American Farmland Trust

SMALL IS BOUNTIFUL:
The Importance of Small Farms in America

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Dear Reader:

This report calls attention to an important segment of American agriculture: the small producers who operate seven out of ten of all farms in the United States.

Historically, America's farms have become larger and larger, taking advantage of economies of scale to become the world's leading producers of food and fiber. But their celebrated accomplishments have tended to obscure the fact that most American farms have remained small.

By sheer numbers, they are the majority of America's farmers--and they are very important. Small-scale producers own almost a third of U.S. farmland and farm equipment. Their contribution to commodity production is not insignificant. They're the economic health of most rural communities. And now, with U.S. agriculture undergoing a transition, large commercial farm producers may have quite a bit to learn from them.

Just recently, I established within USDA an Office for Small-Scale Agriculture. Indeed, the time has come to examine the needs of our small-scale producers and to further enhance the opportunities they represent for improving rural America.

By documenting the economic importance of small-scale farms, the American Farmland Trust has provided us with a timely reminder that U.S. agriculture needs all kinds of agricultural producers.

Sincerely,

Richard E. Lyng

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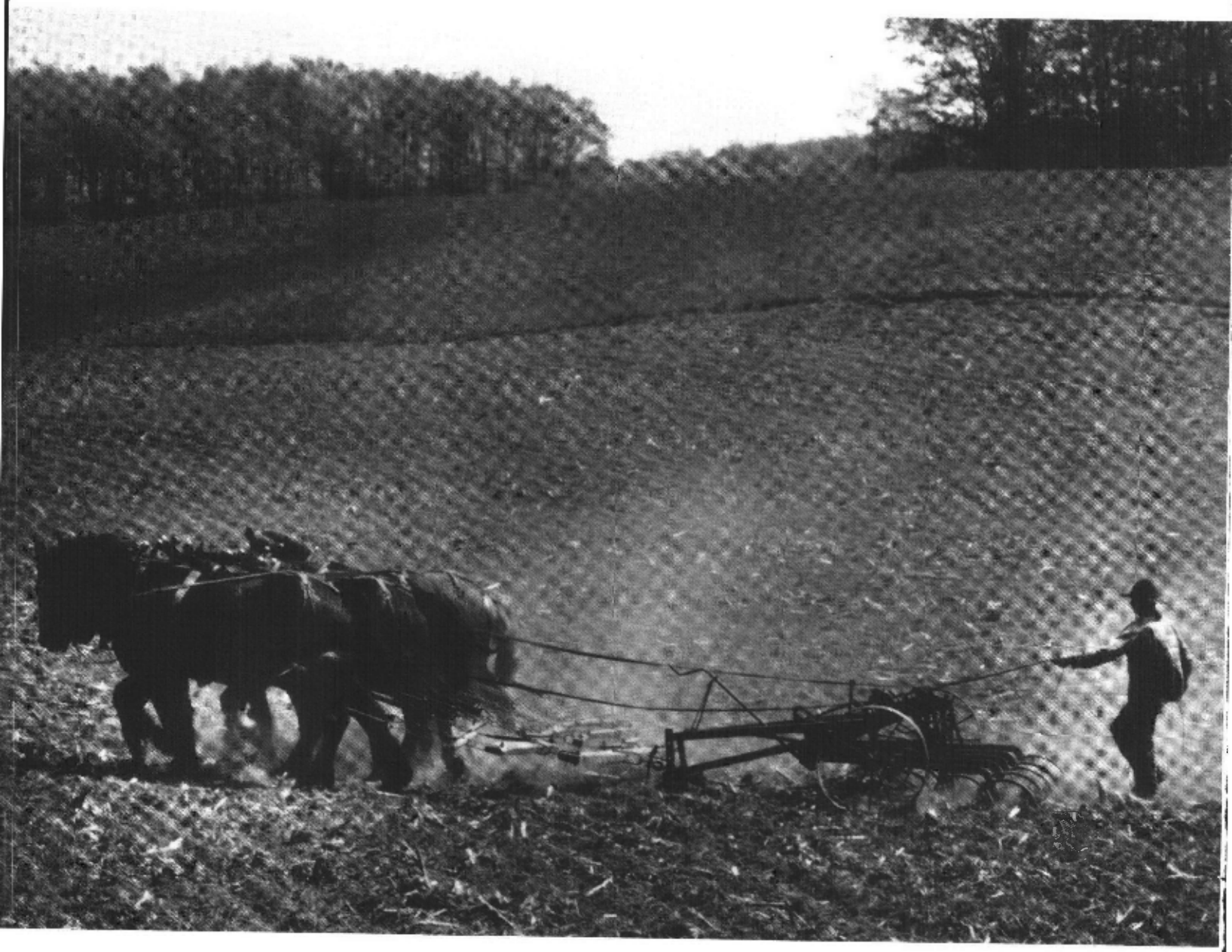
This report was made possible by a generous grant from The Ford Foundation.



It was Thomas Jefferson who first called attention to the virtues of the American small farmer. Working his private landholding, enterprising and self-reliant, the Jeffersonian yeoman was the rootstock of democracy, the enlightened husbandman whose judgement, tempered by the humble pride that comes from wresting a living from the soil, would sustain a free and prosperous society. He was, quite simply, the embodiment of America.

That vision, fulfilled by an infant republic composed almost entirely of small farmers, has remained powerful, even though the United States has grown into a modern industrial giant where less than 3 percent of the people still live on farms. Most Americans still seem to regard the Jeffersonian yeoman as the custodian of democratic virtue, believing that something central to the American character will be lost if what is now called the "small family farm" disappears entirely. Indeed, much of the public goodwill enjoyed by the U.S. agriculture industry—one of the most highly-subsidized economic sectors—probably derives from this popular but anachronistic view of America as a land of small husbandmen.

However, the legislators, administrators and their economic advisors who formulate the nation's food and agriculture policy have for years recognized that an increasingly small number of U.S. farmers produce an overwhelming percentage of our food. The farm programs they have established tend to afford the greatest advantages to large producers and, according to some, are partly responsible for promoting the trend toward fewer and bigger farms.[1]

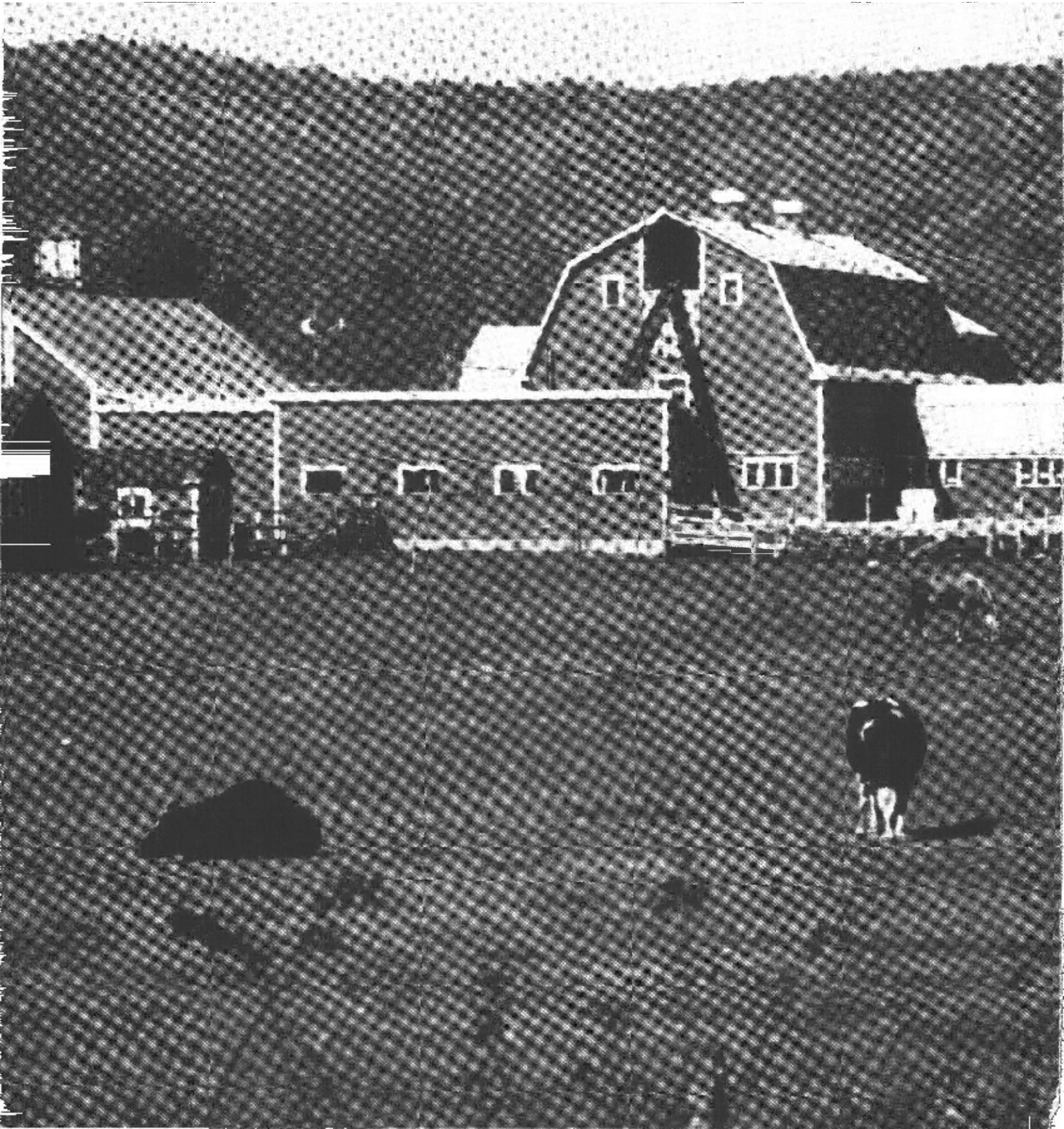
Nevertheless, America is still very much a land of small farms. In fact, 7 out of 10 U.S. farms—1.6 million in all—gross $40,000 or less annually from the sale of farm products.[2]

