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Part-Time Farming

in the Knoxville City-Country Fringe

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by
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The University of Tennessee
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SUMMARY

● This study is a follow-up of one made in 1946 of all family-operated part-time farms in a selected study area within the city-country fringe of Knoxville, Tennessee. There were 155 part-time farms in the area when the original study was made and 141 in 1951 when this study was undertaken. Ninety-nine of the 141 were in the original study.

● Part-time farms averaged 23.3 acres in size in 1946 and 26.0 acres in 1951. Acres used for crops, were 7.2 and 6.7 respectively. Pasture acreage increased slightly. These differences were not significant statistically.

● Average size of gardens decreased from 1 to .6 acres, and corn cropland from 2.4 to 1.6 acres per farm. Differences in garden and corn acreages were statistically significant.

● Livestock of all kinds averaged 3.7 animal units per farm in 1946 and 3.5 in 1951. There was little change in kind of livestock kept other than a slight but not significant drop in chickens.

● Mechanization was low on these farms, most operators having little more than tillage tools for row crops. Tractors (farm and garden), however, which were reported on but 6 percent of the farms in 1946 were reported on 30 percent in 1951.

● Average value of investments increased from $1,166 per farm to $6,277. A large part of this was in enhanced real estate values; however, almost one-third of the increase was in machinery, largely tractors and tractor equipment.

● The estimated value of farm contributions to family living rose from an $837 average in 1946 to $923 in 1951. This includes a substantial increase in house rental, some increase in livestock products consumed by the family and a decrease in vegetables and fruit.

● All part-time farmers reported some farm products sold in 1946. Eighty-one percent reported such sales in 1951. The average value of products sold dropped slightly from $274 in 1946 to $248 in 1951. The decrease was confined to livestock products (dairy products and eggs).

● Total costs (other than family labor) connected with operating the farms average $627 per farm in 1946 and $795 in 1951. Significant increases were registered for all major items other than feed and labor or custom work hired. Purchased feed costs declined significantly.

● The estimated total income from the farm (including sales, products used by the family and house rental) exceeded costs (cash costs, interest and depreciation) by $184 per family in 1946 and $376 per family in 1951. This represents roughly the year's returns to the family for farm work.

● Cash cost, however, exceeded cash income from the farm by $70 in 1946 and $118 in 1951.

● The average off-farm wage earned by operators before deductions was $2,099 for the 1946 year and $2,678 for 1951. Average wage for women and girls working was $1,232 in 1946 and $1,696 in 1951.

● On a per family basis (some families with more than one person employed off the farm), the gross off-farm income from all sources was $2,439 in 1946 and $3,047 in 1951. Commuting costs were estimated at $193 in 1946 and $252 in 1951.

● Family labor earnings from all sources were estimated at $2,730 in 1946 and $3,170 in 1951.

FOREWORD

Good farming and wholesome farm life are vital to the welfare of our State and Nation. Should some segment of farm life be malfunctioning, then the whole society will be adversely affected. One way by which farmers on small or low-producing farms augmented their incomes and subsequent levels of living is through off-farm employment, either by the farmer or someone else in the family. Such part-time farmers often face problems peculiar to this type of living. This bulletin attempts to present factual information on this phenomenon for those interested in improving this segment of our rural life.

This study was conducted and the report prepared as a phase of the studies in part-time farming, land tenure, and rural development by the Department of Agricultural Economics, University of Tennessee. It is a follow-up of a previous study in the same study area and reported in Agricultural Experiment Station Bulletin Number 210, "Part-Time Farming in the Knoxville Farm-Industrial Area of East Tennessee," University of Tennessee (1949). The Southeast Regional Land Tenure Committee counseled in the conduct of the study and assisted in financing the field work.

This bulletin, the 28th in a series dealing with land tenure problems in the Southeast, is sponsored jointly by the Tennessee Agricultural Experiment Station, University of Tennessee, and the Southeast Regional Land Tenure Committee. The members of the committee, who were appointed by the directors of the experiment stations in their respective states, are as follows: Alabama, Ben T. Lanham (Chairman); Florida, H. G. Hamilton; Georgia, W. T. Fullilove; North Carolina, H. B. James; South Carolina, G. H. Aull; Tennessee, H. J. Bonser; Virginia, W. L. Gibson, Jr. In addition to the above, Director H. N. Young, Virginia Agricultural Experiment Station, serves as liaison officer with the Southern Directors and as advisor to the committee. Member representing other organizations are Joseph Ackerman, Farm Foundation; Max M. Tharp, Frank H. Maier of the U. S. Department of Agriculture serves as regional project leader.

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Part-Time Farming In The Knoxville City-Country Fringe*

by

Howard J. Bonser**

INTRODUCTION

Part-Time Farming and Society

An Adjustment in Rural Living.—A rapid population growth in areas bordering city and country has been taking place throughout the nation. This is an adjustment to changing economic conditions, both urban and rural, and to the availability of facilities for comfort and convenience in the country at reasonable cost relative to the city. It involves a trend to part-time farming which can be expected to continue for some time. Such forces as high rentals for city houses, increasing ease of transportation, and extension of rural electric power lines with attendant availability of home conveniences make country living increasingly desirable for industrial workmen. Savings to be had by growing food instead of buying it also encourage many wage-earner families to farm or garden on the side.

The degree of success achieved by this method of operation, commonly called part-time farming, depends to a large extent on adequate knowledge concerning essential requirements. Does the presence of part-time farming in rural neighborhoods encourage people to remain in farming or is it a step towards nonfarm employment? It remains for social scientists to interpret the impact of this mode of life on rural society and to suggest measures for improvement.

Part-Time Farming in Tennessee

Who Farmers Are.—In 1954 farmers in Tennesse who reported working at some job off the farm for pay numbered 93,686 or 46 percent of the total.

Considerable differences existed over the state as to type of off-farm work. Manufacturing, employing slightly under 35,000 farm people, tended to be concentrated around population centers. School teaching and government, employing over 7,500 from farms, was diffused in all areas as was construction which employed over 12,000 farm people. Min-

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ing—employing less than 3,500 farm people in 1950—was carried on by those living on or adjacent to the Cumberland Plateau.[1]

Tennessee has five areas of heavy concentration of part-time farming: the Kingsport-Bristol-Johnson City-Elizabethton area of upper East Tennessee, and the metropolitan areas around Knoxville, Chattanooga, Nashville, and Memphis (Figure 1). Part-time farming is more prevalent in the East Tennessee Valley than in the State as a whole. Areas of lowest concentration are the western Highland Rim and the cotton section of West Tennessee.[2]

It is desirable to study part-time farming intensively in a limited area in order that the subject as a whole may be better understood.

Purpose of Study

The general purpose of this study is to provide needed information on part-time farming for active and prospective part-time farmers, for agricultural and home economics extension workers, for vocational agriculture teachers, and for others dealing with this segment of society. Specifically, the aims are: (a) to study the farm organization of part-time farms where both farming and nonfarming vocations are carried on by the operator or his family; (b) to determine what is the degree of stability of part-time farming and part-time farm families in an industrialized rural area; (c) to determine what adjustments have taken place on part-time farms in recent years; and (d) to determine the role of part-time farming in an industrialized economy as it affects people getting into and out of agriculture or industry.

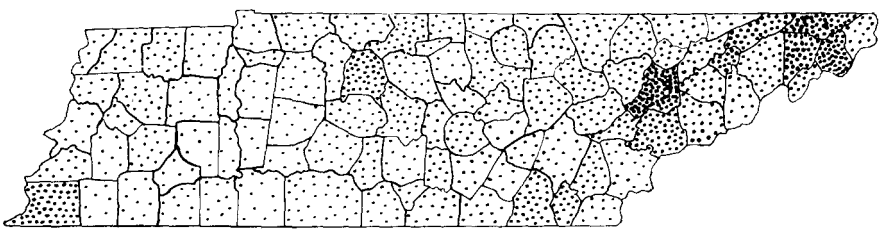


Figure 1.—Rural farm males 14 years and up whose main occupation was non-farm, Tennessee, 1950.

Scope and Method

Principles Apply All Over.—The findings of this study apply directly to part-time farmers and their families in Knox County. To a lesser degree they apply to part-time farmers throughout the State and in other states of the Southeast. The application of principles—such as the importance of location and gearing farming operations to the family's

[1] U. S. Census of Population, Vol. 2, Characteristics.
[2] Exclusive of Shelby County.

work time—should apply anywhere. Conversely, practices and enterprises best adapted to carrying out these broad objectives will vary with local cultural patterns and climatic conditions.

