

# Land Utilization in Lawrence County, Ohio

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AGRICULTURAL EXPERIMENT STATION  
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## LAND UTILIZATION IN LAWRENCE COUNTY, OHIO

J. H. SITTERLEY, H. R. MOORE, AND J. I. FALCONER<sup>1</sup>

Economic and social changes of the past and present century have brought forth many new conditions and situations. How to make adjustments to meet these changes has been a problem for all agricultural regions. However, this has been true especially in the rougher, less fertile, and poorly situated areas, many of which have experienced difficulty in competing with those that are more productive and more favorably located. Regions of rough topography settled in the days of hand tools and the ox team have been placed at a distinct disadvantage by the invention and use of larger units of farm machinery and the gas engine. Many areas which provided a satisfactory living in the period when farms were largely self-sufficing have found it more difficult to provide a satisfactory living in these days of good roads, automobiles, telephones, factory-made clothes, etc., all items which demand an outlay of money.

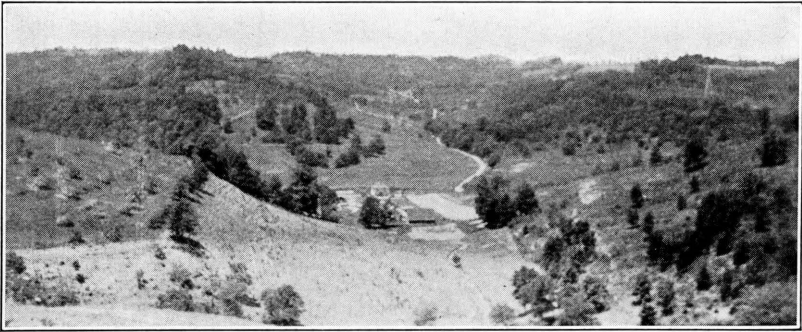


Fig. 1.—Lawrence County has a rough topography  
not very conducive to agriculture

Different areas have responded in various ways to these new developments. The purpose of this study in Lawrence County in 1931 and that in Vinton County in 1930 has been to picture the different ways in which the less favorable agricultural areas of the State are adjusting themselves to these new conditions. Both

<sup>1</sup>Acknowledgment is herewith given of the cooperation of the local officials who made available the county records for the purposes of this report. Also, the following members of the Department of Rural Economics, F. L. Morison, P. G. Beck, and C. E. Lively, rendered valuable assistance and advice in gathering and interpreting the data. Lastly, Stanley Porter, the agricultural agent of Lawrence County, from his intimate knowledge of local conditions and institutions contributed valuable information and counsel. Although acknowledging the above assistance, the authors must assume full responsibility for the material and conclusions presented in this bulletin.

Lawrence and Vinton Counties are located in the southeastern part of the State, which comprises a large percentage of the relatively less productive agricultural areas of Ohio.

That land utilization in some sections of southeastern Ohio is in a transitional stage is suggested by the amount of farm land being abandoned, by the dilapidated condition of many buildings, by the relatively low standard of living of many, by the small income available for the support of the functions of local government due to the low tax base, and, more recently, by an increase in tax delinquency.



Fig. 2.—Location of Lawrence County

With the present standards established by the State for education, roads, health, and other publicly supported facilities, the question arises as to how the cost and responsibility of these functions should be divided between these low tax base districts and the State and as to what the public policy of the future should be towards these districts.

The field work for the present study was carried out in the summer of 1931. In 1930 a similar study was made of Vinton County and published as Bulletin 485 of the Ohio Agricultural Experiment Station. Lawrence County, located in the same general area of the State, was selected for the present study for the following reasons:

1. There has been a decrease of 20 per cent in the acreage of land in farms since 1880 and a decrease of 50 per cent in the improved land in farms since 1900. Only 15.7 per cent of the total area of the county was in harvested crops in 1929.

2. In 1930, 29 per cent of the population lived on farms and 22 per cent in other unincorporated territory. The other 49 per cent lived in seven incorporated cities and villages.

3. While the farm population has been decreasing, the total population in the county has been increasing since 1910.

4. Industrial wage and salary payments in 1929 were \$3,697,000 in Lawrence County, as contrasted with \$444,000 in Vinton County.

5. The United States Census reports the 1929 sales of farm products in Lawrence County as \$10 per acre of land in farms or \$880 per farm, as contrasted with \$15 per acre or \$1500 per farm for the State as a whole and \$4 per acre or \$484 per farm for Vinton County.

6. This county in 1930 received \$270,760 from the State as aid for weak school districts. The amount was exceeded by only one other county in the State.

7. Interest on the public debt amounted to 20 per cent of the total property tax and special assessments collected in the county in 1930.

8. Tax delinquency on real estate in Lawrence County increased from \$23,163 in 1920 to \$302,948 in 1931; during 1930 and 1931 the delinquency more than doubled.

9. In Lawrence and 13 nearby counties there are approximately 1,000,000 acres of land that lie idle and are not within the bounds of farms, and, in addition, there is at least one-half that number of acres of idle land that lay within the boundaries of farms in 1930.

The county was settled about 1800 and organized in 1816. The early settlers were of Scotch and Scotch-Irish descent. By 1870 the population of the county was 31,380, in 1880 it reached 39,068, in 1920 it was still only 39,540, but by 1930 it had increased to 44,541. The county may well be divided into three areas based on

present industrial and agricultural characteristics. They are: The western, including Washington, Decatur, Elizabeth, Hamilton, and Upper Townships; the southeastern, comprising all of the townships east of Ironton that border on the Ohio River (namely, Perry, Fayette, Union, and Rome); and the northeastern, including Symmes, Aid, Mason, Lawrence, and Windsor Townships.

TABLE 1.—Population of Lawrence County, 1850-1930

	1930	1920	1910	1900	1890	1880	1870	1860	1850
<b>Western Area</b>									
Decatur .....	864	795	950	1,063	1,527	2,043	1,761	959	1,052
Elizabeth .....	2,545	2,236	2,787	2,879	3,369	4,586	3,357	2,726	2,529
Hamilton .....	657	729	544	659	543	544	1,108	1,102	.....
Upper .....	1,551	1,616	1,380	1,831	2,492	2,806	2,146	1,228	2,494*
Washington .....	1,350	1,082	1,009	659	874	1,444	1,446	1,019	646
<b>Southeastern Area</b>									
Fayette .....	2,197	1,916	1,841	1,957	2,019	2,308	2,082	1,569	1,111
Perry .....	2,042	1,616	1,662	1,821	2,039	2,217	2,215	1,260	924
Rome .....	2,228	2,003	2,304	2,776	2,752	2,272	2,096	1,638	1,134
Union .....	2,772	2,490	2,445	2,564	2,456	2,075	1,940	1,663	1,318
<b>Northeastern Area</b>									
Aid .....	1,022	1,108	1,118	1,301	1,375	1,530	1,476	1,425	884
Lawrence .....	1,582	1,337	1,669	1,958	1,957	1,788	1,245	851	534
Mason .....	1,298	1,363	1,639	1,921	1,778	2,021	1,884	1,628	1,132
Symmes .....	780	953	909	1,032	1,062	1,099	995	801	487
Windsor .....	1,828	1,758	2,003	2,239	2,219	2,229	1,943	1,689	1,001
Total outside of incor- porated places .....	22,716	21,002	22,260	24,660	26,462	28,962	25,694	19,558	15,246
<b>Incorporated Places</b>									
Athalia (Rome Twp.) ..	205	233	226	346	199	240	.....	.....	.....
Chesapeake (Union Twp.) .....	1,094	821	541	.....	.....	.....	.....	.....	.....
Coal Grove (Upper Twp.)	2,181	1,851	1,759	1,191	506	.....	.....	.....	.....
Hanging Rock (Hamil- ton Twp.) .....	550	591	662	665	846	624	.....	.....	.....
Ironton (Upper Twp.) ..	16,621	14,007	13,147	11,868	10,939	8,857	5,686	3,691	.....
Proctorville (Union Twp.)	675	629	577	523	480	385	.....	.....	.....
South Point (Perry and Fayette Twp.) .....	499	406	316	281	224	.....	.....	.....	.....
Total county .....	44,541	39,540	39,488	39,534	39,656	39,068	31,380	23,249	15,246

\*Includes Hamilton Township.

Lawrence County was the center of the old Hanging Rock Iron Region, a territory comprising about 1,000 square miles and known for a time as the most productive iron region in the United States. Howe, in his Historical Collections of Ohio, 1846, states: "The iron region is about eight miles wide. It extends through the eastern part of Scioto and the western part of Lawrence County, and enters Jackson County on the north, and Greenup County, Kentucky, on the south. The four counties of Jackson, Lawrence, and Scioto in Ohio and Greenup in Kentucky, make about 37,450 tons annually which at \$30 per ton, amounts to \$1,123,500. There are 21 furnaces in the iron region of which eleven are in Lawrence County. The oldest of these in this county (Lawrence) is Union,



built in 1826. Each of the 21 furnaces employs on an average, 70 yoke of oxen, 100 hands, sustains 500 persons, consumes 560 barrels of flour, 1,000 bushels of corn meal, 10,000 bushels of corn, 50,000 pounds of bacon, 20,000 pounds of beef, 1,500 bushels of potatoes, besides other provisions. In the winter season about 500 men come from abroad to cut wood for the furnaces in Lawrence County some of whom walk distances of hundreds of miles from their cabin

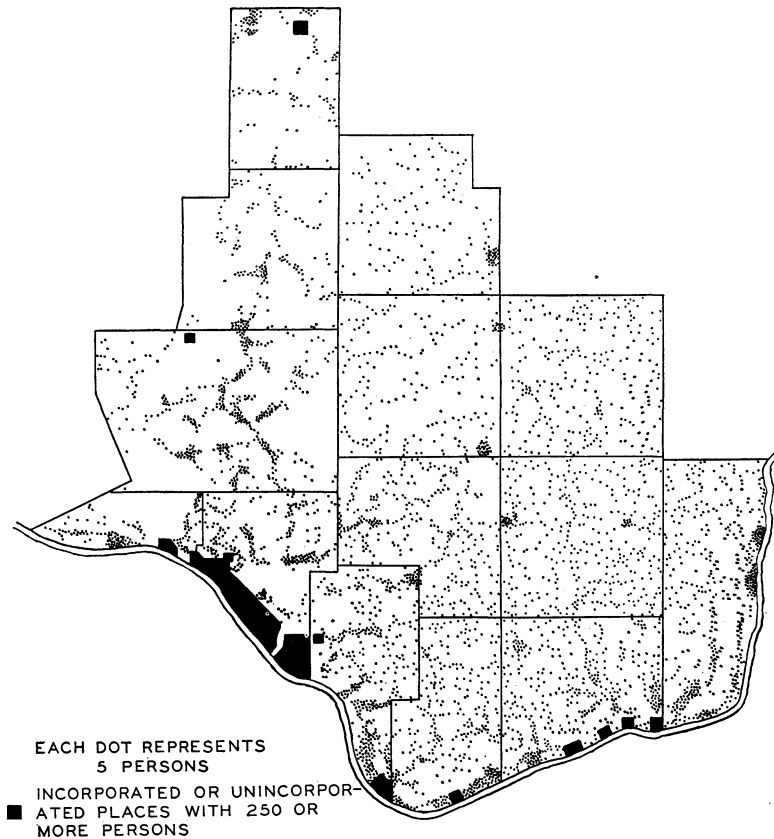


Fig. 3.—Distribution of population in Lawrence County, 1931

homes among the mountains of Virginia and Kentucky". About five cord of wood or 125 bushels of charcoal were required to make a ton of iron. Each furnace, with the surrounding land on which the employees lived, was a community unto itself. That the iron furnaces were the chief activities of the five western townships is shown by the 1840 Census which reports only 36 per cent of the population engaged in agriculture in that area; 64 per cent was engaged in mining, manufacturing, and trade.

By 1884 the number of charcoal furnaces in operation in the Hanging Rock Region in Ohio had increased to 42. Howe states that "When the iron works were first established, only about one-eighth of the land was entered; since which time the workmen have accumulated means to purchase more". It is therefore apparent that up to the "eighties" the iron furnaces and the river trade were the centers of activity in Lawrence County and that many of those who later acquired farms in Lawrence County first came into the county to work in the iron furnaces. This was especially true in the western half of the county.

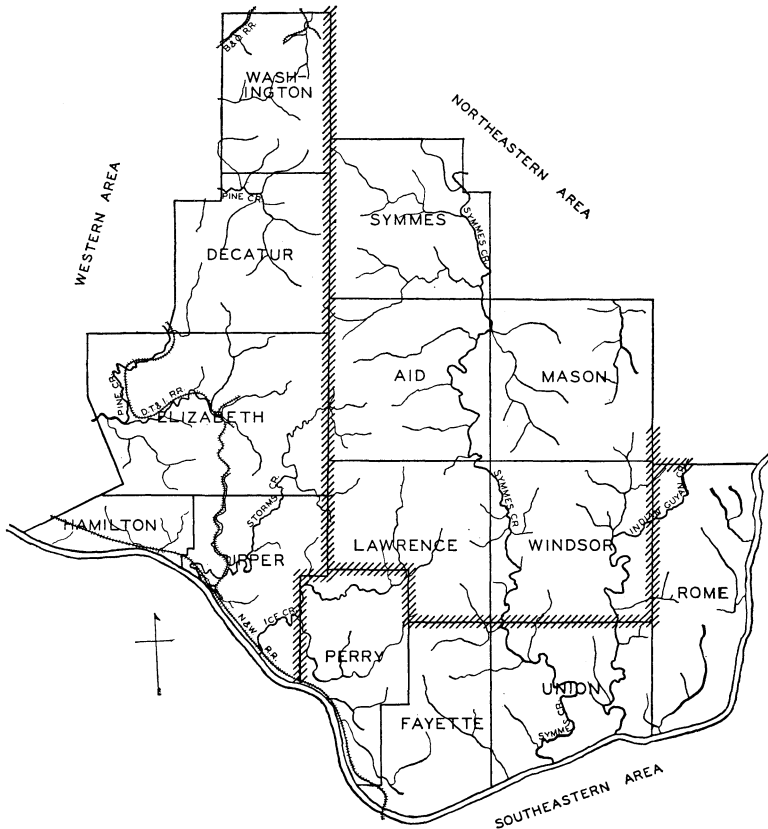


Fig. 4.—Drainage systems, railroads, and townships in Lawrence County

The population of the iron region grew and declined with the growth and decline of the iron furnaces. The population of the five western townships outside incorporated places increased from 3,314 in 1840 to 5,721 in 1850. During the period 1850-1860 (a period of

depression in the iron business) it increased by only 300 persons, due to the emigration of iron workers. From 1860 until 1880 the furnaces were again flourishing, and the population outside incorporated places increased from 7,034 to 11,423. After 1880 the iron furnaces began to close down due to the opening of the Minnesota iron range, and increasing attention was then given to agriculture. By 1920 the population outside incorporated places had declined to 6,458 but again increased to 6,927 in 1930.

