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**LAND  
TENURE  
in  
the  
UNITED  
STATES  
Development and  
Status**

## ACKNOWLEDGMENT

The major source of data presented in this publication is the 1964 Census of Agriculture. Further information on farm tenure not presented in this report may be found in Volume II, General Report of the 1964 Census of Agriculture.

The authors wish to express particular appreciation to James A. Munger for his contribution to the text and charts in section II and to Gene Wunderlich and Anne E. Hammill for their assistance in outline preparation and for many helpful suggestions.

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## SUMMARY

Significant adjustments have occurred in recent years in the relationships among persons controlling and using land resources of the Nation. The most prominent feature of the evolving farm tenure situation is the attainment of land ownership status by an increasing proportion of farm operators. This trend has come about largely through an increased proportion of part owners and a decline in the proportion of full tenants.

Despite these changes, however, many farm operators' incomes remain below acceptable levels. Their continuing poverty status attests to the need for adjustments in access to farm resources and claims to farm income. Although farm operators hold an equity of about 50 percent of the highly capitalized farming industry, they do not share proportionately in ownership of the resources used in farming.

Even full-owner operatorship is not an indication of favorable income status. Size of full-owner farms, whether measured in acres, investment, or value of products sold, typically is too small to produce a satisfactory level of living. Although full owners represented more than half of all farm operators in 1964, they operated only slightly more than one-fourth of the land in farms. On the other hand, the one-fourth of all operators who were part owners operated almost half of the land.

The decrease in farm tenancy has accompanied the demise of the plantation system. A distinct betterment of the situation among the remaining tenants is evidenced by the rapid increase in size of their farms and by the fact of more written leases, longer occupancy, and more favorable rental terms.

Nonwhites in agriculture are relatively disadvantaged. Compared with white operators, they have been disappearing at a more rapid rate and have operated smaller farms, farmed lower valued land, used less machinery per farm, produced a larger proportion of labor-consuming crops, sold smaller average amounts of farm products, and received much less income from off-farm work (\$1,312, compared with \$3,323). Only one nonwhite farm operator in four attained owner operatorship in 1964, while more than two of four remained as tenants.

In addition to the increasing proportion of farm owners, an outstanding feature of the evolving tenure situation is the doubling of size of farms between 1940 and 1964 among all tenure groups in all major sections of the country. Underlying this increase are two basic trends: (1) An adjustment to modern technologies—particularly mechanization, which permits one man to operate more land, and (2) an upward swing in the concentration of agricultural production on large-scale farms. About \$1 out of \$4 received from products sold was paid to large-scale farm operators in 1964. If this income were distributed equally among typical full-owner farms, it would require approximately three-quarters of a million farms to replace the 31,400 large-scale farms.

An alternative to increasing income through expanding farm operations may be off-farm employment. In 1964, off-farm income of farm operators exceeded their net cash farm income. Of the 2.1 million commercial farms, 1.6 million reported \$5.5 billion in off-farm income—an average of nearly \$3,500 for each farm reporting. This income varied considerably by tenure, from an average of \$5,200 for managers to \$2,600 for tenants.

An important characteristic in the land tenure situation is public ownership of nearly 40 percent of the land area of the United States. Much of this public land is used primarily for forestry and grazing, and little is used for intensive agriculture. The public lands used for agriculture will be sufficient to meet contemplated farmland needs in the foreseeable future. Use of public lands for recreation is increasing rapidly, although some expansion may be curtailed by several conflicting uses. For example, mining claims and subsequent mining developments often

conflict with other uses. Blockading of access to public lands by private landowners who collect fees is another restriction on use of public lands. Without a comprehensive, unified system of handling public lands, this problem will continue and possibly worsen.

Because of an increasing population and emphasis on recreation and scenic values of land, greater public use of private lands can be expected. This may be accomplished through public leases of private lands, increased use of scenic easements, and more effective long-term zoning ordinances.

These adjustments by persons controlling and using our land resources and the other evolving features discussed above should be analyzed in view of our land system's origin and its development during the last 200 years. The basic elements of this system have changed but little since their delineation in the Thirteen Original Colonies and the Northwest and Southwest Land Ordinances. Our land policies were designed primarily to establish and maintain farm operators on the land as owner-operators of family-size units. But our land system is flexible; it has permitted a wide selection of tenure relations on any size unit that suits the landowner or land user. As a consequence, we find a range in farm size from small retirement farms to large ranches involving thousands upon thousands of acres.

# LAND TENURE IN THE UNITED STATES

## Development and Status

By D. David Moyer, Marshall Harris, and Marie B. Harmon<sup>1</sup>

### INTRODUCTION

This publication describes how rural land is acquired, held, and transferred. It is intended for nonscientists who want an overview of the origins of our land tenure system as well as information on its current status. Because a large portion of privately owned rural land is agricultural, including land for grazing and forestry, this report concentrates on agricultural tenure and use. A brief review of urban and public lands is included to present as inclusive a view of land tenure as possible.

Land tenure is concerned with the many relationships that govern access to and use of land resources and claims on goods and services that flow from them. This report includes data on all the land area of the United States but focuses on access to farms and on claims of their operators to farm income. Farm tenures are classified in four major groups—full owners, part owners, managers, and tenants. A full-owner operator may have full or only little equity in the farm resources, but he operates only land in which he holds an ownership. A part owner owns part and rents part of the land that he farms; he may own most of the farm or he may rent most of it. A manager operates the farm owned by another and is paid a wage or salary for services rendered. A tenant rents all the land that he operates. Thus, census data included herein are classified on the *farm operator's* tenure, on the *land* that he farms. While this classification is deficient in that it does not provide a complete picture of who controls and who receives

income from farming, it is a satisfactory method of viewing American agriculture.

Rapid technological advances of recent years and specialization in farm production have been accompanied by adjustments in the tenure pattern of agriculture. Tenure adjustments are usually related to farm size and tenure status of farm operators. There is a continual conflict between putting more capital into land resources or using it to expand operations on rented land. A compromise is struck when an operator owns part of a farm and rents part. The rapid increase in part-owner operatorship attests to the popularity of this compromise.

While this report emphasizes the present tenure status of farms and farmers in the United States, it also shows adjustments over time and the evolving situation. It is divided into five parts: *Bases and Origin of Our Land System* is concerned with how and why we developed the land system that we have today. *Land Resources of the United States* gives an overview of the acquisition and disposition of our land resources and the major uses to which the land is allocated. *Agricultural Tenures* presents tenure and associated conditions surrounding control and use of farm resources. *Tenure and Welfare* shows relationships between the ways in which access to farm resources is gained and maintained and the economic situation of various claimants to farm income. *Land Tenure in the Future* is concerned with the evolving tenure situation, tenure problems, and the need for better understanding these problems.

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## I. BASES AND ORIGIN OF OUR LAND SYSTEM

This section discusses the *development* of the land tenure system of the United States. The dissatisfaction of many settlers with the European land system and the alterations made to meet the needs in this country are explored.

### HISTORICAL BASES

The land system of the United States was influenced greatly by the feudal tenure system in Europe. English feudal tenure, established in 1066 by William the Conqueror, generally adjusted very slowly. However, major changes did occur which culminated in the English Statute of Tenures in 1660. When settlement of the American colonies began, the abundance of unoccupied land, the desire for free tenures, and the urgency to settle the new territory combined to make land available to settlers under the freest of English tenures known at that time. The settlers took every opportunity throughout the colonial era to weaken control of the king's agents and colonial governments over the land. By 1776, conditions were set for freeing the landowner of last vestiges of feudal tenures.

Under English feudalism, all land was held by a hierarchy of people, ranked from the king down to the lowest peasant, with each landholder subordinate to the person above him. Each person exacted some form of payment from the person below him. Thus, feudalism provided a system of government based on an organization of people on the land.

Charges upon the land required of landholders under feudal tenure were highly indeterminate—some as to frequency and all as to amount. Payments were required under many circumstances, varying from land transfer fees to a fee required when the lord's son was knighted.

Such economic and political subservency was intolerable to freedom-loving Englishmen. The new archbishop and great lords forced John I to sign the Magna Carta in 1215. This was the first significant step toward a democratic government and a free land system. The Magna Carta took the making of land law out of the hands of local lawgivers and based it on interpretations of the national council. Steps were taken that tended to stabilize and regularize charges that were made on the land; make free transfer of land possible; have possessory rights in land determined by an established court system; and prohibit ownership of land by religious bodies whereby the land could be held in perpetuity. A constant effort was made in England from feudal times forward to adapt land tenures to contemporary require-

ments. The common law—based on local practice—permitted adjustments, and experience pointed the way to steady improvement of the land system. The flexibility begun in England was to be a major characteristic of the tenure system that developed in the New World.

Early American settlers were not satisfied with the European system of land tenure. Development of a new tenure system that allowed maximum individual control was very important to these immigrants. Free land was also a major motivation for many New World settlers to emigrate from England and Western Europe.

Most of the original restrictive feudal tenures did not follow settlers to America. The original grants from the king usually gave large bodies of land under the freest and easiest of existing English tenures. The feudal burdens that did attach were soon outlawed or fell into disrepute as the form of government and the land system were being separated. Charges upon the land were reduced to taxes, which were levied by a governing body at a fixed rate on all landholders alike. The States assumed the role of the crown at the time of the Constitution.

With this background, it is logical that control of land resources was reserved by the States when the Union was formed. The individual States continue today to be responsible for laws concerning land resources and land control. The Land Ordinances formalized in general terms the tenures under which the unsettled areas of the West would be developed. These terms generally encouraged individual ownership of family-sized farms.

### ORIGIN OF OUR LAND SYSTEM

Emphasis in the development of the U.S. land system has been upon English common law heritage. Our system was possibly influenced by the Indian's ideas about land and also was influenced by the French, Spanish, and Dutch land systems. There were two major French areas of settlement, the first in Canada and a later one in Louisiana. Neither of these settlements had a major impact on basic elements of our land system. The Spanish settlers in Florida exerted little influence; they did not participate in the formation of our Constitution and land system. Spanish influence can be observed in parts of the Southwest from Texas to California. The Dutch contributed the patroonships in New York.

When our Constitution was drafted, 95 percent of the population lived in rural areas and depended on agriculture for their living. Because of this rural orientation and their unhappy experiences with feudal land tenure in

Europe, much attention was given to the land system in the U.S. Constitution as well as in the Land Ordinances. The Ordinances and the Constitution were complementary and supplementary, for they were drafted by the same statesmen and they needed to fit together to accomplish public purposes.

The land system outlined in the Northwest and Southwest Land Ordinances and established in the original colonies may be summarized as follows: (1) Although all rights in land are originally held by some unit of government for society, these units will hold only a minimum amount of land necessary to carry on government functions, with all other land being available for transfer to private parties. (2) Rights in land that are transferred to private ownership are held by private parties under rules laid down by society. Society always retains at least three rights or powers: Taxation, eminent domain, and police. This means that even rights of parties under fee-simple ownership are always qualified and never complete, and that society may adjust these private rights from time to time. (3) All private citizens have rights in some publicly held land, such as highways and parks; some private citizens may obtain special rights in certain parcels of public land through leases or permits. (4) Individuals, partnerships, cooperatives, and corporations may hold private rights in land. These rights may be divided between subsurface, surface, and above-surface rights and may be for definite or indefinite periods of time. (5) Rights in land are not automatically maintained by succeeding generations, but these rights can be maintained from generation to generation by use of written wills. (6) Regulations by society are kept at a minimum, leaving the individual owner as much freedom as practicable.

Only minor changes have been made in our tenure system since the time of the Ordinances, in which control of access to land was largely reserved to the several States. Local control over privately held land has favored adaptations to meet local needs. The most obvious regional differences are the sharecropping system adapted to the South's plantation economy following the Civil War, the close association of privately held ranches with publicly held range land in the western States, and the side-by-side existence of commercial agriculture, subsistence farms, and rural residences—especially in densely populated, highly industrialized parts of the country.

National tenure improvement programs have all been designed to keep choice of land tenure as free as possible. The programs have included: Distribution of land to settlers at nominal costs under the Preemption Act (1841), the Homestead Act (1862), and subsequent land-settlement acts; the national farm credit acts of 1916, 1933, and 1937, as amended; the temporary

mortgage foreclosure moratorium established during the depression of the early 1930's; the research program initiated under the Hatch Act (1887); the extension program inaugurated in 1914; various farmer cooperative acts; and numerous Federal programs to augment farm income during recent decades.

## CLAIMS ON AND ACCESS TO LAND

There are several value scales by which the significance of land ownership and control are measured. *Wealth* may be used because land yields current income and is a store of future income. *Status* in the community is often related to land because of responsibility and respectability connected with its ownership. *Equality*, one of the strongest revolutionary ideas, was tied up in the equal devolution of land to heirs and still underwrites the objectives of equality in other sectors of our socioeconomic order. *Security* is based on the physical stability of land, and many operators rely on farmland to provide their livelihood after they retire. *Power* over social and economic activities of others often results from land ownership and control. *Piety* is felt to result from man's closeness to nature and from the concurrent stewardship with God which many persons feel occurs. The exercise of these values through legislative, judicial, and executive processes produces a system by which individuals can relate to one another in respect to land.

The concern about tenure rights in land in a highly dynamic society may focus on two attributes: claims and access. Claims refer to the demand on income derived from land, a demand arising out of ownership of the resources. Access refers to the decision-making prerogatives over land, prerogatives arising out of the right to occupy the land and control its use.

It should be recognized that Federal, State, and local governments do not all have access to each of the rights reserved by the sovereign at the time the land was transferred from public to private ownership. For instance, the levying of a property tax is reserved to the State and local governments only, while all levels of government may levy an income tax.

The sovereign state has the first claim on income from land through taxes; the landowner may claim the remainder of the income, whether he operates the land himself or rents it to a tenant; in the latter instance, land income to the owner is the rent paid for its use.

The sovereign state also stands in first place in regard to access to land. The reserved rights include those of taxation, exercise of police power, acquisition of private land for public purposes via eminent domain, and reversion of private ownership rights to the state in the event there are no heirs. Although our government

originally initiated a policy to make practically all public land accessible to individuals through transferring it to private parties, this policy was never fully implemented. Government, Federal, State, and local, now maintains its rights of decision-making on about two-fifths of our total land area—the part never alienated plus the part that government has reacquired.

Every citizen has access to public land—roads, parks, recreation areas, and other land—to appropriate it at least temporarily for his use. However, as population becomes more dense and as more citizens want to use public land, their access to it is being increasingly restricted. Also, as pressure of population on land increases, society is more and more restricting the range of decision-making by those with access to both public and private land.

Society's rights to uphold claims and ration access are commonly included under the term "land tenure." In actual practice, however, land tenure is used to include not only the land itself but also capital affixed to it, the resources that you would expect to receive as a buyer or renter of a farm. Closely associated with these resources in the production processes are capital resources—such as livestock, machinery, and fertilizer—and labor, whether of the operator and his family or hired labor. These resources are organized into one management unit called a farm. Each farm has an operator and all the land farmed by that operator is one farm; thus, the number of farms and the number of operators are the same. A farm firm and its operator are major units of observation in this report.

In a rapidly urbanizing society and a highly industrialized economy, claims on land and access to land take on traits of urgency. What are the relations of

claims on land via income distribution to the welfare of society? What are the relations of access to land to the goods and services from land that supply the needs of citizens?

In addition, is our land system sufficiently flexible to permit wide adjustment in claims and access to meet rapidly changing conditions? For example, will our land system and associated institutions allow adjustment in investment requirements to meet the high capitalization of farming units in agriculture of the future? Are present values and attitudes becoming outmoded with the advent of modern technology, and—if so—what changes appear appropriate? What government programs may be effective in changing attitudes and values so they will facilitate and not hamper needed tenure adjustments?

Our tenure system was flexible enough to facilitate the development of relations among men with reference to land to meet the demands of the emerging economy. We have progressed from the largely subsistence agriculture of the colonial era, through the farm-market commercial agriculture of our first century and a half as a nation, to the input-supplier, factor-transformer, product-marketer of the industrial agriculture of today. The tenure system has permitted, if not expedited, the rapidly increasing size of farms.

The unresolved questions concern adaptations that will need to be made to accommodate further increases in size of operating units under the industrializing-urbanizing impact of modern scientific technology. These questions will emerge as we observe recent changes in the status of our land system. Directions of change may become clearer as future requirements of claims to income from land and access to management control over land are examined.

## II. LAND RESOURCES OF THE UNITED STATES

This section is concerned with the total land area of the United States—including all 50 States, possessions, and outlying areas—with relationships among people regarding land resources, and with use of public lands, particularly tenure arrangements that affect their use and management.

### OVERVIEW OF LAND RESOURCES

The land area of the United States is divided among 50 sovereign States and the District of Columbia, with four-tenths of one percent in possessions and other outlying areas. The 50 States cover an area of 2,314 million acres, while the remaining territorial land

amounts to only 8 million acres (table 1). Before Alaska and Hawaii were admitted to statehood, the land area was 1,943 million acres, or about 84 percent of the present area.

The original 13 States occupied 13.0 percent of the present 50 States' land area and laid claim to an additional 10.2 percent to the west that was eventually ceded by the States to the Federal Government. The other three-fourths of the land was obtained by the Federal Government largely through outright purchase, treaties, and cessions. The Alaska and Louisiana Purchases account for about half of the original public domain. The Mexican Cession and some of the other acquisitions were associated with treaties and compromises.