The concept of part-time farming as used in this bulletin is that of a small farm, operated by family labor, where at least one member of the family (usually the man) is employed at work off the farm. This narrows the range of variations; it eliminates both rural residences and rural homesteads where farming is negligible, and also part-time, management-operated farms with a hired labor force doing full time farming under the management of an operator who is employed elsewhere.

One county within a large type-of-farming area was selected for study, and then a segment within this county was selected for intensive study (Figure 2).

How Area Was Selected.—Four factors entered into the selection of an area for study: (1) it must represent a major type-of-farming area; (2) it must represent an industrial area of considerable importance; (3) it must contain enough part-time farmers to make application of the findings worth while; and (4) a previous study of part-time farms in this area must serve as an excellent benchmark. Knox County was selected.

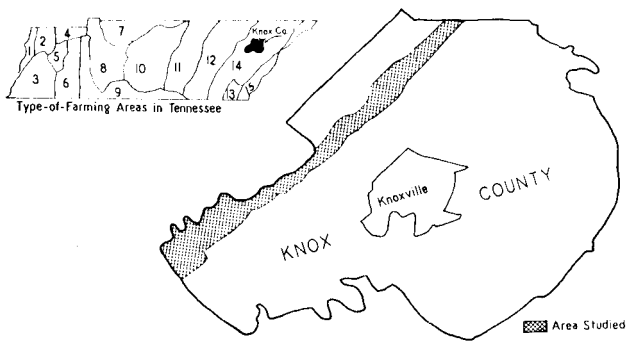


Figure 2.—Location of Knoxville and area studied.

This county is located near the center of Type-of-Farming Area 14, the largest in the State and high in part-time farming. It has many characteristics similar to those of other metropolitan areas in the State. And industries in which farm people find employment are similar to the main industrial pattern for the State as a whole and for the Southeast.

Intensive study within Knox County was done on Copper Ridge, a low ridge 1 1/2 to 2 miles in width and running the length of the county. Distance from the heart of the city of Knoxville ranged from 8 to 25 miles.

First Survey.—Enumerators visited the homes of all part-time farmers in the Copper Ridge study area at two different periods slightly over 5

years apart and obtained data regarding their operations. The first enumeration was done in the fall of 1946 and the second in the spring of 1952.

For the first survey, farm business information relating to organization, operation, and management was obtained for the year ending October 15, 1946. In addition to questions regarding inventories, land use, sales, home-used products and expenses, the part-time farmer was asked what additional equipment he needed; what he considered to be the proper farm organization for his family, considering his present off-farm job; his motives for going into part-time farming; years spent in part-time farming; intentions for the future, and other factors which might indicate desirable part-time farming combinations. Information was obtained about income from off-farm work, commuting expenses, hours of work, and other items.

Second Survey.—The second survey—completed in the spring of 1952—was to obtain data for the 1951 calendar year. Information comparable with the 1946 survey was obtained for farming operations and for non-farm employment. Information was not as complete, however, for farm production for home use.

This second survey, in addition, included a complete occupation and residence history for the men in the households beginning at 18 years of age. This second survey included (a) all part-time farms included in the first survey; (b) any part-time farms in the area for the year 1951 that were not part-time farms 5 years earlier; and (c) limited information from families included in the first survey who had left part-time farming since 1946.

Part-Time Farms Defined

Size, Source of Income and Labor.—The type of part-time farms studied was limited first to those that were large enough to be classed as farms by census definition: namely, 3 or more acres of land used for agricultural purposes, or $250 worth of farm products grown during the year ($150 exclusive of garden in 1951). On the upper scale the farm had to be operated by the farmer and his family, excepting for possibly some day labor hired. No interviews were held where the farm labor was done by croppers or hired hand.[3] This eliminated commercial outside-labor farms.[4] For a farm to be classed as part-time according to the definitions used here, the family must receive income from both the farm and an off-farm occupation.[5] Employment off farm was not considered in typing the farm unless one had a regular job or worked at least

[3] This refers to tenants or hired hands working a farm on which the owner lives who has an off-farm job. Tenants who both farmed and had a job were included.

[4] Commercial farms operated by tenants or hired laborers while the resident owner was employed elsewhere.

[5] Cases where all outside income came from sources other than work were not included. Thus broken families living on Aid for Dependent Children or Old Age Assistance, or pensions, etc., were excluded even though they farmed a little.

150 days during the year. In a few cases some family member other than the male head was employed elsewhere.

Under the above classification, the sample represented small farms where the working time of families was divided between farm and off-farm work. Farms in all cases were too small to be considered commercial farms. They would probably represent what has been described as semi-commercial part-time farms and residential part-time farms.[6]

Description of the Area Studied

Population.—Knox County can be looked upon as tributary to Knoxville, a city of 125,000 people.[7] The county outside the city had an additional population of 98,000 in 1950.

Type of People.—The people for the most part are descendants of settlers who migrated from the British Isles during the nineteenth century. A few colored families live in scattered neighborhoods.[8]

Job Opportunities.—Employment has been available in manufacturing plants of various kinds,[9] as well as in other lines (trade, personal and domestic service, professions, transportation, construction, government, and others) usually found in a city of this size. There were about 78,000 gainfully employed persons living in Knox County—including Knoxville—in 1950.

Kinds of Soils.—Most soils in the county are derived from impure limestones, principally cherty magnesian limestone, and shale. A few of the less extensive soils are derived from chert-free limestone and from sandstone. Productivity of the soils varies greatly.

Soils of the Copper Ridge, where the schedules were taken, are derived from cherty dolomitic limestone. In this Fullerton-Bolton-Clarksville soil association, Fullerton soils predominate, although in some places Clarksville soils occupy a significant area. Bolton soils occupy smaller, widely-distributed areas. Soils from alluvium, principally Greendale soils, make up a small part of the landscape. The upland soils are naturally only low to moderate in fertility.

Topography is rolling to hilly with some steep slopes. Even though deep to bedrock, the soils commonly contain chert and hold only moderate amounts of moisture. They are well-drained as a rule, and are adaptable to the growing of early crops in the spring with proper culture and fertilization. Hence they are considered to be fair soils for producing early truck crops. Their low capacity to supply moisture to plants makes them poorly suited to growing pasture during periods of low rainfall. This soil association is the most extensive in the county, has probably

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[6] **Journal of Farm Economics**, Vol. 18, pp. 191-197, and Vol. 22, pp. 581-600.
[7] **U. S. Census of Population**, 1950.
[8] Less than 2 percent of the rural-farm population in the county were colored according to the 1950 Census of Population.
[9] Textile mills and apparel industries, which employed over half of those in manufacturing in 1940, employed 36 percent in 1950.

more farms than any other, and would represent the modal group if farms were arrayed on the basis of productiveness. Average productivity, however, would probably be lower than for the county at large.[10]

Climate.—Little need be said about climate other than that the months of September, October, and November tend to be dry as contrasted with the year as a whole. The average rate of precipitation for these 3 months is only about 57 percent of the monthly average for the year. Average annual rainfall is about 50 inches, or slightly over 4 inches per month. This rainfall pattern makes growing of fall crops difficult.

Temperatures are favorable for the warm-season crops, such as corn, lespedeza, alfalfa, and tomatoes. Cool-season crops, such as Irish potatoes, cabbage, and others of a similar nature, do reasonably well if grown as early crops in the spring.

THE PART-TIME FARMS 1946 AND 1951

General Description

Number.—In 1946, there were 155 part-time farms as defined for this study in the study area—141 with the operator working both on the farm and at a nonfarm job and 14 with some other family member working away. In 1951, part-time farms numbered 141; 133 with the operator working part-time at a nonfarm job and 8 with some other member of the family thus employed. Ninety-nine of the part-time farms in 1951 were included in the earlier survey. The remaining 42 had become part-time farms since 1946.[11]

Acreage and Use of Land.—The average size of the part-time farms in 1946, including woods and wasteland, was 23.3 acres for the 155 cases studied. Two-thirds, however, were smaller than this average. One-half were 17 acres or less. The 141 part-time farms in 1951 averaged 26.0 acres with three-fifths smaller, and one-half with 20 acres or less.

Cropland and open pasture averaged 14.7 acres per farm in 1946 and 15.3 in 1951. The remainder was mainly in woods, brush, and farmstead with small amounts of idle or open non-crop land on some farms.