Together, the operators of these small farms own 30 percent of the nation's farmland and over half the tractors. Compared with what they produce, they buy a disproportionate share of the seed, fertilizer and other agricultural inputs. And their total yearly sales of food products add up to more than $14 billion.[3]

Yet, because our small farms account for only about 1/10th of total U.S. agricultural production (measured in dollar value), their special needs tend to be unmet by farm policies geared to larger producers. Witness: In 1982, farms earning *more* than $40,000 a year, although they comprise only 28 percent of all U.S. farms, accounted for 82 percent of all the set-aside acreage under federal government commodity programs, and received 93 percent of all CCC loans.[4]

Those who have been the most vocal in their criticism of national farm policy as it addresses—or fails to address— the needs of small farmers have relied heavily on the Jeffersonian vision. Their brief for increased government aid to small producers has rested for the most part on the notion that saving the family farm is a socially-desirable goal, as American as apple pie. But against the hard fact that small farms simply do not produce much of the nation's food, the Jeffersonian ideal hasn't had much of a chance. Economic reality, at least this limited vision of it, has won out nearly every time.

If American small farmers are henceforth to gain recognition as an important segment of society, and thereby claim a fair share of government's attention to their special needs, their champions will have to make the case with numbers, not sentiment. We share the Jeffersonian vision and believe that it is alive today—look at how many national policymakers have farm backgrounds or still "ride herd" on their ranches. But our purpose here is not to glorify that vision. Instead, it is to quantify it in the hope that the substantial contribution that these oft-neglected producers make to the U.S. agriculture industry will prompt a new look at government's role in helping small farms perpetuate themselves.



CHAPTER I – A PROFILE: WHAT IS A "SMALL FARM?"

When you hear the term "small farm," you undoubtedly conjure up a mental picture. It may look like the one on the opposite page, or it could be quite different depending on what part of the country you hail from.

But how does that picture translate into economic terms? Just what does a small farm have to produce to gross $40,000 a year from agriculture? The table below will give you some idea.

TABLE 1.1

Hypothetical Small Farms Grossing $40,000 per Year

Type of Farm	*Production Units/Price*	*Acreage*
California Vineyard	7 tons/ac @ $200/ton	30
Iowa Corn/Soybeans	Corn– 150 bu/ac @ $1.50/bu Soybeans– 30 bu/ac @ $4.75/bu	175
New Jersey Truck Farm	Broccoli– 9,000 lb/ac @ $24/cwt Blueberries– 3,200 lb/ac @ .60/lb	20
North Carolina Tobacco	2,000 lb/ac @ $1.50/lb	13
Texas Beef Cattle	65 head @ $600 (10 ac/cow-calf)	650
Wisconsin Dairy	13,000lb milk/25 cows @ $12/cwt	200

The figures in the table represent upper limits, the *most* that the respective farms could produce as a cash crop and still qualify as "small" under the definition we are using. Many small farms produce quite a bit less than our examples. In fact, half of them gross less than $5,000 a year from the sale of agricultural products, and one-third gross less than $2,500, leading some to question whether they should be considered farms at all.[5] The average annual sales for farms grossing less than $40,000 is only $9,000, compared with $78,000 for larger operations.

TABLE 1.2

Small Farms by Sales Class 1982

Annual Gross Sales	*Number of Farms*	*Percent*
Less than $2,500	536,060	33.4
2,500 – 5,000	278,100	17.3
5,000 – 10,000	281,720	17.6
10,000 – 20,000	258,970	16.2
20,000 – 40,000	248,800	15.5
Total	1,603,350	100.0

Full-Timers vs. Part-Timers

For every small farm on which the operator works full-time to produce a cash crop, there are perhaps 4 or 5 other small farms operated by part-timers as a sideline or a hobby. Nationally, only 32 percent of all small farmers have no off-farm employment. The core of this group are the traditional full-time family farmers, primarily in the Midwest, whose operations have not followed the trend of expansion and consolidation.[6] But it also includes subsistence farms, notably those of minority operators concentrated in the South, as well as retirees in the process of scaling back their farming operations or who have gone back to the land, and a comparative few "gentlemen" farmers.

On the other hand, almost half of all U.S. small farmers (48%) have full-time jobs off the farm, reporting off-farm employment of at least 200 days a year, and another 20 percent work part-time off the farm. For many among this group, farming is an avocation or hobby, but it too includes traditional family farms and lower-income farmers who find it necessary to have off-farm employment to make ends meet.

FIGURE 1.1

Percentage of Small Farmers Who Report "Farming" as Occupation

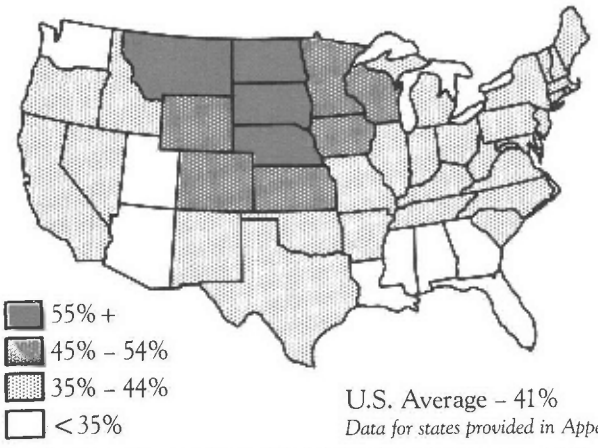


TABLE 1.3

Income per Farm*

	Small Farms			Large Farms		
Year	Number (Thousands)	Net Farm Income	Off-Farm Income	Number (Thousands)	Net Farm Income	Off-Farm Income
1960	3,670	$1,460	$ 2,000	290	$19,860	$ 3,840
1974	2,020	990	11,490	340	34,700	6,340
1982	1,710	(380)	18,300	690	36,970	11,740

**Unadjusted for inflation. Small farm income was estimated by calculating numbers on the basis of $12,200 in gross sales in 1960 and $22,200 in 1974 (equivalent of $40,000 in 1982 dollars), and interpolating income data for sales classes from* Economic Indicators.

Farm and Off-Farm Income

As a class, America's small farmers had a *negative* net farm income in 1982, losing an average of $380 per farm.[7] Since 1960, their share of total U.S. net farm income has declined from approximately 48 percent to less than one percent.[8] This does not imply, of course, that *all* small farms lose money. As many as one in six, generally grossing more than $20,000 a year, show a positive farm income.[9] But in general it is fair to conclude that, today, small farms do not provide a full-time living for many families.

Off-farm employment is, therefore, becoming increasingly important to most small farmers. In 1982, their average income from off-farm sources was $18,300, well above the $11,700 average for large farm operators. In real terms, small farmers' off-farm income has almost doubled since 1960, while that of larger farmers has actually declined because of inflation. Thanks to increasing off-farm income, small farmers are almost 60 percent better off, in terms of average total income, than they were two decades ago. Compared with larger operators, whose average total annual income has decreased almost 40 percent in real terms since 1960, most small farmers do not appear to have been as affected by the recent downturn in the U.S. farm economy.[10]

Family vs. Corporate Ownership

As you would expect, over 90 percent of all small farms are operated by individuals or families. Of the remainder, 8 percent are partnerships and only 1 percent are owned by corporations (family or public). Larger operations are 7 times as likely to be incorporated.[11] The concentration of individual and family run small farms is even greater in the Northeast, Deep South and Great Lakes states; it is lowest (averaging below 60%) in the Southwest, California and Florida.

Minority Small Farmers

Blacks and Hispanics make up a much smaller percentage of the nation's farmers than they do of the population as a whole. Relatively few in number, they appear to constitute an underclass—even by small farm standards.

Four out of five Black farmers in the U.S. gross $10,000 or less in annual agricultural sales, compared with 49 percent of all U.S. farmers. Of the remaining 20 percent, probably only a small fraction gross more than $40,000 a year. (Published *Census* data do not permit analysis based on $40,000 in gross sales.) Average sales for all Black farms are only about $12,000, one-fifth of that for all U.S. farms. The average annual sales of Black farms in ten Southern states are $10,500, compared with an average of more than $21,000 for Black-owned farms in the rest of the U.S. About 85 percent of all Black small farmers (grossing $10,000 or less) are located in the South.