**Table 1—Method of acquiring land area of the United States**

Method of acquisition	Area	Percentage of total
	<i>1,000 acres</i>	<i>Percent</i>
Grand total . . . . .	2,322,003	100.0
Total 50 States . . . . .	2,313,735	99.6
Original land area . .	539,237	23.2
Held by 13		
States . . . . .	302,411	13.0
State cessions . .	236,826	10.2
Other acquisition . .	1,774,498	76.4
Purchases . . . . .	1,032,198	44.4
Cessions . . . . .	384,653	16.6
Treaties, etc. . . .	357,647	15.4
Outside 50 States . .	8,268	.4
Possessions . . . .	290	.1
Outlying areas . .	5,780	.3
Puerto Rico . . . .	2,198	.1

<sup>1</sup> Less than 0.05 percent.

Source: *Statistical Abstract of the United States, 1968*, table 243; *Public Land Statistics, 1966*, Bur. Land Mgt., U.S. Dept. Interior, table 2.

The prices paid for the public domain were indeed nominal; the Louisiana Purchase cost 4.4 cents an acre and Alaska less than 2.0 cents an acre (fig. 1 and appendix 1). Of the total area of the United States, about 80 percent was public domain land (held by the Federal Government) at one time.

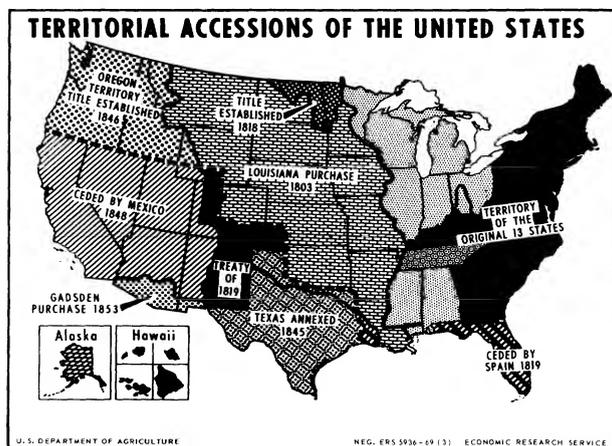


Figure 1.—Territorial Acquisitions of the United States

Public domain land originally was destined for private ownership. Private ownership has been accomplished primarily with land that is suitable for division into

separate farm units. About 58 percent of the total land area is in private land, most of which is in farms. About two-fifths (39.1 percent) of the land is publicly held, while 2.2 percent is held in trust on behalf of American Indians. The Federal Government holds 86.3 percent of the public land. The States hold 11.6 percent, and local governments hold 2.1 percent (fig. 2).

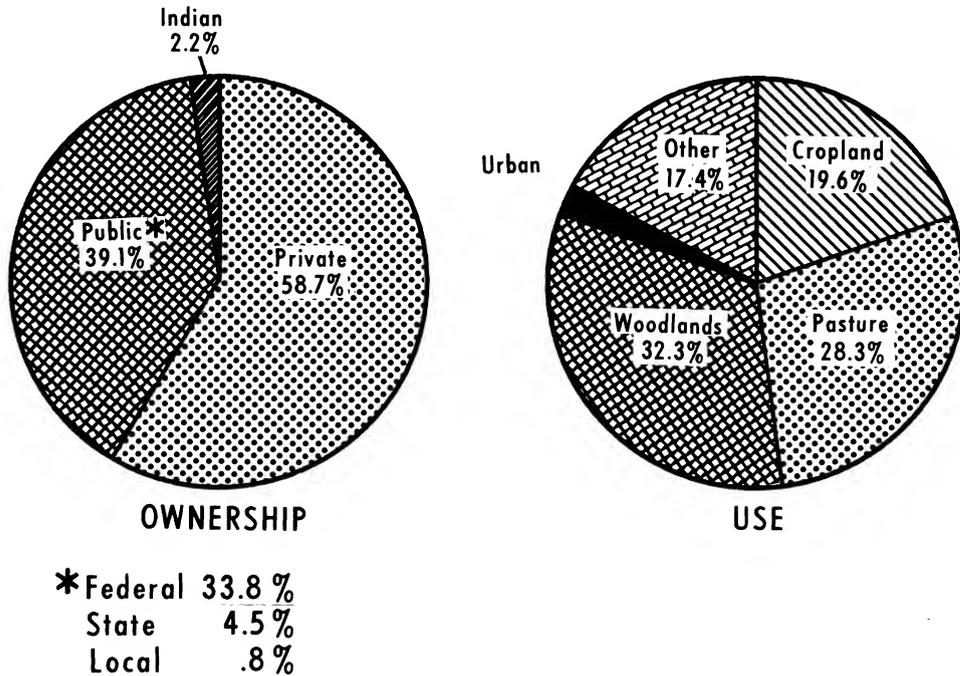
To facilitate orderly settlement of the Western frontier, the Federal Government discouraged settlement until proper surveys had been made. However, the rights of settlers already on public domain land before surveys were made and those in the Thirteen Colonies were not disturbed. French allocations in Louisiana, to private parties in long, narrow strips, and the large Spanish grants in the Southwest may still be observed. But all such privately owned land is held under the same general terms as outlined in the Land Ordinances.

Although there are 10 acres of land in the United States for each inhabitant, population densities vary considerably from one area to another. This variation is associated with wide differences in values of land resources. The 70 percent of the people who live in urban centers occupy only 1 percent of the land, yet that land's total value is higher than the total value of all farm land. Privately held farm land usually is more valuable per acre than publicly held land used in agriculture, whether Federal, State, or local. These general relationships, however, do not always hold. Notable exceptions occur with oil and mineral lands. Also, high-priced, excellent resort areas may be far removed from population centers but may be highly valued because large numbers of people are attracted to them, temporarily and seasonally. Highly productive and high-priced agricultural land may be sparsely populated—for example, the fruit and vegetable areas of the Rio Grande Valley and the cash-grain areas of the Corn Belt. Poor lands may be densely populated—for example, selected areas of Appalachia and the Ozarks. A small building lot in suburbia may cost more than a whole farm in the Piedmont of Georgia. More than 330,000 commercial farms in the United States in 1964 were valued at less than \$10,000 each, including land and buildings; this is about the cost of a good home-building lot in many cities.

**PEOPLE AND LAND**

Two-thirds of all agricultural assets are in farm real estate. Ownership and control of this land has a significant bearing on productive efficiency and economic growth of the land, and distribution of income derived from it. The structure of land ownership and

# U.S. LAND OWNERSHIP AND USE, 1964



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Figure 2.—U.S. Land Ownership and Use, 1964

control influences not only those presently engaged in production, but also the opportunities and expectations of those about to enter into or exit from agriculture.

The population of the United States has more than doubled since 1910. Yet, the total farm population has declined by more than 65 percent in the same period. When the first population census was taken in 1790, an estimated 95 percent of the people resided on farms. If the downward trend since 1940 continues, only 5 percent of the population will be on farms by 1970 (fig. 3 and app. table 3).

The decline in farm population has been expedited by the rapid increase in production per farm worker. In 1940, each farm worker supplied products for slightly more than 10 persons. By 1966, one farm worker produced enough to feed about 40 persons.

The proportion of our land in farms increased from 1880 to 1950 but has declined slightly since 1950. The increase was associated with the rapid growth of the Nation and the heavy demand for farm products during two world wars. The recent decline may be attributed to

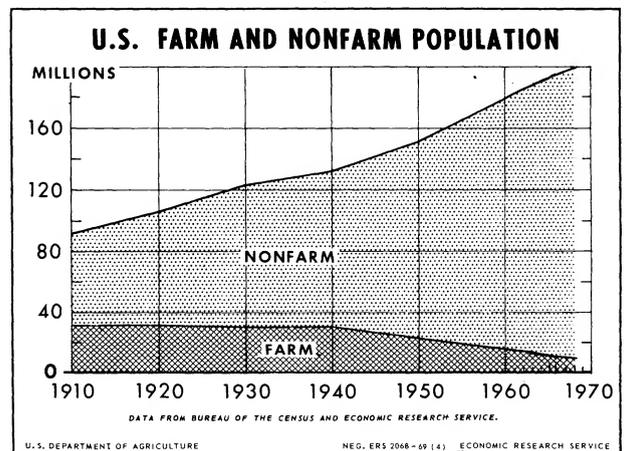


Figure 3.—U.S. Farm and Nonfarm Population

such developments as entire farms being placed in the Conservation Reserve Program, urban expansion, conversion of crop and pasture land to woodland, and use of farmland for highways. Production has shifted from the

less productive hill land areas to the more productive and more easily farmed level land areas, and from nonirrigated to irrigated farming. With continuing adoption of new tenure arrangements and new technologies, increases in productivity of farmers and shifts of farmland to other uses are likely to continue.

### USE AND LOCATION OF PUBLIC LAND

Federal and State lands are used for many purposes (fig. 4). Of these lands, 86 percent (746 million acres) are in some form of agricultural use (including forestry and grazing). The great bulk of Federal and State lands is used for production of timber and forage—60.8 percent and 23.7 percent, respectively—while less than half of 1 percent is used as cultivated farmland. Other important uses, which frequently involve multiple uses of the same

land, include parks and wildlife refuges, military reservations, water impoundment and distribution projects, and rights-of-way for roads and highways.

The large areas of public lands are located for the most part in the 11 Western States and Alaska. The Federal Government holds very little land in the original 13 colonies and most of the States east of the Rocky Mountains (app. table 4). Most public lands originally were part of the public domain of the United States and have never been in private ownership.

Over the years, competition has existed among rival user groups for control and use of these lands. Largely as a result of this competition, a complex set of public-private tenure arrangements has evolved to define private rights in public lands. A brief overview of ownership and control of public lands in the United States is needed to show relationships between public and private lands and between public owners and private users.

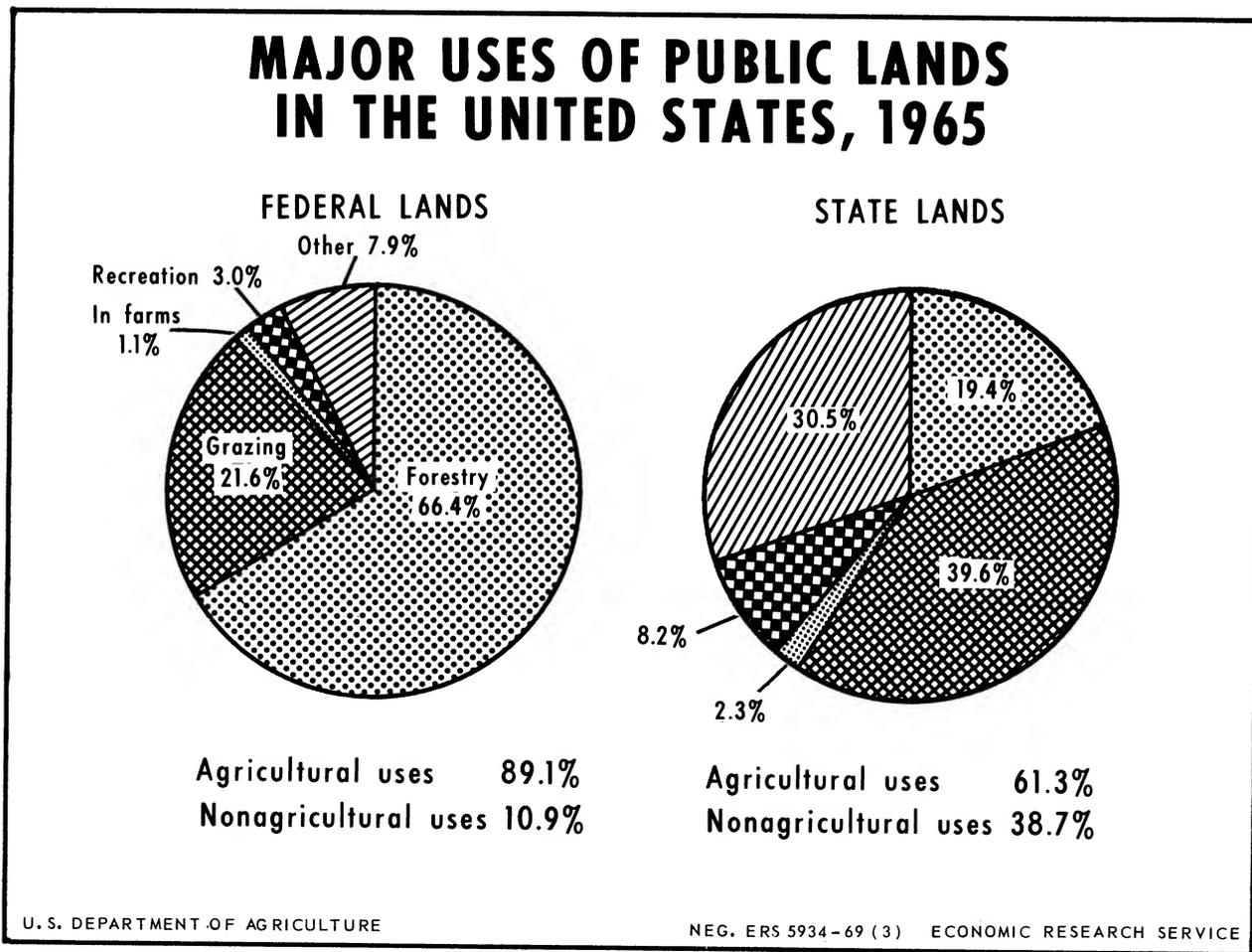


Figure 4.—Major Uses of Public Lands in the United States, 1965

## OWNERSHIP AND CONTROL

Initially, it was assumed that nearly all public domain lands were suitable for farming and should be placed in the hands of private owners as rapidly as possible. Why, in a nation committed to the idea of private property, is so much of the land still in public ownership? To understand this apparent incongruity, it is necessary to examine the problems, goals, and policies of the early planners of our Nation. The Federal Government, in a period of less than 100 years, acquired more than 1,836 million acres of largely unsettled and undeveloped lands (app. table 1 and fig. 1). Millions of acres of rich farmland in the Midwest, the Great Plains, and the Pacific Coast area passed into private ownership. Table 2 shows the various methods used to dispose of over 1 billion acres of public domain land.

The policy of distribution to private parties remained virtually unchallenged until the last quarter of the 19th century. Realization came slowly that much public domain land should not be transferred to private owners. Vast areas of range and forest lands in the West remained in Federal ownership for the simple reason that no one wished to own these lands and pay taxes on them. Furthermore, there was growing concern over the exploitation of natural resources (particularly forest resources), and fears of future shortages were widespread among policymakers. This resulted in reservation of large tracts of public domain for national forests and parks.

Another turning point in Federal land policies came with passage of the Taylor Grazing Act in the mid-

1930's. This act established a system of granting grazing privileges on public domain land, a system that brought to an end the legendary "open range" where anyone could graze Federal lands. Although some of these "unappropriated" public domain lands were (and still are) generally available for purchase or homesteading, the amount of land in Federal ownership has remained relatively stable since 1935.

Because most public lands are used for more than one purpose, their management requires resolution of conflicts between two or more user groups who are competing for the same land resources. Legislative and executive guidelines help to resolve these disputes, but the hard decisions regarding "who gets what" often rest in the hands of public land administrators.

All but a fraction of 1 percent of the Federal lands are administered by the Department of the Interior, the Department of Agriculture, or the Department of Defense (app. table 2). The two largest Federal land management agencies are the Bureau of Land Management, Department of the Interior, and the Forest Service, Department of Agriculture. They have jurisdiction over 87 percent of all Federal lands, which is about 30 percent of the Nation's total land area.

Conservation of natural resources and expansion of their availability for public use are important objectives in the management of most Federal lands. These objectives, together with popular support for the idea of multiple-use management, provide the chief justification for the Federal Government's role as the Nation's largest landowner.

Table 2—Disposition of public lands in the United States, 1781-1966

Type of disposition	Area	Percentage of total
	1,000 acres	Percent
Granted to States . . . . .	228,100	21.9
Support of common schools . . . . .	77,500	7.4
Reclamation of swampland . . . . .	64,900	6.2
Construction of railroads . . . . .	37,100	3.6
Support of miscellaneous institutions . . . . .	21,300	2.0
Purposes not elsewhere classified . . . . .	17,800	1.7
Canals and rivers . . . . .	6,100	.6
Construction of wagon roads . . . . .	3,400	.3
Granted or sold to homesteaders . . . . .	287,300	27.6
Granted to railroad corporations . . . . .	94,300	9.1
Granted to veterans as military bounties . . . . .	61,000	5.9
Confirmed as private land claims . . . . .	34,000	3.3
Sold under timber and stone law . . . . .	13,900	1.3
Granted or sold under timber culture law . . . . .	10,900	1.0
Sold under desertland law . . . . .	10,100	1.0
Disposition by methods not elsewhere classified . . . . .	301,800	29.0
Grand total . . . . .	1,041,400	100.0

Source: *Public Land Statistics, 1966*, Bur. Land Mgt., U.S. Dept. Interior, 1967, p. 6.

## PUBLIC-PRIVATE TENURE ARRANGEMENTS

Major commercial users of public lands—livestock, timber, and mineral producers—usually operate under a formal tenure agreement with the public agency having jurisdiction over the land. Most of these agreements for use of Federal lands are not leases for exclusive possession but are permits which prescribe the use to be made of the land in question. Production practices that consider conservation objectives are specified in the agreement. These specifications may include animal-unit months of grazing on pasture or the amount of lumber to be harvested on a specific tract of land. Grazing privileges on Federal land are allocated to ranchers primarily on the basis of control of sufficient private land and water resources and past usage of the public land.

