup>2/</sup>	-----	Atomic materials
TVA Shawnee Steam Plant	2,000 <sup>2/</sup>	-----	Electric power
Katterjohn Concrete Co.	55	350,000	Concrete products
Deona of Arlington, Inc.	100	-----	Portable lamps
Modine Mfg. Co.	100	-----	Automotive radiators
Paducah Battery Co.	100	-----	Flashlight batteries
Walkers Boat Yard	25	-----	Boat building & repair
Herman Ford Pie Shop	10	-----	Bakery goods

Kentucky Economic Statistics, A. I. D. Board of Kentucky, Frankfort 1954.

<sup>1</sup>Estimated top employment figure in early 1953 during the construction phase of the projects.

The purpose of the study was to ascertain what social and economic changes had taken place among certain open-country farm families as a result of the rapid industrial development. This is the first of a series of reports based on data gathered during the spring of 1953 for a study of 189 rural families in the Purchase Area. The families studied were confined to those containing a husband and wife and at least one child of school age (6-18 years) who had lived in the Purchase for at least a year. Because it was feasible to study only a limited number of families it was felt that concentration on the school-age family was advisable. Further, the residence requirement was included in order to eliminate the transient family who came into the area temporarily to work on the construction phase of the Atomic Energy project.

The most obvious change indicated by the study was the shift from farming to nonfarm employment as the major source of income for most of the farm laborers and for many of the farm operators, as well as members of their families. Generally, when a farm operator took a nonfarm job he did not change his residence but remained on the farm and commuted to his place of nonfarm employment. Many a farmer going into nonfarm work reduced his farm operation so that other members of the family could farm with varying degrees of help from him. Some farm operators let their farmland lie idle or pastured it; others rented it to neighbors. Two-thirds of the farm households in the study had some member working off the farm at nonfarm work.

#### Agricultural Changes

With the exception of the Delta section, the Purchase area has traditionally consisted of small, family-size commercial owner-operated or tenant-operated farms. In the 1950 Census of Agriculture, two-thirds of the farms in the area were classed as commercial farms. The average value of farm products sold by farmers in the area in 1949 was \$1,968. Less than 22 percent of the farms sold farm products with a value of \$2,500 or more, and 54 percent sold farm products with a value of less than \$1,200. More than a fifth of the farms in 1949 were less than 30 acres in size, and 85 percent were less than 140 acres.

Until the 1920's, the farming economy of the area was centered around the production of dark tobacco. But when the demand for this type of tobacco fell off and acreage controls were attempted, a large number of the farms proved too small for effective and economic operation. As a result many of the operators left their farms to seek work outside the area. Between 1920 and 1930, a period of heavy national rural-urban migration, the Purchase experienced a net loss of 4,924 farm operators. Some of the farm units were combined to effect economy through increased farm mechanization and some went out of production altogether. By 1930, 9 percent less land was in farms than a decade earlier. Average acreage per farm increased from 62 acres in 1920 to 72 acres in 1930. During the next decade the number of farms continued to decrease at about half the rate of the previous decade. The size of farm continued to increase until 1940 when the average size of farm increased to 83 acres. Between 1940 and 1949, two significant changes occurred in the agriculture of the area: (1) the

movement of farm people out of agriculture continued, and (2) the trend toward improvement of farming methods was interrupted. Significant causes of these changes included continued liquidation of large numbers of marginal farming units, increased local nonfarm employment opportunities, and the flooding of the Kentucky Dam reservoir.<sup>3</sup> Many farms in poorer agricultural sections were abandoned or converted to part-time and residential units. During the decade, the number of farm operators supplementing farm income by working off the farm 100 or more days during the year increased by 58 percent. By 1950, the number of farms had decreased by 7 percent, and the average size had increased to 86 acres. However, part of the decrease in the number of farms reported by the Census in 1949 was due to the change in their definition of a farm.

Even greater changes have taken place in agriculture since 1950. Owing to the development of the Kentucky Lake and Dam area and increased industrialization of the northern part of the Purchase, thousands of acres of farm land were taken out of production and substantial nonfarm employment opportunities were available to the farm population.











#### TREND AWAY FROM FULL-TIME FARMING

With changing degrees of availability of nonfarm employment opportunities, many rural residents in the Purchase have moved in and out of farming during the last 20 years. However, the emphasis of the shifts was away from full-time farming toward part-time farming and nonfarm employment (Fig. 1).

Extent of Trend. --- Six in 10 of the heads of the sample families shifted from farming to nonfarm occupation, or from such an occupation into farming, during the last 20 years. Heads of families who were part-time farmers in 1952 had done the most shifting, and full-time farmers the least.<sup>4</sup> Almost 9 in 10 of the part-time farmers had gone into it in the last 20 years. Eighty-two percent of the heads of families who had gone into part-time farming had originally been full-time farmers, the remaining 18 percent having gone into part-time farming from full-time nonfarm employment. The general movement of farmers into nonfarm employment is also evidenced by the fact that 55 percent of the nonfarm heads had been full-time farmers sometime during the last 20 years. In contrast, only 36 percent of the full-time farmers in 1952 had shifted from nonfarm employment during this period and were farming when the survey was made.

<sup>3</sup>/ Percy R. Luney, Changes in the Level of Agricultural Production in Selected Western Kentucky Counties 1939-1949, Ky. Agr. Expt. Sta. Progress Report 11, May 1953.

<sup>4</sup>/For an explanation of the terms "full-time," "part-time farms" and "non-farm" see page 13 and 15 of this report.

Residence and occupation in 1952	Percent of male heads of rural families		
	Switching from farming to nonfarm employment	Switching from nonfarm work to farming	Who did not shift
Total (N = 189)	 46%	 14%	 40%
Nonfarm (N = 97)	 55%		 45%
Full-time farm (N = 44)		 36%	 64%
Part-time farm (N = 48)	 71%	 16%	 13%

N = Number of families in each group.