Pasture (excluding woodland pasture) in 1946 averaged 7.5 acres per farm. Land used for crops average 7.2 acres. In 1951 these averages were 8.6 and 6.7 respectively; a 1.1-acre increase in pasture and a .5-acre decrease in land used for crops.

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[10] Soils on Copper Ridge are probably as good as those of part-time farms in the county as a whole, since such farms tend to be clustered on below-average soils. Black, in discussing soils of part-time farms for the country in general, reports them to be poorer than other farms in their general areas. Black, Clawson, Sayre, and Wilcox, **Farm Management**, Chap. 47.

[11] All 141 part-time farms in 1951 were combined for later comparison in this section. These 141 were composed of 3 groups; part-time farms included in the first survey having the same operators both years, part-time farms included in the first survey but with different operators, and new part-time farms in the area that were not part-time farms in 1946. These three groups were checked for differences in size, using acres in crops and numbers of animal units as criteria. By neither of these two measures were differences among the groups significant at the .05 level of probability in the F test. Hence, it seems reasonable to use the combined groups for picturing changes.

All part-time farmers had gardens in 1946. All but one had them in 1951. Seventy-eight percent grew field corn in 1946, 57 percent in 1951. Hay was grown by about two-fifths in both periods, while tobacco expanded from 10 percent to 20 percent of the part-time farms in 1951. Small grains also expanded from 5 percent to 9 percent of the farms (Table 1). Orchard and small fruits were reported on one-fourth or less of the farms both years.

Table 1.—*How Farm Land Was Used, Averages for* 155 *Part-Time Farms,* 1946, *and* 141 *Part-Time Farms,* 1951, *Knox County.*

Crops or other land use	Farms reporting		Average per farm			
			Farms reporting		All farms	
	1946	1951	1946	1951	1946	1951
	Percent		Acres			
Garden and truck crops	100	94	1.0	0.7	1.0	.6*
Corn	78	57	3.0	2.8	2.4	1.6*
Hay	62	60	5.6	5.9	3.5	3.5
Small grains for grain	5	9	6.9	8.4	.3	.8
Tobacco	10	20	.6	0.6	.1	.1
Sorghum for syrup	9		.9		.1	
Orchard and/or vineyard	19	25	.8	1.1	.2	.3
Strawberries	6		.6		**	
Peanuts	1		.8		**	
Total crop acres	100	98	7.6	7.0	7.6	6.9 NS
Acres double-cropped	12	4	3.6	4.1	.4	.2
Acres used for crops	100	98	7.2	6.9	7.2	6.7 NS
Pasture (cleared)	88	90	8.5	9.5	7.5	8.6 NS
Idle or open non-cropland	17	100	7.0	4.0	1.2	4.0
Woods, brush, other	90	77	8.3	8.7	7.4	6.7
Total acres in farm	100	100	23.3	26.0	23.3	26.0 NS

* Differences between 1946 and 1951 for all farms significant at the .05 level or greater.
** Less than .05.
NS Differences not significant.

Buildings.—It was the impression of the enumerators and of various persons interviewed that part-time farm homes were as roomy, comfortable, and attractive as other homes on Copper Ridge. The part-time farm homes were not considered to be as large nor attractive as other farm homes, however, on the red soils in Beaver Valley adjacent to Copper Ridge.

Barns and other outbuildings were usually small. In many cases they appeared adequate to house stock, feed and equipment. There was little evidence of buildings having been designed with a view to either sanitation or convenience in doing chores. In some cases, buildings had been built for larger farms than existed at the time of the enumeration.

Livestock.—All part-time farms studied except one had livestock in 1946. All had livestock in 1951. The main purpose in keeping stock was to produce meat, milk, and eggs for the family.

Ninety-five percent of the farm had poultry of some kind in 1946, 88 percent in 1951. Size of flock as well as proportion of families with poultry decreased during the interval (Table 2).

The usual hog enterprise consisted of about two shotes bought, fed on the place, and butchered for home use when fat. Ninety percent of the farms had hogs in 1946, 67 percent in 1951.

Cattle were on 89 percent of the part-time farms in 1946 and on 79 percent in 1951. Some operators had so increased the size of their herds that by 1951 there were as many cattle but they were on fewer farms than in 1946.

Fifty-seven percent of the part-time farmers kept horses or mules. Very few kept more than one head. Goats were reported on a few farms in both years.

Table 2.—*Livestock, by Kind, Percent of Farms Reporting, and Average Animal Units Per Farm,* 155 *Part-Time Farms,* 1946, *and* 141 *Part-Time Farms,* 1951, *Knox County.*

Kind of livestock	Farms reporting		Animal units per farm			
			Farms reporting		All farms*	
	1946	1951	1946	1951	1946	1951
	Percent		Number			
Horse and/or mules	57	57	1.35	1.39	.77	.79
Cattle, all kinds	89	79	1.88	2.26	1.67	1.78
Hogs	90	67	.72	.79	.65	.51
Goats	3	6	.32	.15	.01	.01
Poultry	95	88	.63	.42	.60	.37
Total	99	100	3.73	3.46	3.70	3.46

* Differences for all farms were not significant for any class of livestock.

Machinery.—These part-time farmers were farming with few implements in 1946. The farms were small, 57 percent had workstock, and 10 of the 155 had tractors, only 5 of which were really usable farm tractors. The field implements reported were largely those used in producing corn or other row crops. Equipment for harvesting hay or small grains was noticeably lacking in the earlier survey. A number had horse implements —such as a turning plow, a harrow, or a double shovel—even though no horse was kept. Borrowing a horse was found to be less difficult than borrowing both horse and equipment. The only pieces of machinery then reported on more than one-half of all farms were turning plows and cultivators.

Table 3.—*Implements by Kind, and Number and Percent of Farms Reporting, 155 Part-Time Farms, 1946, and 141 Part-Time Farms, 1951, Knox County.*

Kind of implement	Farms reporting			
	Number		Percent	
	1946	1952	1946	1952
Horse Implements				
Cultivator	87	93	56	66
Turning plow	99	81	64	57
Harrow	68	56	44	40
Wagon	44	49	28	35
Hay rake	33	44	21	31
Mower	45	43	29	30
Corn planter	19	37	12	26
Bull tongue	18	16	12	11
Disc	15	15	10	11
Grain drill	6	5	4	4
Subsoiler	1			
Sprayer	1			
Seeder	4		3	
Scoop	2		1	
Cultipacker	1			
Sled or float	2	2	1	1
Manure spreader	1	1		
Terracer		1		
Cane mill and evaporator	1			
Lime spreader	1			
Tractor Implements				
Plow	3	37	2	26
Disc	3	36	2	26
Trailer/wagon	1	25		18
Mower	3	21	2	15
Cultivator	3	20	2	14
Hay rake		10		7
Grain drill		6		4
Corn planter	1	5		4
Subsoiler	1	5		4
Harrow	1	4		3
Wood saw	1	2		1
Sprayer		1		
Binder		1		
Thresher		1		
Post hole digger		1		
Manure spreader		1		
Feed grinder	1			
Terracer	1			

Kind of implement	Farms reporting			
	Number		Percent	
	1946	1952	1946	1952
Tractor				
Farm tractor (regular)	5	34*	3	24
Farm tractor (improvised)	4	—	3	—
Garden tractor	1	9**	—	6
All tractors	(10)	(43)	(6)	(30)
Road Implements				
Truck	8	36	5	26
Trailer	5	8	3	6
Hand Implements				
Hand sprayer	46	29	30	21
Hand duster	26	22	17	16
Wheelbarrow	26	20	17	14
Hand cultivator	17	12	11	9

* Operated an average of 210 hours for farm work.
** Operated an average of 220 hours on the farm.

The main changes in the farm machinery inventories of 1951 were first, a substantial increase in tractors and tractor tillage tools, and second, an increase in haying equipment, namely mowers and hay rakes (Table 3).

By 1951 there were farm tractors on 24 percent of the farms, plus garden tractors on another 6 percent. There were also mowers (either horse or tractor drawn) on 45 percent of the farms and hay rakes on 38 percent. This was in contrast with 31 percent with mowers and 21 percent with hay rakes in 1946.

Little equipment for plant-disease or pest control was in evidence at either period. Hand dusters and hand sprayers were reported on less than one-half of the farms. Probably these tools were overlooked in some cases, since they are small and not costly.

Motor trucks were reported on 5 percent of the farms in 1946 and on 26 percent in 1951. A few other items of equipment were reported on scattered farms. These are listed in Table 3.