State school lands, on the other hand, usually are leased to farmers and ranchers under tenure arrangements similar to those used between private parties. Contrary to the situation involving most Federal land, State school lands are usually held in scattered tracts—one or two 640-acre sections in each township. The renter receives possession and use of the lands for the

term of the lease. Most public lands used for intensive agriculture are rented under lease agreements that are in keeping with local practices.

Public lands are made available to noncommercial users under less formal types of tenure arrangements. Federal lands not in special uses generally are open to the public for recreational purposes. Fees may be charged for the use of recreational facilities, such as campsites. Most extensive recreational activities (e.g., hunting, fishing, and hiking) are usually available free of charge, except for the cost of an entrance fee or a license to hunt or fish.

The availability of public lands to users is largely a function of location. Most of the public lands are in areas of the country remote from major population centers. Access and claims of private interests to public land resources, therefore, are distributed rather unevenly among the total population. It is readily apparent that public lands play a major role in the economy and society of the West and a relatively minor role in most other parts of the Nation. Small public parks, beaches, and picnic areas, however, may be used very intensively in the densely populated areas of the country and may be very important to society, if not to the economy.

## III. AGRICULTURAL TENURES

Private parties are relatively free to enter into agreements about acquisition, disposition, control, and use of their lands. The public's concern, except for taxation, eminent domain, and policing, is evidenced chiefly when private parties disagree as to their respective rights and duties. The public is concerned also with the orderly recording of transfers of interests and with programs having specific objectives, such as production control, conservation, and irrigation.

The flexibility of our system of land tenure, based on the wide latitude accorded private parties, has facilitated adjustment in agricultural tenure patterns over time and within geographic areas. Land reform in the United States has been a continuous evolutionary process. Adjustments to meet changing conditions on the farm have been slowed and shaped by such factors as equal devolution, the rectangular survey, and the 160-acre homestead, and expedited by public provision for research, education, and credit.

What, then, are the current tenure patterns that have developed under our relatively free system of land tenure? What recent adjustments have been made that may be of significance to future patterns under which access to farmland will be gained and claims to its products will be distributed?

### RECENT ADJUSTMENTS

Some of the most interesting tenure forms in agriculture are relatively new and have grown rapidly during recent years. These include increased use of farm partnerships, corporations, and trusts; rapid growth in the use of "vertical coordination" contracts; increased use of custom farming (the performance of certain farming operations by an off-farm firm at a stipulated price); and expansion in the renting of equipment, machines, and buildings.

The increase in partnerships has been associated with the increasing size of farms, intensification in some enterprises, and use of retirement plans related to the introduction of social security. The recent rapid growth of corporations has been associated with the law that taxes selected corporations as if they were partnerships—the Subchapter S provision of the Internal Revenue Code (1958). The USDA bulletin *Corporations Having Agricultural Operations* (ERS-142) reported on 6,700 corporations having agricultural operations in 22 States in early 1968. Nearly half (45 percent) were organized prior to 1960, about an equal proportion in 1960-66, and about 8 percent during 1967 and the first month or two of 1968. They represented less than 1

percent of all commercial farms in these States and about 7 percent of the land in farms.

Some nonfarm corporations may have entered farming for the income tax advantages afforded. Other large farming corporations are being organized for profit making. Trusts are not widely used in farming, but they are used in some States to hold farmland as a source of income over long periods of time.

Vertical coordination through the use of production contracts has expanded rapidly in many farm enterprises, particularly where uniform, high-quality products are grown to specification on a rigid time schedule. Custom farming has been spreading into new sections of the country and to an increasing number of operations. Renting of large machines, such as pickers, and of buildings, such as silos, is being tried in places where demand seems to warrant it.

Although some spot studies are available, nationwide information is scarce on these recent tenure innovations. This lack of information is unfortunate because these developments are at the forefront of current tenure adjustments. They have not found their way into the Census of Agriculture. Agencies other than the Census Bureau seldom gather information about such items on a nationwide basis and when they do, it is seldom differentiated by tenure.

As stated earlier, data in the Census of Agriculture concerning tenure are based on the tenure of farm operators rather than of land parcels. While all census data are not tabulated by farm operator tenure, additional data tabulated in other ways are pertinent because of their impact on access to production resources and claims on production. The number of farms and the number of farm operators are equal by census definition.

## FARM OPERATORS AND FARMLAND

Access to resources used in farming is gained chiefly through ownership, leasing, mortgage-debt financing, purchase contract, inheritance, marriage, management contracts, and contract farming. One measure of access to farming is the number of opportunities to enter farming. Because of the rapidly declining total number of farms, access to full-farm operating units has declined precipitously since 1935, particularly during the 1950's (figs. 5 and 6). That there is access to land for expansion of existing operating units, however, is evidenced by the rapid increase in size of farms and some stability in the number of part owners.

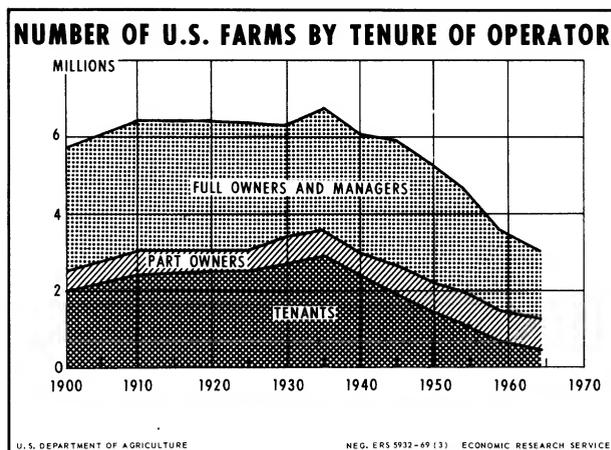


Figure 5.—Number of U.S. Farms by Tenure of Operator

## Number of Farms

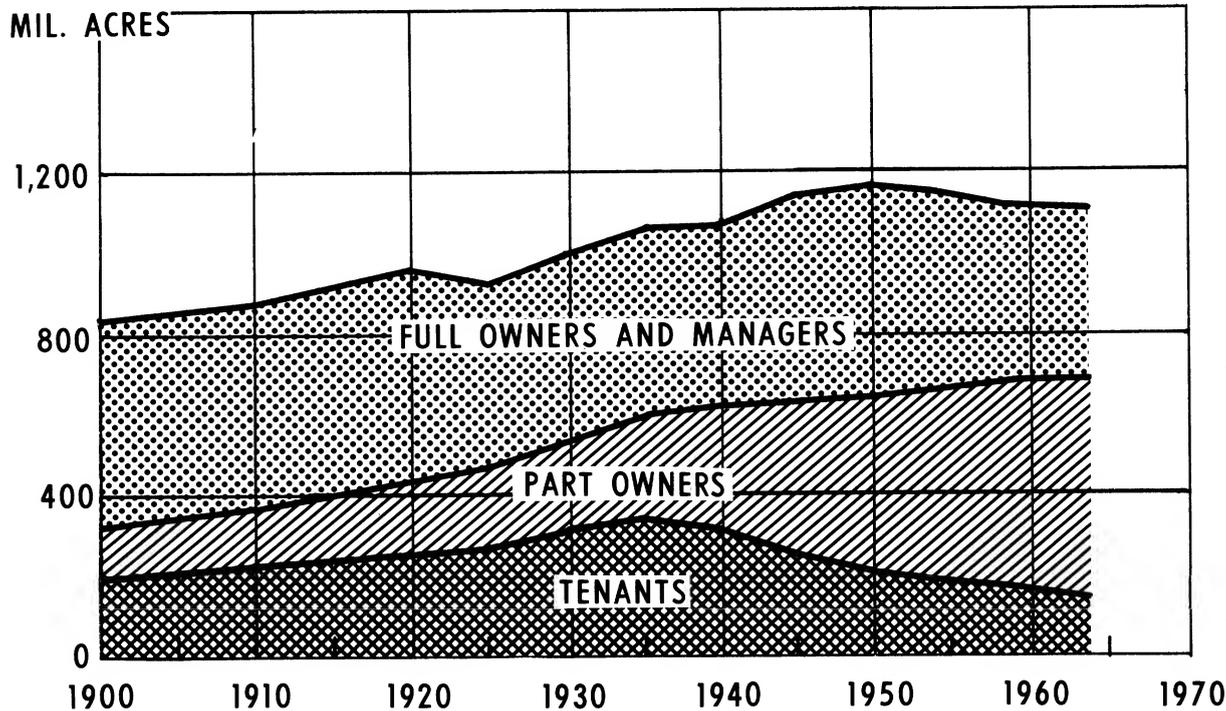
The total number of farms in the United States increased rapidly until about 1910, then slightly to 1920, and declined slightly in 1930. The number of farms increased sharply during the depression of the early 1930's. Since then the number of farms has declined steeply, from a high of 6.8 million in 1935 to 3.2 million in 1964—a loss that more than equaled the total remaining farms.

Changes in number of farms have not been uniform among the four tenure groups. The most rapid increase from 1880 to 1935 was among tenants; this tenure group accounted for nearly 70 percent of the 2.8 million increase in all farms during that period (app. table 5). Since 1935, the number of tenants has declined rapidly, to about 0.5 million in 1964. The 2.3 million decrease in tenants accounted for 64 percent of the decrease in all farms between 1935 and 1964. Full owners showed only minor variations between 1900 and 1945, when a sharp decline set in. Part owners increased in number to 1954. They declined only slightly during the following 10 years, despite the very rapid decline in total number of farms.

## Acres of Farmland

The proportion of total land area devoted to farming showed a rapid increase during the century following 1850, particularly as the West was being settled. Since 1950, farmland has slightly declined—from 51.1 percent of the total land area to 49.0 percent in 1964 (fig. 7). This does not mean, however, that 51 percent of the

# U.S. LAND IN FARMS BY TENURE OF OPERATOR

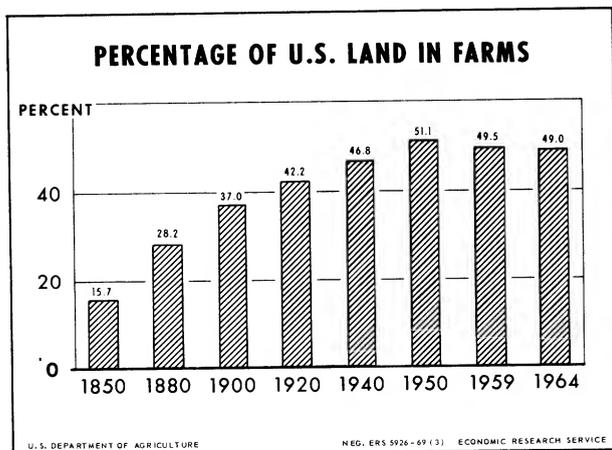


U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5931-69 (3) ECONOMIC RESEARCH SERVICE

Figure 6.—U.S. Land in Farms by Tenure of Operator

land area was used entirely for nonagricultural purposes in 1964. Some public land was used as farmland, and some private farmland in the Conservation Reserve Program was not included as farmland.



U. S. DEPARTMENT OF AGRICULTURE

NEG. ERS 5926-69 (3) ECONOMIC RESEARCH SERVICE

Figure 7.—Percentage of U.S. Land in Farms

The manner in which access is gained to farmland affects the amount of land in each farm. Although full owners in 1964 accounted for 57.6 percent of all farm operators, they farmed only 28.7 percent of the farmland; part owners accounted for only 24.8 percent of the farm operators, but they operated 48.0 percent of the farmland. Thus, full owners operated about half as much land, while part owners operated about twice as much land, as their proportion of all farms would indicate (figs. 8 and 9). Managers, who gain access to farmland via management contract, numbered only 0.6 percent of the farm operators, yet they operated 10.2 percent of the farmland. Tenants, who rented all of the land they operated, accounted for 17.1 percent of farm operators and farmed 13.1 percent of the land. These tendencies are noted as far back as 1900. The results are indicated by the average size of farm in 1964—175 acres for full owners, 682 acres for part owners, 6,369 acres for managers, and 268 acres for tenants.

Land policy from early colonial days, as we have seen, has been to populate the country as rapidly as

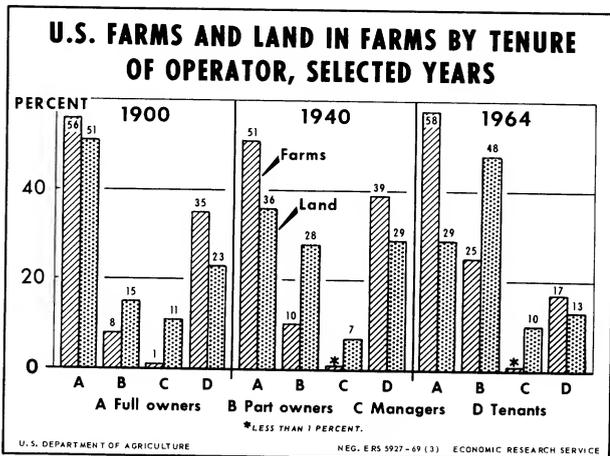


Figure 8.—U.S. Farms and Land in Farms by Tenure of Operator, Selected Years

possible with farm operators who own and occupy family-size units. Although this policy remains paramount, no action has been taken to prevent the development of large operating units—such as plantations in the South, ranches in the West, and multiple family-sized ownership units in the North Central States (fig. 10)—or of small-scale units—such as part-time and part-retirement farms—throughout the country.

#### Control of Farmland

In 1964, full owners both owned and operated all of the 318.9 million acres in their farms; part owners owned and operated 284.1 million acres.

This means that the ownership and operatorship were in the same hands for 603 million acres, which is 54.3

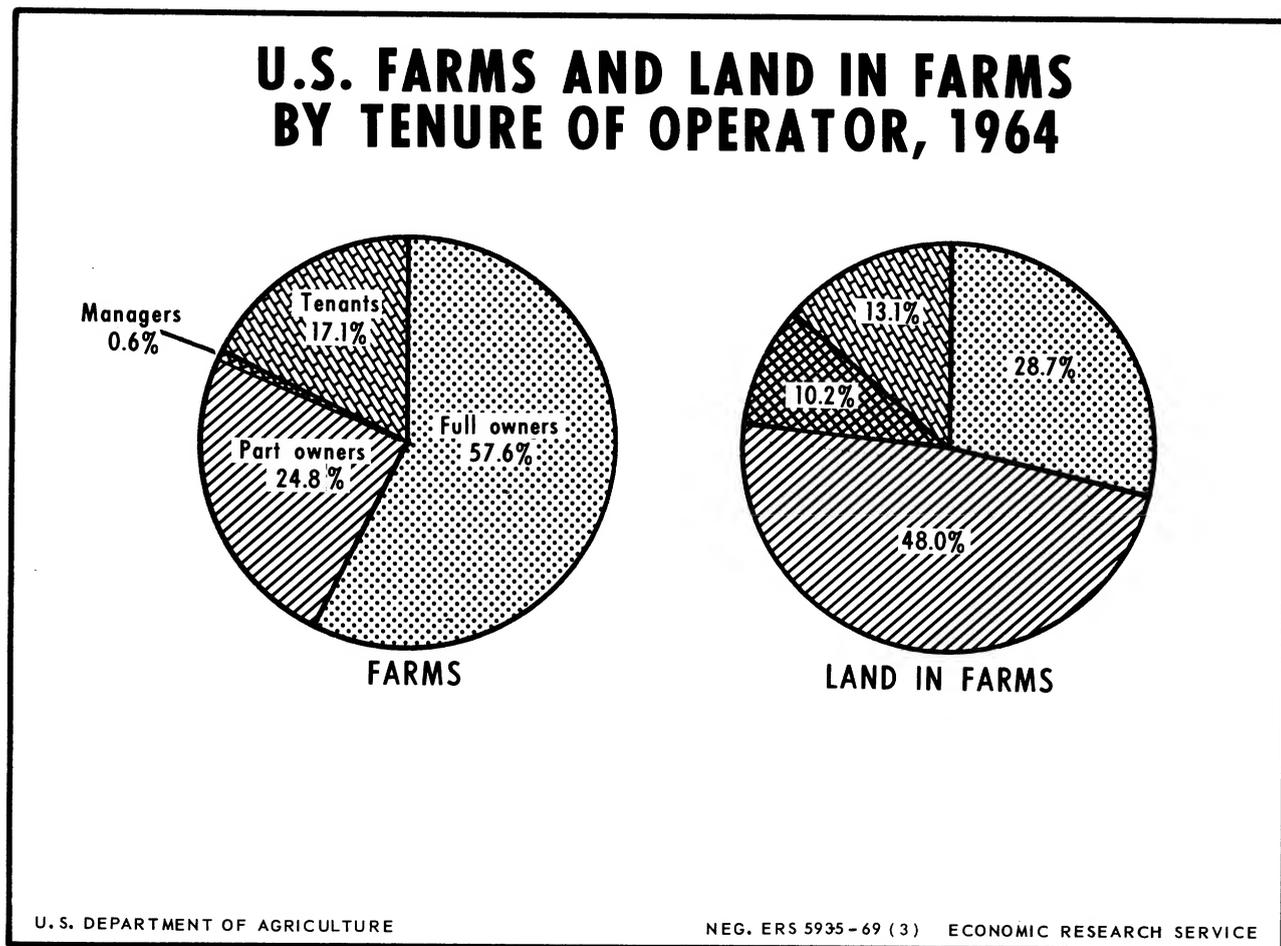


Figure 9.—U.S. Farms and Land in Farms by Tenure of Operator, 1964

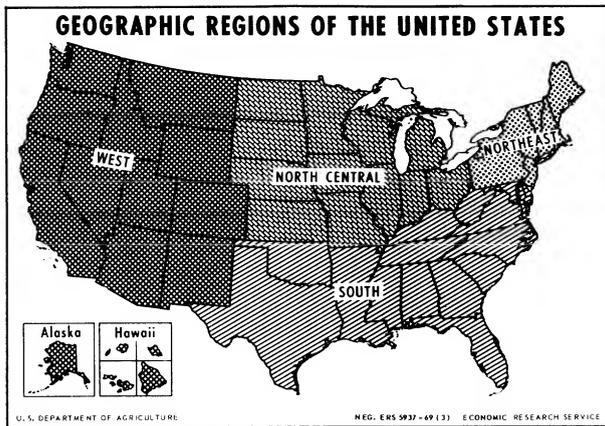


Figure 10.—Geographic Regions of the United States

percent of all land in farms in 1964. Little ownership information is available about the 248.9 million acres of rented land operated by part owners and the 144.9 million acres of rented land operated by tenants—a total of 393.8 million acres or 35.5 percent of all farmland.