Fig. 1 - Proportion of the male heads of rural families switching between farming and nonfarm occupations as their major source of employment the last 20 years, by residence and occupation in 1952.



It was evident that some of the farmers who had gone into nonfarm occupations in the last 20 years had moved into town or out of the area and, consequently, were not included in the sample. Others had shifted to rural nonfarm status and many workers in the sample may have had farmer status in other areas during the last 20 years.

Frequency of Shifts, --- Although 40 percent of the male heads of families had made no shifts between full-time, part-time and nonfarm occupations during the last 20 years, slightly more than half of those who had made a shift made only one, and others had made from two to five shifts (Table 2). In all, heads of 114 families who made one or more switches made 204 different switches between farming and nonfarm occupations during the 20-year period, or an average of 1.8 shifts per male head. Heads of farm families who made one or more shifts made the most shifts (2.0) and nonfarm heads the least (1.5). Of the heads changing occupations at least once, 37 percent of those in part-time farm families shifted between farming and nonfarm occupations three or more times, as compared with 20 percent of the heads of full-time farm families and 16 percent of the heads of nonfarm families. Ten percent of the heads of part-time farm families started out and remained part-time farmers.

Table 2. Percentage Distribution of Heads of the 189 Rural Families By Residence and Occupation in 1952, and By Number of Shifts Between Farming and Nonfarm Occupations, 1933-52

Number of shifts	All families		Residence and occupation in 1952		
			Nonfarm (N = 97)	Part-time farm (N = 48)	Full-time farm (N = 44)
	Number	Percent	Percent	Percent	Percent
Total	189	100	100	100	100
None	75	40	45	13	64
1	64	34	38	45	9
2	22	12	8	10	21
3 or more	28	14	9	32	6

N = Number of families in each group.

When Shifts Occurred. -- In general, the shifts between farming and nonfarm occupations coincided with the availability of nonfarm employment opportunities not only in the immediate area but throughout the nation. Periods of plentiful nonfarm employment tend to accelerate the shift from farming to nonfarm employment; periods of unemployment in nonfarm industries cause the reverse (see illustration on the cover). The greatest shifts from farming to nonfarm occupations occurred in 1950 and 1951, years of unprecedented nonfarm employment in the area. The next highest peak was in 1941, at the time defense plants

in industrial centers were recruiting workers from all parts of the country. Some of the farmers who left home to work in such plants in 1940 and 1941 returned to their farms for one reason or the other. This is reflected by the large number of heads of families who went back into farming in the mid-forties. But the peak year of the shift back into farming was in 1945. The return of servicemen from the Armed Services accounted for much of this movement.

The change from farming to a nonfarm occupation as the principal occupation of the heads of families during the last two decades had been a continuous process (Fig. 2). However, 46 percent of the 98 heads who had left full-time farming to go into part-time farming or nonfarm occupations between 1933 and 1951 made their last shift in 1950 or 1951. During these two years, 58 percent of the heads who were part-time farmers at the time of the survey and 37 percent of those who were nonfarm workers had shifted from full-time farming. Recent trends in the shift from full-time farming to nonfarm occupations by heads of families has been into part-time farming rather than to leaving farming altogether. This is a reversal of the earlier trend when heads of families were younger and a large proportion of those leaving farming to take nonfarm work had to go outside the area to obtain work. Only 23 percent of the part-time farmers, as compared with 54 percent of the heads of nonfarm families, had switched from full-time farming before 1945.

Patterns of Shifts. --- When heads of the families in the sample who, made shifts between farming and nonfarm occupations in 1933-1951, are grouped by residence and occupation at the time of survey, several distinct patterns showing the nature of their shifts became apparent (Fig. 3).

Heads of part-time farm families for the most part were farmers who worked at nonfarm jobs when they were plentiful but reverted to full-time farming when off-farm work was not plentiful. Many of these heads were older men and were less likely to find nonfarm employment that was relatively secure. However, slightly more than half of the heads of part-time farm families had not gone back to full-time farming since going into nonfarm work. The peak year in the change from farming to nonfarm occupations for the part-time farming group was in 1950, a year earlier than the peak year of the change for nonfarm heads.

Full-time farm family heads were primarily farmers who worked at nonfarm occupations during the period when they were getting started in farming. However, a few of the full-time farmers had worked at nonfarm employment for more than one period during the last 20 years. No full-time farmer had a nonfarm job as his principal income source in 1951 and 1952.

Where Work Was Found. -- More than 4 out of each 10 of the heads of families in the sample surveyed who were in nonfarm employment the major part of any year during the 20 years 1933-52 did that work outside the Purchase Area. Those who were full-time farmers at the end of the period were most likely and part-time farmers were least likely to have worked outside the area. Most of those who had worked outside Kentucky had gone to Michigan, and principally to the cities of Detroit and Flint (Table 3).