Investment.—Total investments per farm averaged $4,466 in 1946 and $6,277 in 1951, an increase of 41 percent. Increases in value over 1946 were registered for livestock, machinery, and real estate. Proportionately the greatest increase was in machinery, valued at $146 per farm in 1946 and $715 in 1951 (Table 4). This was attributable largely to added

Table 4.—*Investment in Part-Time Farms for Owners-Operators, Tenants and Landlords, Averages for* 155 *Part-Time Farms,* 1946, *and* 141 *Part-Time Farms,* 1951, *Knox County.*

Nature of investment	Value per farm*			
	1946		1951	
Total investment, owner operated farms (148 in 1946 and 140 in 1951)		$4,540		$6,306
Investment, tenant operated farms (7 in 1946 and 1 in 1951)				
Tenants' livestock and machinery	$ 319		$ 105	
Landlord's real estate	2,541		2,100	
Total		$2,860		$2,205
Investment, all farms (155 in 1946 and 141 in 1951)				
Livestock	$ 311		$ 387	
Machinery	146		715	
Real estate	4,009		5,175	
Total		$4,466		$6,277

* Values were those at the time of enumeration, except livestock in 1946 which were averages of the two inventories. Real estate estimates in 1951 were on the basis of a 10 percent increase in farm land values plus adjustments for building construction and demolition.

tractors and tractor equipment on some of the farms. Livestock inventories increased from a $311 average per farm to $387, and real estate from $4,009 to $5,175. Real estate values increased partly because of a general increase in land values and partly because of the modernization or construction of buildings, mostly dwellings.

Economic Contributions to Family Living

House Rental.—The income afforded the family for use of the house was estimated at 12 percent of the value of the building. House rentals as computed averaged $210 for 1946 and $305 for 1951 (Table 5).

Livestock Products.—The value of home-grown livestock products consumed by the 155 part-time farm families in 1946 average $274 ($208 for dairy products, $65 for eggs, and $1 for honey). The estimated 1951 average value[12] for 141 families was $331 ($248 for dairy products and $83 for eggs). No bees or honey were reported in 1951.

Livestock (meat).—Meat produced at home and consumed by the family averaged $128 per part-time farm family in 1946. This was mostly pork. The estimated value in 1951 was relatively unchanged. Actual amounts of pork and poultry apparently decreased, but a rise in meat prices offset the decreased number of animals butchered.

Vegetables, Fruit and Other Crops.—Garden, truck, fruit, and other crops grown and consumed on the part-time farms averaged $215 in 1946. Most of this was vegetable and truck crops. All of the farms had gardens in 1946, and 94 percent had them in 1951. Home-grown and consumed crops of some kind, however, were reported in 1951 in all cases. Estimated value of all crops averaged $151 in 1951. The decrease was largely attributable to a lessened emphasis on gardens.

Firewood.—Firewood was a small item on these farms. The reported value averaged $9 per farm in 1946. No change was indicated for 1951.

Economic Contributions Summarized.—The estimated value of farm contributions to family living rose from $837 average in 1946 to $923 in 1951. This represented a substantial increase in house rental, some increase in livestock products, and a decrease in vegetables and fruit. Where increases were registered, they rose largely out of price changes.

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[12] Values in 1951 were estimated on the basis of changes from 1946 in (a) numbers of livestock on these part-time farms, (b) production rates, and (c) prices as illustrated by the following formula for dairy products:

$$\frac{\text{milk cows per farm 1951}}{\text{milk cows per farm 1946}} \times \frac{\text{production per cow 1951}}{\text{production per cow 1946}} \times \frac{\text{index of consumers food prices 1951}}{\text{index of consumers food prices 1946}} \times \frac{\text{farmers' share of retail food cost 1951}}{\text{farmers' share of retail food cost 1946}} \times$$

value of dairy products consumed per farm 1946 = estimated value of dairy products consumed per farm 1951.

Table 5.—*Economic Contributions to Family Living, Averages for* 155 *Part-Time Farms,* 1946, *and Estimates for* 141 *Part-Time Farms,* 1951, *Knox County*

Item	Percent reporting 1946	Amount per farm reporting 1946	Amount per farm, all farms 1946	Amount per farm, all farms 1951*
Livestock products	98	$279.41	$274.00	$330.69
House rental**	100	210.12	210.12	305.36
Crops (vegetables, fruit, and other crops)	100	215.24	215.24	150.59
Livestock (meat)	95	134.28	128.22	127.50
Firewood	28	32.32	8.97	8.97
Total	100	$836.55	$836.55	$923.11

* Estimated.
** Estimated on the basis of 12 percent of the value of the dwelling.

Sales and Other Cash Farm Income

Crop Values Decreased, Sales Increased.—Proportionately fewer farmers were selling farm products in 1951 than in 1946. Whereas all 155 part-time farmers reported sales in 1946, only 81 percent did so in 1951. The average value of products sold dropped slightly from $274 in 1946 to $248 in 1951 (Table 6). This decrease was confined to livestock products (eggs and dairy products); e.g., livestock products sold averaged $94 per farm for the 155 part-time farms in 1946 and $47 in 1951, a decrease of $47. Crop sales and livestock sales both increased slightly during this period: crop sales from an average of $80 per farm for the 155 part-time farms in 1946 to $91 per farm for the 141 part-time farms in 1951, and livestock sales[13] from an average of $86 to $97 for the same groups.

[13] The 1946 figure includes changes in inventories.

Table 6.—*Sales and Other Cash Farm Income, Averages for* 155 *Part-Time Farms,* 1946, *and* 141 *Part-Time Farms,* 1951, *Knox County.*

Source	Percent of farms reporting sales 1946	Percent of farms reporting sales 1951	Average per farm: Farms reporting 1946	Average per farm: Farms reporting 1951	Average per farm: All farms 1946	Average per farm: All farms 1951
Crop sales	48	31	$165.75	$290.98	$ 80.20	$ 90.80 NS
Livestock sales	97	55	88.61	177.25	86.32	96.79 NS
Livestock product sales	62	54	151.46	86.64	93.80	46.70*
Miscellaneous	12	**	114.63	**	14.06	13.48
Total	100	81	$274.38	$306.46	$274.38	$247.77 NS

* Differences in average sales significant at the .05 level of probability or greater.
** Comparable data not available.
NS Differences not significant.

Expenses in Farm Operation

Most Costs Up.—Total costs (other than family labor) connected with operating the farms averaged $627 per farm for the 155 part-time farms during the 1946 year (Table 7). However, in 1951, this averaged $795 per farm for the 141 part-time farms. This increase of $168 was diffused among almost all items of operation. Interest, calculated at 5 percent of investment, increased $96, depreciation increased $50, and current farm expenses increased $21. The only categories showing a decrease were feed, $65, and labor or custom work $7. These two decreases, however, were more than offset by increases in costs for repairs, fertilizer, seed and other miscellaneous items.

Table 7.—*Current Farm Expenses, Interest and Depreciation, Averages for* 155 *Part-Time Farms,* 1946, *and* 141 *Part-Time Farms,* 1951, *Knox County.*

	Percent reporting expenses		Amount per farm				
			Farms reporting		All farms		
	1946	1951	1946	1951	1946	1951	Net change
Current expenses							
Feed	96	87	$217.12	$165.21	$208.72	$144.12	$ -64.60*
Repairs	58	57	45.14	101.80	26.21	57.76	31.55*
Hired labor, custom work	48	37	49.55	46.38	23.66	17.11	-6.55 NS
Seed	96	97	188.93	31.77	18.16	30.87	12.71*
Fertilizer, lime	84	94	20.78	39.35	17.43	36.83	19.40*
Other	100	99	50.11	51.07	50.11	78.84**	28.73
Total current expenses	100	100	344.29	337.40	344.29	365.53	21.24*
Interest on investment @ 5%	100	100	217.50	313.85	217.50	313.85	96.35
Depreciation***	100	100	64.94	115.41	64.94	115.41	50.47
Grand total	100	100	626.74	766.66	626.73	794.79	168.06

*Differences between 1946 and 1951 for all farms significant at the .05 level of probability or greater.

** Includes $28.73 operating expense of 50 cents per hour for 34 farm tractors for 210 hours each, and 9 garden tractors at 20 cents per hour 220 hours each.

*** Depreciation charges were as follows: 2 percent on dwelling, 4 percent on other buildings and 7 percent on machinery.

NS Differences not significant.

Returns Above Costs

Less Net Per Farmer.—After calculating the total value of farm products sold or used at home, and of house rental for the year, and deducting from this amount the cash farm expenses, depreciation, and interest on capital invested, the remaining figure represents the net amount received by the family for its year's work on the farm.