The industry of the county is still in this western area. At present, outside of Ironton and Hanging Rock, there are one large clay products plant located at the northern end of the county and two cement plants, one at Superior in the center of the area and one at the south end in Upper Township. Five brick plants, one ground clay plant, and some 15 small coal mines, which employed about 450 men in 1928, are scattered over the area. Little or no coal is now shipped out of the county. The C. H. and D. Railroad formerly ran through the territory from Ironton on the south to Washington Township on the north. In recent years, however, the northern half of the line has been discontinued. The Norfolk and Western which enters the county on the west and runs along the Ohio River to Ironton and the B. and O. which crosses the northern tip of the county, together with the C. H. and D. which is now the D. T. and I., are the only railroads in the county. Ironton and Hanging Rock, both located on the Ohio River and having populations of 16,621 and 550, respectively, were the only two incorporated places in the area in 1930. At that time only 7 per cent of the population of the area was classed as "rural farm".

TABLE 2.—Three Areas in Lawrence County

	Western area, 1930	Southeastern area, 1930	Northwestern area, 1930
Total area ..... Acres..	86 962	71 316	118 441
Area in farms ..... Acres..	28 625	60 593	101 555
Crop land ..... Acres..	5 494	17 176	20 323
Farms ..... Number..	299	879	1 098
Population outside incorporated places ..... Number..	6,967	9,239	6,510
Population classed as "Rural Farm" ..... Per cent..	7	47	86

The five western townships and the western part of Symmes and Aid Townships have the least agriculture. Aside from a small area devoted largely to truck crops along the Ohio River in Hamilton Township and a small area of bottom land in Pine Creek Valley of western Elizabeth Township, there is comparatively little agricultural production. Much of the land is still held by the old furnace companies or by clay products companies. There were six

holdings of over 4,500 acres each and 15 of over 1,000 acres each in 1931. Prior to 1920 little of the land owned by the furnace companies had been sold as farms, but within the past 10 years a considerable number of tracts from these large holdings have been sold, largely to people from Kentucky and West Virginia. What little farming exists is mainly of the part-time or self-sufficing type, dependent upon the industries of the region for additional income through work or trade. While much land once cultivated is now being allowed to revert to brush and woods, other land is being cleared in small patches. Some charcoal is still burned, although at the time of this study it was selling for less than 15 cents per bushel, and, inasmuch as it requires a cord of wood to make about 25 bushels of charcoal, the returns were not high.

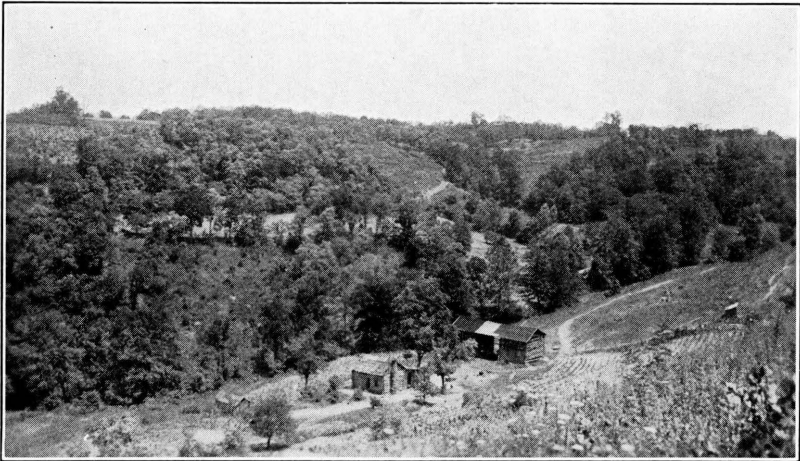


Fig. 5.—View of the hilly country of Lawrence County

All four townships of the southeastern area border on the Ohio River. The original county seat was located at Burlington. At an early date a thriving river trade grew up with the cities and territory down the Ohio River, as well as with the iron region. In 1840, 80 per cent of the population was reported as engaged in agriculture and 20 per cent in manufacturing and trade. Apples and sweet potatoes were among the main crops. The coming of the railroads destroyed much of the river trade and threw the region into competition with other areas for the sale of their products. The orchards were allowed to decline and by 1890 the amount of fruit produced in the area was low. The building of railroads, however, resulted in the growth of new cities and the development of coal

mines in West Virginia. Huntington, West Virginia, just across the river from Chesapeake in Union Township, soon became a thriving railroad and industrial center. With the influx of an industrial population the market for the farm products of the section again improved, new orchards were planted, and truck farming expanded. In 1900 the population living outside incorporated places was 9,118, by 1920 it had decreased to 8,025, and in 1930 again increased to 9,239. Between 1920 and 1930 increasing numbers of families employed in industry purchased small plots of land and built homes; large areas along the river were subdivided into lots or small farms. Had it not been for this the population of the area outside incorporated places would have probably continued to decrease, as was true from 1910 to 1920. Meanwhile, from 1900 to 1930, the four villages now incorporated, all located on the Ohio River, increased their population from a total of 1,150 to 2,473. Huntington, West Virginia, (75,572 population) and Ashland, Kentucky, (29,074 population) across the river have been the cause of much of the population increase in this area since 1920.

These four southeastern townships comprise one-fourth of the area of the county and now provide approximately one-half the sales of farm products for the whole county. This is due largely to the acreage in truck crops and orchards and to the prevalence of dairying. The truck crops are raised on the bottom lands along the river, and the apples and small fruits are grown chiefly among the hills. Although there are many large orchards, the average size of all farms is only 67.6 acres with 19 acres in crops or orchard. Throughout the area are many part-time farms occupied by families, one or more members of which are employed elsewhere. Forty-seven per cent of the population of this section was classed as "rural farm" in 1930.

The five northeastern townships of the county have always depended mainly upon agriculture for their income.<sup>2</sup> In 1840, 95 per cent of the population was reported to be engaged in agriculture. From 1850 to 1880 the population increased rapidly, reaching 8,667 in the latter year. Since then there has been a gradual decline to 6,510 in 1930. There are no incorporated places in this part of the county. Eighty-six per cent of the population was classed as "rural farm" in 1930. Comparatively little of the land is in large holdings, the average size of a farm being 91.9 acres with 19.0 acres in crops. Much of the tobacco acreage of the county is to be found here. Lawrence and Windsor Townships also have large orchard acreages.

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<sup>2</sup>One iron furnace operated for a short time in Aid Township.

In 1929 the industrial wage and salary payments for the county as a whole amounted to \$3,697,000; whereas, the sales of farm products amounted to \$1,940,000. Manufacturing wages and salaries alone amounted to \$2,402,000, the leading industries being machinery and the stone, clay, and glass products. The mines and quarries reported the payment of \$446,000 in wages and salaries.<sup>3</sup> In addition to this, many of the residents of the southern townships worked across the river in Huntington, West Virginia, and in Ashland and Russell, Kentucky.

TABLE 3.—Lawrence County Agriculture in 1880, 1900, and 1930 (a)

	1880	1900	1930
All land in county .....	283,520	283,520	283,520
All land in farms .....	234,980	209,915	187,164
Number of farms .....	1,947	2,945	2,276
Acres of land per farm .....	121	71	82
Improved land in farms (b) .....	117,300	142,835	71,964(f)
<b>Crop land</b> .....	<b>59,977</b>	<b>68,336</b>	<b>44,433</b>
Corn .....	24,261	30,240	13,852
Wheat .....	17,199	16,336	574
Oats .....	5,184	2,963	2,146
Other grains .....	892	764	1,939
Hay .....	5,693	9,582	11,223
Tobacco .....	36	232	895
Truck crops .....	36	665	1,757
Fruits .....	5,018(c)	5,210	10,692
Potatoes .....	1,111(d)	1,430	1,029
All others .....	583	914	326
<b>Livestock</b> .....			
All cattle .....	10,158	15,241	11,451
Horses and mules .....	4,468(e)	5,902	3,512
Sheep .....	4,782	6,138	5,031
Swine .....	13,491	10,271	4,661
Poultry .....	41,470	92,375	103,758

(a) United States Census reports.

(b) Improved land as defined by the Census was land which had been cleared and plowed or mowed and was free from brush or trees at the time the Census was taken.

(c) Ohio Statistics.

(d) Potato acreage estimated.

(e) Includes 508 head of oxen.

(f) Total crop land and plowable pasture as given in 1930 Census.

Table 3 gives a comparison of Lawrence County agriculture as a whole, in 1880, 1900, and 1930, as reported by the United States Census. The acreage of land farmed in the county reached its height about 1900. Since then the land in farms has decreased 11 per cent, the improved land in farms 50 per cent, and the land in cereal crops 63 per cent. Likewise, all classes of livestock except dairy cows and poultry have shown a large decrease. Dairying has increased. On the other hand, the fruit, vegetable, and tobacco acreages have shown a decided increase.

The data given in Table 3 on acres in fruit probably do not represent adequately the increased significance of the fruit industry

<sup>3</sup>Industrial wage and salary payments compiled by the Bureau of Business Research, the Ohio State University.

in the county. While Lawrence County has from the beginning been noted as an apple-growing district, it is probable that a considerable portion of the 5,000 acres reported in orchards in 1900 was in old orchards in the process of decay or new commercial plantings not yet in full bearing. Of the present apple orchards, few are over 40 years of age. Lawrence County, in 1930, reported 9 per cent of the total number of bearing apple trees in the State, exceeding by far any other Ohio County. In fact, only 20 counties in the United States surpass it. Likewise, with 148 acres in blackberries, 376 in raspberries, and 353 in strawberries, the Lawrence County acreage exceeded any county of the State in each of these crops. Vegetable growing has also expanded rapidly along the Ohio River, supplying the Ironton market and the markets across the river in West Virginia and Kentucky. Tobacco is another intensive crop grown in the hilly section; this acreage increased from 232 acres in 1900 to 1,138 in 1910. Since the latter date there has been some decrease. Thus, while the total acreage of improved land in the county has decreased by one-half in the past 30 years, the total volume of sales of agricultural products has increased. The tendency has been for some of the poorer land to be abandoned and more intensive crops to be grown on the better lands. Fruits, vegetables, and tobacco sales produced two-thirds of the agricultural income in 1929. In the same year in the county as a whole, the sale of farm products per acre of land in crops was \$44.

TABLE 4.—Estimated Sales of Farm Products from Lawrence County

	1929	1931
	<i>Dol.</i>	<i>Dol.</i>
Fruit .....	850,000	700,000
Vegetables .....	260,000	200,000
Tobacco .....	115,000	95,000
Dairy products .....	315,000	215,000
Poultry .....	220,000	130,000
Livestock .....	180,000	115,000
<b>Total .....</b>	<b>1,940,000</b>	<b>1,455,000</b>

The type of farming in the county as reported by the 1930 Census is given in Table 5. All farms reported an average income from the sale of farm products in 1929 of \$880; whereas, the 703 self-sufficing and part-time farms, which comprised 31 per cent of all farms in the county, averaged only \$164. It will be noted that the 35 animal specialty farms reported a gross average income from sales of \$2,107, the 331 fruit farms a gross income from sales of \$1,994, while the 433 self-sufficing farms received an average of only \$146 from the sales of farm products. Forty-two per cent of

the farms in the county produced less than \$600 worth of products per farm. The 189 farms reported as "Crop Specialty" were probably largely those growing tobacco.

### TOPOGRAPHY AND SOILS

Lawrence County is the most southern in the State. The Ohio River flows along part of the east, the south, and part of the west side of the county, a distance of approximately 40 miles. The general direction of the water flow is southward into the Ohio. The principal streams supplying the county with drainage are (starting on the west side and moving eastward in the order named) Pine Creek, Storms Creek, Ice Creek, Symmes Creek, and Indian Guyan Creek. (See Fig. 4, Page 8). The most important drainage system other than the Ohio River is Symmes Creek. The valleys along the streams are generally narrow. The Ohio Valley (only the Ohio side being considered) is the widest, in places reaching a width of a mile and a half while elsewhere the hills extend almost to the bank of the river. The average width of the valley, however, does not exceed a half mile. The other valleys of any significance in the county are along Pine Creek, Symmes Creek, and Indian Guyan Creek. In many places they also are very narrow, broadening out to three-fourths of a mile in width—the average being somewhat less than a half mile. Within these valleys is found a large percentage of the level and most productive land of the county.