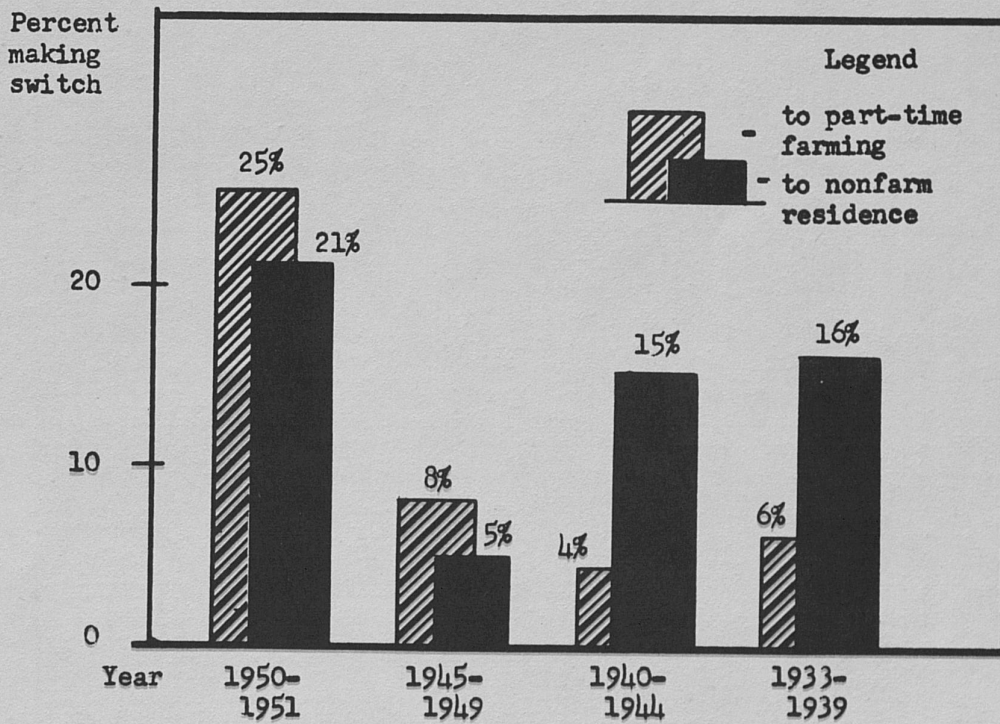
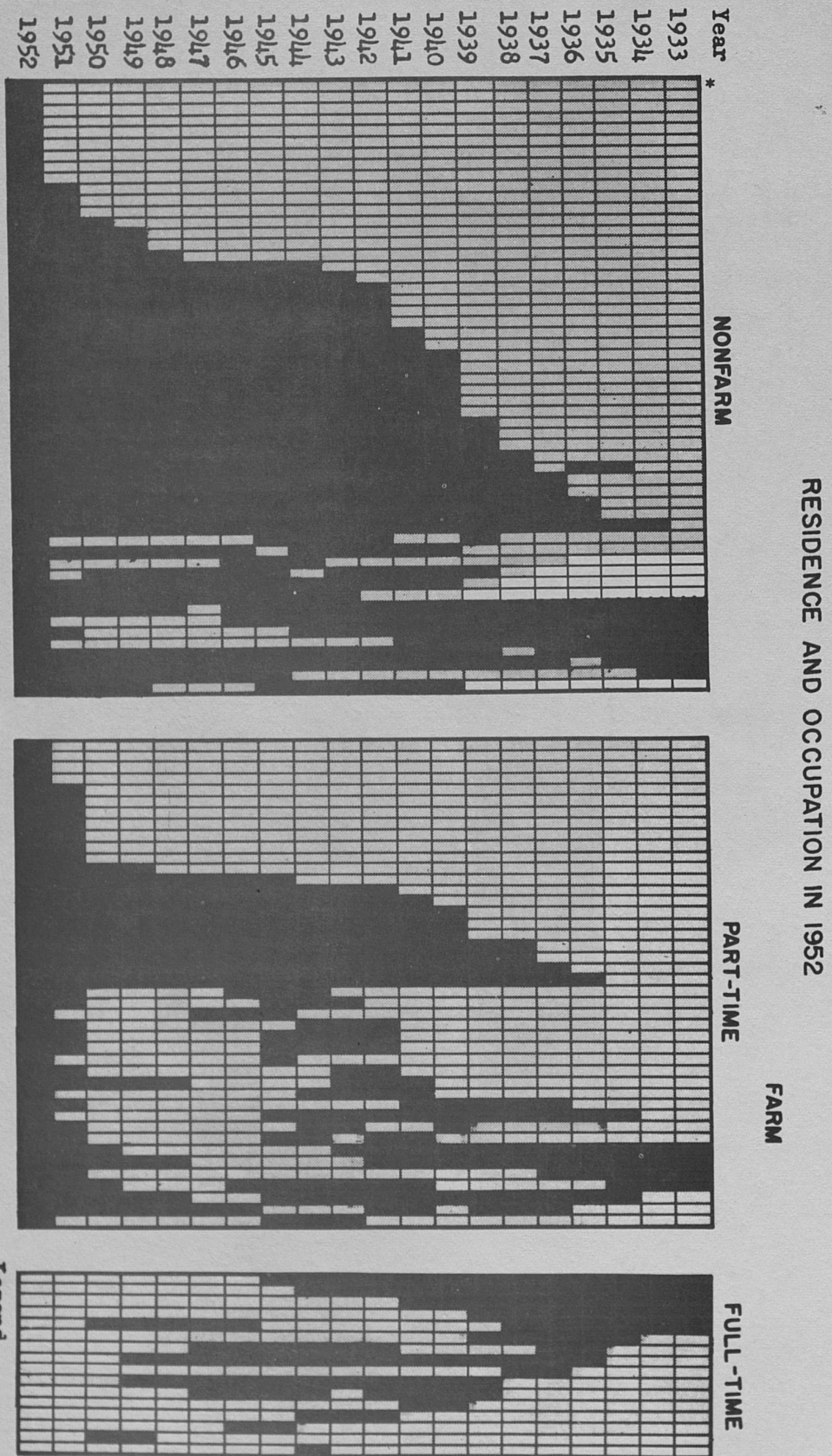


Fig. 2 - Last year of last shift of heads of families who have switched from full-time farming operations to part-time farming or full-time nonfarm occupations within the last 20 years, farmed full-time. Ninety-eight full-time farmers shifted to part-time farming or nonfarm occupations between 1933 and 1951.

Residence and occupation during various years



(Each column represents a sample family who made a shift between farming and nonfarm occupations)

Fig. 3 - Principal occupation of heads of families between 1933 and 1952, who had shifted between farming and nonfarm occupations, by residence and occupation in 1952.