The proportion of rented land operated by part owners and tenants has declined from about 44 percent during the 1930's to around 34 percent since 1950. All of the decline has been associated with tenant farms, because part owners are renting a larger proportion of the land than formerly. Since 1950, the proportion of land operated by tenants has decreased from 18.3 percent to 13.1 percent, while part owners have increased the proportion of all farmland that they rent from 14.9 percent to 22.4 percent (app. table 6).

Of the 113.4 million acres operated by managers in 1964, about 50 million which were owned by Federal and State agencies were included in "abnormal" farms operated by institutions and Indian reservations. Some of the remaining manager-operated land was owned and some was rented by employers of the managers.

Some farm operators rented land that they owned to others. In 1964, farm operators owned 41.4 million acres—valued at \$6.7 billion—that they rented to other

Table 3—Land owned by farm operators that is rented to others, by tenure of operator, United States, 1964

Tenure	Area	Value
	<i>Acres</i>	<i>1,000 dollars</i>
Total . . . . .	41,442,060	6,743,210
Full owners . . . . .	29,404,382	5,001,924
Part owners . . . . .	9,641,217	1,317,746
Tenants . . . . .	2,396,461	423,540

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8, tables 2, 12, 13, 14, 15.

farm operators (table 3). Such practice has declined substantially over the past 5 years, however. Farm operators who rented land to others were more common in the South than in the North, where in turn they were more common than in the West.

## TENURE OF FARM OPERATORS

The tenure status of a farm operator is related to size of the farm that he operates. For example, a tenant whose net worth is \$50,000 typically can operate a farm twice to three times the size that would be possible if he decided to shift to full-owner operator status. Part owners combine both owning and renting, but their farms are much larger than either full-owner or tenant farms.

The goal of full unencumbered owner-operatorship does not appear to be strong as it was two or three decades ago. Attention is turning toward the size of operating units that will utilize efficiently the farmer's resources, return an acceptable level of income, and provide an opportunity to increase net worth.

### Full Owners

One of the most significant, yet deceptive, tenure adjustments during the last three decades was the increase in the proportion of farms operated by full owners—from 47.1 percent in 1935 to 57.6 percent in 1964 (table 4). This change is significant because an increased proportion of farm operators attained the objective of owner-operatorship. It is deceptive because such attainment suggests an improvement in well-being. The well-being of owner-operators, however, did not increase comparably to that of other tenure groups, because the size of their farms and consequently their income did not increase as rapidly as for other tenures. Full owners operated only half as much farmland in 1964 as their percentage of farms would indicate—57.6 percent of the farmers operated only 28.7 percent of the land. Part owners in 1964, on the other hand, operated twice as much land as their percentage of farms would indicate—24.8 percent of the part owners operated 48.0 percent of the land.

Although full owners accounted for 57.6 percent of all farms in 1964, they comprised only 47.1 percent of commercial operators. Full owners also were the most common tenure group among part-time and part-retirement farms. They had much smaller proportions of the farms in Classes I, II, and III than their proportion of all commercial farms. The small size of many full-owner farms presents one of the most difficult tenure problems—that is, they are too small to return a satisfactory level of living.

Table 4—Percentage distribution of farms and land in farms, by tenure of operator, United States, 1900-1964

Item	Total	Full owners	Part owners	Managers	Tenants
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1964: Farms. . . . .	100.0	57.6	24.8	0.6	17.1
Land . . . . .	100.0	28.7	48.0	10.2	13.1
1959: Farms. . . . .	100.0	57.1	22.5	0.6	19.8
Land . . . . .	100.0	30.9	44.9	9.6	14.5
1954: Farms. . . . .	100.0	57.4	18.2	0.4	24.0
Land . . . . .	100.0	34.2	40.7	8.6	16.4
1950: Farms. . . . .	100.0	57.4	15.3	0.4	26.8
Land . . . . .	100.0	36.2	36.5	9.1	18.3
1945: Farms. . . . .	100.0	56.3	11.3	0.7	31.7
Land . . . . .	100.0	36.1	32.5	9.3	22.0
1940: Farms. . . . .	100.0	50.6	10.1	0.6	38.7
Land . . . . .	100.0	36.0	28.3	6.3	29.4
1935: Farms. . . . .	100.0	47.1	10.1	0.7	42.1
Land . . . . .	100.0	37.1	25.2	5.8	31.9
1930: Farms. . . . .	100.0	46.3	10.4	0.9	42.4
Land . . . . .	100.0	37.7	24.9	6.3	31.1
1920: Farms. . . . .	100.0	52.2	8.7	1.1	38.1
Land . . . . .	100.0	48.3	18.4	5.7	27.7
1910: Farms. . . . .	100.0	52.7	9.3	0.9	37.0
Land . . . . .	100.0	52.9	15.2	6.1	25.8
1900: Farms. . . . .	100.0	55.8	7.9	1.0	35.3
Land . . . . .	100.0	51.4	14.9	10.4	23.3

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8, tables 5 and 6.

### Part Owners

Farm operators who own part and rent part of the land that they operate dominate recent changes in the tenure picture. Although these part owners accounted for one-fourth of all farms in 1964, they operated almost half the land in farms. Part owners operated more owned land than leased land—284 million and 249 million acres, respectively. They owned almost as much land as did full owners and leased over 70 percent more land (about 60 percent of all rented land) than did tenants.

The trend has been toward part-owner operatorship and away from full tenancy. There is every reason to believe that the trend is continuing. As pressure to increase size of farm continues, many full owners may become part owners by renting additional land. Some of this land may be whole farms of operators, both full owners and tenants who quit farming, and some may be parcels of land previously leased by tenants.

A high proportion (43.3 percent) of part-owner leases in 1964 were for cash, while share-cash leases were almost nonexistent. There is a tendency toward increasing the amount of cash-renting among part owners. Cash leases are common where part owners find it impossible to give each landlord a portion of the gain in livestock. Also, landlords of wheat and fruit and vegetable farms prefer a fixed cash income rather than a highly variable income tied to the uncertainties of nature and the market.

### Tenants

Farm tenancy does not present the same problems it did three decades ago when the President's Committee on Farm Tenancy made its report and the Congress established in 1937 what is now the Farmers Home Administration. Several factors have improved the tenancy situation since then, including: The sharp decline in number of tenant farms; the increase in use of written

leases; and longer term occupancy, which has encouraged better farming. Tenancy is less an indicator of a low economic position than formerly.

In 1964, the number and proportion of farms operated by tenants was the lowest in the 85-year period for which tenure data have been collected by the Census of Agriculture. Tenants operated 17.1 percent of all farms in 1964, compared with 25.6 percent in 1880 and 42.4 percent in 1930 (table 4). More than 70 percent of the decline in number of tenant farms since 1930 has been in the South, and over three-tenths of that decline has been among nonwhite tenants. The proportion of all land in tenant farms declined from 32 percent in 1935 to 13 percent in 1964. Average size of tenant-operated farms has about doubled since 1945—from 135 acres to 268 acres in 1964. Commercial tenant farms averaged larger than full-owner farms except in the South, where a large proportion of tenant farms were small cotton and tobacco farms. However, for each census from 1945 to 1964, the proportion of farm operators operating some leased land remained at approximately 42 percent and the proportion of all land under lease at about 35 percent. Losses among tenants were approximately offset by gains among part owners (fig. 11).

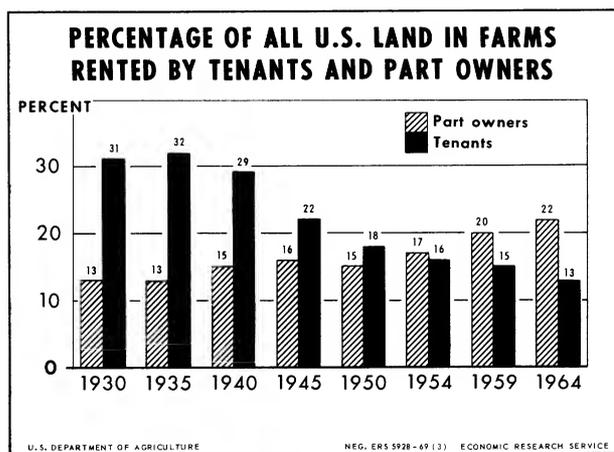


Figure 11.—Percentage of All U.S. Land in Farms Rented by Tenants and Part Owners

Rent in the United States is usually paid in cash or by share of the products; it is seldom a fixed quantity of products. Cash rent places the tenant in a position as close as possible to that of an owner-operator. Because the rent is fixed, the tenant reaps the full benefit of superior farming, and he carries the risks of innovations, production conditions, and farm prices. Share rent permits these risks to be shared by both parties. The widespread use of share leases, for both crop and

livestock production, indicates the preference for sharing in management and risks and participating in gains.

Although census data are not available on the proportion of leases that are written, several spot studies supply fragmentary data. It is estimated that between a fourth and a third of all leases, for part-owner land as well as tenant farms, are written. There has been a small increase in the proportion of leases that are written. Many leases are for 1 year or other relatively short terms. Some continue automatically from year to year in the absence of a 30-day or longer notice of termination. Despite the larger proportion of unwritten and short-term leases, tenant occupancy is becoming more stable as farms are becoming larger and more valuable.

Sharecroppers, a group within the tenant classification, were last reported as a separate census category in the 1959 Census of Agriculture. (The 1964 Census included them in "crop-share tenants.") The number of sharecroppers declined from 776,000 in 1930 to 121,000 in 1959. Many of the remaining sharecroppers are elderly or are otherwise relatively immobile; they contribute proportionately less to total farm output than in the past. If the decline in sharecroppers were projected to 1964, the number would be about 40,000. Some sharecroppers have become employees on mechanized farms; many have migrated out of agriculture or have retired.

## Managers

Managers, strictly speaking, do not belong in a tenure classification, for they do not have a tenurial relation regarding the farm. The manager is a hired employee of the landowner and operates the farm under his direction. The number of manager-operated commercial farms, which has always been small, declined by almost one-fourth between 1950 and 1964—from 19,705 to 15,088. Manager farms also encompass a smaller amount of land than earlier—67.8 million acres in 1950, compared with 62.5 million in 1964. The decline in numbers was more rapid than the decline in land. The average size of a manager-operated commercial farm increased from 3,439 acres in 1950 to 4,146 acres in 1964.

Manager farms are relatively unimportant in number, yet they represent large units that sell substantial quantities of produce. They have shown a phenomenal increase in recent years in average value of land and buildings and of products sold. Average value of land and buildings increased from \$128,221 in 1950 to \$564,998 in 1964, an increase of 340 percent. Average value of products sold increased during the same period from \$54,592 to \$163,117.

## SIZE OF FARMS

The viability of our tenure system is evidenced by recent increases in average size of farm to accommodate the rapidly changing technology of the past third of a century. Average size of farm has more than doubled since 1935, from 155 to 352 acres (app. table 7). During the past 100 years, size of farm declined for the first third of the century, remained rather constant during the middle third, and increased at an accelerating rate in the last third.

Farms in the South were smaller in 1964 than those in the North or West; average sizes were 252 acres, 281 acres, and 1,142 acres, respectively. However, average size of farms in the South is rapidly catching up with average size in the North. Many parts of the South are changing from a plantation economy toward a family-farm type of operation. In 1930, farms in the North averaged 56.2 percent larger than those in the South; by 1964, this difference had narrowed to 11.2 percent.

The increase in size of farm has been closely associated with the increase in mechanization, the availability of financial resources to expand operations, and the price-cost squeeze that encourages increasing scale of operation in order to obtain a profit. Influences that have slowed the increase in size of farms include strong demand for part-time and part-retirement farms, inability of many full owners to amass the capital necessary to gain access to large-size units, and an increase in the proportion of farmers over 55 years of age who have reduced operations by renting part of their farms to others or who are now operating only their owned land.

Tenants have experienced the most rapid increase in average farm size in the past 10 years, from 166 acres to 268 acres. Full owners increased farm size from 145 to 175 acres; part owners, from 544 to 682 acres; and managers, from 4,786 to 6,369 acres. Part owners in 1964 operated farms almost four times as large as those operated by full owners and more than 2½ times as large as tenant-operated farms.

## COMMERCIAL FARMS

Farms in the U.S. Census of Agriculture are classified as commercial and "other." On commercial farms, the value of products sold in the census year was \$2,500 or more, or—if less—the operator was under 65 years of age and worked fewer than 100 days off his farm during the year. "Other" farms, which we will call noncommercial, include part-time, part-retirement, and abnormal farms.

In 1964, commercial farms numbered 69 percent of all farms, occupied 87 percent of the farmland, were

responsible for 97.4 percent of all agricultural production, averaged 446 acres in size and \$65,000 in value, and sold an average of \$16,000 worth of products (app. table 8). Commercial farms were not evenly distributed by number among the four tenure groups. From 84 to 86 percent of farms operated by part owners, managers, and tenants were commercial farms, but only 56 percent of full-owner farms were commercial. Commercial farms operated by managers averaged 4,146 acres, part-owner farms 761 acres, tenant farms 302 acres, and full-owner farms 246 acres.

About a million farms were noncommercial in 1964, more than half of which were in the South. Part-time farms were the most numerous (639,000), part-retirement farms were next (351,000), and abnormal farms were fewest (2,178). Of every 10 noncommercial farms, eight were full-owner and one each were part-owner and tenant. The average value of products sold—only \$932—would adequately complement the income of only those families with considerable off-farm income. The noncommercial farms varied widely in average size among the tenure groups—from 86 acres for full owners to 18,750 acres for managers.

## Economic Class of Farms

Commercial farms are divided into economic classes largely on the basis of gross value of products sold (app. table 8).

Only one commercial farm in 16 was in Class I, while one in six was in Class VI. Only two-fifths of the commercial farms sold \$10,000 or more of products. Although Classes I, II, and III comprised 40 percent of the number of commercial farms, they occupied 70 percent of all land in commercial farms. At the other extreme, the farms in Class VI (16.1 percent of all commercial farms) occupied only 4.4 percent of the land in commercial farms. Size of farm in acres has an important influence on the volume of production.

Significant differences are shown in distribution of the six economic classes among the four tenure groups. For example, 45 percent of the manager farms were in Class I, while only 4.2 percent of the full owners were in that class. More than 80 percent of the manager farms had a value of products sold of \$10,000 or more, compared with 55 percent for part owners, 44 percent for tenants, and only 28 percent for full owners.

One of the most significant adjustments in farming after 1950 was the dramatic reduction in number of farms in the lower economic classes, even after adjustments are made for changing the definition of a farm. Between 1954 and 1964, approximately 1.9 million farms that reported less than \$10,000 gross sales disappeared. Most of them were consolidated with other

farms—either as the rented portion of part-owner units or as owned land to enlarge full-owner farms—or rented by tenants to enlarge their units.

### TYPE OF FARM

Another indication of the adaptability and flexibility of the tenure system is the way it accommodates different types of farms, as determined by major source of farm income. Although statistics showing land in farms by tenure according to type of farm are not available, 1964 census data do report on land in farms and number of farms by type of farm (fig. 12). Operators of tenant

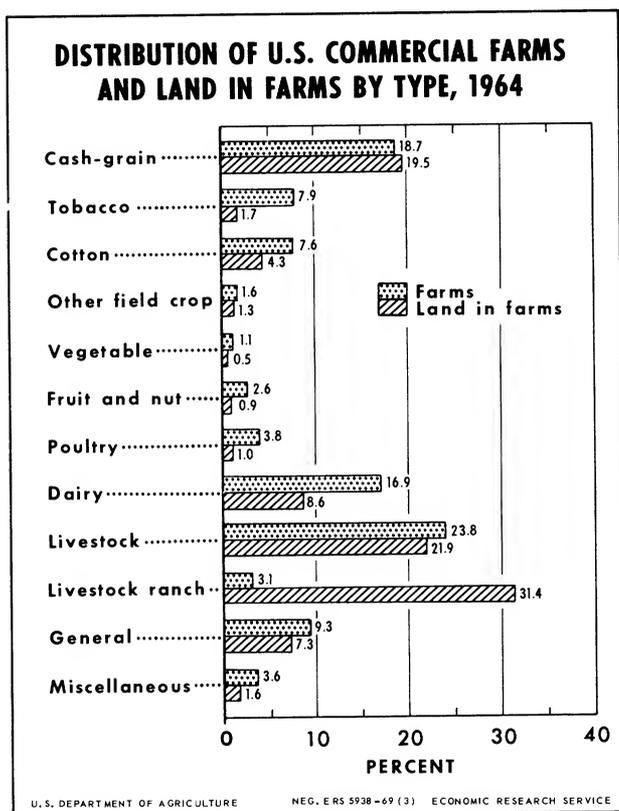


Figure 12.—Distribution of U.S. Commercial Farms and Land in Farms by Type, 1964

farms tend to produce crops such as cotton, tobacco, cash grain, and other field crops that require relatively small capital investments and much labor. Conversely, full-owner operators tend toward fruit and nut, vegetable, poultry, livestock, and dairy farms and other types that require either large investments in buildings and equipment; long-term investments, such as for fruit and nut trees; intensive farming, high-quality management, and close supervision; or stable occupancy. Operators of part-owner farms, evidencing their duality, tend toward

enterprises favorable to both owning and renting. Examples are livestock ranches, which require an owned home base from which grazing can be extended to rented land, and cash-grain acreages, which produce feed (the tenant's share) for livestock associated with the owned portion of the farm. Operators of manager farms favor fruit and nut production, which requires a large capital investment and high-quality management.