The topography of the county is fairly uniform and can best be described as hilly. The average elevation above sea level at the river is about 550 feet, the hills immediately back from the river rising to a height of 900 feet and over and those in the north end of the county exceed 1000 feet in many cases. The average variation in elevation between the stream beds and the crest of the hills is approximately 350 feet. A significant thing in the topography is the sharp angle at which the hills rise from the level lands in the valleys, making the degree of slope so great that the production of crops on the sides of many of the hills is difficult. The ridges are mostly narrow and rather sharp. That portion of the land in the county that can be classed as level has been estimated to be something less than 10 per cent of the total area, the remainder falling into the class of hilly or rough. The largest areas of level land are in the townships of Rome, Union, Fayette, Perry, Upper, Hamilton, Elizabeth, and Windsor, all of which border on the river except the last two named. In these two the level land is along the more important creeks.



**TABLE 5.—Type of Farming in Lawrence County, 1930\***

	General†	Crop specialty	Fruit	Truck	Dairy	Animal specialty	Poultry	Self-sufficing	Part-time
Number of farms.....	568	189	331	132	147	35	61	433	270
Acres per farm.....	101	98	85	49	111	210	75	58	46
Value of land and buildings per acre.....	\$ 42	\$ 31	\$ 71	\$ 112	\$ 57	\$ 36	\$ 53	\$ 40	\$ 64
Value of products sold per crop acre.....	\$ 31	\$ 32	\$ 66	\$ 74	\$ 66	\$ 67	\$ 67	\$ 12	\$ 23
Value of products sold per farm acre.....	\$ 7	\$ 7	\$ 23	\$ 27	\$ 16	\$ 10	\$ 15	\$ 3	\$ 4
<b>Per farm:</b>									
Number of horses.....	1.7	1.7	1.8	1.7	1.9	2.0	1.2	1.3	0.9
Number of cattle.....	7.0	4.1	4.6	1.8	14.7	18.0	4.2	2.5	2.1
Feed purchased.....	\$ 69	\$ 17	\$ 123	\$ 63	\$ 383	\$ 63	\$ 331	\$ 30	\$ 49
Fertilizer purchased.....	\$ 12	\$ 7	\$ 58	\$ 52	\$ 18	\$ 11	\$ 14	\$ 1	\$ 4
Labor hired.....	\$ 53	\$ 22	\$ 313	\$ 170	\$ 299	\$ 158	\$ 32	\$ 8	\$ 17
Total value of product sold or used.....	\$989	\$861	\$2,236	\$1,536	\$2,031	\$2,388	\$1,343	\$435	\$427
Value of product used.....	\$269	\$211	\$ 241	\$ 223	\$ 242	\$ 280	\$ 216	\$ 289	\$234
<b>Income per farm from sale of:</b>									
Crops.....	\$348	\$519	\$1,762	\$1,204	\$ 253	\$ 204	\$ 217	\$ 59	\$ 82
Livestock.....	\$111	\$ 40	\$ 55	\$ 22	\$ 115	\$1,492	\$ 62	\$ 21	\$ 44
Livestock products.....	\$245	\$ 86	\$ 176	\$ 73	\$1,416	\$ 409	\$ 847	\$ 62	\$ 66
Forest products.....	\$ 16	\$ 5	\$ 2	\$ 14	\$ 5	\$ 3	\$ 1	\$ 4	\$ 1
<b>Total sales per farm.....</b>	<b>\$720</b>	<b>\$650</b>	<b>\$1,995</b>	<b>\$1,313</b>	<b>\$1,789</b>	<b>\$2,108</b>	<b>\$1,127</b>	<b>\$ 146</b>	<b>\$193</b>

\*United States Census of 1930 classification used. One hundred and ten farms reported by the Census as unclassified are not included in the table.  
 The income figures as given in the Census are for 1929.  
 †Includes 19 cash grain farms.

Lawrence County is located in the residual soil area of south-eastern Ohio and is a part of the Appalachian Plateau. The upland soils are, for the most part, residual in origin; that is, they have been formed by the weathering in place of the bed rock which is predominantly non-calcareous sandstone and shale. The soils of the western half of the county are generally of the Muskingum silt loam series (This soil was formerly called the Dekalb silt loam); those of the eastern part are of the Meigs series. Following the Ohio River is a strip of sandy, gravelly, and silt loam, varying up to  $1\frac{1}{2}$  miles in width. This sandy loam comprises the vegetable growing area of the county.

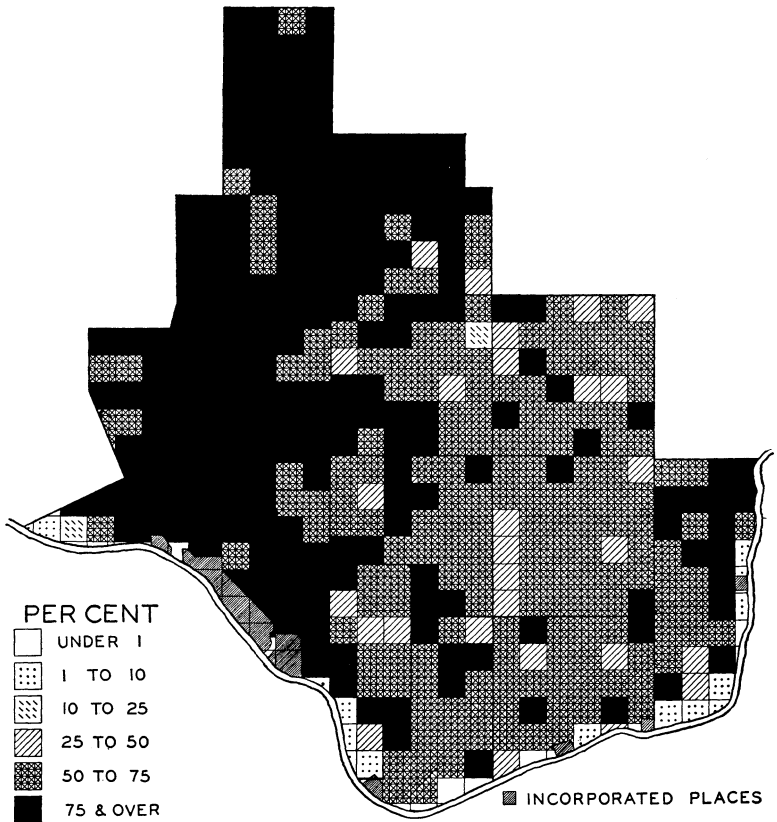


Fig. 6.—Woods and brush land combined, 1931. (By sections)

Soil erosion, due to the hilly nature of the county and the rapidity with which the rainfall drains off, was occurring rather generally over the county. Two types of erosion were encountered; namely, gully and sheet. The amount actually gullied was small.

Sheet erosion, or a gradual washing away of the surface soil, was occurring in the southeastern and northeastern areas more than in the western part of the county. The western area, being more fully covered with woods and brush, was less subject to erosion than the open and cultivated land. Although the sheet erosion has removed much of the surface soil in some areas, it has not as yet progressed to the point where it cannot be checked.

THE SURFACE COVER

The land area of the county was divided into three classes on the basis of the surface cover or plant growth found on the land; namely, open land, brush land, and wood land. Open land might have been called cleared or improved land, in the sense that it was free from trees, brush, and established brier patches. All areas in orchards, cultivated crops, and hay were classified as open land. The term brush land was applied to areas with brushy and briery growth in such quantities as to require some clearing before the land could be farmed. Areas that contained sufficient stand of the right varieties to develop into timber were classed as wood land. The distinction between wood land and brush land was drawn on the basis of the nature of the plant growth and stand. Size was used as a determining factor only when deciding which one, the brush or the timber growth, would choke out the other. The forest growth was almost entirely composed of the deciduous hardwoods, principally of the oak, hickory, and the mixed mesophytic types. Table 6 gives the classification of surface cover as found by townships.

TABLE 6.—Surface Cover of Lawrence County, 1931

Township	Total area*	Open land		Brush land		Wood land	
		Acres	Per cent	Acres	Per cent	Acres	Per cent
<b>Western Area</b>							
Decatur .....	20,913	1,856	8.9	2,913	13.9	16,144	77.2
Elizabeth .....	32,628	4,014	12.3	4,301	13.2	24,313	74.5
Hamilton .....	6,470	1,673	25.8	470	7.3	4,327	66.9
Upper .....	11,621	1,561	13.4	2,786	24.0	7,274	62.6
Washington .....	15,330	1,108	7.2	2,089	13.6	12,133	79.2
<b>Southeastern Area</b>							
Fayette .....	16,300	5,586	34.3	5,681	34.9	5,033	30.8
Perry .....	15,560	5,782	37.2	5,451	35.0	4,327	27.8
Rome .....	20,255	7,039	34.8	6,045	29.8	7,171	35.4
Union .....	19,201	7,477	39.0	5,824	30.3	5,900	30.7
<b>Northeastern Area</b>							
Aid .....	25,350	8,121	32.0	5,535	21.8	11,694	46.2
Lawrence .....	20,715	6,515	31.5	8,951	43.2	5,249	25.3
Mason .....	24,208	8,887	36.7	8,410	34.7	6,911	28.6
Symmes .....	23,200	3,976	17.1	6,666	28.8	12,558	54.1
Windsor .....	24,968	9,759	39.1	7,145	28.6	8,064	32.3
<b>Total</b> .....	<b>276,719</b>	<b>73,354</b>	<b>.....</b>	<b>72,267</b>	<b>.....</b>	<b>131,098</b>	<b>.....</b>
<b>Percentage</b> .....	<b>100</b>	<b>26.51</b>	<b>.....</b>	<b>26.11</b>	<b>.....</b>	<b>47.38</b>	<b>.....</b>

\*Area in incorporated and unincorporated places not included.

The surface cover in the county was predominately woods and brush. Five townships in the western part of the county, comprising approximately one-third of the area, were 74 per cent wooded and 14 per cent in brush. Over 90 per cent of the land in Decatur and Washington was covered with a growth of brush or woods. The nine townships in the southeastern and northeastern areas were more open; however, approximately two-thirds of the

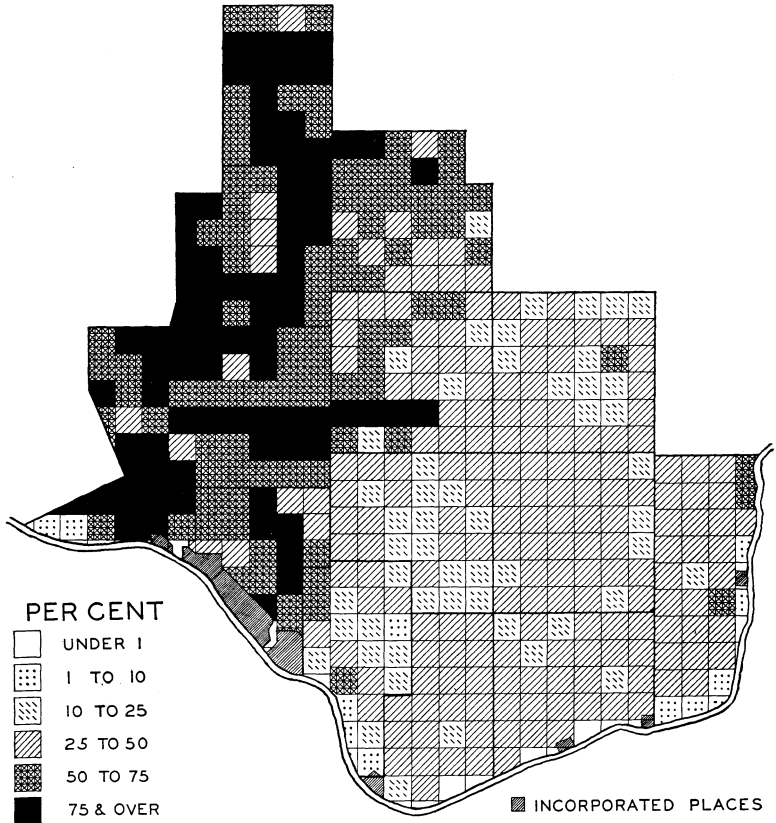


Fig. 7.—Wood land, 1931. (By sections)

land in these townships was covered with woods and brush. The western area had the smallest percentage of brush land of the three areas; whereas, the southeastern and northeastern areas, with the most land in farms, had approximately one-third of their areas grown up in brush. The highest percentage of brush in the county was in Lawrence, Perry, and Fayette Townships. Most of the land that was classed as brush at the time of the survey would have been

called improved or open land in 1900, but since then large areas that were once farmed have been allowed to grow up in brush. The fact that there never was a very large amount of the western area improved and farmed accounts for its smaller percentage of brush. On the other hand, the high percentage of brush in the southeastern and northeastern areas would indicate a considerable abandonment of improved land within farms in recent years.