Table 3. Percentage Distribution of Heads of Families by Residence in 1952, and Place of Nonfarm Employment Outside the Purchase Area (Between 1933 and 1952)

Location of employment	All	Residence	
	heads of families (N = 70)	Heads of nonfarm families (N = 46)	Heads of farm families (N = 24)
	Percent	Percent	Percent
Total	100	100	100
Michigan	47	44	58
Adjoining states	44	48	34
Kentucky (other than Purchase Area)	3	4	-
Other states	6	4	8

N = Number of heads in each group

Heads of farm families were more likely to have worked in Michigan than those of nonfarm families. However, in the case of those who had worked in the adjoining states of Tennessee, Illinois, Indiana, Ohio, and Missouri, the reverse was true. A relatively few of the heads of sample families had worked in Kentucky outside of the Purchase counties or in other states. Most of the work away from the area was during the 1930's and the early 1940's.

#### ADJUSTMENTS RESULTING FROM THE SHIFT TO PART-TIME FARMING

A shift from full-time to part-time farming usually requires adjustments that depend upon the degree to which the farm operator works off the farm at nonfarm work or the extent of farming done by the family whose head is primarily a nonfarm worker. Adjustments may include a reduction in the size of farm operation or a change in farm operations, as well as transfer of labor resources from farm to nonfarm work.

#### Economic Adjustments

Part-time Farming. --- Although there is no static or firm definition of a part-time farm, it has at least two requirements: (1) some sort of farming operation and (2) a source of nonfarm income. Differences in definition of a part-time farm usually lie in the balance between the two requirements.

When the families in the sample were placed in a series based on the work pattern of the head (farm and nonfarm work and combinations of the two) they fell into eight groups (Fig. 4). At one extreme were the rural nonfarm families who did no farming and at the other were commercial farm families who had no nonfarm work. Fifty-four percent of the families fell between the two extremes,

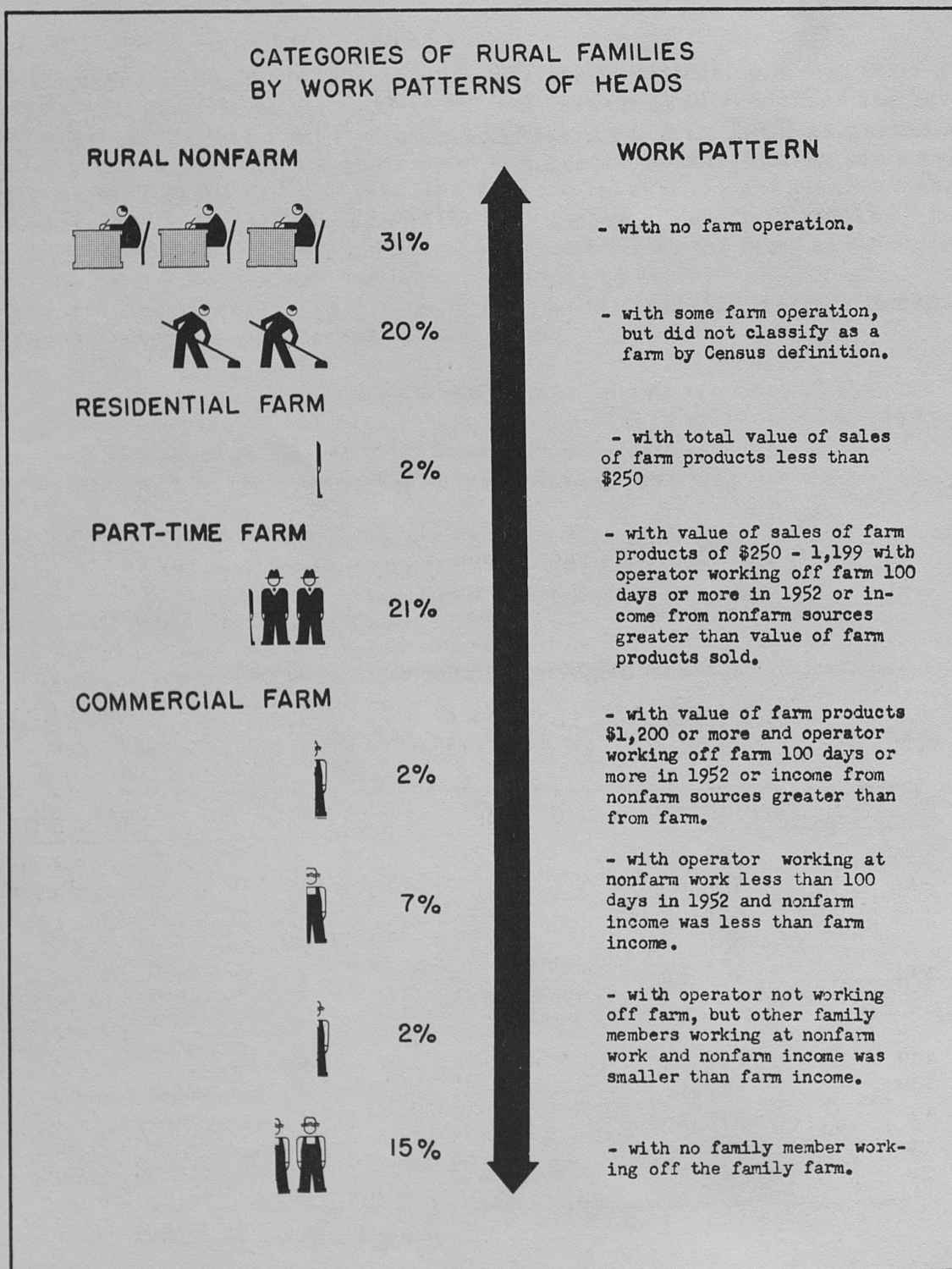


Fig. 4 - Proportion of the rural families in various categories based on the work patterns of the head of the family.

and either the farm operator or some other member of the family worked at both farm and nonfarm enterprises. Hence, they might be classed as part-time farm families, but they actually include nonfarm families with some farm operation, residential farm families, part-time families (as defined by the 1950 Census of Agriculture,<sup>5</sup>) and commercial farm families. Residential farm and part-time farm families fell into one group each, while commercial farm families fell into four groups.