### MECHANIZATION—POWER AND MACHINERY

The U.S. Department of Agriculture estimates that power and machinery increased from 10 percent of total farm inputs in 1940 to 22 percent in 1966. Mechanization is one of the main reasons for the rapid increase in farm output per farmworker.

The use of horse and mule power has almost completely disappeared from U.S. farms. The number of tractors has increased rapidly, rising from 2.4 million to 5.5 million from 1945 to 1964, or more than doubling in two decades. In 1964, 86.1 percent of all commercial farms reported one or more tractors; two-thirds reported two or more; and more than one farm in nine reported four or more. Tenure of the operator was related to use of tractors. The proportion of commercial farms reporting tractors was as follows: 95.6 percent for part owners; 92.3 percent for managers; 83.7 percent for full owners; and 77.2 percent for tenants, due in part to the low incidence of tractors among tenants in the South (app. table 9).

In addition to tractors, specialized machines such as grain combines and pickup balers are another measure of mechanization. Generally, farms operated by part owners were the most mechanized in 1964; manager farms were next, and full-owner and tenant farms were mechanized to about the same extent.

### NONWHITE FARM OPERATORS AND THEIR FARMS

Concern about the civil rights and economic opportunities of minority groups makes it appropriate to inquire into how these groups fare in U.S. agriculture, particularly in regard to use and ownership of farm property. Negroes, Indians, Orientals, and other nonwhite races are found throughout U.S. agriculture, but in substantial proportions only in the South. Generally, nonwhite farm operators in 1964 operated smaller farms, farmed lower valued land, used less machinery per farm, produced a larger proportion of labor-consuming crops, operated a smaller proportion of commercial farms, sold smaller average amounts of farm products

earned less income from off-farm work, participated less in the technological revolution, and showed an older average age than the white operators in their areas. Also, nonwhite operators have been decreasing in number more rapidly than have white farmers (table 5).

Of the 1964 total of nonwhite farm operators in the United States, 92 percent were Negroes. Approximately 92 percent of all nonwhite operators farmed in the South. Negroes comprised 98 percent of this group and were most numerous in the older cotton and tobacco areas. Other nonwhite operators, chiefly Orientals and Hawaiians, were concentrated in California and Hawaii;

Indian farm operators were most numerous in Oklahoma and North Carolina.

The respective 1964 percentages of white and nonwhite farm operators by tenure group in the South were: full owners, 62.1 and 38.4; part owners, 22.9 and 16.9; managers, 0.6 and 0.1; and tenants, 14.4 and 44.6. In 1964, about 65 percent of all nonwhite tenants in the South were operating under a crop-share lease. This high proportion is one of the few remaining vestiges of the sharecropper system, which has virtually disappeared because of widespread mechanization.

**Table 5.—Characteristics of farms operated by white and nonwhite farm operators, United States and South, 1964**

Characteristic	Unit	United States		South	
		White	Nonwhite	White	Nonwhite
Number of farms. . . . .	Percent	93.7	6.3	86.6	13.4
Land in farms . . . . .	do.	95.8	4.2	97.0	3.0
Average size . . . . .	Acres	360	234	283	57
Average value. . . . .	Dollars	NA	NA	42,197	10,064
Average value of products sold . . . . .	do.	NA	NA	8,490	2,705
Proportion of all farms that are commercial . . . . .	Percent	68.9	64.1	59.1	63.9
Off-farm income. . . . .	Mil dol.	NA	NA	3,949	242
Average per farm. . . . .	Dollars	NA	NA	3,323	1,312

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8.

### HIRED LABOR'S ROLE IN FARMING

Labor is a flow resource; that is, it cannot be stored—it must be used as each day passes. But most farming requires much labor then little labor, as the seasons come and go. In periods of high labor requirements, much hired labor is employed. Unlike operator and family labor, hired labor does not enjoy a tenurial relation with the farm.

Agriculture has long required a heavy input of labor. Even with rapid mechanization, labor still remained a large factor of production in 1966. The U.S. Department of Agriculture estimated that labor represented 19 percent of agricultural inputs in that year; the other two high-input factors—power and equipment, and real estate—represented 22 percent and 14 percent, respectively.

About 2.8 million persons 14 years old and over did some work on farms for cash wages or salary at some time during 1966. The number of year-round (250 days or more) hired workers was estimated to be only 367,000 persons. The total labor input, including family as well as hired labor, declined rapidly during the two decades following 1945—from 10.0 million to about 5.6 million laborers. This 44-percent drop represents an average loss of about 210,000 laborers a year. The decline increased to an average of about 290,000 during 1966 through 1968. The end of the decline is not in sight.

The percentage of commercial farms reporting hired labor and the average number of hired laborers reported seem to be related to size of farm and tenure of operator. As size of farm increased, the proportion of farms reporting hired labor and the average number of

laborers reported increased. The average number of hired workers on commercial farms reporting regular hired workers increased between 1959 and 1964—from 2.2 to 2.6 workers. The proportionate increase was uneven among the several tenure groups. The average number of

regular hired workers on manager farms increased from 8.5 to 12.0 (41 percent) between 1959 and 1964 (table 6). The average increased about 23 percent on tenant farms, 15 percent on full-owner farms, and 9 percent on part-owner farms.

**Table 6.—Average number of regular hired workers per commercial farm reporting, by tenure of operator, United States and regions, 1959-64**

Tenure of operator	Farms reporting hired workers	Hired workers per farm reporting—				
	1964	United States		North	South	West
		1964	1959	1964	1964	1964
	<i>Percent</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
All farms . . . . .	15.6	2.6	2.2	1.9	2.9	3.9
Full owners . . . . .	12.0	2.2	1.9	1.8	2.4	2.6
Part owners . . . . .	23.2	2.4	2.2	1.8	2.8	3.5
Managers . . . . .	68.4	12.0	8.5	8.2	11.4	17.4
Tenants . . . . .	10.7	2.1	1.7	1.4	2.4	3.5

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8, table 25, 1959 Census of Agriculture, Vol. 2, Chap. X, table 18.

## CHARACTERISTICS OF FARM OPERATORS

Access to farm resources is influenced by personal characteristics of the farm operator. Kinship between the party who owns the property and the person who desires to operate it is one influential factor. Arrangements between father and son for operating the farm frequently result in the son buying or renting the property. Also, the educational attainment of the prospective farmer probably is having a greater influence than in the past. Age of the operator is another important factor in the allocation and use of farm resources, as are the residence of the operator with reference to the property and the length of his occupancy on the property. A brief survey of these factors reveals some interesting comparisons and contrasts.

### Kinship Between Renters and Landlords

The farm tenancy situation is less of a problem in the United States than in some countries, because many tenants rent from their parents, grandparents, brothers, or sisters. Recent data on kinship between the two parties shows that the proportion of all renters related to their landlords increased from almost a fourth in 1960 to about 30 percent in 1965.

In 1950, 26.1 percent of part owners and 21.7 percent of tenants, or 23.3 percent of all renters, were related to their landlords. The proportions were quite variable within the tenant group, ranging from 11.0 percent for sharecroppers to 40.7 percent for livestock-share tenants. The 1965 proportions are 27.5 percent for part owners and 31.0 percent for tenants, with related part owners and tenants combining for an increase of 29 percent. The gain in kinship for tenants is attributed in large part to the rapid decline in sharecroppers who were predominately nonwhite and seldom related to their landlords.

### Educational Status

Level of educational attainment is increasingly important in the agricultural industry. It is reported by the Census in terms of the highest grade completed. Although this is not a perfect measure, it is adequate for present purposes.

The data indicate clearly that persons in younger age groups have attained higher educational levels than older persons—for the entire country, for regions, and for whites and nonwhites. Also, the data show a significantly higher educational level for the total population of the United States than for farm operator households.

About 49 percent of all persons 25 years or older in the total population had completed at least 12 years of school, compared with 39 percent of persons in farm operator households (table 7). Comparable data for 4 years or more of college were 9.4 percent and 4.8 percent, respectively. Educational attainment in farm households generally is lower in the South than in the North, where in turn it is lower than in the West.

Generally, managers had completed the most years of school and tenants the fewest. Part owners and full owners were in between, with part owners generally completing more years of school than full owners. Exceptions to these generalizations are that more tenants than full owners had completed high school, and

more full owners than part owners had completed 4 or more years of college.

Educational attainment data on members of white and nonwhite households are available for the South only. For the younger generation—those between 14 and 24 years of age—90.3 percent of whites and 77.2 percent of nonwhites had completed 8 years or more of school in 1964. Educational disparity is even greater among persons 55 years old and over. For this group, 60.8 percent of whites and 25.7 percent of nonwhites had completed the eighth grade or more (table 7). The distinct trend is toward a larger proportion of the younger generation of both whites and nonwhites to have completed more schooling than the older generation.

**Table 7.—Educational level of total population, farm population, and members of white and nonwhite farm operator households, United States and South, 1964**

Age and school years completed	Total United States population	Farm operator households		
		Total United States	South	
			White	Nonwhite
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
All persons 14 to 24 years old . . . . .	100.0	100.0	100.0	100.0
Completed 8 years or more . . . . .	90.9	91.5	90.3	77.2
Completed 12 years or more . . . . .	39.5	29.4	28.1	17.8
Completed 16 years or more . . . . .	2.8	1.1	1.3	.6
All persons 25 to 34 years old . . . . .	100.0	100.0	100.0	100.0
Completed 8 years or more . . . . .	92.8	92.4	87.9	62.5
Completed 12 years or more . . . . .	68.0	64.0	54.6	23.0
Completed 16 years or more . . . . .	13.1	5.8	6.5	4.2
All persons 35 to 44 years old . . . . .	100.0	100.0	100.0	100.0
Completed 8 years or more . . . . .	82.5	81.0	71.8	36.7
Completed 12 years or more . . . . .	49.0	39.0	30.6	9.7
Completed 16 years or more . . . . .	9.4	4.8	5.2	2.5
All persons 45 years old or over . . . . .	100.0	100.0	100.0	100.0
Completed 8 years or more . . . . .	69.6	70.6	60.8	25.7
Completed 12 years or more . . . . .	29.3	22.6	18.9	6.1
Completed 16 years or more . . . . .	6.3	4.1	4.4	2.0

Source: 1964 Census of Agriculture, Vol. 2, Chap. 5, pp. 510 and 525.

### Age of Farm Operator

The average age of farm operators has been increasing slowly during recent years—from 48.7 in 1945 to 51.3 in 1964. Several factors are responsible: Farm operators live longer, they remain physically vigorous later in life, father-son farming permits fathers to remain in farming longer, and a smaller proportion of farm operators are on the tenancy rung of the agricultural ladder. Also, young farm operators are entering agriculture at a slower rate and leaving at a faster rate than formerly.

Farm operators in 1959 averaged 54.1 years of age for full owners, 48.3 years for part owners, 46.0 years for managers, and 42.9 years for tenants. Average age by tenure of operator is not available for 1964. Full owners are less likely to leave farming than tenants or managers. Also, many full owners remain on their farms in semiretirement throughout old age. They may reduce their work load by bringing a son into the business, renting to others, or employing a laborer (fig. 13).

Farm operators are substantially older than typical laborers in industry, but they are about the same age as

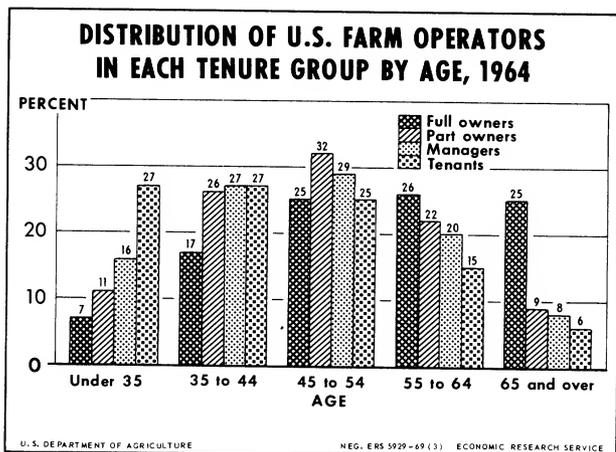


Figure 13.—Distribution of U.S. Farm Operators in Each Tenure Group by Age, 1964

self-employed persons in industry. A farm operator's age is also associated with his volume of production. Farm operators who sold \$10,000 or more in products per farm were younger than farmers who sold less than \$10,000—averaging 47 and 52 years of age, respectively. Operators who sold more than \$10,000 worth of products also were younger on the average than most self-employed entrepreneurs in our economy.

### Residence of Farm Operator

Contrary to the practice in some countries, practically all (10 of 11) farm operators in the United States live on their farms. The trend, however, is in favor of off-farm residence, particularly where only crops that do not require year-round attention are grown. In 1950 only 5.1 percent of all farm operators resided off their farms, compared with 9.5 percent in 1964. In the subsistence farming areas of the Appalachians, the Ozarks, and the cut-over areas of the Lake States, very few farmers resided off their farms. Few farm operators live away from their farms where livestock are prevalent and where most of the labor is performed by the farm family. Nonresident operators are found chiefly among "suitcase" farm operators of the wheat areas of the Great Plains and the fruit and vegetable areas of southern California, Florida, and Texas. In only a few counties did as many as 50 percent of the farm operators live away from their farms.

Residence of the operator is related to his tenure status as well as to the type of farming he does. Among commercial operators, 21.9 percent of the managers reported they resided off their farms in 1959, compared with 9.4 percent of tenants, 6.6 percent of part owners, and 6.5 percent of full owners. While comparable data by tenure are not available for 1964, 9.5 percent of all operators reported off-farm residence in 1964, compared with 7.6 percent in 1959.

### Length of Occupancy

We can assume that generally longer occupancy by a farm operator tends to influence his use of the land operated. If the time of occupancy is to be short, he may be encouraged to select short-term enterprises and to be less concerned with upkeep and development of the property. Longer occupancy gives farmers a better opportunity to utilize their resources more efficiently and to conserve and develop their farms more effectively.

Some data are available on the length of time that farm operators had been on their farm when the censuses were taken. The data show that farm operators had occupied the farms for longer periods in 1959 than when earlier censuses were taken. The average length of occupancy was 13 years in 1945, 14 years in 1954, 15 years in 1959, and presumably still longer in 1964, although census data are not available for that year.

Short-term occupancy among tenant farmers, however, is still common; 18 percent of tenant operators had occupied their present farms for 2 years or less in 1964, and 41 percent had occupied their farms for less than 5 years. Only about 16 percent of full and part owners had occupied their farms for so short a period (fig. 14).

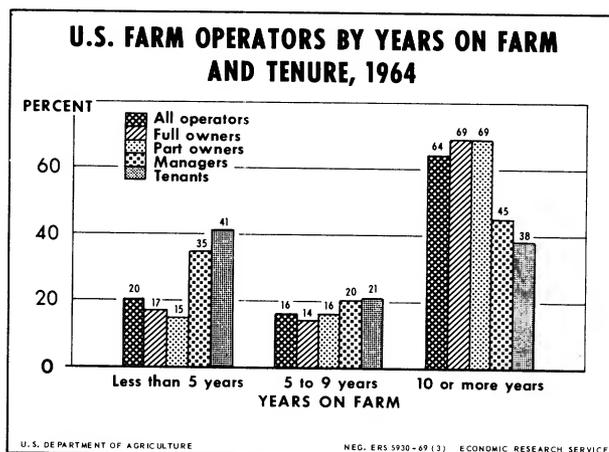


Figure 14.—U.S. Farm Operators by Years on Farm and Tenure, 1964

Compared with agriculture in other countries and with other industries in the United States, commercial U.S. agriculture seems to be quite flexible when viewed in terms of length of occupancy of farm operators. Employment mobility among rural people underlies many of the adjustments that the tenure system has undergone. But while the tenure system has been reasonably flexible, persistent problems hinder completion of adjustments needed to meet operator's particular family circumstances, their financial situations, their management ability, and new technology.

## IV. TENURE AND WELFARE

Claims to income from resources used in farming are determined largely by the conditions of tenure under which the farm is owned and operated. Farm families also have claims to income from off-farm sources, such as nonfarm enterprises, wages from off-farm work, social security, pensions, and investments.

Who are the claimants to farm income? The unencumbered full-owner operator claims all of his farm's income. Indebted full owners must share farm income with lenders of money; the indebted owner's share is related to his equity in the farm—it is what remains after interest and amortization payments are made.

Tenants share farm income with their landlords, roughly in proportion to the equity of each in the business. This proportionate share may be altered due to landlord management and tenant labor and management arrangements. Part owners may share farm income with lenders of money and must divide it with landlords.