Hispanic farmers appear to be comparatively better-off than Blacks. Two-thirds of all Hispanic farmers gross under $10,000. But as a class, their per farm sales of $53,000 are comparable to the U.S. average, suggesting that, unlike those of Blacks, a significant percentage of Hispanic-run farms are fairly large operations. Sixty-seven percent of all Hispanic small farmers, and 72 percent of all Hispanic small farmers, are located in California, Texas and New Mexico, the only states where there are more than 1,000 Hispanic small farmers. Annual gross sales of Hispanic farms in these states ($47,000) average only two-thirds of those in the rest of the country.

TABLE 1.4

Farms and Land by Ownership Type

	Small Farms			*Large Farms*		
	Number (Thousands)	*Acres (Millions)*	*Avg.*	*Number (Thousands)*	*Acres (Millions)*	*Avg.*
Individual/ Family	1,379	238	173	510	401	785
Partnership	121	30	250	99	121	1,220
Corporate	15	8	540	44	115	2,600

Age, Sex and Race of Operators

Small farmers tend to be older than the operators of larger farms. Over 20 percent of U.S. small farmers are 65 years or older, compared with 9 percent of large operators. For every other age group, except under 25 (which makes up 3% of both groups), the percentage of small farmers is less than that for large farmers.

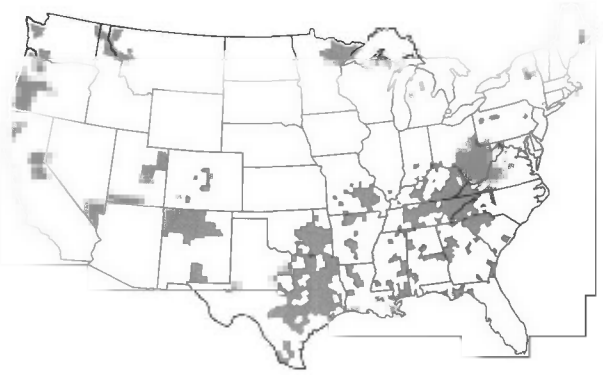
The overwhelming majority of U.S. farms operated by women (88%), Blacks (88%) and people of Hispanic ancestry (83%) are small by our definition. Each group comprises but a very small fraction of both large and small farmers.

TABLE 1.5

Women and Minority Operators

	Small Farms		*Large Farms*	
	Number	*Percent*	*Number*	*Percent*
Women	107,237	6.6	14,270	2.2
Blacks	47,525	2.9	6,612	1.0
Hispanic	13,517	0.8	2,650	0.4

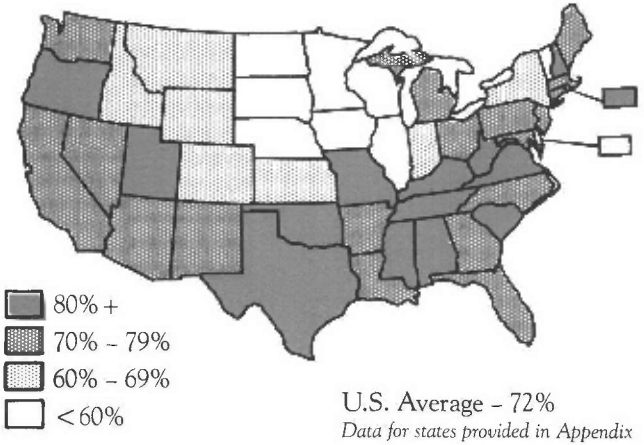
FIGURE 1.3
Counties Where 90 Percent or More of All Farms Gross $40,000 or Less Annually



Geographic Distribution

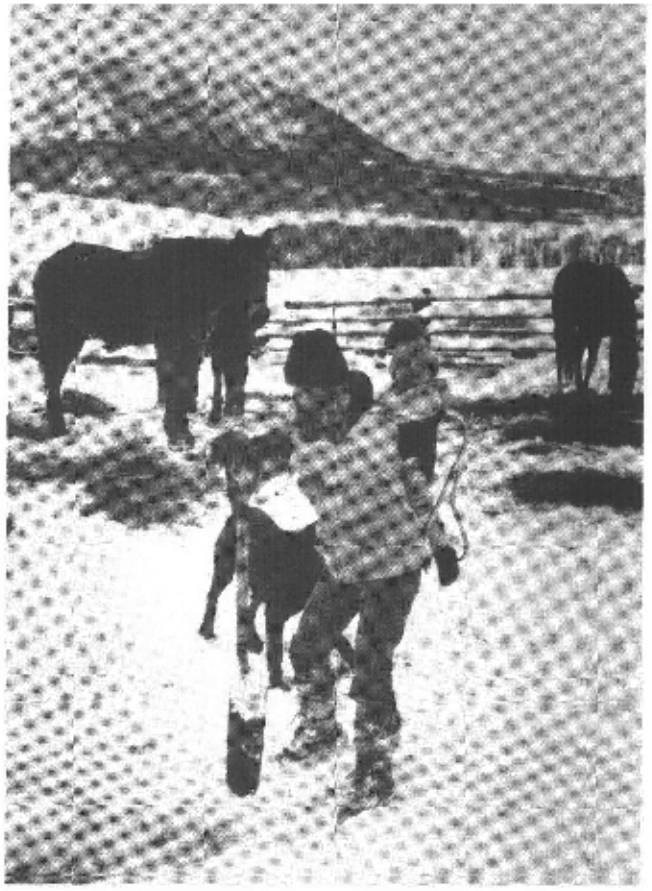
Seventy-two percent of all U.S. farms are "small" by our definition. But they are not evenly distributed across the country. Almost 10 percent of all small farms are found in Texas and over 5 percent each in Missouri, Kentucky and Tennessee. In these four states, as well as in Oklahoma, Virginia, West Virginia and the Carolinas, there are geographic concentrations of counties in which 90 percent of the farms gross less than $40,000 a year. A great many of these counties have per capita incomes below the national median, and their states tend to have below average gross sales per small farm sales, suggesting that these are areas where low-income and subsistence small farmers predominate.

FIGURE 1.2
Percentage of Farms in State Grossing $40,000 or Less Annually



By contrast, all the small farms in New England make up just over 1 percent of all U.S. small farms. And Ohio alone has as many small farms (4% of U.S. total) as all the Rocky Mountain states combined. Predictably, Midwestern states have a disproportionate number of farms grossing less than $40,000 (averaging over 3%), while the Western states, with the exception of California, have fewer (less than 2%).

The states with the highest percentages of small farms (80% or more) are generally found in the upper South, particularly in Appalachia. Those with the smallest percentages (less than 60%) are in the upper Corn Belt, Northern Plains, and dairy states like Wisconsin and Vermont.



A Picture of Diversity

Overall, the picture of small farms that emerges from the *Census* data is one of extreme diversity. There really is no such thing as a "typical" small farm. Although the published data do not permit the cross-referencing of many categories, it is nonetheless possible to draw a general profile of the nation's small farmers.

Approximately one out of 6 U.S. small farmers—almost a quarter million—are full-time operators who are likely to gross more than $20,000 in sales of a cash crop that is the principal source of family income; a few are subsistence farmers with no outside income. This is the group of small farmers that most resembles larger commercial operations, and which could probably benefit most from agricultural policy changes.

Another sixth of the nation's small farmers work part-time on the farm, supplementing income with off-farm employment, and gross somewhere between $5,000 and $20,000 a year from the farm. The remaining two-thirds either support their families with full-time, nonfarm jobs (about half of all small farmers) or are retirees for whom farming is an avocation; these operations are very likely to gross less than $5,000 a year from the sale of farm products.

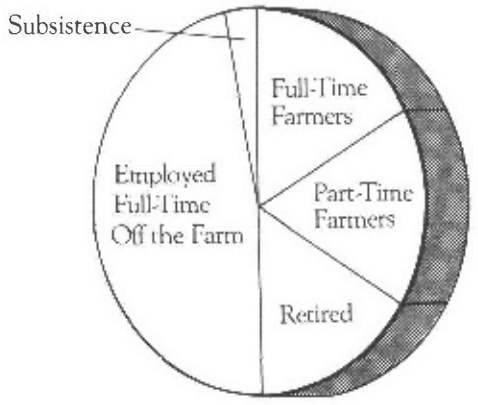
TABLE 1.6

General Statistical Comparison 1982

	Small Farms	*Large Farms*
Number of Farms (Thousands)	1,603	635
Land in Farms (Millions of Acres)	286	645
Average Size (Acres)	178	1,015
Average Annual Gross Sales	$ 8,980	$184,500
Average Income: Farm (Net)	$ (380)	$ 36,960
Off-Farm	$18,300	$ 11,740
Occupation "Farming" (Percent)	41	90

FIGURE 1.4

Profile of U.S. Small Farmers



Although they comprise 72 percent of all farms in the nation, those operations grossing $40,000 or less per year account for only 11 percent of the market value of all agricultural products sold in the U.S. It is, therefore, easy to dismiss them as not making a significant contribution to food production or the commercial farming industry. But our small farms do produce over $14 billion worth of agricultural products a year—nothing to shake a stick at. And if we look harder to see what makes up this total, we find that small farms do, indeed, have a very significant impact on the production of certain commodities in various sections of the country.