The broadest concept of part-time farming might include (1) a third of the nonfarm families,<sup>6</sup> those families who carry on a farming operation which is too small to be classed as a farm by the Census, (2) part-time farm families as defined by the Census, and (3) 42 percent of the commercial farm families<sup>7</sup> those families having farm operators and/or other members working off the farm at nonfarm work. However, to make the data in this study comparable with those published by the Census, the Census definition of part-time farm is used. This includes 48 families, 25 percent of the sample.

Economic adjustments which are usually made in the shift from full-time to part-time farming include a reduction in the size and a change in type of the farming operation, and a fuller utilization of the family labor force.

Reduction in Size of Farm Operation. --- Among the sample, full-time operators farmed about three-fourths more acres, on the average, than part-time farm operators (147 and 85 acres, respectively). As farm acreage seldom provides an adequate measure of the size of farm operations, a more reliable measurement of the labor required for crop and livestock is often used, by the expression of farm labor requirements in terms of "production man-work units."<sup>8</sup> A production man-work unit is the equivalent of a 10-hour day at farm work by an adult male. More production man-work units were used on full-time farms than on part-time farms (Fig. 5). The average number of production man-work units for part-time farms was 112 and for full-time farms 381 per year. This is one indication that when full-time farmers switch to part-time farming they often reduce the size of their operation.

Of the farmers who switched from full-time to part-time farming after 1950, 8 in 10 reduced their farm operation after starting nonfarm work.

<sup>5/</sup> The 1950 Census of Agriculture defines part-time farms as "Farms with a value of farm products sold between \$250-1,119, with operator working off the farm 100 or more days or nonfarm income greater than value of sales of farm products."

<sup>6/</sup> Nonfarm families are those living outside urban areas who do not live on a farm as defined by the Census.

<sup>7/</sup> Commercial farm families in general are those living on farms with a value of farm products sold amounting to \$1,200 or more.

<sup>8/</sup> Production man-work units were computed by use of table in How to Use Farm Labor Effectively (Purchase Area) Agricultural Extension Service, University of Kentucky, Leaflet 40, April 1943.

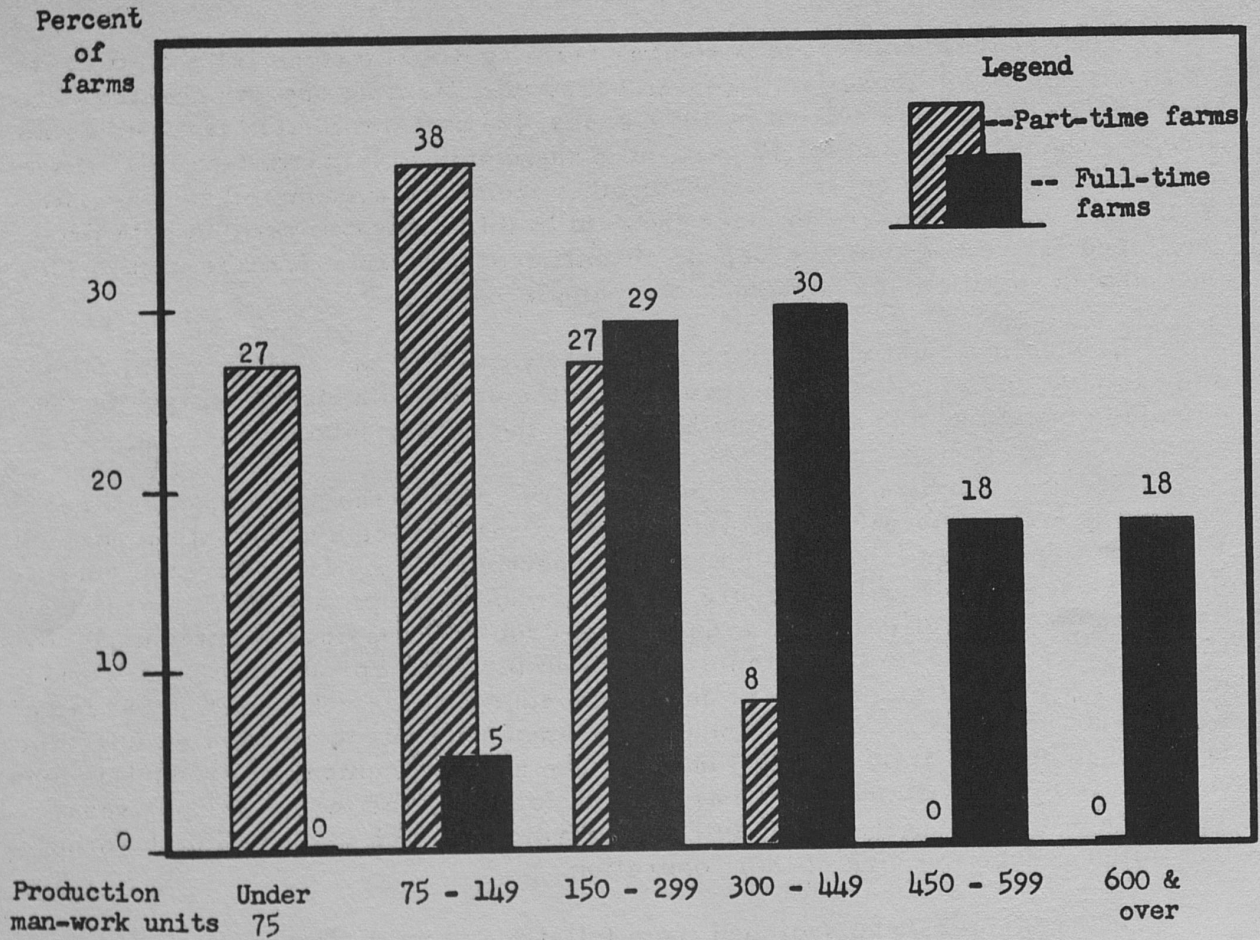


Fig. 5 - Proportion of farms by productive man-work units per year required for crop and livestock production and type of farm.