Owners obtain claims to farms and thus to farm income through savings, inheritance, gifts, and marriage. An owner claims income to the extent (1) that he receives capital gains (chiefly on land and buildings sold at a higher price than the purchase price), (2) that ownership of property permits a higher return than would have resulted from his investing his capital and labor inputs in an alternative enterprise, and (3) that he holds equity in the resources. The nature of these claims are reasons why so much stress has been put on the attainment of owner operatorship.

A tenant's claim to farm income is confined to his capital inputs (on which capital gains are small) and his labor and management. Thus, most of the tenant's income is assignable to his labor and management inputs. For some tenants, such as sharecroppers who furnish only their labor, all of their income is attributable to labor. Also, for a few tenants using production contracts, particularly where their own capital input is small and management decisions are made largely by the off-farm firm, virtually all of the tenant's income is due to his labor. For tenants with cash leases, a large proportion of their total income is due to management and less to labor inputs.

Manager income as such is a type of wage or salary and usually does not depend directly on farm income; it is determined by the manager's contract. The owner of the manager-operated farm claims all of its income, except for that part that might be rented from others.

As real estate prices and size of farm continue to increase, obtaining additional land to keep labor and capital resources of farm families fully employed becomes increasingly difficult in relation to income

earning capacity of farm assets. The market value of farm real estate per commercial farm in the United States in 1964 was \$65,360, to which an additional \$30,000 to \$40,000 must be added for livestock, machinery, and other operating capital. For the efficient commercial farmer, the figure may be much higher, depending upon the area and type of farming. Entrance into farming for many young aspirants is prohibited by high capital requirements. For others, access to farmland is positively associated with their savings, inheritance, gifts, and marriage. In the case of farm youth, access to farm real estate is highly conditioned by birth or marriage into a landowning family.

The effect of kinship, changes in land values, and returns on land may be evaluated, at least in general terms, by examining *equity claims*, including indebtedness and payments of interest and amortization on mortgages, rent on leased land, and the value of land and buildings. These claims, in general, determine how income generated by farming and related enterprises will be distributed among resource owners.

Adequate data on the distribution of farm income among the various types of claimants are not available. Data are available for real and personal property taxes, for total real and personal property indebtedness, and for interest paid to lenders of money, but these data are not allocated among the four tenure groups. Some data are available for rents paid to landlords by part owners and tenants.

## WEALTH AND INCOME

### Equity Claims

Although legal rights and interests take many forms, they usually represent some present or future claim to income. These rights and interests are aggregated, valued, and appropriately discounted to the present, to create an equity. Equities show in a rough way how the claims to wealth and income are distributed.

In 1967, the total value of assets used in farming was \$257 billion. Of this sum, \$182 billion was for real estate assets, \$57.7 billion for non-real-estate tangible assets, and \$17.3 billion for non-real-estate intangible assets (table 8). Of the real estate assets, an estimated total of \$60.5 billion and \$38.3 billion (a total of \$98.8 billion) were owned by full owners and part owners, respectively, based on the same proportion of real estate assets that they owned in 1966 as reported in the Farm Debt survey conducted by the Bureau of the Census.

**Table 8.—Assets and claims associated with farming, United States, January, specified years<sup>1</sup>**

Item	1940	1950	1960	1967 <sup>2</sup>
	<i>Billion dollars</i>	<i>Billion dollars</i>	<i>Billion dollars</i>	<i>Billion dollars</i>
<b>Assets:</b>				
Total assets . . . . .	48.5	119.2	189.2	257.0
Real estate assets. . .	33.6	75.3	129.9	182.0
Tangible assets . . . .	10.9	32.7	45.7	57.7
Intangible assets . . .	4.0	11.2	13.6	17.3
<b>Claims:</b>				
Total claims . . . . .	48.5	119.2	189.2	257.0
Real estate debt . . . .	6.6	5.6	12.1	23.3
Non-real-estate debt . .	3.4	6.8	12.8	22.4
Proprietors' equities . .	38.5	106.8	164.3	211.3

<sup>1</sup> Adapted from *The Balance Sheet of Agriculture, 1967*, U.S. Dept. Agric., Agric. Inform. Bul. 329, Oct. 1967. For 48 States; includes non-recourse CCC loans secured by crops owned by farmers, and excludes household furnishings and equipment and U.S. savings bonds.

<sup>2</sup> Preliminary.

The debt on these assets was \$16.3 billion, assuming that the debt in 1967 of \$23.3 billion was distributed over real estate assets used by the four tenure groups in the same proportion as it was in 1966. This leaves farm operators with an estimated equity of \$82.5 billion (45.3 percent) in the \$182 billion worth of real estate that they operated in 1967.

The total value of non-real-estate tangible property of \$57.7 billion was composed of the following: \$18.8 billion for livestock and poultry, \$28.9 billion for machinery and motor vehicles, and \$10.0 billion for crops stored on and off the farm. The debt against the \$57.7 billion was \$22.4 billion. Since nonoperating landlords probably had very little debt on non-real property, it is likely that the equity of farm operators in non-real-estate tangible property was \$35.3 billion—\$57.7 less \$22.4 billion, or 61.2 percent equity of farm operators in non-real-estate tangible property.

Farm proprietors also held \$17.3 billion of intangible personal property in which their equity was unimpaired—\$10.3 billion in deposits and currency and \$7.0 billion in investments in cooperatives. It was assumed that these intangible assets were held almost entirely by farm operators and that an insignificant proportion of them was held by those who did not operate their farm real estate.

These estimates of the equity that farm operators held in their farms may be summarized as follows: \$82.5 billion in real-estate property, \$35.3 billion in non-real-estate tangible property, and \$17.3 billion in intangible

personal property, making a total estimated equity of \$135.1 billion in the \$257 billion of assets used in farming.

Thus, farm operators, by virtue of the way in which they have gained access to farm assets, held a claim estimated at more than 50 percent of the returns to farmland and buildings, tangible personal property, and intangible personal property. Farm operators also laid claims to farm income via labor and management inputs necessary to make productive the real and personal property.

These estimates of operator equity in real and personal property are based on several assumptions. Data are not available for calculation of exact claims of tenure groups to farm income. It is believed, however, that these estimates, when used cautiously in conjunction with other data, shed some light on the relation between the evolving tenure situation and the prospective distribution of farm income among those who operate our farms. It is recognized that the holders of equity in real and personal property do not receive income from farm property each year in exact proportion to their equity. Yet, the equity position of farm operators is an indication of their claim to farm income.

## Land Value

Over time, the tenure system affects the relative incomes of farm operators and others who acquire claims to resources used in agriculture. Land represents a large proportion of farm assets, through which income is distributed.

Some additional insight into the relative claims of each tenure group may be gained through a more detailed consideration of farm real estate values. The total value of farm real estate increased 24 percent between 1959 and 1964, from \$129 billion to \$160 billion. Value increased 13.7 percent from 1964 to 1967, when the estimated value was \$182.0 billion.

Size, productivity, location, and other factors affected the average value of farms, and these factors are related to tenure of the operator. Tenant farms for the Nation as a whole had higher value than full-owner farms because they were generally larger and on more productive land. The opposite was true in several New England States, and in the South, where full-owner farms were of higher value than tenant farms. This was true despite the fact that full-owner farms had a lower average value per acre than tenant farms.

Average value per acre of commercial tenant farms is higher than for any other tenure group—more than \$200, compared with \$122 for part owners. The average

value per acre is low for manager farms: \$137 due to the large proportion of nonarable land. If present trends continue, the relatively small number of part owners may soon operate more total land with a greater value than the other three tenure groups combined.

Average value of commercial full-owner farms was less than half that of part owners in 1964—\$41,342, compared with \$92,218 (app. table 10). The value of commercial tenant farms averaged \$61,505. Average value of commercial manager farms in 1964 was more than half a million dollars—\$564,998—and more than double the 1959 value of \$257,723. The average value of part-owner and tenant farms increased by approximately 45 percent. Full-owner farms, on the other hand, increased by only 28 percent, due in part at least to their slower increase in acres.

Several regional differences should be noted. In the West, the 1964 average value of commercial farms (\$157,180) was almost three times their value in the North and South, where the averages were \$57,646 and \$52,650, respectively. Average value of farms in the South is rapidly catching up with the average in the North. In 1959, farms in the North averaged 35 percent higher value than farms in the South, but by 1964 the difference was less than 10 percent. Manager farms in the West averaged more than a million dollars in value in 1964.

Among tenants, average value of share-cash tenant farms in 1964 was the highest at \$81,943; crop-share tenants were lowest at \$45,403. Share-cash tenants operated valuable farms in the West, averaging \$235,736 per farm. At the other extreme were crop-share tenants in the South, at \$28,791. This includes sharecroppers who were classified separately prior to 1964. Many of these crop-share tenant farms in the South contain so few acres and have so small a value of land and buildings that operators are not afforded an opportunity to make efficient utilization of their capital assets and labor supply.

To sum up, average per farm value of farmland and buildings is geographically related. It is highest in the West and lowest in the South and usually highest near cities and lowest in remote places. Value is also tenure related—averaging highest for managers and part owners and lowest for full owners. There is a tendency for the more productive land to be rented by tenants and part owners.

Claims to income from manager farms are often in the hands of owners who have other sources of income. Manager operated farms, based on average value of land and buildings per farm and average value of products sold per farm, generally produce income above the minimum needed to sustain an adequate level of living for an individual family. Part-owner-operated farms are

the most valuable of the three major tenure groups other than managers and are in the strongest income position. Yet part owners must share their income with landlords, and some of them must share their income with creditors. Tenant-operated farms, smaller than part-owner-operated farms but larger than full-owner-operated farms, must share their income with landlords and sometimes with creditors. Many tenant-operated farms are not in a favorable income position. Although full-owner-operated farms are less valuable than any other tenure group, they do not share farm income with landlords; however, many of them share their income with creditors.

Part owners and tenants have been adjusting to the requirement for larger size units more readily than full owners. During recent years of rapid change, full owners have not gained access to additional farm resources by expanding the value of their units as rapidly as part owners and tenants. As a consequence, their claims on income from farming are not keeping pace with those who rent all or a part of their land. The present functioning of our tenure system is contrary to the goal of the unencumbered, full-owner-operator farm. The operator who borrows money or rents land to gain access to farms large enough for efficient operation may continue these management practices throughout his career.

## THE SOURCES OF INCOME

Distribution of farms by economic classes indicates wide variations in claims to farm income by tenure groups. This distribution among the several tenure groups has shifted significantly with the rapid decline in number of tenant farmers, many of whom had low incomes, and the almost complete disappearance of sharecroppers, who were typically at the lowest income levels.

Economic classes of farms are unevenly distributed by tenure of the operator. The top three classes in 1964 (value of products sold of \$10,000 and above) contained more than 80 percent of the manager farms, 55 percent of the part-owner farms, 44 percent of the tenant farms, but only 28 percent of all full-owner farms (app. table 11).

### Income From Farming

Levels of income to farm operators and those associated with farming will be influenced by the claims to farm resources and by off-farm income. Claims to income from farming may be viewed in terms of average value of products sold, which varies greatly among the

four tenure groups and within the tenant group. For commercial farms in 1964, the averages were: \$163,117 for manager farms, \$20,590 for part owners, \$19,326 for livestock-share tenants, \$14,338 for all tenants, \$11,243 for full owners, and \$10,494 for crop-share tenants.

Average sales of many full-owner farms were less than what was necessary for an adequate level of living for a typical farm family after expenses were paid. Even the high per-farm production of livestock-share tenants, which must be divided with the landlord, leaves the lower fourth of this group with less than \$5,000 gross annual income. In 1966, according to the *Farm Income Situation* (U.S. Dept. Agr., FIS 207), farms with sales under \$5,000 averaged slightly over \$1,000 realized net income, and farms with sales from \$5,000 to \$9,999 averaged slightly less than \$4,000 realized net income.

Gross farm income averages per farm are often compared with average incomes for urban groups. A principal difference exists, however: farm income is gross—it must be shared with landlords and creditors and used to meet many operating expenses, including hired labor, while the urban wage earner's income is largely net.

**Large-Scale Farms.**—Another measure of the distribution of access to farm resources and claims on farm income in terms of gross income is the situation regarding large-scale farms, those having a farm income of \$100,000 or more. The number of commercial farms that were classified as large-scale increased from 20,000 to 31,400, or by 57 percent, between 1959 and 1964. These large-scale farms represented only 1.4 percent of commercial farms; accounted for 12.5 percent of the land in farms, 7.6 percent of the cropland harvested, and 12.2 percent of the value of land and buildings; and produced 24.8 percent of the value of products sold. Total 1964 value of production of these 31,400 large-scale farms was equal to the value for 750,000 average full-owner commercial farms.

Full owners operated 30.1 percent of all large-scale farms, part owners 45.5 percent, managers 12.0 percent, and tenants 12.5 percent. Full owners operated 47.1 percent of all commercial farms, part owners 31.2, managers 0.7 percent, and tenants 21.0 percent.

**Small-Scale Farms.**—In sharp contrast to the 31,400 large-scale commercial farms are about a million small-scale commercial farms that are generally too small to support the operator and his family at an adequate level of living. These farms are in the lowest three economic classes, which include three-fifths of all commercial farms. Among all commercial farms, more than 70 percent of full owners, 55 percent of tenants, 45 percent of part owners, and less than 20 percent of managers are in Classes IV, V, and VI—which produce less than

\$10,000 in total value of products sold. These lower income farms have supplied and will probably continue to supply land for farm enlargement.

In addition, there are almost another million part-time and part-retirement farms with farm income too low to adequately support a family unless complemented by off-farm income. The Report of the National Advisory Commission on Rural Poverty indicated that in 1965 the income of 3.9 million persons living on farms, 29.3 percent of the farm population—was below the poverty line suggested by the Commission (\$3,000 per household). Many of these persons were operators of small commercial farms and part-time and part-retirement farms; others were nonoperators, such as laborers and others who live on farms.

Information on tenure status is not available for all persons with low farm income. Some tenure information is available, however, for those who are classified as farm operators. The part-time and part-retirement operators' farm income usually is too low to support a family. More than 80 percent of these operators are full owners; the remainder are about equally divided between part owners and tenants. Full owners, without resources or desire to extend their land ownership, may have chosen off-farm income sources rather than rent additional land.

## Off-Farm Work and Income

Many farm families supplement their farm income substantially by nonfarm work, and many urban employee or retiree families living on farms supplement their urban income by farming. In 1964, a total of 2.6 million farm households reported a total of \$10 billion in off-farm income—an average of about \$3,900 for each household reporting. Almost two-thirds of this income was from wages and salaries; the other third came from rent, interest, and dividends (16 percent); nonfarm business or profession (12 percent); and social security, pension, veteran, and welfare payments (8 percent). A total of 1.7 million farm operator households reported an average of \$3,778 in wages and salaries alone from off-farm jobs.

The tendency for farm operators to depend in part on off-farm employment has continued to increase. The portion reporting off-farm work in 1959 was 44.9 percent, compared with 46.3 percent in 1964. The trend for a larger proportion of farm operators to use off-farm employment to supplement farm income is observed in each of the eight geographic areas shown in table 9. The trend toward a larger proportion of the farms reporting a larger number of days at work off the farm also confirms the increasing dependence on off-farm employment.

Off-farm work consists of seasonal employment, continuing part-time employment, and full time off-farm

Table 9.—Percentage of all farm operators reporting off-farm work, by number of days worked off farm, United States, regions, and selected States, 1959 and 1964

Area	Operators reporting off-farm work		Operators reporting off-farm work by number of days					
			1964			1959		
	1964	1959	1-99 days	100 or more days	200 or more days	1-99 days	100 or more days	200 or more days
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
United States . . . . .	46.3	44.9	30.7	69.3	56.4	33.5	66.5	52.8
North . . . . .	43.4	41.6	35.8	64.2	51.7	37.9	62.1	48.7
Northeast . . . . .	47.0	47.7	24.5	75.5	62.7	25.4	74.6	61.2
North Central . . . . .	42.9	40.5	37.7	62.3	49.8	40.5	59.5	46.1
South . . . . .	48.6	47.5	27.1	72.9	59.6	30.7	69.3	55.0
West . . . . .	49.8	48.8	25.0	75.0	61.8	27.2	72.8	59.4
West Virginia . . . . .	56.5	55.0	18.3	81.7	66.6	22.2	77.8	60.0
Tennessee . . . . .	49.4	47.7	28.4	71.6	58.3	32.4	67.6	53.7
Iowa . . . . .	34.5	30.8	52.3	47.7	36.0	56.4	43.6	32.2
Illinois . . . . .	41.8	38.6	42.2	57.8	45.2	43.7	56.3	43.7

Source: 1964 Census of Agriculture, Vol. 2, Chap. 5 table 12.

jobs that still permit sufficient agricultural production for the individual to qualify as a farm operator.

As table 9 shows, incidence of off-farm work varies among geographic areas. For example, only 36.0 percent of Iowa operators worked off their farms for 200 days or more, while 66.6 percent of operators in West Virginia did so. These differences are related to the need to supplement farm income and the availability of off-farm employment.

Incidence of off-farm income is also distributed unevenly among tenure groups. For example, 1964 average off-farm income per commercial farm reporting

was \$5,208 for managers, \$3,657 for full owners, \$3,518 for part owners, and \$2,593 for tenants. Off-farm income was greater than farm income on 16.7 percent of all commercial farms. The comparable percentages by tenure were full owners, 24.3 percent; part owners, 10.7 percent; tenants, 9.1 percent; and managers, 4.5 percent. Additional comparisons are shown in table 10.