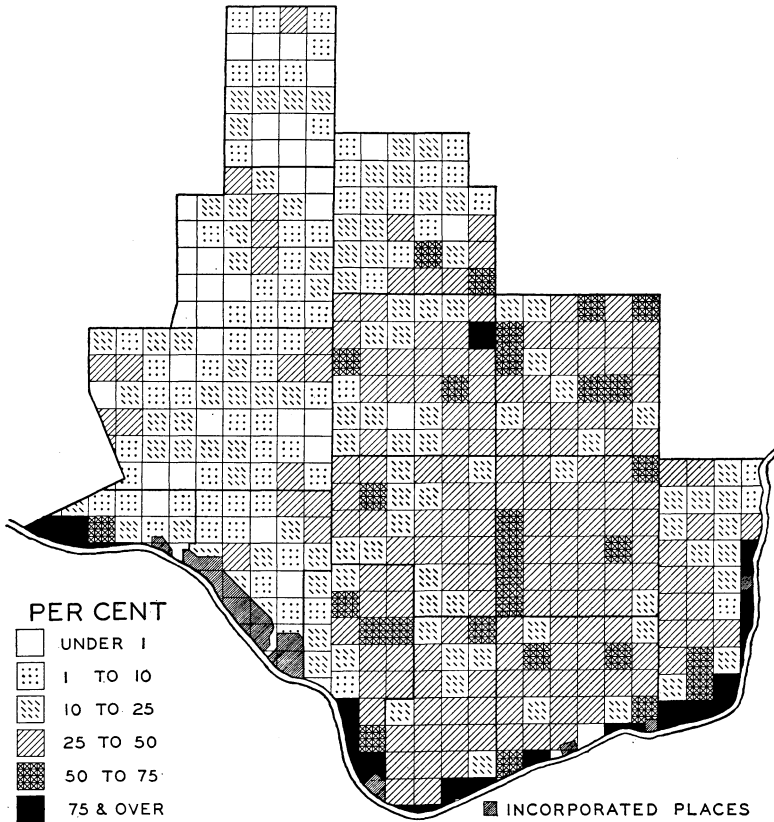


Fig. 8.—Open land, 1931. (By sections)

One-third of the southeastern and northeastern areas was open or cleared in 1931; whereas, less than one-eighth of the western area was so classified. Union and Windsor Townships (both crossed by Symmes and Indian Guyan Valleys) had the highest percentage of open land of any of the 14 townships. Open land, like brush land, was the most prevalent in townships that were largely agricultural. However, the open land differed from the brush in

that it was open or improved when the study was made and was usually the best land on the farm, while the poorer soils had been allowed to revert to brush. The level and more gentle slopes in the county were open and free from brush and woods, although there were numerous tracts with very steep grades where the land was kept clear so that it could be farmed.

#### THE NUMBER AND SIZE OF HOLDINGS

In 1931 there were 4,387 separate holdings of land averaging 64.5 acres each in the county outside of incorporated places. The size of these holdings varied over a wide range, from a large number of small tracts occupying a relatively small percentage of the total land in the county to a small number of large tracts occupying a relatively large percentage of the area. Approximately one-third of the land owners in the county outside of the villages owned less than 20 acres each, and two-thirds held less than 50 acres each. The total area in holdings of less than 50 acres was one-fifth of the land in the county. There were 70 tracts of 260 acres or more in the county and these included 27 per cent of the land. Six of the large holdings were over 4500 acres each, and two of the six were over 6000 acres.

TABLE 7.—The Number and Size of Holdings and Farms in Lawrence County, 1930

Acres	Number of holdings	Number of farms
Under 20 .....	1,376	259
20-49 .....	1,513	650
50-99 .....	985	767
100-174 .....	376	430
175-259 .....	67	109
260-499 .....	41	52
500-999 .....	14	6
1000 and over .....	15	3
Total .....	4,387	2,276

Large land holdings of over 260 acres are almost entirely confined to the five townships in the western part; namely, Washington, Decatur, Elizabeth, Hamilton, and Upper. In these townships 63 per cent of the land was held by persons who owned tracts of 260 acres or more; whereas, in the five townships of the northeastern area, only 15 per cent of the land was in holdings of over 260 acres; in the four southeastern townships less than 3 per cent of the land was held by persons owning 260 acres or more. The small holdings (less than 20 acres) were much more numerous in the townships

along the river than in those located farther back. It will be noted that there were nearly twice as many land holdings as there were farms.

#### LAND NOT IN FARMS

In 1931, 31 per cent, or 85,946 acres, of the land in Lawrence County outside incorporated places was not within the bounds of farms<sup>4</sup>, this being more than double what it was 50 years ago. Over two-thirds of all the land in the county outside of farms was located in the five western townships. Sixty-seven per cent of this area was not within the bounds of farms. In the southeastern and northeastern part, only 14.5 per cent of the land was outside of farms.

A large portion of the land not in farms had never been cleared and cultivated although more than half of the acreage outside of farms in 1931 had in the past been within the bounds of farms largely as woods or woodland pasture. Some of the land outside of farms that was in brush gave evidence of having been cleared and farmed in the past but was abandoned at the time of the survey. There was more evidence of farm abandonment in Symmes Township than elsewhere in the county. The western area in which the largest blocks of land outside of farms were found is and has been primarily

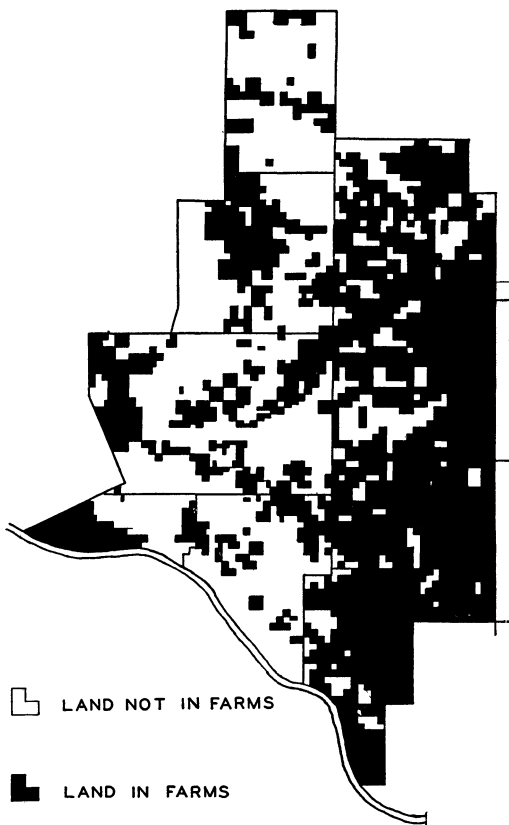


Fig. 9.—Land in farms and not in farms for nine townships in Lawrence County, 1931

(See Table 8 for land in farms and not in farms for the five townships not given on map; namely, Mason, Windsor, Perry, Union, and Rome).

<sup>4</sup>The 1930 Census definition of a farm was used.

TABLE 8.—The Utilization of Land in Lawrence County, 1931

Township	Total area*	Land not in farms	Land in farms			Total land not used	Percentage of	
			Total	Used	Not used		Land used	Land not used
<b>Western Area</b>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Per cent</i>	<i>Per cent</i>
Decatur .....	20,913	13,059	7,854	5,276	2,578	15,637	25.2	74.8
Elizabeth .....	32,628	21,327	11,301	7,797	3,504	24,831	23.9	76.1
Hamilton .....	6,470	3,430	3,040	2,112	928	4,358	32.6	67.4
Upper .....	11,621	8,082	3,539	3,385	154	8,236	29.1	70.9
Washington .....	15,330	12,439	2,891	2,362	529	12,968	15.4	84.6
<b>Southeastern Area</b>								
Fayette .....	16,300	.....	16,300	10,094	6,206	6,206	61.9	38.1
Perry .....	15,560	3,160	12,400	10,156	2,244	5,404	65.3	34.7
Rome .....	20,255	4,052	16,203	12,314	3,889	7,941	60.8	39.2
Union .....	19,201	3,511	15,690	12,031	3,659	7,170	62.7	37.3
<b>Northeastern Area</b>								
Aid .....	25,350	5,490	19,860	16,324	3,536	9,026	64.4	35.6
Lawrence .....	20,715	1,865	18,850	12,902	5,948	7,813	62.3	37.7
Mason .....	24,208	1,355	22,853	18,368	4,485	5,840	75.9	24.1
Symmee .....	23,200	6,323	16,877	13,399	3,478	9,801	57.8	42.2
Windsor .....	24,968	1,853	23,115	16,971	6,144	7,997	68.0	32.0
<b>Total.....</b>	<b>276,719</b>	<b>85,946</b>	<b>190,773</b>	<b>143,491</b>	<b>47,282</b>	<b>133,228</b>	<b>51.9</b>	<b>48.1</b>

\*Outside incorporated and unincorporated places.



industrial rather than agricultural. As was previously mentioned, 63 per cent of this section was in tracts of over 260 acres, which were originally used to supply wood for charcoal used in the iron industry. Since the closing of the iron furnaces most of this land has remained in large holdings and but little of it has been farmed. Ninety-one per cent of the land outside of farms in the county was wooded and 9 per cent in brush.

LAND IN FARMS

At the time of the survey, land in farms constituted 68.9 per cent of the total area in the county, or 190,773 acres. Twenty-eight per cent of this total was wooded, 34 per cent was brush, and 38 per cent improved or open land. There was a wide degree of variation among the townships as to the percentage of land in farms, the two extremes being Washington with 19 per cent and

TABLE 9.—Utilization of Land in Farms in Lawrence County, 1931

Township	Number of farms*	Land in farms					Not used
		Total	Land used			Acres	
			Total	Orchard†	Crops‡		
<b>Western Area</b>		<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>
Decatur .....	78	7,854	5,276	13	795	4,468	2,578
Elizabeth .....	84	11,301	7,797	82	2,222	5,493	3,504
Hamilton .....	48	3,040	2,112	.....	1,208	904	928
Upper .....	67	3,539	3,385	46	700	2,639	154
Washington .....	22	2,891	2,362	28	400	1,934	529
<b>Southeastern Area</b>							
Fayette .....	217	16,300	10,094	1,222	2,733	6,139	6,206
Perry .....	186	12,400	10,156	609	2,929	6,618	2,244
Rome .....	224	16,203	12,314	1,437	3,292	7,585	3,889
Union .....	252	15,690	12,031	1,230	3,724	7,077	3,659
<b>Northeastern Area</b>							
Aid .....	160	19,860	16,324	87	3,435	12,802	3,536
Lawrence .....	259	18,850	12,902	794	3,212	8,896	5,948
Mason .....	223	22,853	18,368	217	4,635	13,516	4,485
Symmes .....	138	16,877	13,399	138	2,269	10,992	3,478
Windsor .....	318	23,115	16,971	931	4,605	11,435	6,144
<b>Total</b> .....	<b>2,276</b>	<b>190,773</b>	<b>143,491</b>	<b>6,834</b>	<b>36,159</b>	<b>100,498</b>	<b>47,282</b>
<b>Percentage</b> .....	.....	<b>100</b>	<b>75.1</b>	<b>3.6</b>	<b>18.9</b>	<b>52.6</b>	<b>24.9</b>

\*Number of farms as given in the 1930 Census.

†Acreage in small fruit and scattered fruit trees around farmstead is not included in orchard.

‡Cereal crops, hay, vegetables, small fruits, and other miscellaneous crops are included.

§All types of pasture are included.

Fayette with 100 per cent. Washington, Decatur, Elizabeth, Hamilton, and Upper Townships in the western area all have less than one-half of their land in farms— in fact, less than 40 per cent of the land, with the exception of Hamilton. The land in farms in the remaining nine townships in the southeastern and northeastern

areas of the county ranged from 72 to 100 per cent; Fayette, Mason, Windsor, and Lawrence have over 90 per cent each. Fig. 9 gives the location of the land in farms and the land not in farms in the nine western townships<sup>5</sup>.

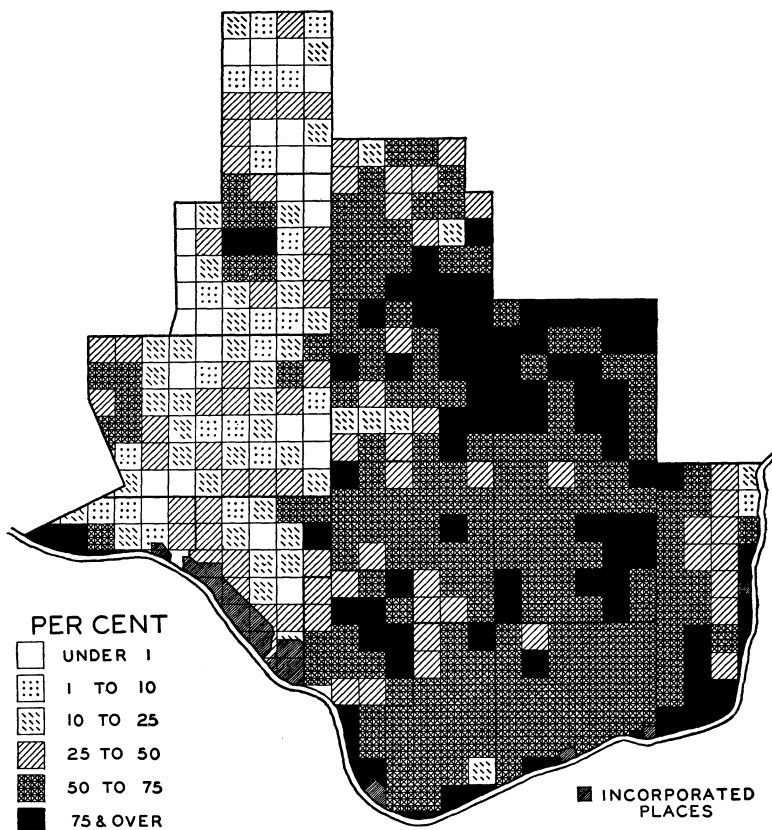


Fig. 10.—Land used for crops and pasture, 1931. (By sections)

The improved land, or land that had been cleared and plowed or mowed and was free from brush or trees at the time of this study, amounted to approximately one-fourth of the total area in the county. This improved land was, with but few exceptions, within the bounds of farms. In 1900 one-half of the land in the county was classed by the Census as improved; but during the period

<sup>5</sup>The problem of distinguishing between land in farms and not in farms became more difficult as the number of farms increased. Due to the fact that the land not in farms in the eastern townships was such a small percentage of the total, no effort was made to distinguish between land in farms and not in farms.

between 1900 and the time of this study much of the land that was once so classed had reverted to brush and woods, and by 1931 only a little over one-fourth of the county could be so classed<sup>6</sup>.