Share of U.S. Production of Specific Commodities

Four commodities—cattle, dairy products, corn and soybeans—account for over half of all agricutural products produced in the United States (measured by their dollar value). In all of these but dairy, small farms are above-average producers when their sales of these commodities are compared to their overall 11 percent market share. For example, small farmers account for one out of every $7 earned by all U.S. farmers from the sale of cattle, soybeans and wheat.

On the other hand, small farmers' share of the production of such commodities as poultry, vegetables, fruits and nuts, is below their overall 11 percent market share of all commodities combined. Admittedly, this is one area where the way we have defined small farms may obscure their importance. Simply by defining "small farms" as those grossing less than $40,000 a year, we have artificially excluded many small-acreage operations that produce high-value crops, bumping them into the "large" farm category.[12]

Dairying provides a good example of this phenomenon. The relatively insignificant dairy production of small farms can be explained largely by the fact that the output of only 20 to 25 cows would yield $40,000 in annual gross sales, an exceedingly small operation considering the large capital requirements of dairying, compared with those of simply raising beef cattle.[13] In only 4 states, Wisconsin, Vermont, New York and Pennsylvania, do small farms account for more than 20 percent of dairy production. By contrast, small farms account for 20 percent of cattle and calf production in all but 15 states.

TABLE 2.1

Small Farm Market Share 1982

	Small Farm Sales As Percent of Total Commodity Sales	*All Sales of Commodity As Percent of Total U.S. Agricultural Sales*
Cattle	14	24
Dairy Products	5	12
Corn	12	10
Soybeans	15	8
Hogs	10	8
Poultry	1	7
Wheat	15	6
Fruits/Nuts	8	4
Nursery Products	5	3
Vegetables	5	3
Tobacco	37	2
Hay	26	2
Cotton	5	2
Direct Consumer Sales	41	1.4

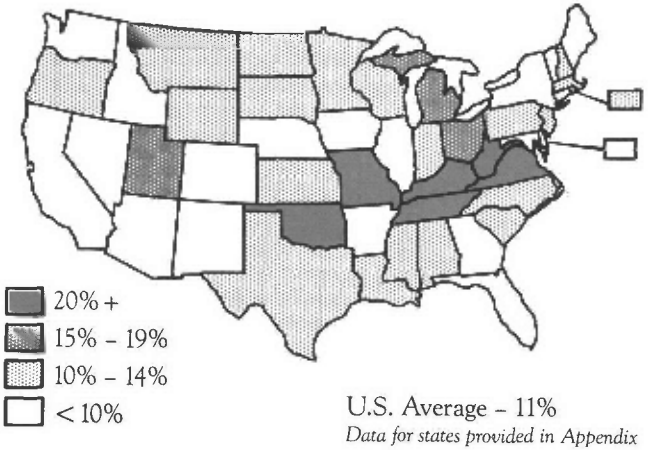
Nationally, small farms contribute the most (at least 1/4 of sales) to the production of tobacco (probably because the allotment system limits acreage), hay (50% of sales in most states east of the Mississippi) and direct sales to consumers through roadside farmer's markets and pick-your-own operations. Together, sales of these commodities make up only about 5 percent of total U.S. agricultural output, but their importance to certain regions cannot be overlooked.

Small Farm Production by Region

From the standpoint of total production, small farms are most important to a half dozen states in the upper South, notably in the Appalachian and Ozark regions. In Virginia, West Virginia, Kentucky, Tennessee, Missouri and Oklahoma they are responsible for at least 20 percent of all agricultural sales, in most cases double the national average for small farm production. Per farm production in these states, however, is generally below the $9,000 small farm average, with the disproportionate number of small operations (averaging 87% of all farms in these states) accounting for their high sales volume. Conversely, small farms are least important to overall agricultural production in Arizona, California, Delaware, Florida and other states where fruits, vegetables, poultry, cotton and other "high-tech," high-value crops are a specialty.

FIGURE 2.1

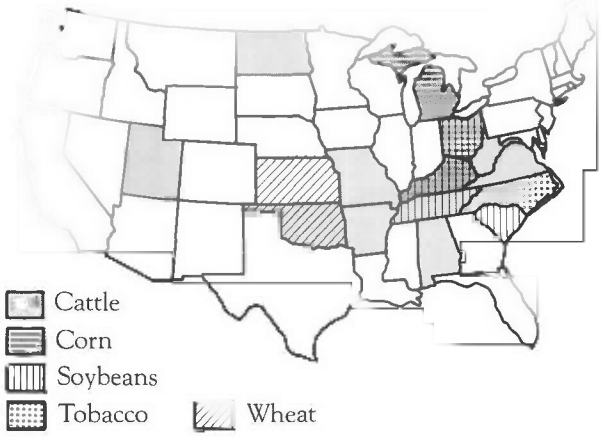
Percent State Agricultural Sales Attributable to Small Farms



Data for states provided in Appendix

FIGURE 2.2

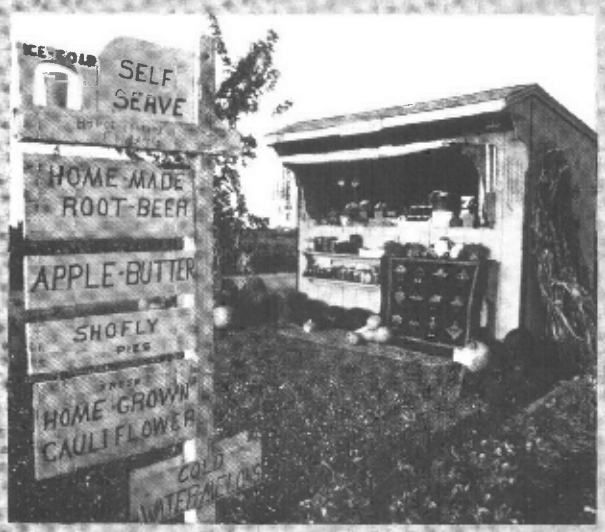
Small Farms as Significant Producers of Major Commodities



Aggregate national production figures also mask the important contribution small farms make to the production of specific commodities in almost half of the United States. In 15 states, small farms produce a significant percentage (at least 20%) of one or more of the state's major commodities.[14] They are above-average producers of a major commodity in another 9 states.[15]

Diversification

Although the paradigm of the family farm is a small operation producing a variety of commodities, for both the table and sale, our analysis of the data suggests that small farms are somewhat *less* diversified than their larger counterparts, as least from the standpoint of what they produce for sale. In most regions, small farm sales are concentrated in one or two commodities, with cattle almost always leading the list.[16] The Northeast, Mid-



Small Farmers' Markets

Roadside farmer's markets are one of the last direct links between an urban America and its agricultural heritage. Their importance—and the contribution of small farms in this respect—probably exceeds our capacity to measure it. Small farms account for $4 in every $10 of direct sales of agricultural products to consumers—over $200 million annually. In 17 states, primarily in the South, small farms account for at least 50 percent of all direct sales; in only 7 states, mostly in the Northeast, do they account for less than one-third. Nevertheless, in 5 Northeastern states—Connecticut, Massachusetts, New Hampshire, New Jersey and Rhode Island—small farmers depend on direct consumer sales for at least 10 percent of their total agricultural sales.

But these figures do not begin to approximate the worth of small farmers' markets to U.S. agriculture. Ultimately, perhaps the best way to look at their value is as the "goodwill" component of the U.S. agriculture industry. In this respect, their importance is almost incalculable.

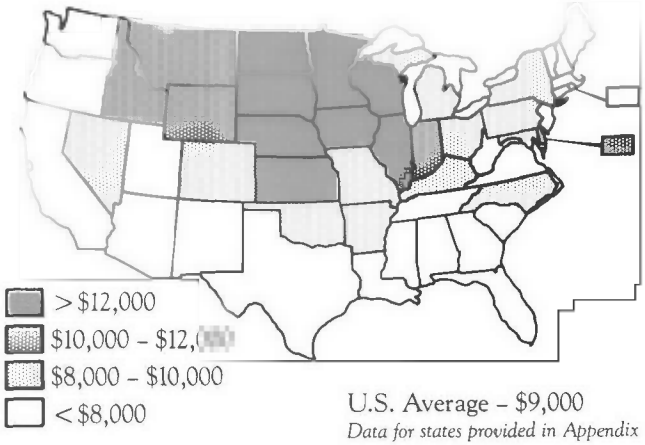
Atlantic and Great Lakes regions are the exception; there, only in the dairy states of Vermont and Wisconsin is more than 50 percent of small farm production concentrated in a couple commodities: as you would expect, cattle and dairy products. The fairly high degree of concentration of production in a few commodities would present more of an economic risk to small farmers if more of them depended on agriculture for their livelihood.