Changes in Type of Farming Operation. ---In the Purchase Area in recent years there has been a trend to reduce the acreage of row crops and to increase grassland and pasture, reflecting changes in the relative profitability of row crops and live-stock farming. Scarcity of farm labor and the switch to part-time farming of many full-time farmers further encouraged this change in farming operations, especially after 1950. Twenty-six percent of the farmers interviewed had decreased row crops and increased grassland and pasture acreages since June 1950, but 40 percent of the part-time farmers and only 11 percent of the full-time farmers had made this change. More than 80 percent of the full-time farmers who had shifted to part-time farming since 1950 had decreased their row crop acreage and had increased their grassland acreage.

Shift in Work Patterns. ---Among the heads of farm families, those living on full-time farms were most likely than those on part-time farms to be working at each of the various farm operations (Table 4).

Table 4. -- Proportion of Various Farm Family Members.  
Six Years of Age and Over, Working at Specified Farm Operations on the Home Farm During the Year, 1952 by Type of Farm

Farm Operation	All members	Heads	Wives	Other members
	Percent	Percent	Percent	Percent
<u>All Farms</u>				
Plowing	33	86	1	25
Planting	31	88	--	20
Cultivating	35	84	15	24
Haying	37	74	20	29
Harvest crops	47	86	35	36
Care of livestock	38	85	16	28
Operating tractor	39	73	8	37
<u>Part-time farms</u>				
Plowing	32	81	--	26
Planting	31	85	--	21
Cultivating	34	77	15	24
Haying	42	60	35	38
Harvest crops	47	79	38	38
Care of livestock	47	75	19	27
Operating tractor	42	63	8	46
<u>Full-time Farms</u>				
Plowing	34	91	2	23
Planting	31	91	--	18
Cultivating	37	91	16	23
Haying	31	89	2	17
Harvest crops	46	93	27	34
Care of livestock	28	96	14	28
Operating tractor	35	84	7	26

As for the wives of the heads, the reverse was generally true, although their work was pretty well confined to the cultivation, and harvesting of row crops and hay, and care of livestock. Other family members of part-time farm families worked at various farm operations on the home farm to a greater extent than the same group in full-time farm families. Tobacco was the crop most wives and other members helped harvest. They helped also with the housing and stripping of tobacco. Because the part-time farmer did not spend as much time on the farm as the full-time farmer did, he did not operate tractors to as great an extent as the latter. However, the other family members of part-time farm families operated tractors in greater proportions than those in full-time farm families.

All farm families in the survey had one or more members working sometime during the year an average of 406 days per family. Although there was no significant difference in the average size of family between full-time and part-time farm families, members of the latter worked more days a year than the former (Table 5).

Table 5. -- Farm Families With One or More Members Employed at Various Kinds of Work, Total Days Worked and Average Days Worked For Family During the Year 1952, by Type of Farm

Type of farm and kind of work	Families with one or more members working		Total days worked	Average days worked per family
	Number	Percent	Number	Number
<u>Part-time farms</u>				
All work	48	100	19,800	413
Work on home farm	48	100	6,120	128
Work off the farm	47	98	13,680	285
Farm work, other farms <sup>1/</sup>	9	19	540	60
Nonfarm work	47	98	13,140	280
<u>Full-time farms</u>				
All work	44	100	17,550	399
Work on home farm	44	100	15,540	353
Work off the farm	35	80	2,010	57
Farm work, other farms <sup>1/</sup>	7	16	900	129
Nonfarm work	17	39	1,110	65

<sup>1/</sup> Farm work excluding exchange work

Part-time farm family members averaged 413 days of work per family during the year, as compared with 399 days for full-time farm family members. The former averaged about a third as many days of work on the home farm per family as the latter. However, other members of the household on part-time farms with the head employed at nonfarm work averaged more than four times as many days at work on the home farm per family as household members of full-time farm families. Family size was about the same for each of these groups.

### Social Adjustments

Because of inherent differences in the occupational groups, certain social adjustments might be expected among families that were shifting from full-time to part-time farming or nonfarm occupation. The extent of the differences among these three groups was analyzed by selecting from the sample families only those who had been full-time farmers for the last 20 years or longer and part-time farmers and nonfarm residents since 1944.

Social Participation -- A shift from full-time to part-time farming increases the participation of the family in formal organizations. Applying Chapin's Social Participation Scale,<sup>9</sup> significant differences<sup>10</sup> were found to exist among the scores of the families, heads, and wives of the three groups full-time and part-time farming and nonfarm workers. (Fig. 6). Part-time farm families had the highest median scores, nonfarm families the lowest.

Social participation of part-time farm family members in this area differs greatly from that in many other areas. Studies of part-time farming in the country-city fringes<sup>11</sup> have emphasized limited participation in community activities as an important characteristic of the part-time farm family. Lack of integration into community life or failure to develop unified locality groups appears to be a marked trait of the country-city fringe areas. In most instances the part-time farm family had moved into the area recently either from the city or from a more distant rural area.

Part-time farming in the Purchase has a completely different setting. Here part-time farmers generally have not moved into the area but have lived there for an average of more than 15 years. A new set of associations is usually acquired by the family when the head of the full-time farm family takes on a nonfarm occupation and becomes a part-time farmer. The family becomes associated with urban organizations and at the same time continues to participate in old rural ones. The head of a part-time farm family had a higher participation score than his wife, while there was no significant difference between their scores in the other farm families. Part-time farm heads were more likely than other members of his family to be affiliated with urban formal organizations.

Probably the most profound social adjustment resulting from a shift by a farmer from farming to a nonfarm occupation was that of joining a trade union, a step taken by 58 percent of the part-time farmers. These were working on the construction of the AEC plant and in the railroad shops in Paducah.

Area of Participation -- Extent of affiliation with wide-spread formal organizations by part-time farm families is shown by the distance they travel to attend meetings. Part-time farm families travelled about twice as far to attend meetings as did full-time farm families (Table 6). Part-time farmers travelled an average 9/ Social Participation Scale, F. Stuart Chapin, University of Minnesota Press: 1937.