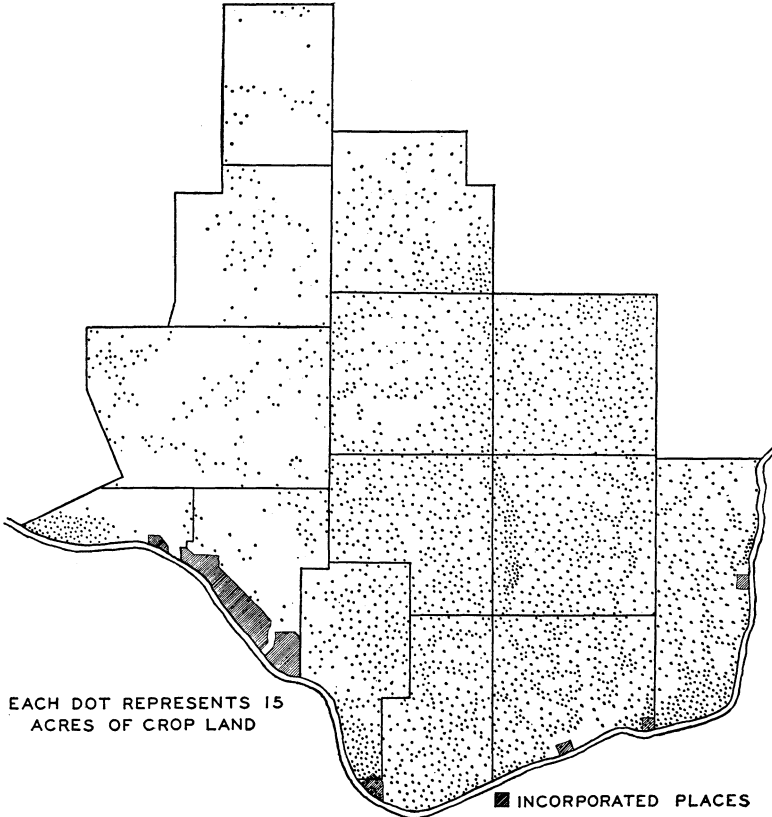


Fig. 11.—Land in crops, 1931

In 1931, 3.6 per cent of the land in farms was devoted to orchards, 18.9 per cent to other crop production, 52.6 per cent to pasture, and the remaining 24.9 per cent was neither cropped nor pastured. The land in crop production in the county at the time of the survey was a little less than two-thirds of that reported by the Census for 1900. The western area, including Washington, Decatur, Elizabeth, Hamilton, and Upper Townships, with only 6.3 per cent cropped, had the least crop land of the three areas; about

<sup>6</sup>Improved land as defined by the 1900 Census was land which had been cleared and plowed or mowed and was free from brush or trees at the time the Census was taken. The same definition was used in the 1931 study.

20 per cent of the remainder of the county was cropped. The townships with the most crop land had more level and open land and, with two exceptions, were located along the river.

The type of crop production in this area has changed materially since 1900. At that time approximately three-fourths of the crop land was devoted to the production of corn, wheat, and oats; 30 years later only 37 per cent of the crop land was planted to these grains. The crops that have increased in importance have been orchard crops, small fruits, vegetables, tobacco, and soybeans.

There is no satisfactory information available on the amount of land pastured prior to 1930, and the only measure is the amount of livestock reported in the county at the various census periods. The number of cattle, horses, and sheep in 1900 was greater than in any Census period before or since. While there has been some decline in the amount of livestock raised, it has not been as great as that which has taken place in grain production. On the basis of the amount of livestock in the county the acreage of land pastured was probably at a peak about 1900, but that is assuming that there has been no change in the quality of the pasture or the amount of livestock that can be pastured on an acre. It is unlikely that there has been any general improvement, and it is more probable that the amount of livestock that can be grazed on an acre has decreased rather than increased. There were 100,489 acres of land pastured in the county in 1931; this was 52.6 per cent of all land in farms, and, as previously stated, 36.3 per cent of the total acreage in the county. The five townships, Symmes, Aid, Lawrence, Mason, and Windsor, all in the northeastern part of the county, contained over 50 per cent of the land that was being grazed at the time of the survey. Thirty per cent of the land pastured was in woods, 42 per cent in brush, and 28 per cent open or cleared land.

Land in crops and pasture in 1931 utilized only three-fourths of the land in farms. At least 20 per cent of the land in farms was not used in any of the townships except five. Land outside of farms and unused land within farms comprised 48 per cent of the total acreage in the county. Windsor and Mason Townships, both in the northeastern part, showed the most complete utilization of land, with 68 and 76 per cent, respectively, of their area cropped or in pasture. In the five western townships three-fourths of the land was not used, only one-fourth being utilized agriculturally. Idle land in farms and land outside of farms in the remaining nine townships comprised 35 per cent of their total area.

Unused land in farms was less than 4 per cent open or cleared, the remainder being divided equally between woods and brush. All the land in the county outside of incorporated places that was not being cropped or pastured was classified as follows: 76 per cent woods, 23 per cent brush, and 1 per cent open land.

TABLE 10.—The Type of Pasture in Lawrence County, 1931

Township	Total land pastured	Open land pastured		Brush land pastured		Wood land pastured	
		Acres	Pct.	Acres	Pct.	Acres	Pct.
<b>Western Area</b>							
Decatur .....	4,468	1,032	23.1	1,730	38.7	1,706	38.2
Elizabeth .....	5,493	1,521	27.7	892	16.2	3,080	56.1
Hamilton .....	904	288	31.9	126	13.9	490	54.2
Upper .....	2,639	715	27.1	1,295	49.1	629	23.8
Washington .....	1,934	680	35.2	836	43.2	418	21.6
<b>Southeastern Area</b>							
Fayette .....	6,139	1,531	24.9	2,723	44.4	1,885	30.7
Perry .....	6,618	2,089	31.6	3,329	50.3	1,200	18.1
Rome .....	7,585	2,272	30.0	3,452	45.5	1,861	24.5
Union .....	7,077	2,426	34.3	3,462	48.9	1,189	16.8
<b>Northeastern Area</b>							
Aid .....	12,802	4,268	33.3	4,242	33.1	4,292	33.6
Lawrence .....	8,896	2,509	28.2	4,695	52.8	1,692	19.0
Mason .....	13,516	3,782	28.0	6,284	46.5	3,450	25.5
Symmes .....	10,992	1,569	14.3	4,657	42.4	4,766	43.3
Windsor .....	11,435	3,977	34.8	4,052	35.4	3,406	29.8
<b>Total</b> .....	<b>100,498</b>	<b>28,659</b>	<b>.....</b>	<b>41,775</b>	<b>.....</b>	<b>30,064</b>	<b>.....</b>
<b>Percentage</b> .....	<b>100</b>	<b>28.52</b>	<b>.....</b>	<b>41.57</b>	<b>.....</b>	<b>29.91</b>	<b>.....</b>

Some tracts were always in the process of being cleared or improved; whereas others, often on the same farm, were reverting to brush and woods. On the poorer and rougher areas, it might be said that the farmers follow a long-time rotation which includes several years of brush or young timber growth. The method is to clear the brush and trees from a field, and, if the growth is sufficient, to burn a pit of charcoal; otherwise the brush would be burned on the ground. After clearing, the field is generally planted to corn or tobacco for a few seasons with an occasional seeding of oats for oat hay; frequently, soybeans are used. By the time the field has been cropped a few years the organic matter and fertility are nearing the point of exhaustion and the land eroding badly; then, an effort would be made to get a stand of grass so that the field could be used for pasture. As cultivation stops and pasturage starts a brushy and briery growth soon springs up which, unless mowed off, will soon occupy the land. After a few years of open pasture followed by brush pasture and possibly an idle period, the whole process is repeated.

## HOUSES

The decline in the amount of land used for agricultural purposes in the county was not evident from abandoned usable houses as was the case in many other counties where similar declines in land use have occurred. If there was any movement on the part of residents of the county to migrate to the cities or other farming communities, the houses from which they moved, if at all habitable, were occupied by someone else almost immediately. At the time the study was made, less than 3 per cent of the houses outside of incorporated places were uninhabited, despite the fact that the number of farms had declined 22.7 per cent and the amount of land in farms 10.8 per cent since 1900. Undoubtedly, many houses were abandoned in the western part of the county following the closing of the iron furnaces in that region. Many of these houses have since disappeared, leaving only foundation stones, lilac bushes, and legends to tell of their existence. The total number of dwellings in the county, according to the United States Census report, was 9,887 in 1930, as compared with 8,556 in 1920.

There were 4,942 houses outside of incorporated places in 1931, 82 per cent being in the open country and the remainder in unincorporated villages and hamlets. The average number of houses per square mile for the county outside of incorporated places was 11.4. The most sparsely settled township was Decatur with 4.1 houses per square mile, and the most densely settled was Union with 21.8. The condition and utilization of the houses by area and townships are given in Table 11.

The greatest number of houses per square mile (18.5) outside incorporated places was found in the southeastern area; the western was next with 10; and the northeastern was the lowest with 8. Ninety-three per cent of the houses in the northeastern part were in the open country and 7 per cent in unincorporated villages; in the southeastern area 85 per cent were in the open country and 15 per cent were in unincorporated villages; in the western areas 65 per cent were in the open country and 35 per cent in unincorporated villages. The large number of houses that were in unincorporated places in the western area, as compared with the other two areas, was due largely to the industrial development and to the fact that much of the land was held in large tracts and that some of the villages were almost entirely industrially owned and have never been incorporated. In the county as a whole there were 1.7 occupied houses in the open country for every one farm; in the northeastern area it was 1.2; in the southeastern area, 2; and in the

western area, 3. The strictly agricultural nature of the northeastern area accounts for the high percentage of houses in the open country and the close relationship between the number of farms and the number of occupied houses in the open country.

TABLE 11.—Condition and Utilization of Houses in Lawrence County Outside of Incorporated Places, 1931

Township	Condition of houses				Total houses	Utilization of houses	
	Good	Fair	Poor	Dilapidated		Occupied	Unoccupied
	No.	No.	No.	No.	No.	No.	No.
<b>Western Area</b>							
Decatur .....	8	18	51	34	111	104	7
Elizabeth .....	33	67	106	103	309	300	9
Hamilton .....	16	24	37	52	129	127	2
Upper .....	32	59	76	71	238	233	5
Washington .....	14	33	38	21	106	101	5
<b>Southeastern Area</b>							
Fayette .....	100	156	137	32	425	417	8
Perry .....	105	176	82	23	386	385	1
Rome .....	75	158	153	46	432	429	3
Union .....	136	202	141	55	534	526	8
<b>Northeastern Area</b>							
Aid .....	20	54	76	50	200	186	14
Lawrence .....	76	135	98	21	330	324	6
Mason .....	44	84	109	53	290	282	8
Symmes .....	24	47	40	43	154	148	6
Windsor .....	78	120	139	57	394	378	16
Total houses outside of unincorporated villages .....	761	1,333	1,283	661	4,038	3,940	98
Total houses in unincorporated villages ..	157	350	262	135	904	870	34
Total houses in county outside of incorporated places .....	918	1,683	1,545	796	4,942	4,810	132
Percentage of total .....	18.6	34.0	31.3	16.1	100	97.3	2.7

Approximately two-thirds of the houses outside of incorporated places in the western five townships were poor or dilapidated at the time of the study, and one-half of the houses were small. In comparison with the western, those houses in the southeastern area were one-third poor or dilapidated and two-fifths small. The houses in the northeastern five townships were 50 per cent fair to good and 50 per cent poor or dilapidated, with a somewhat higher proportion of medium sized or large than in the other two areas. For the county as a whole, two-fifths of the houses were classed as small and three-fifths as medium or large. Most of the houses were located in the valleys and on the sides of the hills rather than on the ridges.

Many of the small and a few of the medium sized houses were built of logs. Most of them were old and in a poor or dilapidated

condition, with only a small percentage in a fair condition. A few gave evidence of having been constructed within the past 4 or 5 years, and two or three were under construction at the time the survey was made. In some communities many of the houses were company property, often built of logs, and constructed for use during the last half of the nineteenth century when the iron industry was at its height in the county. No information was obtained as to the number of houses that had existed but were gone by 1931.

#### SCHOOLS, CHURCHES, AND MARKET CENTERS

There has been very little change in the number of school buildings in use in the county during the past 50 years—the number varying between 141 and 151. Fourteen buildings were used wholly or in part as high schools and, with the possible exception of three, were modern plants, having been built within the past decade. This was not true of the grade buildings, many of which were in poor condition. It was not unusual to find rough, straight backed seats in the poorer type of schools. As a rule, the buildings were set up from the ground making it almost impossible to heat them satisfactorily with the older type of stoves frequently used.

There were 137 different stores or trading centers in the county, outside of incorporated places. In 1928 there were 456 retail trade and service outlets in the county, 316 of which were located in Coal Grove and Ironton.<sup>7</sup> Of those that were located outside of Coal Grove and Ironton in 1928, 44 per cent were general stores, 28 per cent were selling groceries and meats, 17 per cent were garages and oil stations, and 11 per cent were miscellaneous. There were no banks and only one drug store in the county outside of Ironton.

#### ROADS

According to the United States Census, 47.5 per cent of the farms in the county were located on improved roads<sup>8</sup> in 1930; whereas the average for 20 counties in that section of the State was 41.6 per cent. In the remaining 68 counties in the State approximately three-fourths of the farms were on improved roads.

On January 1, 1932, the State Department of Highways reported 1000 miles of roads in the county, 395 of which were gravel or better. In 1914, the same Department reported 242 miles of roads that were gravel or better; and in 1926, 313.3 miles. The distribution of the mileage of improved road between the State,

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<sup>7</sup>Bureau of Business Research, the Ohio State University.