An average of $484 per family was received for farm work for the 155 part-time farms in 1946. The figure averaged $376 in 1951 (Table 8).

It should be recalled that this figure represents both cash and non-cash items. The net cash figure (omitting values for farm products used

at home, house rental, interest and depreciation) averaged a minus (—) $70 in 1946 and a minus (—) $118 in 1951.

Table 8.—*Returns to Families for Farm Work, Averages for* 155 *Part-Time Farms,* 1946, *and* 141 *Part-Time Farms,* 1951, *Knox County.*

Returns and costs	Amount per farm			
	1946		1951	
Gross farm returns				
Home use (farm products used and house rental)	$836.55		$923.11	
Farm products sold	274.38		247.77	
Total farm returns		$1,110.93		$1,170.88
Farm costs				
Farm expenses (current expenses and depreciation)	$409.23		$480.94	
Interest on investment at 5%	217.50		313.85	
Total costs		$ 626.73		$ 794.79
Net returns for farm work		$ 484.20		$ 376.09

Wages and Other Nonfarm Income

Net Wages Up.—The average wage received by operators was $2,099 for the 1946 year and $2,678 for 1951.[14] Average wages for other males was $1,437 in 1946 and $1,934 in 1951 (Table 9). Average wages for women and girls working was $1,232 in 1946 and $1,696 in 1951. After deducting costs for traveling to and from work, the net wage for the operator was $1,932 in 1946 and $2,460 in 1951. For all workers (male and female) the net wage averaged $1,741 in 1946 and $2,277 in 1951. This reflects a 31 percent increase in wages and reasonably full employment for those working.

[14] Wages before withholding for Federal Income Tax, deduction for Social Security or other purposes.

Table 9.—*Wage Received for Nonfarm Work, Averages for* 196 *Workers on* 155 *Part-Time Farms,* 1946, *and for* 172 *Workers on* 141 *Part-Time Farms,* 1951, *Knox County**

Workers	No. of workers		Wage earned		Cost of commuting**		Net wage	
	1946	1951	1946	1951	1946	1951	1946	1951
Farm operator	141	133	$2,098.66	$2,678.44	$167.07	$218.36	$1,931.59	$2,460.08
Other male workers	37	15	1,437.14	1,933.87	122.95	160.70	1,314.19	1,773.17
All male workers	178	148	1,961.15	2,602.98	157.90	206.37	1,803.25	2,396.61
Female workers	18	24	1,232.22	1,696.33	101.22	132.29	1,131.00	1,564.04
Both male and female	196	172	1,894.20	2,476.47	152.69	199.57	1,741.51	2,276.90

*Wages and commuting costs in this table are on a per worker basis and differ somewhat from the following table.
** Commuting costs for 1951 was estimated on the basis of 31 percent increase over 1946, the same proportionate increase as salaries and wages.

When off-farm income was translated to a farm family basis the gross off-farm income from all sources averaged $3,047 per family in 1951 (Table 10). This was an increase of $608 over 1946.

Net off-farm income after deducting estimated commuting costs averaged $2,794 in 1951 which was $549 greater than in 1946.

Table 10.—*Nonfarm Income by Source, Averages for 155 Part-Time Farms, 1946, and 141 Part-Time Farms, 1951, Knox County**

Source	Average income or cost per farm					
	Gross income		Commuting costs		Net income	
	1946	1951	1946	1951	1946	1951
Operator's wages	$1,909.10	$2,526.48	$151.98	$198.64	$1,757.12	$2,327.84
Wages of others	486.15	494.47	41.10	53.72	445.05	440.75
Other misc. income	43.36	25.77	....	....	43.36	25.77
Total	$2,438.61	$3,046.72	$193.08	$252.36	$2,245.53	$2,794.36

*Data in this table are on a per farm basis and differ slightly from Table 9 which is on a worker basis.

Returns from Both Farm and Nonfarm Sorces

Returns to the family from both farm and nonfarm sources are expressed as family labor earnings. This figure attempts to measure what the family receives for its labor both on and off the farm. The farm sources include the value of farm products sold or used at home, plus house rental, minus cash farm expenses, depreciation and interest on investment. Nonfarm sources include all wages and some miscellaneous income such as unemployment benefits and terminal leave pay from the armed services.

Total Returns Higher.—Family labor earnings averaged $2,730 per part-time farm family in 1946 and $3,170 in 1951 (Table 11). Thus family labor earnings increased $440 during the 5-year period. All of this increase was in wages. Actually the returns to the family for farm work decreased $108.

Stability of Tenure on Part-Time Farms

On-Farm vs. Off-Farm Labor Requirements.—Part-time farmers adjust their operations in accordance with off-farm job opportunities, the family labor force and individual preferences, as well as conditions within agriculture itself. It is conceivable that there may be times when the

Table 11.—*Labor Earnings from Farm and Nonfarm Sources, Averages for 155 Part-Time Farms, 1946, and for 141 Part-Time Farms, 1951, Knox County.*

Source of earnings	Value per farm			
	1946		1951	
From farm				
Value of products sold or used at home and house rental	$1,110.93		$1,170.88	
Cash farm expenses, depreciation and interest	626.73		794.79	
Returns to family for work on farm		$ 484.20		$ 376.09
From nonfarm (wages and other sources)				
Operators' wages	1,757.12		2,327.84	
Wages of other family members	445.05		440.75	
Other nonfarm income	43.36		25.77	
Returns to family from nonfarm sources		$2,245.53		$2,794.36
Total farm and nonfarm family labor earnings		$2,729.73		$3,170.45

operator is out of agriculture and other times when a large part of his productive efforts is on the farm.[15] It is hoped that a review of tenure shifts on these farms will help to understand this phenomenon.

Farm Family Movement.—In the area, 99 of the 115 part-time farms in 1946 were still family-operated part-time farms in 1951, with most of them being farmed by the same family. Farming operations were expanded on five farms, either through hired or cropper labor, to the extent that the farms were classed as being part-time management-operated (Table 12). Fifteen were subsistence, retirement, or semi-commercial farms operated on a full-time basis; i.e., there was no nonfarm work done. No farming was done on the remaining 36 units in 1951.

One-half of the 36 dwellings on former part-time farms, but on which no farming was done in 1951, were occupied by the same family in both years. Thirteen had different families on them, and five were vacant either all or most of the 1951 year. In 1946 these 36 units were only slightly smaller in size than the others. They averaged 20.7 acres per farm of which 5 were used for crops. Farm units had cattle in five out of six cases, hogs and chickens in nearly all cases, and workstock in over one-half the cases. Cash income from sales averaged $243 in 1946. Cash

[15] The enumerators were impressed with the number of cases where the family resided on several acres of land, and some years the land provided nearly all the income; other years, as the family grew and off-farm employment improved, part-time farming was done; and still other years no farming was done. This was true even though acreage in the unit did not change.

Table 12.—*The* 1951 *Situation of* 155 *Units that Were Part-Time Farms in* 1946, *Knox County.*

Status of unit in 1951	Number	Percent
Part-time farm, family operated	99	64
Nonfarm (including 5 vacant)	36	23
Retirement, subsistence, or semi-commercial farms with no off-farm work done*	15	10
Management-operated part-time	5	3
Total	155	100

* Includes one commercial broiler farm.

farm expenses exceeded sales by $74 per farm. None of these items were then far different from averages for the total 155 part-time farms. Five were rented in 1946. It is interesting that there were only 7 rental farms among the 155 in 1946, and that 5 of the 7 passed out of farming.

Five of the 36 tracts were later sub-divided for residential building sites.

The Part-Time Farm Families

Some Operators Move Off.—Of the 155 part-time farm families in 1946, there were 113, or 72 percent, who had remained on the same tracts in 1951 and 42 who had moved off. Eighty of those remaining were still part-time farming with family labor. Another five were part-time management-operators with a major amount of the farm work done by hired or cropper labor. Eleven had given up their nonfarm jobs and were farming on a retirement, subsistence, or semi-commercial basis, and 17 had given up farming operations altogether (Table 13).

Of the 42 families who moved to other tracts only 9 could be identified with agriculture (8 farming part-time and 1 full-time). Twenty-three, as well as could be determined, were identified with nonfarm work. Three were broken or retired families with no occupational income. Seven families ceased to exist as families because of the death of one or both spouses.

Nineteen of the same 42 families were living in the county, mostly adjacent to the study area. Seven were in the city of Knoxville, 4 in other counties of the state and 5 in other states.