Production Per Farm

While small farms in the South are among the lowest grossing operations along with those in the Northeast, those in the Northern Plains and the Midwest have the highest per farm gross sales. This pattern reflects the fact that there are proportionately more full-time small farmers in the Midwest than anywhere else in the country, and the generally larger farm acreages in this region. What this points to is the significant fact that, in the Heartland, small farmers tend to be just like other producers—only smaller.

FIGURE 2.3

Annual Gross Sales per Small Farm



CHAPTER III - SMALL FARMS AND THE AGRICULTURE INFRASTRUCTURE

Output of food and fiber is only one way to measure the importance of small farms, and a very limited one at that. Another measure is their *consumption* of the inputs to agricultural production. Just as the number of actual farmers in the country (about 2 1/2% of the population) is small compared with all those who work in the food system as a whole (as many as 20%), gross sales of agricultural products by producers represent only a fraction of the overall U.S. agricultural economy. One reason the American farmer can feed 75 others is that he has a "team" of people behind him, who earn their living by producing the things necessary to grow food—everything from combines to bag balm.

This infrastructure tends to be profoundly affected by changes in the fortunes of farmers themselves. For example, the government's PIK program that reduced U.S. corn production by a third in 1983 had a significant, negative effect on the balance sheet of major farm equipment manufacturers and caused many layoffs. Thus, the relationship between the nation's 1.6 million small farms and the producers of agricultural inputs is a key indicator of their importance to the overall farm economy.

This chapter will look at the capital investment and operating expenses of small farms, and the role they play in supporting the infrastructure of American agriculture.

Capital Investment

Nationally, small farms account for almost one-third of the value of the U.S. inventory of farm equipment, 3 times their share of total agricultural production. This statistic may come as a surprise to the manufacturers of the nation's farm equipment, but its importance to them cannot be overlooked.

Although equipment inventory value does not necessarily correspond to current equipment purchases—it is likely, for example, that many small farmers buy used machines and that their machines are generally smaller, lower-priced models—there is little question that small farms are important customers of these manufacturers.

TABLE 3.1

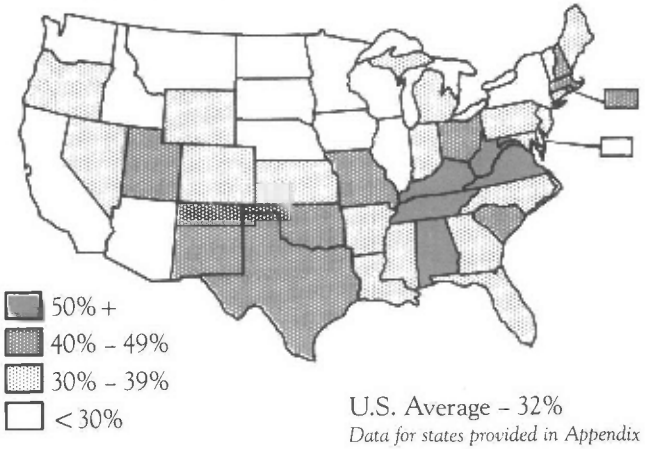
Small Farm Equipment Inventory

	Number (Thousands)	*Percent (All U.S.)*
Trucks (Used on Farm)	1,313	54
Tractors	2,385	53
Combines	249	39
Balers	472	59
Forage Harvesters	108	38

Small farm equipment inventory is, like their sales, unevenly distributed around the country, with 60 percent of total small farm investment found in 14 Midwestern states. Their share of statewide equipment inventory also varies from region to region.

FIGURE 3.1

Percentage of Equipment Inventory Held by Small Farms



Data for states provided in Appendix

The average investment in equipment by small farms is only 1/5 that of their larger counterparts. But their investment per acre farmed is slightly higher than that of large farms, and their ratio of equipment inventory to sales is almost 4 times as great.

TABLE 3.2

Comparative Equipment Inventory Value

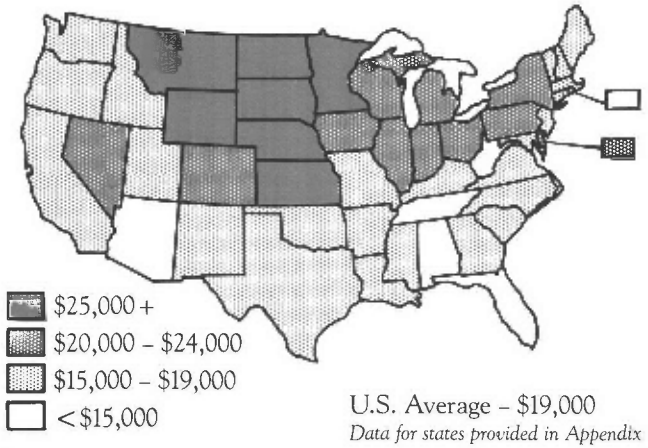
	Small Farms	*Large Farms*
Total ($ Billions)	30.2	63.5
Per Farm ($ Thousands)	19	99
Per Acre	105	98
Per Dollar Sales	2.10	.54

These figures indicate, generally, that small farms are less capital intensive than larger ones and may make less efficient use of capital. Again, however, there are regional variations that mirror the national profile of small farms.

Equipment investment per small farm is highest in the Northern and Western Plains (averaging more than $25,000), reflecting this region's relatively large acreages, even among low-grossing opertions, and machines needed to plant it. Per farm investment is lowest in the South (around $15,000), probably because of the high number of lower-income small farmers here, but also due in part to the predominance of cattle feeding among small farmers, which doesn't require as much equipment as growing crops.[17]

FIGURE 3.2

Equipment Value per Small Farm



Efficiency: Narrow or Broad View?

Small farms average more than $2.00 in equipment inventory per dollar of annual gross sales, while the corresponding figure for large farms is only about 50 cents. (See Figure 3.3 on the next page for regional variations.) This wide difference suggests that small farmers make less efficient use of capital, although it could be partly attributable to their respective mix of commodities produced. (See footnote 13.) But far from being a liability to the nation's farm economy, their relative inefficiency in this respect may be seen in a positive light.[18]

Inefficiency from the producers' standpoint means money in the bank and a measure of *efficiency* for manufacturers of farm equipment. Quite simply, were the nation's small farms to cease production, the market for farm equipment would shrink substantially. The cost

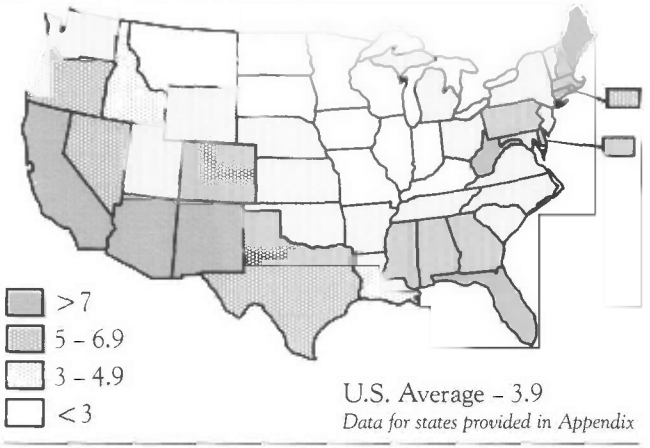
of manufacturing equipment would in all likelihood increase as the manufacturers' fixed cost investment in plant is spread over fewer units, and the higher costs would be passed along primarily to large farm operators.[19]

Indeed, a case can be made that the "inefficiency" of small farmers, in terms of the value of their production inputs vs. sales output, results in a subsidy to their larger counterparts, and thus, in a broader sense, contributes to the *overall* efficiency of the U.S. agricultural economy.

FIGURE 3.3

Comparative Investment in Equipment per Dollar Gross Sales

Ratio of Small Farms to Large Farms



Operating Expenses

Small farms also tend to spend disproportionately more than larger operations on inputs such as seed and fertilizer. But the difference in their operating efficiency using this measurement—on average, small farms spend about 7 percent more than larger operations per dollar of sales—is nowhere near as great as when measured by their capital investment in equipment per dollar sales. (390% more than large farms.)

The collective annual small farm operating expenses of about $11 billion account for 12 percent of the U.S. total,[20] comparable to their share of production. Thus, to producers of the non-capital goods used by farmers, the nation's small farms are not as important as they are to equipment manufacturers. But, still, they command a disproportionate share of the market for most basic inputs to crop production.

TABLE 3.3

Comparative Annual Operating Expenses (Selected)

	Small Farms	*Large Farms*
Total ($ Billions)	11	83
Per Farm ($ Thousands)	6.8	131
Per Acre	38	129
Per Dollar Sales	.76	.71

The operating expenses of small farms can be translated almost directly into sales of the respective production inputs by manufacturers and other vendors (including banks, utilities, and custom operators). In every expense category but labor and those related primarily to dairy and poultry, small farms' share of total U.S. purchases equals or exceeds their 11 percent share of total gross sales of agricultural production. Their disproportionate consumption of these inputs is put in additional perspective when one compares the "mix" of small and large farm expenses.