<sup>8</sup>Improved road was defined as gravel or better.



County, and Township Systems was as follows: 105 miles, or 26.6 per cent, on the State; 253 miles, or 64 per cent, on the County; and 37 miles, or 9.4 per cent, on the Township System. The unimproved or earth roads for the same date were distributed as follows: 4 miles, or 0.6 per cent, on the State; 82 miles, or 13.6 per cent, on the County; and 519 miles, or 85.8 per cent, on the Township System.

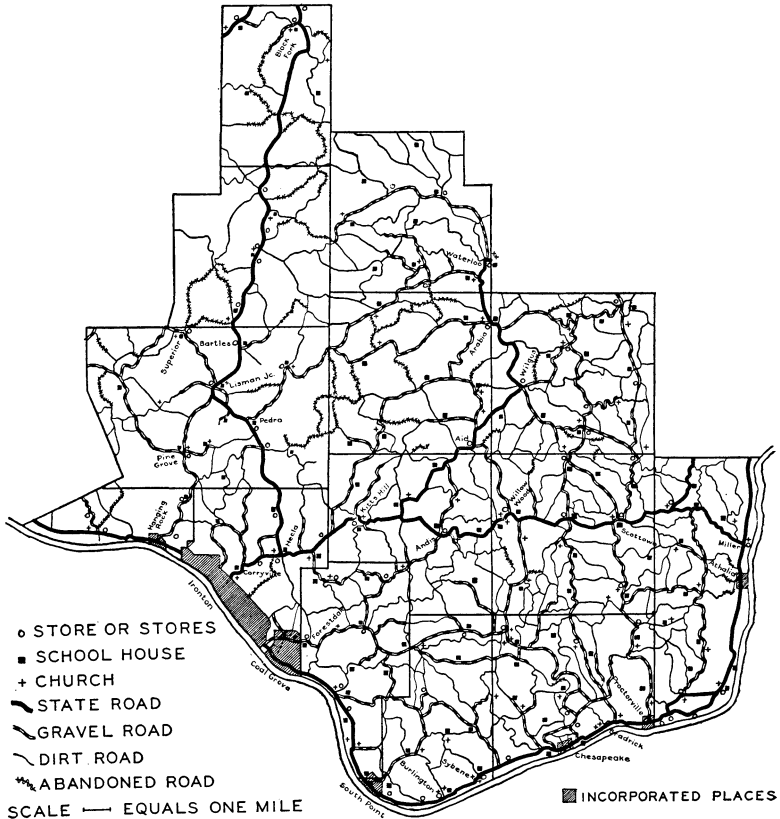


Fig. 12.—Roads, stores, schools, churches, and villages

Between 3 and 4 per cent of the road mileage was estimated as closed at the time of the survey. Very few of the roads had been officially closed, however, but the activities of nature had made travel impossible except in a light vehicle or on horse-back. Many of those that are closed are located in the western townships. Several that were originally through roads following the valley bottom to the head of the hollow and then over the ridge and down into the next hollow are only open now to the head of the hollow or to the last occupied house and are closed over the ridge.

While the mileage of improved roads was only a little over one-third of the total for the county, approximately two-thirds of the people outside of the incorporated and unincorporated villages lived on improved roads in 1931. The number of houses per mile on the improved road was 6.7, as compared with 2.5 on the unimproved or dirt roads. With but few exceptions the more thickly settled communities had access to an improved road. The lack of improved roads in the poorer areas, as contrasted with the good roads in the better areas, only tends to make greater the relative disadvantage of these poorer areas. Many farms are now so located that it is practically impossible to reach them by automobile during several months of the year.

### LAND VALUES

The value of farm land and buildings in Lawrence County as reported by the United States Census in 1930 was \$50.44 per acre,<sup>9</sup> and for the State as a whole \$78.69 per acre, the average of 20 counties in southeastern Ohio being \$39.08 per acre. The per acre value of farm real estate in Lawrence County was made up of \$17.71, or 35.2 per cent, buildings and \$32.73, or 64.8 per cent, land. The land alone made up a slightly higher proportion of the farm real estate value in Lawrence County than in the State as a whole or than in the southeastern part of the State.

TABLE 12.—Tax Valuation of Land in Lawrence County\*, 1932

Township	Acres	Total value of land and buildings	Value of land	Value of buildings	Value per acre		
					Total land and buildings	Land	Buildings
		<i>Dol.</i>	<i>Dol.</i>	<i>Dol.</i>	<i>Dol.</i>	<i>Dol.</i>	<i>Dol.</i>
<b>Western Area</b>							
Decatur .....	20,913	255,090	219,590	35,500	12.20	10.50	1.70
Elizabeth .....	32,628	638,590	413,750	224,840	19.57	12.68	6.89
Hamilton .....	6,470	394,060	272,130	121,930	60.91	42.06	18.85
Upper .....	11,621	674,030	347,640	326,390	58.00	29.91	28.09
Washington .....	15,330	196,970	165,010	31,960	12.85	10.76	2.09
<b>Southeastern Area</b>							
Fayette .....	16,300	845,290	509,290	336,000	51.86	31.24	20.62
Perry .....	15,560	910,600	565,260	345,340	58.52	36.33	22.19
Rome .....	20,255	1,136,030	774,670	361,360	56.09	38.25	17.84
Union .....	19,201	1,402,460	861,480	540,980	73.04	44.87	28.17
<b>Northeastern Area</b>							
Aid .....	25,350	407,300	288,890	118,410	16.07	11.40	4.67
Lawrence .....	20,715	486,000	310,870	175,130	23.46	15.01	8.45
Mason .....	24,208	515,830	364,930	150,900	21.31	15.08	6.23
Symmes .....	23,200	353,720	263,430	90,290	15.25	11.35	3.90
Windsor .....	24,968	659,400	461,450	197,950	26.41	18.48	7.93
	276,719	8,875,370	5,818,390	3,056,980	32.07	21.03	11.04

\*Outside of incorporated and unincorporated places.

<sup>9</sup>According to Census instruction the value placed on the farm land and buildings by the farmer was to be the amount for which the farm would sell.

Farm land and building values as given in the Census have been higher each succeeding Census period since 1900. They are as follows: 1900, \$19.43; 1910, \$23.74; 1920, \$49.04; and 1930, \$50.44 per acre. Values given above are only on the area in farms at the time the Census was taken; whereas land not in farms, which was 31.1 per cent of the total land in the county outside of incorporated places, was not reported by the Census. It is safe to assume that with but few exceptions the best lands in the county are in farms; consequently, the average per-acre value of all land in the county would be somewhat lower than the land in farms alone.

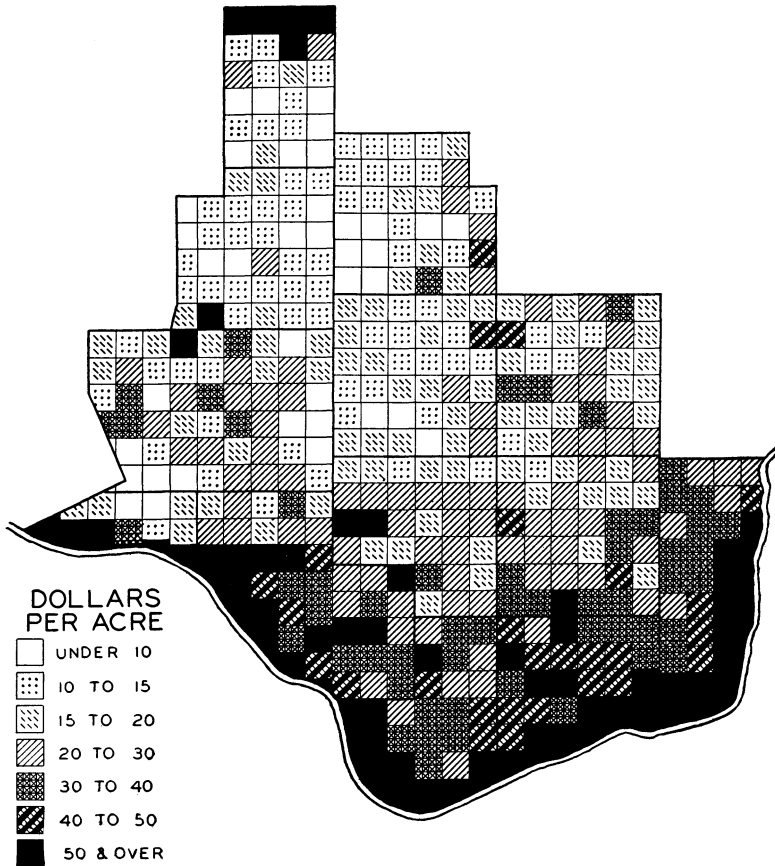


Fig. 13.—Assessed valuation, 1931. (By sections)

Increase in the Census value of farm land between 1910 and 1920 was due primarily to the increased income to agriculture resulting from price rather than physical production. However, there was some increase in the quantity of small grains produced in

the county during the war. Since 1920 there have been declines in price and also in the quantity of corn, small grain, hay, and tobacco produced in the county, with an increase occurring in the production of fruit and vegetables. During the period from 1920-1930, farm land values in Lawrence County, instead of decreasing as they did in practically all of the other counties in the State, increased \$1.40 per acre. It seems reasonable to attribute the higher value reported by the 1930 Census partly to higher values for the limited acreage of truck land but largely to influences other than agriculture—such as industrial development along the river and the tendency of the people working in the industries to live in the country where living costs were lower and the land could be relied upon to help supply their needs in periods of unemployment. Better roads and automobiles have made it possible for many people in the county to take advantage of these opportunities. The higher real estate values in the townships along the river, even on the poorer lands, would indicate that the tendency to live in the country and work in the city was having its effect.

Farm land and building values in the county varied from \$20.74 per acre in Washington Township to \$165.64 per acre in Hamilton Township, according to the 1930 Census. The townships along the river had without exception higher values than those farther back and averaged \$80.80 per acre, as compared with \$34.06 per acre in the eight townships back from the river. Between 1925 and 1929 some of the best truck crop land along the river sold for as high as \$700 per acre. The assessed value for taxation in the six townships along the river was \$58.86, as compared with \$18.75 per acre for the eight inland townships.<sup>10</sup> The per-acre assessed value is the average of all land outside of incorporated places; whereas the per-acre value as given by the Census is only for land in farms. The appraised value of land and buildings declined in the county from \$35.21 per acre in 1930 to \$32.07 per acre in 1931, a decline of 8.9 per cent. The appraised value of land and buildings for taxation purposes, by sections (approximately 640 acres each), is given in Fig. 13. The lowest land values in the county are to be found in the five northern townships.

### TAX DELINQUENCY

Tax delinquent land comprised 37 per cent of the total area outside of incorporated and unincorporated places in Lawrence County on December 31, 1931. Prior to 1924 tax delinquency on

<sup>10</sup>The assessed values for taxation were obtained following the reappraisal in the summer of 1931.

real estate, although slightly on the increase, was relatively unimportant as compared with the present situation. Since 1924, however, delinquent real estate has been rapidly increasing. In 1931, the delinquency on all real estate in the county was \$302,948.02, and the total for both real and personal property was \$365,450.66, an increase of \$130,595.50 in one year, or 12.6 per cent of the total taxes and assessments that were to have been collected that year.<sup>11</sup> In 1930, 59 per cent of the delinquent real estate tax was in incorporated places and 41 per cent was in unincorporated villages and the open country. In 1931, 64 per cent of the real estate tax delinquency was in incorporated places, as compared with 36 per cent outside of corporations, indicating that the rate of increase in delinquent urban property during 1931 was slightly more rapid than that of rural property.<sup>12</sup>

TABLE 13.—Delinquent Real Estate Taxes in Lawrence County, 1919 to 1931

	Total delinquency	Net increase or decrease
	<i>Dol.</i>	<i>Dol.</i>
1920.....	23,162.71	+ 798.60
1921.....	31,119.21	+ 7,957.50
1922.....	33,237.38	+ 2,118.17
1923.....	33,082.74	— 155.64
1924.....	44,613.28	+ 11,530.54
1925.....	59,200.92	+ 14,587.64
1926.....	72,741.05	+ 13,540.13
1927.....	87,085.93	+ 14,344.88
1928.....	123,012.03	+ 35,926.10
1929.....	138,390.39	+ 15,378.36
1930.....	198,562.46	+ 60,172.07
1931.....	302,948.02	+104,385.56

The amount and length of time that taxes were delinquent on real estate outside of incorporated and unincorporated places on December 31, 1931 were as follows:

	Acres	Dollars
Delinquent 3 years and over	10,711	37,607
Delinquent 2 years and over	19,882	53,692
Delinquent 1 year and over	48,401	81,248
Delinquent 6 months and over	102,398	103,209

The townships with the highest percentage of their acreage delinquent at the end of 1931 were Upper with 59.5, Decatur with 52.5, Rome with 47.6, Windsor with 43.5, and Union with 39; the townships with lowest delinquency were Washington with 6.8 and Hamilton with 13.2. Little, if any, relationship existed between the amount of delinquency and the utilization of the land in the

<sup>11</sup>Both rural and urban property included.

<sup>12</sup>The delinquent personal property was 68.8 per cent in incorporated places and 31.2 per cent in the unincorporated places and open country in 1931.

various townships in the county as revealed by the following comparison: Three of the townships with large acreages delinquent (namely, Rome, Windsor, and Union) contained a considerable acreage of orchards and used land; whereas Upper and Decatur Townships, also with high delinquency, had practically no orchards or truck land and very little land used for agricultural purposes. Making a similar comparison between the amount of delinquency and the appraised value for taxation or the value given in the Census likewise shows but little correlation.