Why Operators Left Farms.—The reasons operators gave most often for quitting part-time farming was that they had difficulty in finding time to carry an off-farm job and farm. This reason arose in some cases

as the children left home, or when age reduced the operator's or his wife's capacity to work. In a few cases low returns from the farm were reported. In some cases location of the particular part-time farm was undesirable and the farming was sacrificed for a more favorable location. Poor locations were described as those from which commuting to work was costly in terms of both money and time, as well as not convenient to schools and community organizations. Some decisions to move (even though this meant leaving farming) arose out of the land market; i.e., the operator could dispose of his farm and buy another tract advantageously.

Opportunity Costs of Farm Work.—Another factor which may be associated with this phenomenon is opportunity cost in industry. Farm-

Table 13.—*Classification of the Original* 155 *Part-Time Farm Families According to Main Source of Occupational Income,* 1951, *Knox County.*

Classification of family in 1951	Number of families			Percent of families		
	On original farms	Not on original farms	Total	On original farms	Not on original farms	Total
Part-time farming, family operated	80	8	88	52	5	57
Part-time farming, management operated	5	0	5	3	0	3
Retirement, subsistence or semi-commercial farming**	11	1	12	7	1	8
Nonfarm employed	17	23*	40	11	15	26
Broken families and/or retired***	0	3	3	0	2	2
Deceased and family no longer exists	0	7	7	0	4	4
Total	113	42	155	73	27	100

* Enumerators were unable to contact five of these cases in 1951. As far as could be determined they were then nonfarm families.
** Includes one commercial farmer.
*** No one employed.

ers did not volunteer this, but when they were asked in 1946 if they lost any wages because they were absent to do farm work, 15 replied in the affirmative. The average amount of this wage loss was estimated at $121. Six or 40 percent of the 15 who reported wage loss due to farming were still in part-time farming in 1951. This was in contrast with 62 percent of the 140 who did not report such wage loss (Table 14). The difference of 22 percent was not quite great enough to be statistically significant at the .05 level of probability with this number of cases.

The feeling of being handicapped in part-time farming relative to either living on a full-time farm or a residential farm had no bearing on

Table 14.—*Part-Time Farmers Reporting Handicaps or Loss of Off-Farm Wages in 1946, and Number of Each Remaining in Part-Time Farming by 1951, Knox County.*

	Number of cases	Remaining in part-time farming in 1951		
		Number	Percent	
Total cases	155	93	60	
Loss of industrial wage in 1946 due to part-time farming:				
None	140	87	62	!
Some (avg. of $121)	15	6	40	!
Expressed handicaps in part-time farming or part-time farm living in 1946:*				
None	138	83	60	NS
Some	17	10	59	NS

* Handicaps relative either to full-time farming or to rural nonfarming.
! Differences significant at the .10 level of probability.
NS Differences not significant at the .10 level of probability.

whether or not the family remained in part-time farming 5 years later.

In order to understand more of the nature of stability in part-time farming, occupational and residence histories were compiled for the men in all families interviewed beginning at age 18. From these the number of consecutive years in each occupational status were calculated (farm full-time, farm part-time and nonfarm). The present occupational status was not included, since its length was not yet concluded. Each occupational status other than the present was considered one observation; e.g., two observations were made for a man who farmed full-time for 5 years, then part-time farmed another 5 years, and who in 1951 was not farming and had not farmed for 5 years. Thus each observation represented a completed span of years in a given occupational classification.[16] The average completed span for full-time farmers was 10.9 years; for part-time farmers, 10.5 years; and for non-farmers 11.4 years. Differences between these were not great enough to be statistically significant by the F. test.

Stability—Part-Time vs. Full-Time Farmers.—Census data by counties for the state indicate that part-time farmers move slightly more often than do commercial farmers. Whereas 13.2 percent of all part-time farmers in Tennessee had lived on their farm only 1 year or less as of 1950, only 11.6 percent of the commercial farmers were in this category (Table 15). On the other hand 37 percent of the part-time farmers were on their farms 10 or more years in contrast with 40 percent for the commercial

[16] This classification considers only the three main classes. Within each class a given case might have changed employers, or may have moved from one place to another.

farmers. These differences, while not great, were significant at the .05 level of probability by the Chi Square test. In view of the increase in part-time farming since 1940, however, it is possible that the slightly reduced years of tenure for part-time farmers may be due to the larger proportion who are new part-time farmers rather than part-time farmers moving from farm to farm.

Table 15.—*Percent of Farms by Length of Tenure, Part-Time and Commercial Farms, Tennessee,* 1950*

Length of tenure on the present farm	Part-time farmers	Commercial farmers	Part-time and commercial farmers
Years	Percent		
1 or less	13.2	11.6	11.9
1.1 - 4.9	31.1	29.7	30.0
5.0 - 9.9	18.7	18.7	18.7
10.0 and up	37.0	40.7	39.4
Total	100.0	100.0	100.0

* Calculated from U. S. Census of Agriculture.

ECONOMIC IMPLICATIONS OF PART-TIME FARMING

What Are Relative Incomes of Part-Time Farmers?

Comparable with Full-Time Farmers.—Policy-wise it is desirable to explore more carefully the economic implications of part-time farming. The part-time farmers in the study area in Knox County received $3,170 earnings for the family's work in 1951. Of this amount $2,794 was from off-farm sources and $376 from the farm. This compares favorably with a median income of $2,675 for all farm families in Knox County in 1950.[17]

Relative incomes from part-time farming in this study are consistent with incomes reported by McVay in two Piedmont counties of North Carolina where average family incomes of all farmers were $1,668 in 1943. However, for those farm families where 35 or more percent of the family labor force was employed off the farm, the incomes averaged $2,795.[18]

Still further evidence was derived from county data for the counties in Tennessee from the 1950 Census. Median income per farm family by county was used as the dependent variable in a multiple regression equation with five independent variables representing farm mechanization, value of farm land and buildings per acre in farms, percent of farm oporators working off-farm 100 or more days a year, median school year completed by farm operators, and natural population increase per 1,000 population for the intercensal years 1940-50.

[17] Calculated from U. S. Census of Population, 1950.
[18] McVay, Francis E., "Factory Meets Farm in North Carolina," Technical Bulletin No. 83, North Carolina Agricultural Experiment Station, 1947.

Gross correlation of part-time farming and median family income was $r = +.481$ which was highly significant. Partial correlation coefficient showing the net relationship of part-time farming to income when the other four factors were held constant was $r_{14.2356} = .577$ which was also highly significant. An increase of one percentage point in farm operators in a county working off farm was accompanied by a net increase in income of $15 per farm family. Multiple correlation coefficient was $R_{1.23456} = .823$. The coefficient of multiple determination was $R^2_{1.23456} = .678$. Both of these were highly significant.

An even closer relationship between part-time farming and income of farm families was evidenced in the highland and valley sections of East Tennessee, Western North Carolina, Northern Georgia, and Southwest Virginia.[19] In these sections income from all sources per farm family in 1950 was used as the dependent factor with independent factors of mechanization; part-time farming, acres of cleared land per farm; percentage of farm sales from livestock and livestock products; median years of school completed by farm operators; and percent of farms operated by tenants and croppers. The net regression on incomes was $24 per one-point change on the percentage scale of farm operators working off the farm. Standard deviation of this regression was $\pm .318$; thus the relationship was highly significant. Income was also positively related to both mechanization and size of farm, and negatively related to proportion of farm sales from livestock and livestock products. These relationships were significant at the .05 level of probability.

Part-Time Farming and Utilization of Labor

Farm Labor Demands.—One problem of part-time farmers is the changing seasonal labor requirement on farms which has to be met by a relatively stable family labor force throughout the year. Less than 5 days of farm work were done on the part-time farms in the study area in 1946 for each of the months of December, January, and February. In August this rose to 12.2 days, two and one-half times the average of the lowest 3 months (Figure 3). This same seasonal pattern was evidenced on farms with either large or small labor forces. However, the greatest total difference in seasonal labor requirement existed where the labor force was largest. On farms of two or more man equivalents in the labor force, there was a difference of 9.9 days of work on the farm between August and each of the 2 lowest months, January and February.

Days of off-farm work were relatively stable throughout the year. There was very little tendency for workmen to take vacations when farm work was pressing except for the few who were self-employed and able to arrange their off-farm work for their convenience.

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[19] Includes county data from the following state economic areas: Tennessee Economic Area 8a, 8b, C and D; North Carolina Economic Areas 1, 2, and A; Georgia Economic Area 2; and Virginia Economic Areas 1 and 2.