The fact that large farms, on average, spend a greater percentage of their operating budget on livestock and poultry can be attributed primarily to the way we have defined "small farms." Again, most dairies do not qualify as "small" under our definition because sales greater than $40,000 a year are almost a necessity to justify the minimum capital and labor inputs of this type of farming operation. The same economies of scale appear to apply to poultry raising.

TABLE 3.4

Small Farm Share of U.S. Production Expenses

Expense Item	*Percent Total U.S. Expense For Item*
Seed & Plants	16
Fertilizer	15
Other Chemicals	13
Energy	21
Interest	16
Machine Hire	24
Contract Labor	11
Hired Labor	8
Livestock & Poultry	8
Feeds	14

TABLE 3.5

Comparative Mix of Expense Items

	Percentage of Total Expenses of:	
Expense Items	*Small Farms*	*Large Farms*
Seed & Plants	4.6	3.4
Fertilizer & Chemicals	15.3	6.8
Energy	18.7	10.1
Interest	17.2	12.5
Machine Hire	4.5	2.0
Contract & Hired Labor	7.2	10.9
Livestock & Poultry	12.3	20.2
Feeds	17.2	34.2

But if we omit livestock, poultry and feed costs, small farms still spend a significantly greater percentage of their remaining operating budget than larger operations on fertilizer and chemicals (23 vs. 15 percent) and energy (28 vs. 22 percent); they spend slightly less on seed and plants (6.8 vs. 7.4 percent) and interest expenses (25 vs. 27 percent); and less than half as much on labor (11 vs. 24 percent). The latter can be explained, simply, by the fact that the labor requirements of larger farms usually cannot be met by family members alone.[21]

CHAPTER IV - SMALL FARMS AND THE LAND

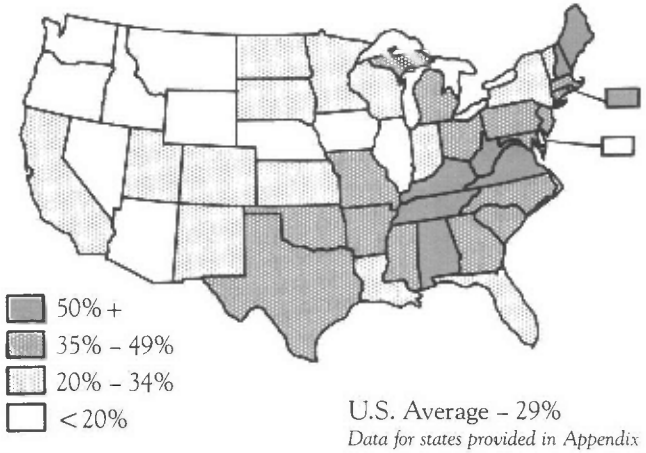
The importance of America's small farms extends to the land their operators hold and use. Farmers grossing $40,000 or less annually own 286 million acres of agricultural land—3 out of every 10 acres in the country. So, how they treat it is a significant national concern to be addressed by our farm policy.

Land Holdings and Value

Patterns of small farm land ownership are not the same in all parts of the country. In some areas, notably New England and the Southeast, small farmers own close to or more than half the farmland, while out West their share drops to 20 percent or less.

FIGURE 4.1

Percentage of Land in Farms Held by Small Farms



U.S. Average - 29%

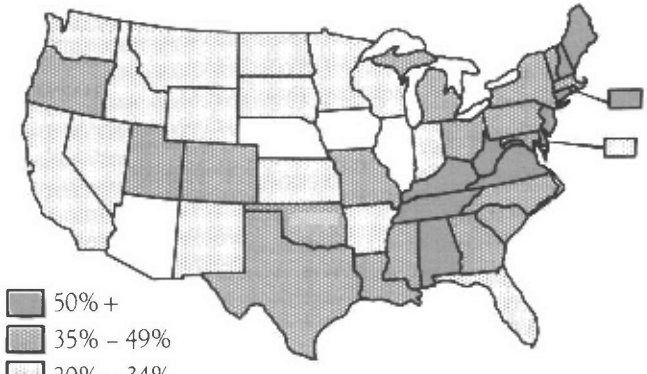
Data for states provided in Appendix

The differences generally reflect the number of small farms in a state (See Figure 1.2), but in some regions they are attributable more to the presence of very large farms and ranches comprising vast acreages of rangeland and cropland. For example, 70 percent of the farms in both California and Pennsylvania gross less than $40,000 a year, but account for 21 and 47 percent of the farmland respectively. There is also a close correlation between the percentage of farms in a state that are small, and the percentage of the total area of the state that is farmland; this seems to indicate that topography limits farm size.

The value of the land and farm buildings on U.S. small farms totals more than $250 billion, close to a third of the value of all farm real estate in the nation—3 times their 11 percent share of agricultural production.[22] Moreover, the per acre value of small farm real estate is on average 10 percent higher than that of large farms.[23] Again, regional variations tend to mirror the number of small farms in each state.

FIGURE 4.2

Small Farm Percentage of Value of Land and Buildings



U.S. Average - 32%

Data for states provided in Appendix

The implications of small farm real estate values are significant for local communities that derive revenue from property taxes. Insofar as real estate values are a proxy for tax assessments, it would appear that small farmers bear a greater tax burden than larger operators. That is, their taxes represent a greater percentage of their farm earnings and they pay more per acre of land they own. Thus, even though they may not be significant producers in a locality, small farms nevertheless

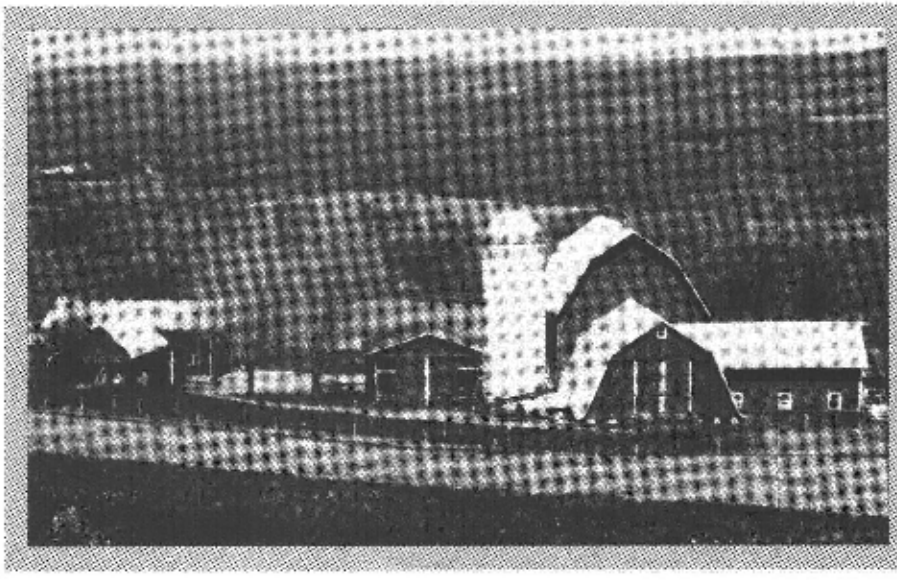
appear to play an important role in keeping taxes low by generating more revenue per unit of land than large farms, while still maintaining farmland as open space that imposes few demands on the community for public services that must be paid for with taxes.

Indeed, the presence of a large number of small farms in a community is likely to make it easier for local government to maintain the commercial farming industry and its agricultural land base. Because, particularly in the more urban states, they do not depend significantly on income from farming (see Chapter I), small farmers generally are not under the same economic pressure to sell land for development as their larger counterparts. And the land they farm, while not used as intensively as that of larger farms, is likely to serve as a "buffer" against urban encroachment that can result in conflicts with commercial agricultural production.

Rented Land

Small farmers rely far less on rented land than larger operators, and lease a greater percentage of the land they own to other farmers.[24] On the whole, they still rent more land than they lease to others, but their "deficit" isn't nearly as great as that of large farmers.

Nationwide, operations grossing less than $40,000 a year rent only 12 percent of the land they farm, compared with 42 percent for large farms, with an even greater disparity in the Corn Belt and lower Mississippi Valley. By contrast, small farmers lease out 11 percent of the land they own, more than double the percentage of large operators. Of all land leased out by farmers, 60 percent is leased by small operators. But, because so much of the nation's farmland is owned by nonfarmers, this represents only 7 percent of all farmland rented by farmers.[25]



The Small Farm Landscape

Often overlooked in a discussion of farmland is the economic value of its scenic qualities. It is, of course, difficult if not impossible to quantify. But one way to approach it is to add up the dollars that tourists spend as they drive around soaking up all that bucolic scenery—especially that represented by small family farms!

Lancaster County, Pennsylvania, where the attraction is a large concentration of picturesque Amish and Mennonite farms, is a case in point. This, the most productive farm county east of the Mississippi, whose farmers gross more than $700 million a year from agricultural sales, also takes in nearly $250 million annually from tourists.