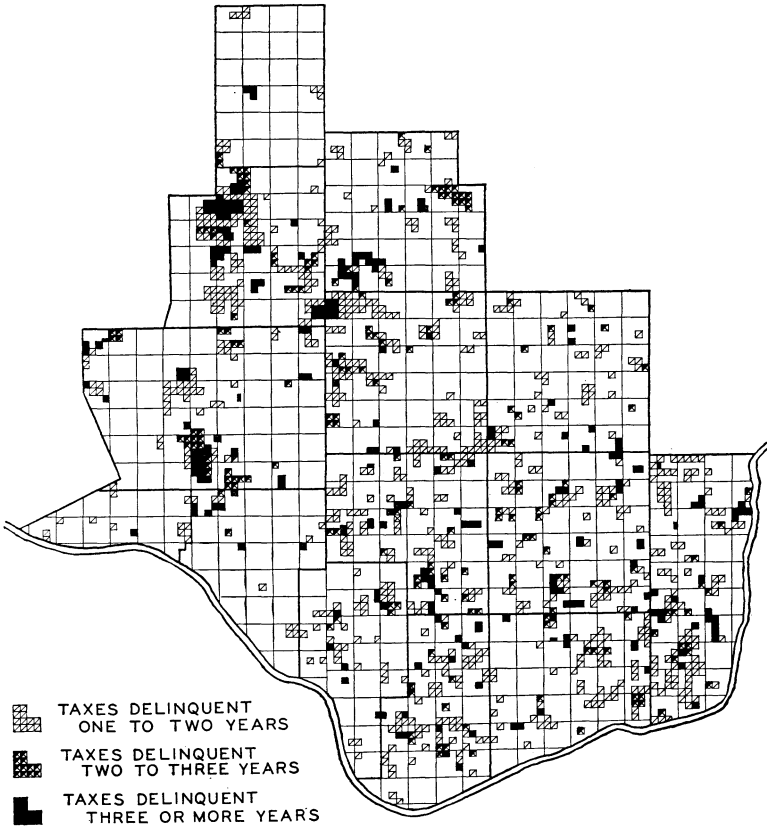


Fig. 14.—Land tax delinquent one year or more, 1931

Land that became delinquent one tax payment during the year 1931 was 19.5 per cent of the total area in the county outside of incorporated and unincorporated places; 10.3 per cent was delinquent two or three payments; and 7.2 per cent was delinquent four or more tax payments. The greatest increase in new tax delinquency occurred in Upper, Mason, and Windsor Townships. A

TABLE 14.—Tax Delinquent Land in Lawrence County, 1931\*

Township	Total dollars delinquent	Total area delinquent	Less than 1 year delinquent	1 to 2 years delinquent	2 to 3 years delinquent	3 or more years delinquent
	<i>Dollars</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>
<b>Western Area</b>						
Decatur .....	10,473	10,985	5,052	3,435	864	1,634
Elizabeth .....	7,785	10,500	5,853	1,970	1,150	1,527
Hamilton .....	1,481	855	357	419	22	57
Upper .....	9,274	6,915	5,992	416	152	355
Washington .....	603	1,044	190	666	75	113
<b>Southeastern Area</b>						
Fayette .....	8,692	5,543	1,522	2,637	725	659
Perry .....	6,058	4,684	2,465	1,435	360	424
Rome .....	14,988	9,639	3,902	3,628	760	1,349
Union .....	17,554	7,491	3,810	2,350	613	718
<b>Northeastern Area</b>						
Aid .....	4,315	9,715	4,596	3,589	872	658
Lawrence .....	6,157	7,866	3,351	2,516	1,029	970
Mason .....	3,744	8,561	5,956	1,678	512	415
Symmes .....	2,929	7,729	4,522	1,472	860	875
Windsor .....	9,155	10,871	6,429	2,308	1,177	957
<b>Total</b> .....	<b>103,208</b>	<b>102,398</b>	<b>53,997</b>	<b>28,519</b>	<b>9,171</b>	<b>10,711</b>
<b>Percentage</b> .....		<b>100.0</b>	<b>54.7</b>	<b>27.9</b>	<b>8.9</b>	<b>10.5</b>

\*Does not include tax delinquent real estate in incorporated and unincorporated places or unincorporated sub-divisions insofar as they could be eliminated.

large part of the 6-month delinquency is probably temporary and will be paid off by the present owner; however, land that was tax delinquent two or more payments at the end of 1931 is more likely to remain delinquent until sold for taxes. During the year 1931 seven tax delinquent tracts were offered for sale, only three of which were sold, bringing a total of \$200. Against these there were costs and delinquent taxes amounting to \$120. Fig. 14 gives the location in the county of lands that were delinquent one year or more; lands that were delinquent less than one year were not included on the map because of their possible temporary nature.

#### PUBLIC REVENUE AND THE COST OF GOVERNMENT

A number of factors associated with the financing of governmental services for the rural portion of Lawrence County merit consideration in a land utilization study, for they are concrete evidence of the capacity of the land to yield income to the inhabitants and to support government under the existing conditions.

It is a truism that the wealth and income of a community necessarily limit the people's ability to support the government. On the other hand, the welfare of the people may merit as much public expenditure to maintain the commonly accepted standards of public service in the poorest as in the richest community. As a

practical fact, an area with a broken topography, as in Lawrence County, may have some higher costs for equal service than level areas with a uniformly productive soil. This is probably true of such services as road construction and maintenance and the transporting of pupils to schools.

Such factors as high tax delinquency, a large amount of public debt, and extensive state aid to schools are important circumstances when considered alone; but only a complete analysis of public income and expenditure will suffice to give a fair concept of this phase of the existing situation. Data on the tax base, on the various sources of public revenue, and on the services performed by the local units of government are shown in Tables 15 to 19, inclusive.

TABLE 15.—Tax Valuation of the Various Classes of Property in Lawrence County, 1930

	Real estate		Personal		Public utility		Total	
	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>
Rural territory.....	10,486,530	63.2	1,930,344	11.6	4,189,466	25.2	16,606,340	100.0
Incorporated places..	17,714,640	66.8	4,619,326	17.4	4,183,604	15.8	26,517,570	100.0
Total.....	28,201,170	65.4	6,549,670	15.2	8,373,070	19.4	43,123,910	100.0

In Table 15 it is shown that the rural territory of Lawrence County had a tax valuation in 1930 of \$16,606,000, of which amount 63 per cent was real estate, nearly 12 per cent personal property, and 25 per cent public utility property. It is worthy of note that the public utility property represents approximately twice as high a percentage of the county total as of the State as a whole, due to the relatively low values represented by real and personal property and not to the large amount of public utility property.

The average tax valuation of all rural real estate in Lawrence County was \$37.90 per acre in 1930, but it was reduced to \$32.07 per acre in the general reappraisal in 1932 (Table 12). In the western and northeastern parts of the county, the low valuations are evidence of the limited capacity of the land to yield income and taxes. As between townships, valuations range from \$12.20 per acre in Decatur, in the northwestern part of the county, to \$73.04 per acre in Union, bordering the Ohio River. Four townships had a real estate valuation averaging less than \$20.00 per acre, and three more had less than \$30.00 per acre in 1932. As compared with these, all rural territory in Ohio had an average tax valuation of \$84.07 in 1930. Tax rates in 1930 varied from \$18.60 per \$1000 in Hamilton Township to \$26.40 in Washington Township. This contrasted with a State average rural tax rate of \$18.294.



Added significance is given to the low tax valuations when compared with the number of people in these rural areas whose welfare very largely depends on adequate service in the form of roads, school facilities, and the other governmental services contributing to the general welfare of any community. With a total tax valuation per capita of \$734.28 in 1930, the rural portion of Lawrence County had approximately one-third the average per capita tax base of all rural territory in Ohio, Table 16.

TABLE 16.—The Value per Capita of Taxable Property in Lawrence County and in Ohio, 1930

	Lawrence County	Ohio
	<i>Dollars</i>	<i>Dollars</i>
<b>Rural territory:</b>		
Real estate .....	463.68	1,285.57
Personal property* .....	270.60	758.32
<b>Total</b> .....	<b>734.28</b>	<b>2,043.89</b>
<b>Urban territory:</b>		
Real estate .....	811.67	1,452.12
Personal property* .....	403.34	565.29
<b>Total</b> .....	<b>1,215.01</b>	<b>2,017.49</b>
<b>Rural and urban territory combined:</b>		
<b>Total</b> .....	<b>968.18</b>	<b>2,024.00</b>

\*Includes public utility property.

Since the county is the administrative unit for purposes of taxation, it is necessary to include both rural and urban territory in the discussion of revenue collections and expenditures by the county. This point, therefore, should be kept in mind that the data on county revenue include an incorporated area containing approximately 22,000 people, as well as the rural area having a population of approximately 23,000 with which we are primarily concerned.

In Table 17 a summarization is given of the public revenue collected in Lawrence County in 1930. Nearly two-thirds of this revenue came from property, or, to be exact, 61.2 per cent came from the uniform property tax and 4.6 per cent from special assessments; nearly all of the latter were for municipal purposes.

Taxes on motor vehicle transportation rank next to property taxes as sources of revenue, the gasoline tax yielding 10.9 per cent and licenses 4.2 per cent, respectively, of the total revenue collections.

From the total funds collected within the county aggregating \$1,547,163, the State government collected approximately 15 per cent, the county 24 per cent, townships 2 per cent, municipalities 25 per cent, and school districts 34 per cent. This distribution merely represents the proportion of funds associated directly with the

TABLE 17.—Public Funds Collected in Lawrence County for the Support of State and Local Government, 1930

	Total		State		County		Townships		Municipalities		School districts	
	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>
Uniform Property Tax .....	946,551	60.9	17,284	7.5	287,994	77.1	29,012	92.9	123,691	31.5	488,570	92.9
Special Assessments .....	71,932	4.6			1,275	3.3	290	0.9	70,367	17.9		
Gasoline Tax .....	168,276	10.8	168,276	72.8								
Motor Vehicle License .....	65,035	4.1	31,609	13.7	18,671	5.0			14,755	3.8		
Inheritance Tax .....	5,949	0.4	2,657	1.2			1,121	3.6	2,171	0.5		
Cigarette Tax .....	5,757	0.4	4,317	1.9					497	0.1		
Legal, Administrative Fees, and Licenses .....	37,347	2.4			36,211	9.7			1,136	0.3		
Fines and Court Costs .....	27,174	1.7	5,893	2.5	2,104	0.6	281	0.9	18,896	4.8		
Dog and Kennel Tax .....	5,973	0.4			5,973	1.6						
Health District Locally .....	9,000	0.6			9,000	2.4						
Commercial Receipts .....	220				98		71	0.2	51			
Interest .....	17,776	1.2	40		7,091	1.9	229	0.8	8,631	2.2	1,785	0.3
Miscellaneous .....	36,732	2.4	824	0.4	4,381	1.2			18,988	4.9	12,539	2.4
Sale of Investments .....	58,943	3.8							35,880	9.1	23,063	4.4
Public Service Enterprises .....	97,853	6.3							97,853	24.9		
<b>Total</b> .....	<b>1,554,518</b>	<b>100.0</b>	<b>230,900</b>	<b>100.0</b>	<b>373,518</b>	<b>100.0</b>	<b>31,227</b>	<b>100.0</b>	<b>392,916</b>	<b>100.0</b>	<b>525,957</b>	<b>100.0</b>

fiscal and administrative machinery of the various units of government in the process of collection. Redistribution of the revenue gave the various units of government a somewhat different total for expenditure.

Collections by the State in Lawrence County totalled \$230,900 in 1930, Table 17. In the same year, the State government returned \$387,243 to Lawrence County. If the total contributions from Lawrence County to the State government are deducted, there remains a net amount of \$169,019 in public revenue coming into the county from outside sources. This does not include \$338,491 expended by the State Highway Department within the county in 1930.

Of the total revenue coming into Lawrence County from outside sources for administration by the local units of government, the \$270,760 of state aid to weak school districts represented 68.6 per cent, motor fuel tax funds 27 per cent, and all other funds 4.4 per cent, Table 18.

The expenditures of public funds in the county by local units of government in 1930 have been classified to show the various functions performed; these expenditures amounted to \$1,858,109 (Table 19). Of this total expenditure, education took 31 per cent, highways 16.8 per cent, and debt charges 27.5 per cent; these represent three-fourths of the total. Much of the debt likewise represents outlays for roads and schools.

### SCHOOL EXPENDITURE

School enrollment in Lawrence County for the school year 1930-1931 was 10,995, which means that approximately 25 persons out of every 100 in the county were in school.<sup>13</sup> This is contrasted with slightly less than 20 per 100 for the entire State and as few as 15 per 100 in some urban districts. Lawrence County is not peculiar in that a large proportion of the population is in school, for such a condition exists in other counties in that part of the State. In the townships of Washington, Decatur, Elizabeth, Hamilton, and Upper<sup>14</sup>, 29 out of every 100 were in school, as compared with 21 per hundred in the districts of Coal Grove and Ironton.

The per-capita wealth assessed for taxation in 1930 was \$968 in Lawrence County as compared with \$2,024 for the State. Not only is the taxable wealth much lower in Lawrence County, but also

<sup>13</sup>The enrollment figures used are net registration, excluding duplicates and re-entries. (Colleges not included).

<sup>14</sup>Ironton and Coal Grove School Districts are not included.