Thus it is evident that considerable underemployment existed at times on farms in the Knox County part-time farming area. This is the result of the extent and kind of farming done.

Part-Time Farm Planning

Emphasize Off-Farm Jobs.—Observation of these farms indicated that the family's low dependence on farming made farming decisions secondary to off-farm employment in many cases; hence factors other than the farm itself may serve as intervening variables which in some cases negate advance farming plans. If this is true, then educational programs in part-time farm planning will have serious handicaps to overcome.

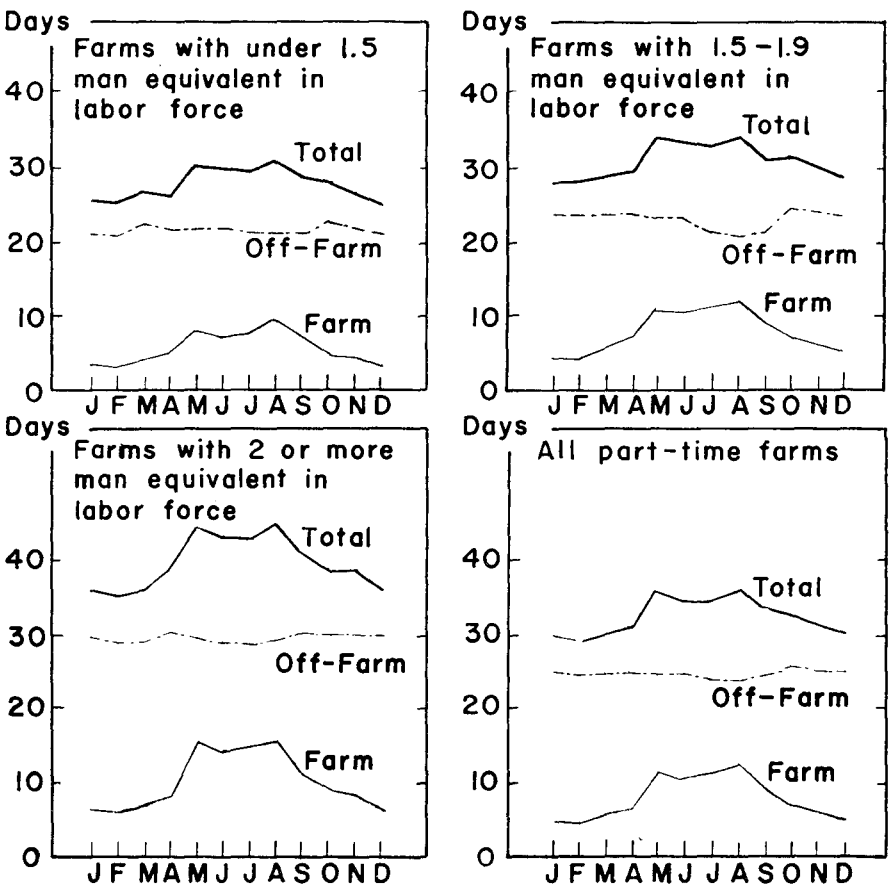


Figure 3.—Days of farm and off-farm work by months for part-time farms by size of labor force, 124 part-time farms, Knox County, 1946*

*Monthly data were not complete for 31 cases.

In the earlier study farmers were asked what size and organization of farm was best suited for the particular off-farm job which they had. Replies were tabulated under the general categories of size, cropland use, and kind and amounts of livestock and farm machinery desired. Statements of desired farm organization were sometimes general and difficult to evaluate; however, 118 observations of some phase of organization were recorded among those who had remained in part-time farming on the same farm. Of these there were 79 observations or 66.9 percent where the size and organization expressed as desirable was essentially the existing one. Fifty-three of this group (44.9 percent of the total) remained essentially unchanged in 1951 and 18 (15.3 percent of the total) moved away from this situation. Of the 47 observations where the desired situation was different from that one existing in 1946, there were 26 cases where changes were made in the direction of the desired situation and 21 where the situation remained unchanged (Table 16). No consistent pattern of change in the direction indicated as desirable could be seen.

Table 16.—*Direction of Changes Made on Part-Time Farms, 1946-51, With Respect to Farm Organization Indicated as Desirable, Part-Time Farms, Knox County.**

Direction of change, 1946-51	Observations by change in:				Total observations**	
	Size of farm	Cropland use	Livestock	Machinery		
	No.	No.	No.	No.	No.	Pct.
a. Movement toward organization indicated as desirable	9	9	5	3	26	22.0
b. Situation considered desirable and remains unchanged	15	11	14	13	53	44.9
c. Situation considered undesirable and remains unchanged	5	2	8	6	21	17.8
d. Movement away from organization considered desirable	5	5	5	3	18	15.3
Total	34	27	32	25	118	100.0

* Includes only those cases where the operator remained in part-time farming on the same farm and where data on desirable organization were definite.

**Differences were not statistically significant for (1) between a and d, and (2) between a b and c d.

Part-Time Farming and Farm-To-City Migration

History Since 1912.—Is part-time farming a means of facilitating moves into or out of agriculture? Occupational changes were tabulated for 175 men in these families beginning at age 18 years. Changes were first plotted chronologically by 10-year intervals.

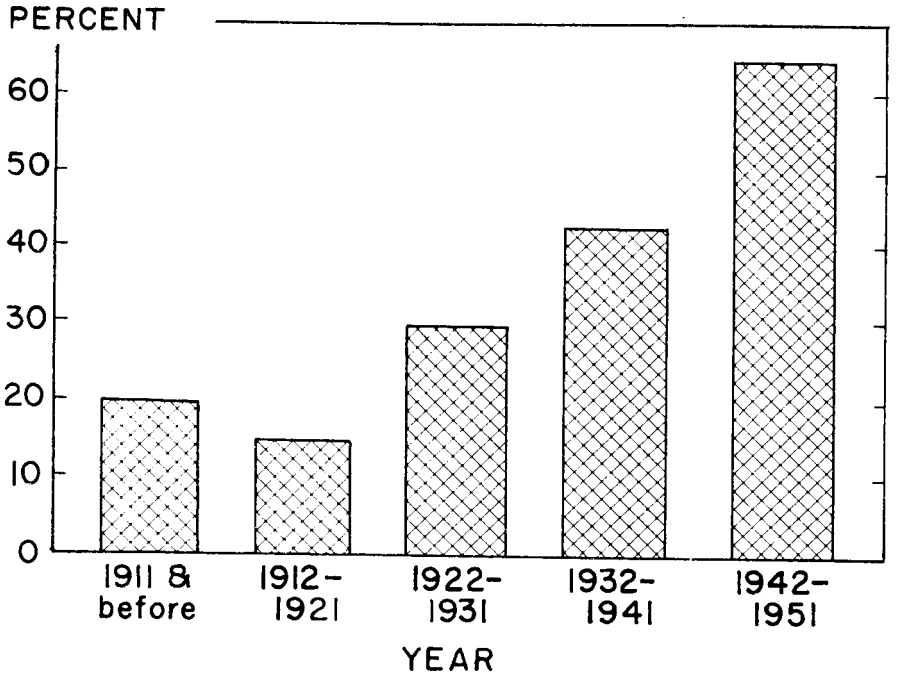


Figure 4.—Percent of men who changed occupational status by 10-year intervals, 175 men on part-time farms, 1946 and 1951, Knox County.

During the years 1912-21 (the World War I years), the direction of the movement was out of full-time farming and mostly into part-time farming (Figure 5). The depression years and since have shown a marked decline in shifts from full-time farming to nonfarming. Shifts into part-time farming from nonfarm jobs have been quite marked since the World War I period, and have increased in rate with each 10-year interval. Each 10-year interval beginning in 1912 has had at least twice as many moves from full-time to part-time farms as vice versa.

A glimpse of changes in occupational status in terms of the individual's ages at the time changes were made ought to help in understanding the process by which such shifts are made. About two-fifths of the men changed occupational status during each 10-year age interval; e.g., 62 of the 175 men changed occupational status during the 10 years when they were from 18 to 27 years of age; 79 to 170 changed status during the 10 years when they were from 28 to 37 years; and 59 of 142 changed status during the years when they were from 38 to 47 years of age (Figure 6). The direction of these changes is shown in Figure 5.