TABLE 4.1

U.S. Farmland Owned and Rented
(Millions of Acres)

	Small Farms	*Large Farms*
Owned		
Farmed	223.3	374.1
Leased Out	28.4	19.5
Rented By	88.7	288.9

Land Use

The nation's small farmers use their land in a less intensive way than larger operators. Nationwide, cropland accounts for just under half of the land in both small and large farms. Of the remaining land in farms, operations grossing under $40,000 tend to have a higher percentage in woodland while larger farms have more pasture and rangeland. This seems to be attributable to the greater number of small farms in the forested eastern part of the country, and to the vast acreages of range held by large ranches in the West.

Only about half of the land in small farms that is capable of growing crops is actually used for that purpose and harvested. By comparison, large operators harvest over 80 percent of their cropland. Accounting for the difference is the use of a greater percentage of cropland by small farmers for pasturing livestock, 31 versus only 8 percent for large farms. But, compared with larger operatiors, small farmers also maintain almost twice as much of their cropland—although it it still a small fraction—in cover crops, legumes and other soil improving uses. This suggests that, overall, the capability of land in small farms may not be as good as that of larger producers.[26]

TABLE 4.2

Comparative Land Use

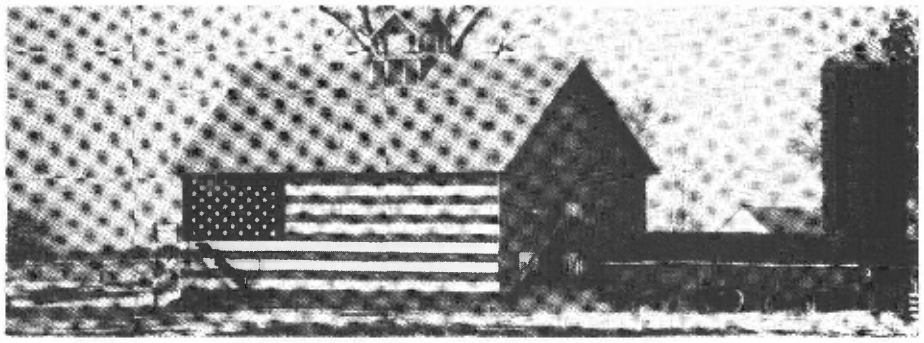
	Small Farms		*Large Farms*	
	*Acres (Millions)**	*Percent***	*Acres (Millions)**	*Percent***
Cropland	127.8	45	316.7	49
Harvested	71.2	25	254.6	40
Pastured	39.7	14	25.2	4
In Cover	2.2	0.8	2.9	0.4
Set-Aside	1.5	0.5	6.7	1.1
Irrigated	4.5	1.2	37.6	5.8
Woodland	47.5	17	31.1	5
Pastured	22.1	8	13.6	2
Range/Pasture	95.8	34	277.4	43
Including cropland & woodland in pasture	157.6	55	316.2	49

**Totals may not add because other categories omitted, e.g., summer fallow, idle land and land on which crops failed.*
***Percent of all land in small and large farms respectively.*

Soil Conservation

The implication of the less intensive use of cropland by small farmers is that they may be contributing proportionately less to soil erosion than larger operations. However, it is also possible that, on the whole, small farmers' cropland is more inherently erodible than that of large farmers, necessitating its maintenance in pasture or cover crops to prevent excessive soil loss.[27]

There are many reasons that suggest the conclusion



that small farmers *must* be better land stewards than their larger counterparts. Small operators are less economically dependent than large farmers on row crops that tend to promote erosion. They farm fewer acres and can devote more attention to caring for it, and so forth.

Although this may be true for part-time small farmers, we would expect those who are full-time operators, owning more acreage and depending on agriculture for a living, to use their land in roughly the same way as farmers grossing over $40,000 per year. But, because of their lower gross sales, these upper-end small farmers may be *less* likely than larger operators to care for their land.

An extensive, scientific survey by AFT of 700 farmers, primarily in the Midwest, tends to confirm this—that, if anything, small farmers need just as much, if not more, encouragement to conserve soil. Computer analysis of that survey, conducted by J. Dixon Esseks of the Center for Governmental Studies at Northern Illinois University, indicated that, in six diverse localities with high erosion rates, small farmers averaged significantly fewer soil conservation practices (terraces, grassed waterways, contour plowing, etc.) on their cropland than their larger counterparts.[28]

TABLE 4.3

Average Number of Soil Conservation Practices Used*

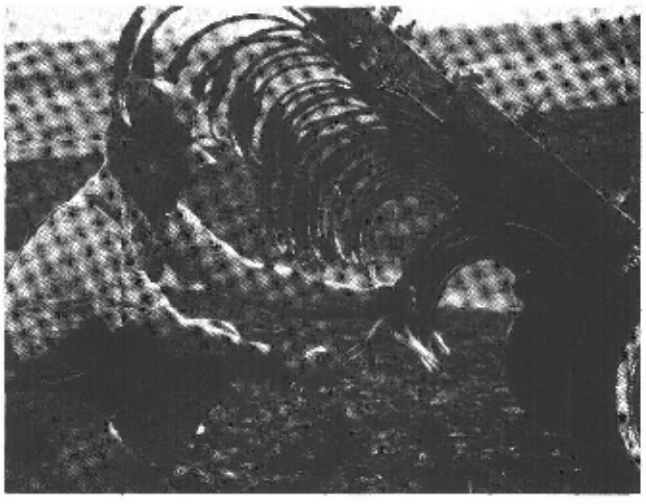
	Structural		*Non-Structural*	
County	*Small Farms*	*Large Farms*	*Small Farms*	*Large Farms*
Grant WI	2.00	2.41	1.56	1.92
Haywood TN	1.23	2.38	1.17	1.72
Jackson IL	1.04	2.11	2.13	3.89
Marion/ Warren IA	1.48	2.32	1.50	2.23
Perry MO	1.67	2.68	1.24	2.79
Washington CO	0.58	1.14	1.68	2.03

**After Esseks 1986.*

Small farms are those grossing up to $50,000 per year in agricultural sales.

Structural practices include terraces, grassed waterways, diversions, water impoundments, contouring, etc.

Non-Structural practices include crop rotations, conservation tillage, no-till, etc.



What conclusions can we draw from our economic portrait of America's small farms? What, ultimately, defines their importance to our nation? And what are the implications for the establishment of U.S. agricultural policy?

We will be the first to acknowledge that our picture is incomplete. Limitations in the available data prevented us from drawing it as precisely as it might have been. Indeed, our study may raise more questions than it answers. Nevertheless, there emerge from the numbers several fundamental conclusions that relate to national policy as it addresses our food production system.

Contemporary U.S. agricultural policy, as it has been handed down from the Depression era, has tried to achieve three goals: (1) promote an abundant, affordable food supply—of course; (2) improve and maintain farmers' income—a legacy from the days when "rural" almost invariably meant "poor"; and (3) conserve resources—a need made clear by the Dust Bowl.

As the agriculture industry has become more concentrated, with large farms producing most of our food, policy has focused increasingly on these producers at the expense, some say, of small farmers. Or, at the very least, it has failed to recognize the distinctions between small and large farms, and their apparently different needs.[29]

Without attempting to identify the specific needs of small farmers—we leave that to others—we believe that the economic importance of small farms makes a strong case for a national agricultural policy that, in attempting to achieve each of its three basic goals, addresses these particular needs and, thus, helps perpetuate the institution of the American small farm.

Food Supply

There is no question that small farm production is only marginally important to the total U.S. food supply. But as we have seen, small farms do make a significant contribution to some basic commodities, particularly when viewed in a regional context.[30] And their role as a "goodwill ambassador" from the farm sector to the general public—a mission they have assumed by growing a great deal of the produce sold directly to consumers from the roadside—should not be lightly dismissed.

More important, however, is the contribution small farms make to the larger U.S. farm sector, including those who manufacture the inputs needed to grow food and all producers, big and small, who must purchase those inputs. Small farm purchases of seed, fertilizer, tractors and other goods and services represent a significant share of the market, in some cases far greater than their share of food production. What has generally been viewed as the "inefficiency" of small farms—a high ratio of inputs to output—could, in fact, be viewed as a subsidy that tends to reduce the costs of production to the large farmers who grow most of our food; a savings that not only makes larger-scale production possible but, ultimately, is passed along to the consuming public. It, therefore, would appear to be a mistake to drive small farmers out of the market through policy neglect.

Farm Income

Few small farmers actually make their living from agriculture anymore. As a group, their net farm income is in the red, with only about 1 in 6 of those with the highest gross sales ($20,000 or more annually) turning a profit. For as many as half of them, farming is a sideline occupation or an avocation that might bring in a few dollars to supplement full-time off-farm wages. As a result, small farmers' average total annual income is slightly above the median for all U.S. families.

One is, thus, forced to conclude that, in general, agricultural policy need not pay too much attention to improving the earnings of small farmers. But their collective, average income disguises the fact that there are definitely some small farmers—as many as 250,000—for whom the second traditional goal of U.S. farm policy, income maintenance, remains very important.