<sup>10/</sup>When the term "significant difference" is employed it implies that the relationship or difference is statistically significant. The chi-square test of significance was used and, unless otherwise indicated, nothing less significant than the 5-percent level was considered.

<sup>11/</sup> Bruce L. Melvin, "Place of the Part-time Farmer", Rural Sociology XIX, (3) (September 1954): pp. 281-286.

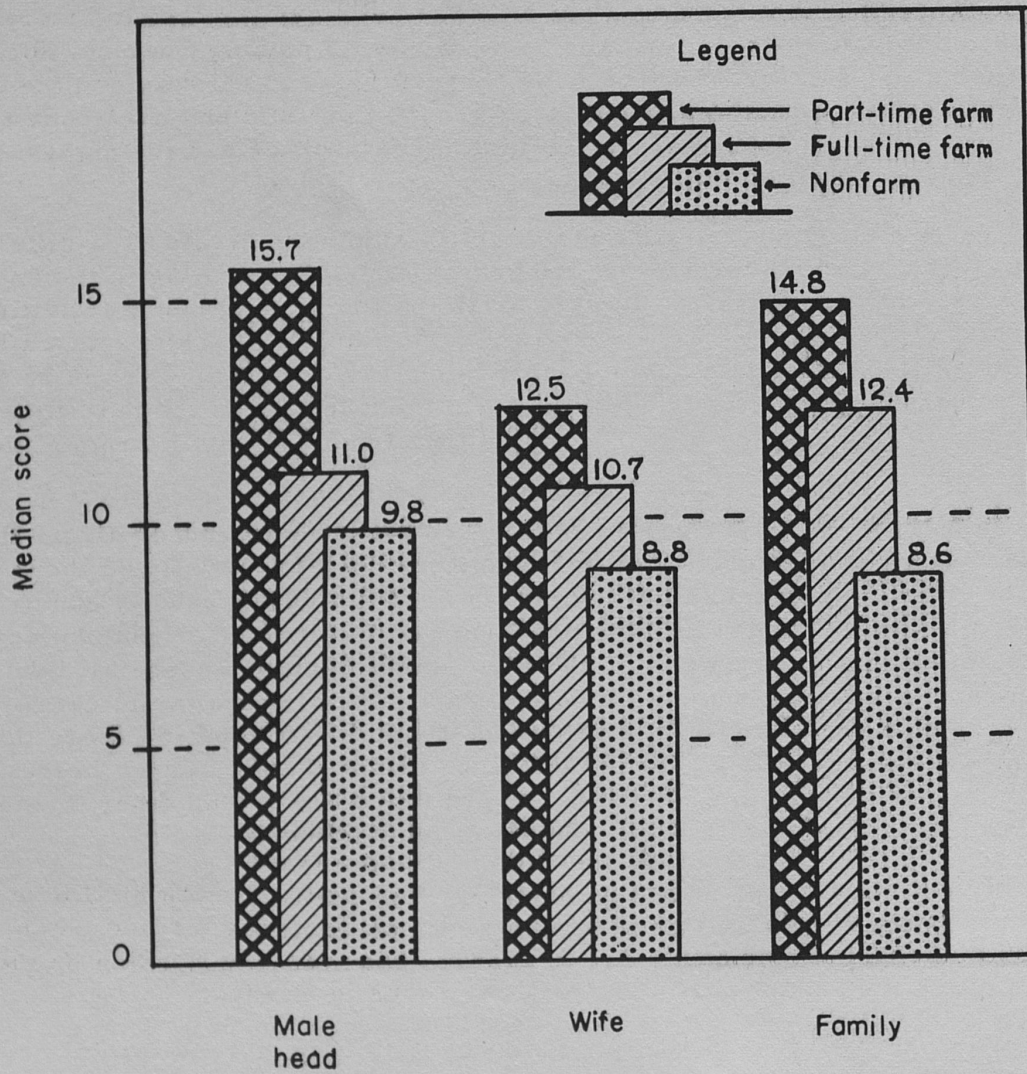


Fig. 6 - Median social participation scale scores (Chapin's) of male heads, wives, and families by occupation of male head.

Table 6. - Maximum Distance Traveled to Attend Meetings of Formal Organizations, by Residence

Miles traveled	Total		Residence		
			Nonfarm	Part-time farm	Full-time farm
	Number	Percent	Percent	Percent	Percent
Total	122	100	100	100	100
Under 5	23	33	34	19	42
5 - 9	14	23	21	23	29
10 - 19	16	27	24	35	29
20 and over	14	17	21	23	--

maximum distance of 12.2 miles to attend formal organization meetings. The average for full-time farmers was 6.3 miles. Twenty-three percent of the part-time farm families went 20 miles or farther to attend meetings of formal organizations, whereas no full-time family went that far to attend a meeting.

Family Association - One would surmise that a shift to part-time farming would probably decrease the time that a family would spend together as members of a family group would be home together fewer nights per week after the shift than before. The facts bore out this expectation (Table 7).

Table 7. - Distribution of Families by Occupation and Residence, by Average Number of Nights Per Week All Family Members Are at Home

Number of evenings	Total		Residence		
			Nonfarm	Part-time farm	Full-time farm
	Number	Percent	Percent	Percent	Percent
Total	122	100	100	100	100
0 - 3	29	43	42	14	36
4 - 5	18	28	38	46	34
6 - 7	20	29	20	40	30
Mean	4.4		4.2	4.0	5.2

Full-time farm families were at home together an average of 5.2 nights per week, as compared with an average of 4.0 nights for part-time farm families.

Three times as many part-time farm wives were away from home each day working at nonfarm work as were full-time farm wives, the figures being 12 and 4 percent, respectively. When a family shifted from full-time farming

to part-time farming there was also a noticeable decrease in the number of things that the family members did together as a family unit. Part-time farm family members were less likely than full-farm family members to attend social gatherings or eat meals or have recreational activities or attend school functions together; or to go visiting as a family unit.