TABLE 18.—Income Received and Expended by Lawrence County from the State and Other Taxing Districts Outside of Lawrence County, 1930

	Total		County		Townships		School districts		Municipalities	
	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>	<i>Dol.</i>	<i>Pct.</i>
Gas Tax Funds .....	106,404	27.5	64,500	97.4	19,800	100.0	270,760	97.5	22,104	93.4
Educational Equalization .....	270,760	69.8					1,905	0.7		
Irreducible Debt .....	1,905	0.5					875	0.3		
State's share of County School Superintendent .....	3,953	1.0					3,953	1.4		
Vocational and Rehabilitation .....	3,302	0.9	1,740	2.6					1,562	6.6
Health District from State .....	321	0.1					321	0.1		
Tuition from other School Districts .....										
<b>Total.....</b>	<b>387,520</b>	<b>100.0</b>	<b>66,240</b>	<b>100.0</b>	<b>19,800</b>	<b>100.0</b>	<b>285,169</b>	<b>100.0</b>	<b>23,666</b>	<b>100.0</b>

TABLE 19.—Expenditure of Public Funds by Local Units of Government in Lawrence County, 1930

	Total		County		Township		Municipality		School	
	<i>Dollars</i>	<i>Pct.</i>	<i>Dollars</i>	<i>Pct.</i>	<i>Dollars</i>	<i>Pct.</i>	<i>Dollars</i>	<i>Pct.</i>	<i>Dollars</i>	<i>Pct.</i>
General Government (a) .....	183,835	9.9	111,117	19.4	14,466	31.1	25,407	5.5	32,845	4.2
Protection to Person and Property (b) .....	72,234	3.9	20,970	3.6	74	0.2	51,190	11.0	.....	.....
Health and Sanitation (c) .....	33,246	1.8	11,198	2.0	637	1.4	21,411	4.6	.....	.....
Highways, Streets, and Bridges (d) .....	311,645	16.8	178,891	31.2	21,782	46.8	110,972	24.0	.....	.....
Charities, Hospitals, and Corrections (e).....	73,841	4.0	60,651	10.6	5,718	12.3	7,472	1.6	.....	.....
Education (f) .....	576,045	31.0	8,805	1.5	.....	.....	.....	.....	567,240	73.2
Miscellaneous (g) .....	9,623	0.5	4,462	0.8	.....	.....	5,161	1.1	.....	.....
Public Works (h) .....	45,117	2.4	.....	.....	.....	.....	45,117	9.7	.....	.....
Capital Outlay (i) .....	41,003	2.2	3,161	0.6	559	1.1	1,857	0.4	35,426	4.6
Interest (j) .....	193,806	10.4	31,536	5.5	675	1.4	84,144	18.2	77,451	10.0
Net Debt Decrease (k) .....	317,714	17.1	142,000	24.8	2,640	5.7	110,716	23.9	62,358	8.0
<b>Total</b> .....	<b>1,858,109</b>	<b>100.0</b>	<b>572,791</b>	<b>100.0</b>	<b>46,551</b>	<b>100.0</b>	<b>463,447</b>	<b>100.0</b>	<b>775,320</b>	<b>100.0</b>

(a) General government. This includes the general executive and court expenses, the salaries and supplies of the various county, township, and municipal offices, expense of elections and of appraising property, and the various other expenses which were too general in nature to be charged to any other specific function.

(b) Protection to person and property. This includes costs of the sheriff, police, dog warden, and township bounties.

(c) Health and sanitation. These include workmens' compensation for public employees, hydrophobia treatment, care of cemeteries by townships, costs of the county health district, and T. B. eradication (both human and bovine).

(d) Highways and streets. These include all thoroughfares of travel. The expenses listed under this head include maintenance, repair, and also outlays for new construction, for it is impossible to make a satisfactory division between the different items of road expense. (Expenses of state highways are not included).

(e) Charities, hospitals, and corrections. These include the cost of the county home, childrens' home, outdoor relief, mothers' pensions, blind relief, soldiers' relief, inmates of state institutions, miscellaneous charity, and the county jail.

(f) Education. Includes the cost of local schools, the county and district boards of education, the county agricultural agent, farmers' institutes, and the county fair. Some of the expenditures included under this heading might properly be called conservation and development of natural resources.

(g) Miscellaneous. Some expense cannot be distributed because the necessary accounting information is lacking. Only 0.5 per cent of the total expenditures were miscellaneous.

(h) Public works. The only utility operated by the public in the county is the Ironton Water Works. Power and light are purchased from an electrical company.

(i) Capital outlay. This is principally school building construction; the county, municipalities, and townships expended small sums in 1930 for construction and repair.

(j) Interest. This includes all interest payments on short term notes and on bond issues.

(k) Net debt decrease. This represents the net reduction of the outstanding bond issues and short term notes.

with one-fourth of the population in school the number of productive individuals is probably less than in school districts where a smaller percentage of the population is in school.

The number enrolled in school in the county increased from 4,000 in 1856 to 10,176 in 1894, then dropped to 9,024 in 1905. Since 1920 the number of pupils has again been on the increase. School equipment or the number of school buildings grew from 88 in 1857 to 154 in 1926. Since that time there has been some decrease in the number of buildings in use, but this decline can be attributed largely to centralization and elimination of some one-room schools. The number of separate school districts administering the educational funds in the county grew from 19 in 1870 to 27 in 1900. School affairs continued to be handled by 27 separate districts or boards for the next 10 years; after 1910 there was an occasional consolidation of districts, resulting at the end of 1931 in 22 districts.

The schools that were in operation during the 1930-1931 school year were predominantly one-room, frame buildings, generally in poor or bad condition, most of them having been built previous to 1900. Ninety-four of them had but one room, 20 two rooms, 3 three rooms, and 18 had four or more rooms<sup>15</sup>. The larger and newer buildings were generally of stone or brick and in fair or good condition. There were 282 different school rooms outside of Iron-ton used during the school year, with an average of 28 pupils per room. The elimination of many of the one-room buildings, by consolidation, is rather definitely limited inasmuch as almost any centralization in the county would make it necessary to supply more transportation which is practically impossible in many sections because of poor roads at certain seasons of the year.

The cost of maintaining and supplying educational facilities in 1930 constituted approximately 42 per cent (operating costs, capital outlay, and net debt decrease included) of the total funds disbursed by the tax spending group in the county. The funds made available for education in the entire county in 1930 were 64.6 per cent local funds and 35.4 per cent state funds. Excluding the Iron-ton district, state aid made up 54 per cent of the current school funds received by the western area, 47 per cent by the southeastern area, and 59 per cent by the northeastern area<sup>16</sup>.

Nineteen of the school districts were supplying some transportation, the cost of which amounted to \$36,646, or 4.7 per cent, of

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<sup>15</sup>The Iron-ton district which contained 10 buildings was not included.

<sup>16</sup>In addition to the 59 per cent received from the State, one district in the northeastern area received \$16,500 from the State which were used for new construction.

the total funds expended by the schools in the county. The transportation in most cases was for high school pupils, the lower eight grades generally being cared for locally in the one- and two-room schools.

TABLE 20.—Per-pupil Cost by School Districts in Lawrence County, 1930

Area and District	Net enrollment			Cost per pupil*		
	Elementary	High school†	Total	Elementary	High school†	Total
<b>Northeastern Area</b>						
Kitts Hill .....	183	64	247	\$46.23	\$108.54	\$62.38
Lawrence .....	147	.....	147	45.27	.....	45.27
Mason-Aid .....	364	68	432	56.17	136.55	68.82
Symmes .....	94	.....	94	97.32	.....	97.32
Waterloo .....	216	69	285	26.88	55.12	33.73
Windsor .....	374	108	482	56.73	121.19	69.15
Total or Average .	1378	309	1687	52.06	107.20	62.16
<b>Southeastern Area</b>						
Burlington .....	176	.....	176	39.81	.....	39.81
Fayette .....	253	.....	253	53.48	.....	53.48
Perry .....	280	.....	280	50.94	.....	50.94
Rock Camp .....	50	.....	50	67.86	.....	67.86
Rome .....	283	.....	283	44.08	.....	44.08
Rome Rural Special...	249	82	331	56.00	134.10	75.36
Total or Average .	1291	82	1373	50.05	134.10	55.07
<b>Western Area</b>						
Decatur .....	258	30	288	53.45	175.38	66.16
Elizabeth .....	553	173	726	48.62	72.53	54.32
Upper .....	352	.....	352	62.07	.....	62.07
Washington .....	395	52	447	44.27	136.42	55.00
Total or Average .	1558	255	1813	51.36	97.66	57.87
<b>City and Village Districts</b>						
Ironton .....	2016	1182	3198	85.06	109.27	94.00
Chesapeake .....	781	332	1113	35.83	58.66	42.64
Coal Grove .....	632	125	757	33.27	71.23	39.54
Hanging Rock .....	249	121	370	43.23	87.32	57.73
Proctorville .....	191	83	274	80.15	137.77	97.60
South Point .....	306	104	410	94.43	136.95	105.23
Total or Average .	4175	1949	6122	66.99	93.90	76.48
County Total or Average .	8402	2593	10995	59.04	97.20	68.54

\*No capital outlay was included, and total, instead of net, debt decrease was used in arriving at the cost per pupil.

†Includes Junior High and Senior High.

The five townships previously mentioned as having 29 persons out of every 100 in school contribute locally a little less than one-half of the money required for their schools. The taxable wealth was \$780 per capita, about three-fourths of which was real estate and personal and one-fourth industrial plant valuation. The value of farm products sold, traded, or used by the 299 farms in this area was approximately \$760 per farm in 1929.<sup>17</sup> The people engaged in farming, as defined by the Census, made up about 25 per cent of the

<sup>17</sup>Using total value for county as given in Census and distributing it among the townships on basis of crop, pasture land, and the number of farms. The income derived by those classed as fruit farms was not taken into consideration because fruit production was almost entirely confined to the eastern townships.

population leaving the remaining 75 per cent to be employed in other industries. In general, most of the workers depended on the local plants for employment, and their residence in this section, therefore, might be attributed largely to the presence of the mills. It is only necessary to point out that more than half of the funds for the support of the schools in these townships are from outside sources to indicate that this cost is being carried only in part by the local community.

The justification of state aid in this and in other counties rests on a broader foundation than simply the benevolent attitude of a sovereign government toward its weaker members. The flow of migrants from rural areas seems necessary to the growth, or even to the maintenance, of our urban-industrial centers. A recent study of selected rural areas in Ohio shows in the areas studied that these migrants equalled 64.5 per cent of all the young people educated in these rural areas, only 35.5 per cent going into agriculture as an occupation.<sup>18</sup> This population movement is an economic justification of the state policy under which the richer urban-industrial centers contribute something toward the cost of training their future citizens who migrate from the rural communities when attaining the age of productivity. Furthermore, the property rights in rural wealth which are carried cityward by these migrants cause a steady drain on the income from agriculture and at the same time enrich the urban centers.

#### SUMMARY

1. There has been a decrease of 20 per cent in the acreage of land in farms since 1880 and a decrease of 50 per cent in the improved land in farms since 1900.

2. From 1880 to 1920 there was a decrease of 43 per cent in the population living outside incorporated areas in the western townships and 25 per cent in the northeastern townships. From 1920 to 1930 there was a slight increase in the western area due to industries.

3. In 1930, 29 per cent of the population lived on farms and 22 per cent in other unincorporated territory. The other 49 per cent lived in seven incorporated villages and cities.

4. In the western area there were three occupied houses in the open country for every one farm, in the southeastern area two, and in the northeastern area one and two-tenths.

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<sup>18</sup>Beck, P. G. and Lively, C. E. Movement of Open Country Population in Ohio. Ohio Agricultural Experiment Station Bulletin 489, pp. 8-9, 1931.



5. At present, 69 per cent of the land in the county is included within the bounds of farms. Of the total land area in the county, about 52 per cent is used for either crops or pasture; crops alone comprise 15.5 per cent of the total area. In Washington Township only 15 per cent of the area is used for agricultural purposes.

6. Two-thirds of the agricultural income of the county is derived from the 7 per cent of farm acreage in fruits, vegetables, and tobacco.

7. At the time of the survey 47.5 per cent of the area was wooded, 26 per cent in brush, and 26.5 per cent open land.

8. Orchards and truck crops, especially, lead to good incomes on many farms, and yet the 433 farms classed as self-sufficing, comprising 20 per cent of the total, received an average of only \$146 for farm products sold in 1929.

9. The average tax valuation of rural real estate in 1932 was \$32.07 per acre. In each of five townships it was less than \$20 per acre. Land alone was valued at less than \$12 per acre in each of four townships.

10. Since 1924 the area of delinquent real estate has been increasing rapidly. On December 31, 1931, there were 48,401 acres of land delinquent one year or more. However, very little land has been sold for delinquent taxes in the past 10 years.

11. The county received \$270,760 in 1930 as state aid to weak school districts.

12. School costs per pupil for the elementary grades varied from \$26.88 in the Waterloo district to \$97.32 in Symmes.

### CONCLUSIONS

While the area of improved land in the county has decreased by one-half since 1900, the total volume of agricultural production has been maintained through the development of fruit growing and truck crops in limited areas. Industrial development, principally along the Ohio River, has provided a local market and has given part time employment to many rural residents. In the western townships especially, the population has apparently always been of a very mobile nature largely dependent upon outside work for an income. Large areas of land in the county appear to be unable to support a system of agriculture which will yield its people a living and support the functions of local government. This is indicated by the abandonment of the land for agricultural use and the low level of income of those families now remaining. A continuation of the present trend to abandon the poorer areas, to develop agricultural activities in the more productive areas, and to concentrate the part time and self-sufficing type of farms along the good roads near good school and social facilities seems to be desirable. Land abandonment and a low tax base make it difficult to support and secure the facilities for living where homes are widely scattered over the poorer area. Forestry, recreation, and water conservation might be better uses for these areas. The trends evident in the county should be taken into account by officials administering the functions of local government. The present and future use of the idle and abandoned areas may well be considered in any state conservation and forestry program.

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