This section has presented data on the U.S. agriculture tenure situation in the midsixties. Examined briefly in the following section are future changes and problems in tenure arrangements that are likely to occur in light of these recent adjustments.

Table 10.—Farm households reporting off-farm income, by amount reported and by tenure of operator, commercial farms, United States, 1964

Item	All commercial farms	Full-owner	Part-owner	Manager	Tenant
	Percent	Percent	Percent	Percent	Percent
Farm households reporting:					
Off-farm income . . . . .	73.7	75.9	75.6	58.9	66.4
Off-farm income greater than value of products sold . . . . .	16.7	24.3	10.7	4.5	9.1
Farm households reporting . . . . .	100.0	100.0	100.0	100.0	100.0
\$1-\$2,999 . . . . .	61.0	58.3	59.9	49.2	69.8
\$3,000-\$4,999 . . . . .	16.5	16.8	17.1	18.4	14.7
\$5,000 and over . . . . .	22.5	24.9	23.0	32.4	15.5
Farm households reporting . . . . .	100.0	48.5	32.0	.6	18.9
\$1-\$2,999 . . . . .	100.0	46.4	31.5	.4	21.7
\$3,000-\$4,999 . . . . .	100.0	49.3	33.2	.6	16.9
\$5,000 and over . . . . .	100.0	53.5	32.7	.8	13.0
Total farm income reported . . . . .	100.0	51.9	33.0	.8	14.3
	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>	<i>Dollars</i>
Average off-farm income per farm . . . . .	3,420	3,657	3,518	5,208	2,593

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8, table 25.

## V. LAND TENURE IN THE FUTURE

Our very flexible land system operates in a political, social, and economic climate that encourages diversity. Within this general framework a few problems that may be current or just emerging and some areas of uncertainty in need of more adequate understanding will be discussed.

### THE CHANGING TENURE SITUATION

By 1980, according to the National Advisory Commission on Food and Fiber, the number of farms may decrease from 3.1 million (1964) to 2.2 million, and the average total capital per farm may increase from \$63,089 to \$122,576—a 94.3-percent rise. Commercial farms may decrease from 2.1 million in 1964 to 1.8 million. The average value of land and buildings of all commercial farms would increase to about \$170,000, with many of Class I, II, and III farms valued at over a half-million dollars. Farm operators will use increasing quantities of capital and purchased inputs. Problems may arise in intergenerational transfers of these large quantities of capital, and substantial changes in farm ownership and operation institutions may be in the offing.

The ease with which access may be gained to economic farm units probably will continue to decline. Within 15 to 20 years, it is possible that about a million commercial farms may produce all agricultural products that are needed for domestic consumption and for export. Present tenure arrangements for gaining access to farming may not be suitable when typical economic units become so valuable.

Present trends among the four tenure groups probably will continue in the short run. Full owners will continue to account for about half of all farmers. Part owners are expected to continue their proportionate increase exhibited over the last 20 years. Managers probably will remain at less than 1 percent of all farmers, but their farms may continue to increase rapidly in size. Numbers of tenants may decline as part owners take over an increasing portion of the rented land.

Major new tenure groups may appear that will not fit into the present classification system. Forerunners of new tenure arrangements include vertical coordination via contract farming, as exemplified by the broiler industry; vertical integration via large nonfarming corporations entering farming, as some food processors are now doing; large units operated by farming corporations,

which are now commanding public attention; custom farming, which is emerging in several forms and which may begin to replace renting of farmland, whether by full tenants or part owners; and renting large machinery and equipment, which may reduce the capital required of the operator, thereby expediting growth in farm size.

Major change in tenure arrangements may be caused by the rapid increase in amount of capital required for an economic farming unit. Relatively high farm income during and immediately following World War II facilitated an increase in size of farm units and at the same time an increase in the equity that farm operators held in their farms, both in total dollars and in proportion to total value. But the recent decline in farmer's equity ratio may continue and at an accelerated rate, as it has over the past few years. The relatively rapid increase in real estate debt may continue and at an increasing tempo. These trends may call for substantial adjustment in ways and means of gaining access to farming.

Other factors that need to be taken into consideration in an evaluation of the evolving tenure situation include (1) the older average age of farm operators, which may reduce opportunities for young people to enter farming; (2) the high incidence of kinship of landlords to tenants and part owners, which tends to restrict farming opportunities to landowning families; (3) the rapid migration out of agriculture by nonwhite farm operators, which worsens problems in the nonfarm sector; and (4) the gradual increase in length of time that operators have occupied their farms, which trend needs to be accelerated.

## TENURE PROBLEMS

The basic tenure problem is the slowness with which arrangements and procedures are developed to cope with rapidly developing technology. Tenure adjustments need not be so slow as to constitute an institutional lag that hampers economic performance. Allocation of vast sums of money and massive assignments of highly qualified personnel, both public and private, have changed an evolutionary technological growth to a revolutionary technological explosion. Conversely, assignment of money and personnel has been slow and inadequate to facilitate tenure adjustments such as leasing contracts, manager contracts, and uses of trusts and corporations as resource-holding devices. Uneven progress can be expected to continue so long as these conditions prevail. Ways of speeding tenure adjustments are sorely needed.

Several of our attitudes regarding land tenure should be carefully examined. Many who view agricultural production problems accept tenure conditions as given.

A pertinent question is: Are the tenure relations now established so closely associated with the free enterprise economy and so effective in the allocation and use of productive resources that they are fundamentally sacrosanct? Is the laissez-faire attitude that private parties will work out acceptable adjustments in arrangements if left alone, as they did in the 18th century, still a valid attitude today? While many members of the farming establishment have these attitudes, many others have discarded them in favor of a more ordered approach.

A second tenure problem is the persistence of so many farms that yield an annual net farm income less than adequate for an acceptable level of living. Of particular concern are the numerous farm operators who have attained the widely accepted tenure goal of full-owner-operatorship but have fallen far short in economic performance. Yet, their farms continue to exist with little improvement and frequently a growing disparity in their economic position relative to those of the other tenure groups. Full owners seem to resist change more than any tenure group. A large proportion of farm operators need access to additional land, thereby enabling them to operate a viable economic unit. Although the proportion of farmers who are full owners has been increasing, the proportion of the land they operate has been declining. Their farms are not increasing in size rapidly enough to permit the use of modern technology.

It is doubtful whether the net farm income of the lower half of the commercial farms is adequate to provide a farm family an acceptable level of living. In 1966, these farms earned less than \$5,000 farm income and about \$1,000 net farm income. Of particular concern are those farms that are either heavily indebted or have to share farm income with a landlord. Many farmers, particularly full-owner-operators in Classes IV, V, and VI, are frozen in a small-farm, low-income situation which they seem unable to improve without assistance. However, many of the full-owner-operators represent older farmers who have neither the need nor the desire to undertake major financial responsibilities by increasing the size of operating unit.

A third tenure problem that is just emerging is the difficulty of intrafamily, intergenerational transfer of high-value farms. The problem will intensify in the future. The established concept of equal devolution, despite decreasing family size, presents new problems to farm families as many estates reach a half-million dollars in value. The problem of arranging for intergenerational transfer of such farms will exert pressure on conventional intrafamily transfer techniques, particularly equal devolution, life estate, and related practices. It has been

suggested that the farm may be incorporated and shares of stock distributed to the several heirs. This may be effective for the first generation where the farming heir can capture management control, but the shares may be too widely held by the second and third generations for effective control and management. The concept of a family farm may change considerably if corporate and other emerging tenure forms become widespread. The problem is the inability of current practices to meet future needs.

Financing agriculture of the future may present other serious problems. The trend toward large operating units may mean that the zenith of individual owner-operatorship, as it has been known, is passing. The relatively slow increase in size of full-owner farms raises serious doubt as to that avenue of adjustment without a massive program of farm consolidation. The rapid decline in the proportion of tenant farms indicates difficulty in bringing several separate ownership units together into an effective tenant-operated unit. Part-owner operation has provided the major means of consolidating into one operation enough land to provide a basis for efficient management. It would seem that this process may continue into the immediate future, but with increasing difficulty. The rapid increase in large-scale farming, and the intrusion of large corporations into farming are two means of increasing size of farm rapidly enough to take advantage of modern technology. The increasing use of installment purchase contracts, with their terms of low or no downpayments, their withholding of title, and their summary forfeiture procedure, is a means of financing the transfer of farms that may not stand the test of a stabilized land market, not to mention a possible decline in land prices. Production contracts have provided a credit basis for many under-size full-owner-operator units.

If the increase in part ownership slows, if tenancy continues to decline, and if many of the small farms cannot be expanded into units large enough to return an adequate living for the farm family, some other means must be found to ensure that size of farm continues to increase. To gain access to the money market, farm operators may require some new device as effective for farming as the corporate device has been for industry and commerce.

A major problem facing public land administrators is the development of acceptable arrangements for multiple uses of public land. The trend toward using these lands for recreation as well as forestry and grazing introduces conflicts of interest that are proving difficult to resolve. Also, the location of public facilities on these lands often affects adversely the farmer's use of the lands. The level of Federal payments to local governments in lieu of taxes on property may become a

difficult issue. Access to public land, particularly for recreational users, is already presenting hard-to-solve problems.

On the other hand, governments at all levels are expanding their interests in privately held land. Zoning regulations, for example, are becoming more prevalent and more restrictive. A pertinent question is: How far may government go in controlling the use of private land without encountering a constitutional barrier? Involved is a judgment as to when use of the police power should give way to the spending power in securing desirable adjustments in land use.

Conditions of tenure should expedite, not retard, adjustment to meet technological change. Ways and means must be found to speed up adjustment in the tenure under which farmers gain access to their farms. A conscious effort and positive action to improve tenure conditions is needed. The low level of annual farm income on many commercial farms indicates the need for positive action on farm enlargement and consolidation. Adjustment in the system of intergenerational transfer of the farm should be speeded up to meet modern requirements. New types of financing would seem to be required. Whether owner operatorship of an adequate-sized unit is to be made a viable policy goal or whether some other goal is to supersede it is a question requiring additional insight.

## THE NEED FOR BETTER UNDERSTANDING

The land tenure situation needs to be under continual observation to keep it adjusted to the ever-changing conditions under which access to natural resources are allocated and income is distributed to various claimants. When problems are anticipated, a better understanding of the situation is needed so that solutions may be formulated before the problems become acute.

A better understanding is needed of arrangements and institutions used in allocating and pricing public land resources with emphasis on multiple uses. Recent stress on the multiple uses of land and water resources, both public and private, introduces a new dimension for future interpretation. Particular attention should be given to fees, charges, and rentals for each use of public lands. Other areas that need additional understanding include acquisition of land from, and disposition to, private parties; development and management of resources; access to, and trespass on, public lands; and recreation and multiple uses of resources. Emphasis should be on general-purpose versus special-purpose districts and effective units of local government for land use planning and regulation, including large complex interstate compacts as well as small local organizations.

Added participation of government in conservation, development, and use of private natural resources requires new emphasis on the income distributive effects of such public programs, including the impact on economic growth and regional development. Increased concern about income distribution adds an interesting magnitude to development of public programs related to private land resources. Development of viable natural resource institutions, which provide equitable income distribution, is related to legal controls of resource allocation, use, restoration, and modification. Resource institutions are related to legal and sociopolitical matters as well as to economic concerns.

Current property concepts, now pertaining largely to land and water, need to be expanded to include data on site and location, abovesurface and subsurface rights, air (including pollution problems, for example), and other natural resources that are in limited supply. Improved information systems will be needed to facilitate the compiling of data on resources quickly and accurately. These new systems may involve electronic computers, remote sensing devices, and other as yet undeveloped techniques and devices. Still another need is development of sound empirical concepts of property that can be used in describing and understanding the emerging situation.

Understanding of conventional problematic areas should focus on emerging problems before they become

major ones. For example, consideration of intrafamily intergenerational transfers of farms should emphasize the problems of large farms like those expected in 10 to 15 years. Renting of farm resources by part owners presents problems unlike those of farm tenants, upon which most leasing information has been based. Consideration of credit needs and ways to meet them should be concerned with expediting the consolidation of smaller commercial farms that do not supply an income adequate for maintaining an acceptable level of living. Resource development and reclamation, with particular emphasis on irrigation, conservation, leveling, forming, and otherwise increasing the productivity of land used in farming, need to be more completely understood.

Roles of the corporate device, custom farming, leasing of buildings and equipment from off-farm firms, and vertical coordination via contract farming are commanding attention. Increased understanding of the place of farm labor unions in agriculture would be helpful. Understanding of the use of farmlands by growing cities at the rural-urban fringe might help reduce the use of highly productive farmland and guide city expansion onto less productive lands. Town and rural development may reduce additional concentration in large urban centers and encourage more effective use of land resources. Problems of nonwhite farmers in attaining viable farming units and alternative means for offering realistic opportunities to such farmers should not be overlooked.

## APPENDIX TABLES

Table A-1.—Origin of land resources of the United States

Territorial areas	Year acquired	Area	Percentage of total	Cost per acre
		<i>1,000 acres</i>	<i>Percent</i>	<i>Cents</i>
Grand Total . . . . .	-	2,322,003	100.0	-
Total 50 States . . . . .	-	2,313,735	99.6	-
Original 13 States . . . . .	-	302,411	13.0	-
Public Domain . . . . .	-	1,836,448	79.1	4.6
State cessions . . . . .	1781-1802	236,826	10.2	<sup>1</sup> 10.9
Louisiana Purchase . . . . .	1803	529,403	22.8	4.4
Red River Basin . . . . .	-	29,602	1.3	-
Cession from Spain . . . . .	1819	46,082	2.0	14.5
Oregon Compromise . . . . .	1846	182,771	7.9	-
Mexican Cession . . . . .	1848	338,571	14.6	4.8
Purchase from Texas . . . . .	1850	78,927	3.4	19.6
Gadsden Purchase . . . . .	1853	18,970	0.8	52.7
Alaska Purchase . . . . .	1867	375,296	16.2	1.9
Other acquisitions . . . . .		174,876	7.5	-
Annexation of Texas . . . . .	1845	170,765	7.4	-
Hawaii . . . . .	1898	4,111	0.2	-
Possessions . . . . .	-	290	2	-
Guam . . . . .	1899	132	2	-
American Samoa . . . . .	1900	49	2	-
Virgin Islands . . . . .	1917	85	2	-
Other islands . . . . .	-	24	2	-
Other outlying areas . . . . .	-	5,780	0.2	-
Canal Zone . . . . .	1904	354	2	-
Corn Islands . . . . .	1914	2	2	-
Trust Territory of the Pacific . . . . .	1947	5,424	0.2	-
Puerto Rico . . . . .	1899	2,198	0.1	-

<sup>1</sup> Cost only of Georgia Cession, 1802, covering 56,689,920 acres.

<sup>2</sup> Less than .05 percent.

Source: *Statistical Abstract of United States, 1968*, table 243; *Public Land Statistics, 1966*, Bur. Land Mgt., U.S. Dept. Interior, table 2.

Table A-2.—Federally owned real property in the United States, by major agency and type of land and cost, 1966

Agency	Federally owned land			Type of land		Cost <sup>1</sup>		
	Total	Public domain	Acquired	Rural	Urban	Total	Land	Buildings and facilities
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>	<i>1,000 dollars</i>
Department of the Interior . . . . .	544,084	531,336	12,748	544,036	48	6,407,260	557,940	5,849,320
Bureau of Land Management . . . . .	480,013	477,588	2,425	480,012	1	92,877	5,668	87,209
National Park Service . . . . .	22,930	18,276	4,654	22,909	21	910,215	197,376	712,839
Bureau of Reclamation . . . . .	9,017	7,283	1,734	8,996	21	3,989,194	269,384	3,719,810
Fish and Wildlife Service . . . . .	27,114	23,935	3,179	27,114	2	210,250	66,776	143,474
Bureau of Indian Affairs <sup>3</sup> . . . . .	4,935	4,205	730	4,934	1	438,213	5,077	433,136
Other . . . . .	75	49	26	71	4	766,511	13,659	752,852
Department of Agriculture . . . . .	186,886	160,554	26,332	186,884	2	1,892,061	204,711	1,687,350
Forest Service . . . . .	186,472	160,210	26,262	186,471	1	1,780,786	198,593	1,582,193
Other . . . . .	414	344	70	413	1	111,275	6,118	105,157
Department of Defense . . . . .	30,472	17,385	13,087	28,563	1,909	40,282,185	2,713,136	37,569,049
Department of the Army . . . . .	18,187	8,137	10,050	17,273	914	17,434,621	2,270,661	15,163,960
Army . . . . .	11,452	7,270	4,182	10,585	867	9,717,746	217,685	9,500,061
Corps of Engineers . . . . .	6,735	867	5,868	6,688	47	7,716,875	2,052,976	5,663,899
Dept. of the Air Force . . . . .	8,628	6,958	1,670	8,529	99	14,033,938	170,628	13,863,310
Dept. of the Navy . . . . .	3,657	2,290	1,367	2,761	896	8,813,626	271,847	8,541,779
Atomic Energy Commission . . . . .	2,152	1,432	720	2,109	43	3,890,200	84,447	3,805,753
Other Civil Agencies . . . . .	1,168	114	1,054	1,118	50	9,909,441	832,514	9,076,927
<b>Total . . . . .</b>	<b>764,762</b>	<b>710,821</b>	<b>53,941</b>	<b>762,710</b>	<b>2,052</b>	<b>62,381,147</b>	<b>4,392,748</b>	<b>57,988,399</b>

<sup>1</sup> All properties are reported at actual or estimated costs at time of acquisition. There are no costs for public domain.