Children in full-time farm families were more likely than those in part-time farm families to help their mother with the household tasks, but less likely to work at chores.

There was no significant difference between full-time and part-time farm families in such characteristics as: socio-economic status scale score (Sewell's)<sup>12</sup> age of head; size of family; and use of commercial services.

#### SUMMARY AND CONCLUSIONS

Although agriculture in the Purchase Area has been in a state of transition since the early 1920's, the rate of change has been greatly accelerated the last decade or so. During this period more than a thousand farm families had to move from more than a quarter of a million acres of farmland flooded by a lake formed by the Kentucky Dam or acquired for the Atomic Energy Commission's gaseous diffusion plant near Paducah. Between June 1950 and December 1952 more than 25,000 new nonagricultural jobs were made available by the industrialization of the Paducah and Calvert City areas. Industrialization in the area had its effect on local agriculture, causing movement out of farming, and increase in part-time farming, increased off-farm employment, improvement of farming methods, and a marked increase in farm mechanization.

Many rural residents in the Purchase area have moved in and out of farming during the last 20 years, their movement depending upon availability of nonfarm employment in the area and elsewhere. About 6 in 10 of the heads of families shifted between farming and nonfarm occupations. Among heads, those in part-time farm families did the greatest amount of shifting, those in full-time farming the least. About half of those shifting between farming and nonfarm occupations made only a single shift. However, of the 114 heads, who made at least one shift the total number of shifts was 204, and average of 1.8 shifts per family.

More than 43 percent of heads of families who had worked at nonfarm employment as a principal occupation during the 20 year period, worked outside the Purchase Area during some portion of that time. Half of those working outside the Purchase Area worked in Detroit.

The peak of the shift from farming to nonfarm occupations was reached in 1950 and 1951. This was due principally to the unprecedented number of well-paying nonfarm jobs available locally during these years. Generally, there was

<sup>12</sup>/ The index used in this study was constructed by W. H. Sewell. See "A Short Form of the Socio-economic Scale," Rural Sociology, 8:161-170, (1943).

an inverse relationship between the number shifting from farming to nonfarm occupations on the one hand and the number shifting from nonfarm occupations into farming on the other hand. The larger number shifts from farming to nonfarm occupations came between 1938 and 1941, and in 1950 and 1951. These were low years of change from nonfarm occupations to farming. The peak period of shift from nonfarm occupations to farming was in 1943-46, low years for the shift from farming to nonfarm occupations, and included the return of service-men to their farms.

Distinct patterns of shifts appear for heads of nonfarm and farm families. Most heads of nonfarm families only made a single shift from farming, and more than a fifth of these shifted in 1951. Those making more than one shift were primarily nonfarm workers who did farming off and on for short periods during the last 20 years. Heads of part-time farm families were primarily farmers who supplement their incomes with off farm employment. When nonfarm employment was plentiful they worked primarily at nonfarm work, and when work was scarce they spent most of their time farming. Few full-time farmers changed from nonfarm occupations to farming without shifting back into nonfarm occupations for short periods during the 20 years studied. An important social adjustment of families resulting from full-time to part-time farming was an increase in participation in formal organizations. Greater participation in urban organizations entailed greater scope of association with urban organizations. Fifty-eight percent of the part-time farming heads were members of trade unions.

The shift to part-time farming reduced the time that the family members spent together. The husband usually left for work early in the morning and returned at nightfall. When he was a full-time farmer he spent most of his day on the farm and had his noon-day meal at home with members of his family not in school.

When heads of farm families shift from full-time to part-time farming the work on the farm requires greater effort on the part of other family members than was required when the head worked full-time on the farm. Both wives and children of part-time farm families were more likely to be working at various farm operations than were those of full-time farm families.

#### THE SAMPLE

The study included 189 rural families living in the open-country territory of the Purchase area of western Kentucky. There were 647 households in the sample areas, but questionnaires were filled for only those families that had lived in the area for a year or more and consisted of husband, wife, and children of school age (6-18 years of age) living at home. There were 934 persons living in the survey households, and of these 548 were 14 years of age and older, 828 were 6 years of age and older.

Farm families made up 49 percent of the sample, nonfarm families the remainder. Open-country families with a farm operator were designated as rural farm and those without a farm operation were classed as rural nonfarm. Farm

families were further divided into two groups---full-time and part-time---based on quantity of farm products sold and the amount of time the operator spent at work other than on his home farm. Fifty-two percent were part-time, 48 percent full-time.

The number of family members at home ranged from three to 12. The average size of family was high because, as noted above, the survey included only families with school age children. In general, rural families in the Purchase are smaller than rural families for the state as a whole. According to the 1950 Census of Population, the average size of household for both rural farm and non-farm in the area was 3.5 persons. For the state, the rural-farm households averaged 4.1 persons and rural nonfarm households 3.8 persons.

Heads of full time farm families averaged 46 years of age, heads of non-farm families and part-time farm families 42. The average age of the wives in the survey was 39. Wives of full-time farmers were oldest, with an average age of 40.4 years, wives of non-farmers were youngest, averaging 38.4. Wives of part-time farm operators were 38.9.

#### METHOD OF STUDY

The area selected for this study was the open-country territory in Economic Area 1, which consists of eight counties in western Kentucky, commonly known as the "Purchase." "Open-country" refers to all territory in these counties exclusive of all incorporated places having a population of about 100 inhabitants or more. From the open-country territory in Economic Area 1, a single-stage, geographically stratified random sample of 79 area segments was selected which varied in size from about 3 to 10 dwellings each. Located in the area segments were 647 households from which basic information was secured regarding household composition, occupation of the head, years lived in the community, last previous residence, and sex and age of household members. Screening all households left 196 households with head and wife living at home with school age children (6-18 years of age), from which schedules were to be taken. Completed schedules for 189 survey families were obtained from the housewives and, when available, husbands. This left seven families from whom the enumerators were unable to get completed schedules.

Two graduate students in the Department of Rural Sociology, University of Kentucky, did the field work in May and June 1953.