Changes in Middle Years.—There was a pronounced tendency for farm boys to go into off-farm jobs in their early years and then into part-time farming during the middle years. At the older ages, or 48 and up, there was considerable dropping of either farm work or the off-farm job by part-time farmers. There was also at this age considerable shifting to part-time from full-time farming. Apparently this involved reducing farming operations[20] and picking up some part-time work such as driving a school bus, working on the highways, etc.

Data from this study neither substantiates nor denies the hypothesis that part-time farming is an intermediate stage facilitating mobility in or out of agriculture.

[20] Distinction was not made between commercial and subsistence farming among the full-time farmers in this study. Such a classification would help in better understanding retirement.

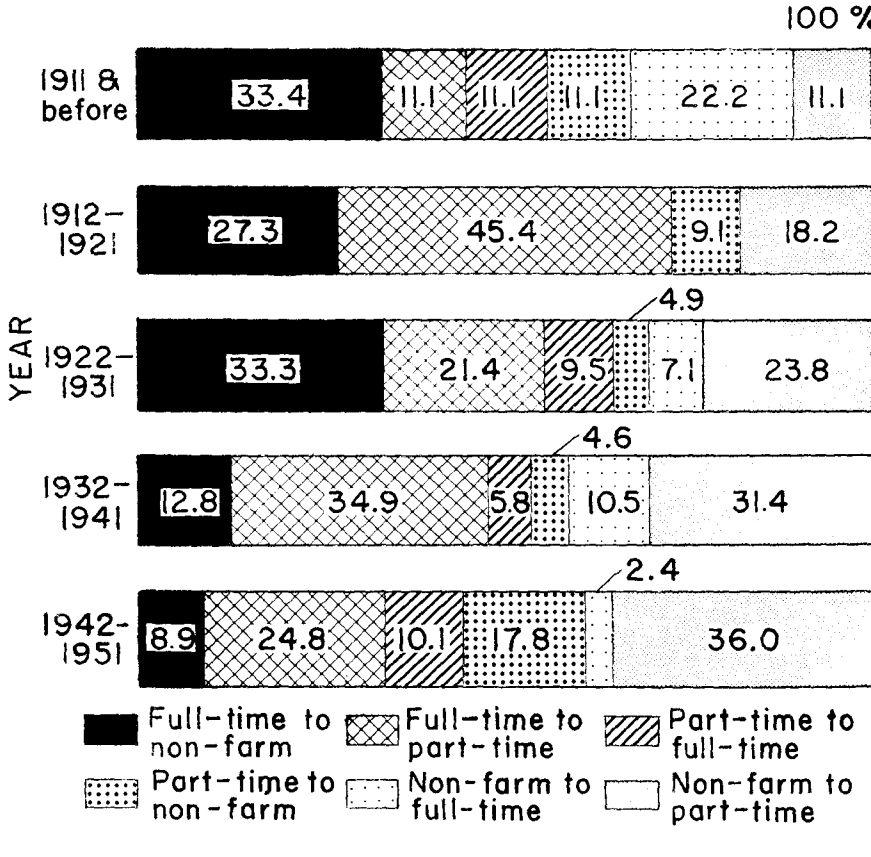


Figure 5.—Percent of changes in occupational status by direction, 10-year intervals, 175 men on part-time farms, 1946 and 1951, Knox County.

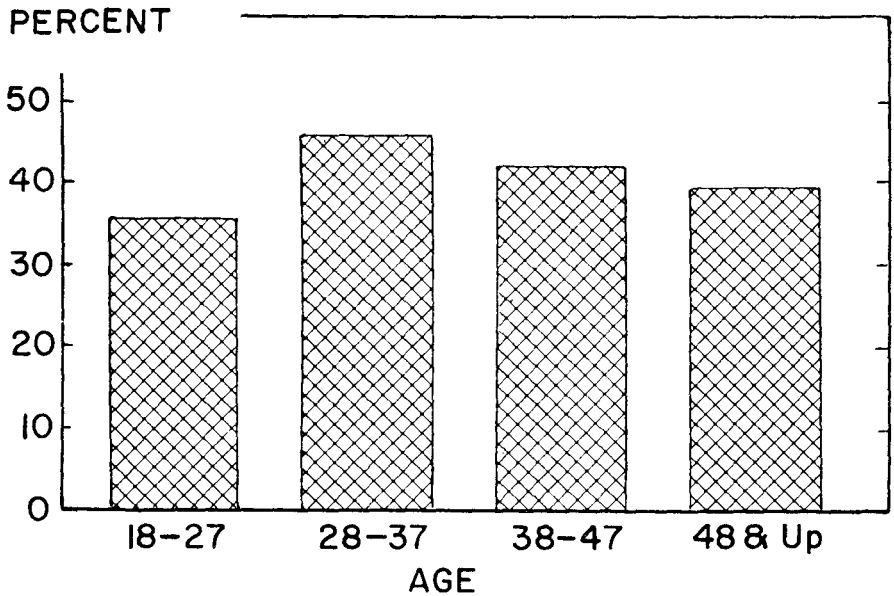


Figure 6.—Percent of men who changed occupational status by ages, 175 men on part-time farms, 1946 and 1951, Knox County.

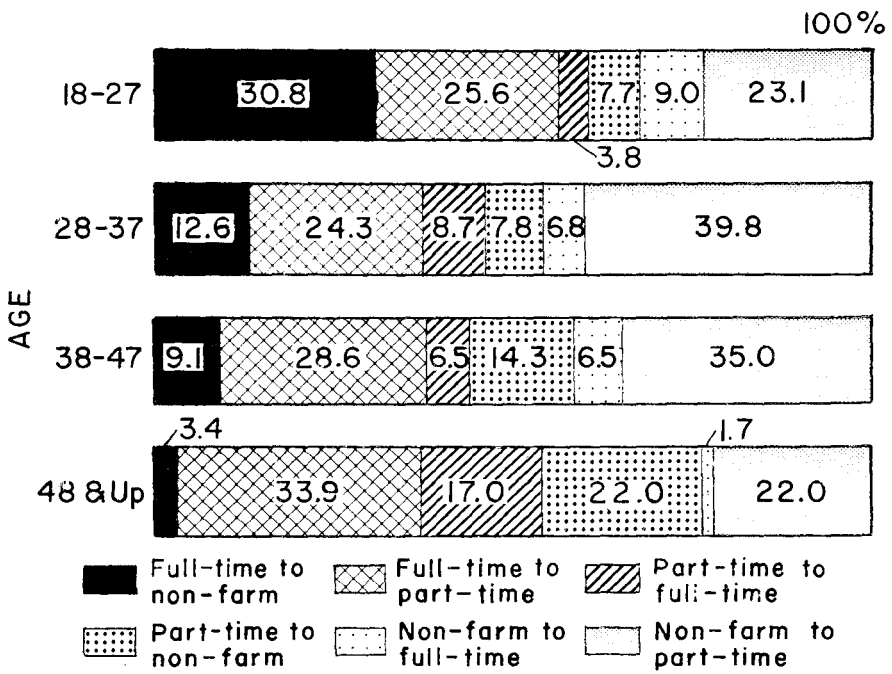


Figure 7.—Percent of changes in occupational status by direction and by age, 175 part-time farms, 1946 and 1951, Knox County.

CONCLUSIONS

Part-time farming, in areas where off-farm employment is available, provides an opportunity for farm-loving people with limited farm resources to attain a reasonable level of living on the land.

Incomes of part-time farm families in this region of small farms are substantially above the average for all farm families in the same counties. Therefore, one could conclude that providing off-farm employment would raise levels of farm living.

Evidence from this study leads one to believe that the combining of industrial employment and production of food by the same families is a reasonably stable way of living for a sizable segment of the rural population in places where non-farm employment is available. While individual part-time farm families increase or decrease their farming operations in response to such items as the number of mouths to feed, size of the family labor force, and size of the worker's pay check, at the same time part-time farming for the community as a whole continues to be relatively stable.

The seasonal nature of farm work will dictate that farming operations be small on part-time farms unless there is considerable underemployment in an area. Farming is not likely to be much greater on a given farm than what the family can do at peak periods, unless industry can arrange to work fewer days during seasons of peak farm work.

A study of occupational histories of part-time farmers indicates that people go into and out of part-time farming at all ages. However, a tendency exists for the farm boy to go into industry when he first leaves school, then into part-time farming at early middle age as the family size increases. Later, after the family has again shrunk, he retires either through reduced operations on the part-time farm or by way of dropping either the farm or the off-farm work. This path may be indicated as follows:

Youth	Middle age	Retirement
Farm →	industry → p-t farm →	farm
		→p-t farm
		→nonfarm

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