<sup>2</sup> Less than 500 acres.

<sup>3</sup> Does not include Indian trust properties.

Source: Inventory report on real property owned by the United States throughout the world as of June 30, 1966, General Services Administration.

Table A-3.—U.S. population: Total and farm, 1910-67

Year	Total population <sup>1</sup>	Farm population	
		Number	Percentage of total
	<i>Thousands</i>	<i>Thousands</i>	<i>Percent</i>
1967 <sup>2</sup> . . . . .	198,608	10,817	5.4
1964 <sup>2</sup> . . . . .	191,462	12,954	6.8
1960 <sup>2</sup> . . . . .	180,007	15,635	8.7
1950 . . . . .	151,132	23,048	15.3
1940 . . . . .	131,820	30,547	23.2
1930 . . . . .	122,775	30,529	24.9
1920 . . . . .	106,089	31,974	30.1
1910 . . . . .	91,972	32,079	34.9

<sup>1</sup> Includes the armed forces overseas.

<sup>2</sup> Includes Alaska and Hawaii.

Source: *Agricultural Statistics, 1962*, table 646; *1968*, table 642.

Table A-4.—Comparison of total land area and federally owned land, United States, by States, 1965

State	Total land area		Federally owned lands	
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Percent</i>
Total . . . . .	2,271,343	765,797		33.7
Alabama . . . . .	32,678	1,112		3.4
Alaska . . . . .	365,482	359,135		98.3
Arizona . . . . .	72,688	32,475		44.7
Arkansas . . . . .	33,599	3,118		9.3
California . . . . .	100,207	44,213		44.1
Colorado . . . . .	66,486	24,001		36.1
Connecticut . . . . .	3,135	9		0.3
Delaware . . . . .	1,266	35		2.7
District of Columbia . . . . .	39	11		28.4
Florida . . . . .	34,721	3,364		9.7
Georgia . . . . .	37,295	2,022		5.4
Hawaii . . . . .	4,106	364		8.9
Idaho . . . . .	52,933	34,053		64.3
Illinois . . . . .	35,795	460		1.3
Indiana . . . . .	23,158	379		1.6
Iowa . . . . .	35,860	171		0.5
Kansas . . . . .	52,511	571		1.1
Kentucky . . . . .	25,512	1,105		4.3
Louisiana . . . . .	28,868	1,047		3.6
Maine . . . . .	19,848	128		0.6
Maryland . . . . .	6,319	186		2.9
Massachusetts . . . . .	5,035	69		1.4
Michigan . . . . .	36,492	3,272		9.0
Minnesota . . . . .	51,206	3,338		6.5
Mississippi . . . . .	30,223	1,544		5.1
Missouri . . . . .	44,248	1,717		3.9
Montana . . . . .	93,271	27,607		29.6
Nebraska . . . . .	49,032	721		1.5
Nevada . . . . .	70,264	61,224		87.1
New Hampshire . . . . .	5,769	705		12.2
New Jersey . . . . .	4,813	102		2.1
New Mexico . . . . .	77,766	26,887		34.6
New York . . . . .	30,681	228		0.7
North Carolina . . . . .	31,403	1,924		6.1
North Dakota . . . . .	44,452	2,067		4.7
Ohio . . . . .	26,222	218		0.8
Oklahoma . . . . .	44,088	1,354		3.1
Oregon . . . . .	61,599	32,130		52.2
Pennsylvania . . . . .	28,804	571		2.0
Rhode Island . . . . .	677	8		1.1
South Carolina . . . . .	19,374	1,128		5.8
South Dakota . . . . .	48,882	3,397		6.9
Tennessee . . . . .	26,728	1,591		6.0
Texas . . . . .	168,218	2,829		1.7
Utah . . . . .	52,697	35,470		67.3
Vermont . . . . .	5,937	255		4.3
Virginia . . . . .	25,496	2,145		8.4
Washington . . . . .	42,694	12,569		29.4
West Virginia . . . . .	15,411	957		6.2
Wisconsin . . . . .	35,011	1,781		5.1
Wyoming . . . . .	62,343	30,028		48.2

Source: *Public Land Statistics, 1966*, Bur. Land Mgt., U.S. Dept. Interior, table 7.

Table A-5.—Number of farms and land in farms, by tenure of operator, United States, 1880-1964

Year	Total farms		Full-owner farms		Part-owner farms		Manager farms		Tenant farms	
	<i>Mil.</i>	<i>Mil. acres</i>	<i>Mil.</i>	<i>Mil. acres</i>	<i>Mil.</i>	<i>Mil. acres</i>	<i>Mil.</i>	<i>Mil. acres</i>	<i>Mil.</i>	<i>Mil. acres</i>
1964 . . . .	3.2	1,110.2	1.8	318.9	0.8	533.0	<sup>1</sup>	113.4	0.5	144.9
1959 . . . .	3.7	1,123.5	2.1	348.6	0.8	498.3	<sup>1</sup>	109.8	0.7	166.8
1954 . . . .	4.8	1,160.0	2.7	397.2	0.9	472.5	<sup>1</sup>	100.0	1.1	190.4
1950 . . . .	5.4	1,161.4	3.1	419.1	0.8	422.8	<sup>1</sup>	107.3	1.4	212.2
1945 . . . .	5.9	1,141.6	3.3	412.4	0.7	371.3	<sup>1</sup>	106.4	1.9	251.6
1940 . . . .	6.1	1,065.1	3.1	382.2	0.6	300.8	<sup>1</sup>	68.9	2.4	313.2
1935 . . . .	6.8	1,054.5	3.2	391.0	0.7	266.1	<sup>1</sup>	60.7	2.9	336.8
1930 . . . .	6.3	990.1	2.9	619.2	0.7	<sup>1</sup>	0.1	63.6	2.7	307.3
1925 . . . .	6.4	924.3	3.3	419.4	0.6	196.9	0.1	43.1	2.5	264.9
1920 . . . .	6.5	958.7	3.4	NA	0.6	NA	0.1	NA	2.5	NA
1910 . . . .	6.4	878.8	3.4	464.9	0.6	133.6	0.1	53.7	2.4	226.5
1900 . . . .	5.7	841.2	3.2	431.5	0.5	125.0	0.1	89.7	2.0	195.1
1890 . . . .	4.6	623.2	3.3	NA	<sup>2</sup>	NA	<sup>2</sup>	NA	1.3	NA
1880 . . . .	4.0	536.1	3.0	NA	<sup>2</sup>	NA	<sup>2</sup>	NA	1.0	NA

<sup>1</sup> Less than 50,000.

<sup>2</sup> Included with full owners.

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8, tables 5 and 6.

Table A-6.—All land in farms and rented land operated by tenants and part owners, United States, 1930-64

Year	Land in farms		Percentage of land in farms rented—		
	Total	Rented	Part owners	Tenants	Total
	<i>1,000 acres</i>	<i>1,000 acres</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
1964 . . . . .	1,110,187	393,832	22.4	13.1	35.5
1959 . . . . .	1,123,378	381,865	19.5	14.5	34.0
1954 . . . . .	1,160,043	385,593	16.8	16.4	33.2
1950 . . . . .	1,161,419	385,686	14.9	18.3	33.2
1945 . . . . .	1,141,614	430,627	15.7	22.0	37.7
1940 . . . . .	1,065,114	469,166	14.6	29.4	44.0
1935 . . . . .	1,054,515	471,170	12.7	31.9	44.7
1930 . . . . .	990,111	432,484	12.6	31.0	43.7

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8, table 2.

Table A-7.—Average size of farm, United States and regions, 1880-1964

Year	United States	North	South	West	Year	United States	North	South	West
	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>		<i>Acres</i>	<i>Acres</i>	<i>Acres</i>	<i>Acres</i>
1964 . . .	352	281	252	1,142	1930 . . .	157	166	106	434
1959 . . .	303	246	217	987	1920 . . .	149	156	109	364
1954 . . .	242	213	167	798	1910 . . .	139	143	114	300
1950 . . .	216	194	148	700	1900 . . .	147	133	138	393
1945 . . .	195	180	131	639	1890 . . .	137	124	140	324
1940 . . .	175	169	123	504	1880 . . .	134	115	153	313
1935 . . .	155	157	110	414					

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8, table 3.

Table A-8.—Characteristics of commercial and noncommercial farms, by tenure of operator, United States, 1964

Item	Unit	All farms	Full owners	Part owners	Managers	Tenants
<b>Number of farms:</b>						
All farms . . . . .	Thousand	3,158	1,818	782	18	540
Commercial farms . . . . .	Thousand	2,166	1,020	676	15	455
Noncommercial farms . . . . .	Thousand	992	798	106	3	85
Commercial farms . . . . .	Percent	68.6	56.1	86.5	84.8	84.2
Noncommercial farms . . . . .	Percent	31.4	43.9	13.5	15.2	15.8
Commercial farms . . . . .	Percent	100.0	47.1	31.2	.7	21.0
Noncommercial farms . . . . .	Percent	100.0	80.5	10.6	.3	8.6
<b>Land in farms:</b>						
All farms . . . . .	Mil. acres	1,110	319	533	113	145
Commercial farms . . . . .	Mil. acres	965	251	515	63	137
Noncommercial farms . . . . .	Mil. acres	145	68	18	50	8
Commercial farms . . . . .	Percent	87.0	78.6	96.6	55.2	94.8
Noncommercial farms . . . . .	Percent	13.0	21.4	3.4	44.8	5.2
Commercial farms . . . . .	Percent	100.0	26.0	53.3	6.5	14.2
Noncommercial farms . . . . .	Percent	100.0	47.2	12.5	35.1	5.2
<b>Average size of farms:</b>						
All farms . . . . .	Acres	352	175	682	6,369	268
Commercial farms . . . . .	Acres	446	246	761	4,146	302
Noncommercial farms . . . . .	Acres	146	86	172	18,750	88
<b>Average value of farms:</b>						
All farms . . . . .	1,000 dol.	50.6	30.3	83.3	567.1	53.0
Commercial farms . . . . .	1,000 dol.	65.4	41.3	92.2	565.0	61.5
Noncommercial farms . . . . .	1,000 dol.	18.5	16.1	32.7	578.9	7.7
<b>Total value of farms:</b>						
All farms . . . . .	Percent	100.0	30.2	43.7	6.1	20.0
Commercial farms . . . . .	Percent	100.0	33.4	40.5	7.2	19.0
<b>Value of products sold:</b>						
All farms, per farm . . . . .	Dollars	11,176	NA	NA	NA	NA
Commercial, per farm . . . . .	Dollars	15,869	11,243	20,590	163,117	14,338
Noncommercial, per farm . . . . .	Dollars	932	NA	NA	NA	NA
Commercial farms . . . . .	Percent	97.4	NA	NA	NA	NA
Commercial farms . . . . .	Percent	100.0	33.4	40.5	7.2	19.0
<b>Economic class of farms:</b>						
Commercial farms . . . . .	Thousand	2,166	1,020	676	15	455
Commercial farms . . . . .	Percent	100.0	100.0	100.0	100.0	100.0
Class I (\$40,000 and over) . . . . .	Percent	6.5	4.2	10.0	44.9	5.4
Class II (\$20,000-\$39,999) . . . . .	Percent	12.0	7.5	17.4	18.4	13.8
Class III (\$10,000-\$19,999) . . . . .	Percent	21.6	16.4	27.3	17.7	24.7
Class IV (\$5,000-\$9,999) . . . . .	Percent	23.3	23.3	23.3	9.4	23.9
Class V (\$2,500-\$4,999) . . . . .	Percent	20.5	25.4	14.9	5.7	18.4
Class VI (\$50-\$2,499) . . . . .	Percent	16.1	23.2	7.1	3.9	13.8
Class I . . . . .	Percent	100.0	30.0	47.9	4.8	17.3
Class II . . . . .	Percent	100.0	29.6	45.2	1.1	24.2
Class III . . . . .	Percent	100.0	35.8	39.6	.6	24.1
Class IV . . . . .	Percent	100.0	47.0	31.2	.3	21.5
Class V . . . . .	Percent	100.0	58.3	22.6	.2	18.8
Class VI . . . . .	Percent	100.0	60.0	73.8	.2	18.0

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8, tables 6, 12, 13, 17, 23, 24, and 25.

Table A-9.—Percentage of commercial farms reporting specified machinery, equipment, and facilities, by tenure of operator, United States, 1964

Item	Total	Full owners	Part owners	Managers	Tenants
	Percent	Percent	Percent	Percent	Percent
Tractor . . . . .	86.1	83.7	95.6	92.3	77.2
Wheel . . . . .	83.9	80.2	94.5	89.6	76.1
Crawler . . . . .	5.6	5.2	7.5	26.7	2.9
Combine . . . . .	35.6	26.0	48.9	28.5	37.7
Pull type . . . . .	23.0	19.8	27.4	14.6	23.9
Self propelled . . . . .	13.8	6.8	23.5	15.8	14.9
Corn picker . . . . .	28.4	21.8	35.2	19.6	33.4
Pickup baler . . . . .	30.6	27.7	39.6	37.0	23.5
Hay conditioner . . . . .	8.3	7.5	11.3	15.7	5.3
Crop drier . . . . .	3.4	2.3	5.2	7.1	3.0
Forage harvester . . . . .	12.4	10.0	17.8	18.6	9.4
Fly-wheel type . . . . .	10.9	8.8	15.9	16.0	7.9
Flail type . . . . .	2.9	2.3	4.0	4.6	2.5
Milking machine . . . . .	21.7	21.7	24.8	12.1	17.4
Bulk milk tank . . . . .	9.1	8.0	12.1	8.1	7.4
Telephone . . . . .	77.9	78.4	85.5	89.0	65.0
TV set . . . . .	88.4	86.9	92.9	83.8	85.1
Home freezer . . . . .	75.2	73.2	83.6	73.4	67.2
Motortruck . . . . .	74.8	70.1	87.9	89.8	65.6
Automobile . . . . .	86.7	84.5	92.5	84.5	83.1

Source: 1964 Census of Agriculture, Vol 2, chap. 8, table 25.

Table A-10.—Average value of land and buildings per commercial farm, by tenure of operator, United States and regions, 1959 and 1964

Tenure of operator	All commercial farms		North		South		West	
	1964	1959	1964	1959	1964	1959	1964	1959
	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
All farms . . . . .	65,360	44,439	57,646	43,955	52,650	32,582	157,180	92,145
Full owners . . . . .	41,342	32,190	36,515	29,940	35,657	26,676	85,668	60,800
Part owners . . . . .	92,218	63,389	77,532	56,948	78,309	50,909	216,043	133,756
Managers . . . . .	564,998	257,723	212,983	137,711	539,473	261,094	1,041,777	419,099
All tenants . . . . .	61,505	42,446	70,834	55,912	37,705	21,328	153,484	91,427
Cash . . . . .	70,142	46,888	54,202	42,276	55,943	34,911	170,653	101,755
Share-cash <sup>1</sup> . . . . .	81,943	60,324	78,331	61,483	69,409	40,181	235,736	106,477
Crop-share . . . . .	45,403	28,140	68,539	49,875	28,791	16,784	126,276	86,133
Livestock-share . . . . .	75,990	60,227	79,810	63,281	52,998	38,854	134,421	78,766
Others and unspecified . . . . .	46,025	32,580	51,153	39,100	30,733	20,980	115,606	74,785

<sup>1</sup> Includes sharecroppers.

Source: 1959 Census of Agriculture, Vol. 2, Chap. 10, table 36. 1964 Census of Agriculture, Vol. 2, Chap. 8, table 22.

Table A-11.—Number and percentage distribution of farms by economic class, by tenure of operator, United States, 1964

Class of farm	All farms	Full owners	Part owners	Managers	Tenants
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Number</i>
All farms . . . . .	3,157,857	1,818,254	781,884	17,798	539,921
Commercial farms . . . . .	2,165,712	1,019,749	676,285	15,088	454,590
Other farms . . . . .	992,145	798,505	105,599	2,710	85,331
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
Commercial farms . . . . .	100.0	47.1	31.2	0.7	21.0
Class I . . . . .	100.0	30.0	47.9	4.8	17.3
Class II . . . . .	100.0	29.6	45.2	1.1	24.2
Class III . . . . .	100.0	35.8	39.6	0.6	24.1
Class IV . . . . .	100.0	47.0	31.2	0.3	21.5
Class V . . . . .	100.0	58.3	22.6	0.2	18.8
Class VI . . . . .	100.0	68.0	13.8	0.2	18.0
Other farms . . . . .	100.0	80.5	10.6	0.3	8.6
Part-time . . . . .	100.0	76.8	12.7	0.1	10.5
Part-retirement . . . . .	100.0	87.8	7.0	<sup>1</sup>	5.2
Abnormal . . . . .	100.0	—	—	100.0	—
Commercial farms . . . . .	100.0	100.0	100.0	100.0	100.0
Class I . . . . .	6.6	4.2	10.1	44.9	5.4
Class II . . . . .	12.0	7.5	17.4	18.4	13.8
Class III . . . . .	21.6	16.4	27.3	17.6	24.7
Class IV . . . . .	23.3	23.3	23.3	9.4	23.9
Class V . . . . .	20.5	25.4	14.9	5.7	18.4
Class VI . . . . .	16.1	23.2	7.1	3.9	13.8

<sup>1</sup> Less than 0.5 percent

Source: 1964 Census of Agriculture, Vol. 2, Chap. 8, tables 18 and 24.