In this respect, two distinct groups of small farmers stand out: full-time producers, primarily in the Midwest, who are practically identical to their larger counterparts in every way except that they simply haven't expanded—they are among the last remnants of the "American family farm;" and minority small farmers in the South, whose income is well below the national median. National farm income-maintenance policy should focus on the specific needs of these two groups of small farmers.

Resource Conservation

The long-term security of the U.S. food supply depends on the conservation of soil and of the land itself. As we have seen, small farmers own nearly 30 percent of all American farmland, and a much higher percentage of that east of the Mississippi, where urban pressure and, consequently, the pressure to sell land out of agricultural use are greatest. Moreover, it appears that many small farmers, particularly full-time operators in the Midwest, do not—and perhaps are financially unable to—take as many measures as their larger counterparts to prevent soil erosion.

The survival and prosperity of small farms should be of special concern to state and local policymakers where the land they control is mixed in with the holdings of larger farms, and serves as an important buffer between encroaching urban settlement and commercial agricultural production. The conversion of a single small farm into a subdivision could spell the demise of a neighboring large farmer who, for example, may no longer be able to apply agricultural chemicals to his land without fear of liability.

Neither should soil conservation policy neglect small farms, since they comprise so much of America's farmland, and may be the least able of our producers to afford conservation. The costs of erosion—including off-site costs such as water pollution control—are just as great whether the soil washes from the land of large or small farmers.

Jefferson Revisited

Although it can no longer be said that small farms are the backbone of the American republic, as in the days of our most famous farmer-president, neither can it be said that they are a mere appendage that serves little or no practical function. As anachronistic as it may seem, small farmers are still the mainstay of many rural communities, especially in the Heartland; despite the trend toward concentration in the agriculture industry, there are few places where small farms comprise *less* than half of all producers. Indeed, without them, many farm "communities," in the truest sense of the word, would cease to exist.

Yet, small farms are more than a social institution that ought to be maintained for humanistic, perhaps sentimental, reasons. Despite the relatively meagre earnings they derive from the land, they are in many ways positive and substantial contributors to the American agriculture industry and to our economy as a whole. Ultimately, the best way to sum up their role may be to say, simply, that they give far more than they take. What better measure of their importance?

If Thomas Jefferson were alive today, he might still validly conclude that small farms represent the kind of enterprise and self-reliance that is at the heart of America.

FOOTNOTES

[1]See, e.g., *A Time To Choose: Summary Report On The Structure of Agriculture*, USDA 1981, at 102.

[2]For purposes of this report, we have defined a "small farm" as one that has $40,000 or less in annual gross sales of agricultural products. There are, of course, many other ways we could have defined them. We chose sales of agricultural products, rather than acreage or some other measurement, for two basic reasons. First, the *U.S. Census of Agriculture*, which we relied on for most of our information, collects and presents data according to sales volume. Second, since our purpose is to examine the economic importance of small farms, it made sense to define them in economic terms.

We chose $40,000 per year in gross agricultural sales as the upper limit of small farms because the aggregate farm income of all farmers grossing less than this figure is negative. (USDA/Economic Research Service, *Economic Indicators of the Farm Sector, Income and Balance Sheet Statistics*, 1983) A case could be made, we acknowledge, for using other cutoff points. Farmers grossing between $20,000 and $40,000 collectively *do* have a positive farm income, but their earnings are marginal, not sufficient to offset the losses of those grossing less than $20,000; and it appears that their needs are more like those of even smaller operators than the larger ones. We similarly rejected $100,000 a year as a cutoff because, although the group of producers grossing between $40,000 and $100,000 includes many of what would be considered "traditional small family farms," our preliminary analysis showed that *they* resembled larger operators more than the small farms. Ultimately, any cutoff is arbitrary, but the line had to be drawn somewhere.

[3]All figures herein, except where otherwise noted, are derived from the *1982 Census of Agriculture*. Where aggregations of state data are used, figures may not always agree precisely with national figures because confidentialty requires that some figures in a small data base not be reported.

It should also be noted by the reader that conditions in the agricultural economy have changed substantially since the data used in this report were collected. Notwithstanding these changes, including a shrinkage in the number of U.S. farms, we believe that the 1982 data still present, for comparative purposes, an accurate picture of small farms.

[4]Commodity Credit Corporation (CCC) loans are advanced to farmers against the value of their current year crop. If the market price of the commodity falls below a government set "target price," the producer may relinquish his crop to the government in exchange for cancellation of the loan. These loans are one of the principal income subsidies to U.S. farmers.

[5]See, e.g., Brooks, N., *Minifarms: Farm Business or Rural Residence?*, USDA/ERS (1985).

[6]In the Northern Plains, particularly the Dakotas, the percentage of full-time small farmers approaches 50%.

[7]In contrast, the average farm income of larger operations was about $37,000. USDA/Economic Research Service, *Economic Indicators of the Farm Sector, Income and Balance Sheet Statistics*, 1983.

[8]Small farms have declined from an estimated 93% of all farms in 1960 to 72% today. Small farm numbers and income for 1960 were estimated for producers grossing less than $12,200 (the equivalent of $40,000 in 1982 adjusted for inflation).

[9]In 1982, only that class of small farms grossing more than $20,000 showed a positive net farm income, comprising approximately 273,000 farms with an average net farm income of $700. *Economic Indicators*, supra. N.B. Because different enumeration techniques were used by the *Census* and ERS, estimates of numbers of farms do not always agree.

[10]Larger small farms were more likely to be affected. A recent study of the farm economy in Wisconsin, for example, estimated that 8 percent of that state's small farms, as we have defined them, had a negative cash flow (from combined farm and off-farm sources) and a debt-to-asset ratio above 40%. Among this group, half grossed at least $20,000 a year from agriculture. Twenty percent of the state's larger operators were in a similarly precarious financial situation. Univ. of Wisconsin-Madison/Cooperative Extension Service, *Financial Status of Wisconsin Farming, 1986.*

[11]By comparison, 78 percent of large farms are still individual or family run, while 7 percent are corporate—many of these are *family*-held corporations—and 15 percent are partnerships. A big difference between large and small corporate farms is in the land they hold. Eighteen percent of the land in large farms is corporate-owned, compared with only 3 percent of the land in small farms.

[12]As Table 1.1 shows, for example, a California grape grower with only 30 acres of vines, or a New Jersey truck farmer with 10 acres apiece in broccoli and blueberries, could exceed the limit. Published *Census* data, however, do not permit us to determine the production of specific commodities by farms of a given acreage; one reason we chose not to define small farms in terms of acreage.

[13]The fact that dairying is far more labor intensive also helps explain why small farmers, most of whom are part-timers, would avoid it. Except for dairy and cattle, the commodity production profiles of large and small farms are remarkably similar. For example, sales of corn account for 11% of all U.S. small farms sales, compared with 10% of large farm sales; soybeans for 11% of small farm, 8% of large farm sales; fruits for 3% of small farm, 4% of large farm sales. For dairy products, the percentages are 6% for small farms, 13% for large. For cattle and calves, 31% for small, 23% for large farms.

[14]We define a major crop as among the top 3 in state gross sales in a state, accounting for at least 10% of total state gross agricultural sales.

[15]That is, their percentage of state gross sales of the commodity, while less than 20%, exceeds the national average for small farm production of the specific commodity. E.g., small farms produce 11% of New Jersey vegetable sales but only 5% of U.S. vegetable sales (Table 2.1). The commodities and states: cattle (Oregon, Vermont, Wisconsin); dairy (Kentucky); corn (Indiana, Maryland, Minnesota); soybeans (Indiana, Missouri); hogs (Missouri); wheat (North Dakota); nursery products (Massachusetts, New Hampshire); vegetables (New Jersey, New Hampshire).

[16]In 16 states, cattle and calves alone account for at least 40% of small farm gross sales.

[17]Arizona and the Pacific coast states are also among those with the lowest equipment investment per small farm. Arizona and Oregon figures can probably be explained by the high percentage (49 and 41 respectively) of small farm sales attributable to cattle. The failure of capital investment by small farms to reflect the significant dependence of small farmers in all these states on fruit growing, normally a capital intensive type of operation, might be explained by their reliance on family labor. In California, especially, where 50% of small farm gross sales are attributable to fruit and nuts, small farmers would appear to rely quite a bit on hand-picking.

Note, too, by comparing Figures 3.1 and 3.2, that small farms' share of total state equipment inventory tends to be lowest where their per farm inventory value is greatest, and vice versa. The more that a state is dominated by larger farms, the more equipment both large *and* small farmers purchase.

[18]This is not to imply that small farms are "economically inefficient," in the strictest sense of the term. Their greater dependence on equipment, proportional to sales, probably represents the entirely rational economic judgement of many part-time small farmers that their time is more valuable if spent on off-farm employment, placing a premium on the mechanization of their farming operations. In other words, it may cost them less to buy more equipment than to spend more time at farm labor.

[19]Consider how much more a Cadillac would cost if General Motors didn't make so many Chevrolets! The effect shouldn't be exaggerated, however. Farm equipment manufacturers would no doubt continue to expand their markets by diversifying, e.g., shifting toward production of lawn and garden tractors.

[20]Figures are *selected* farm production expenses published in the 1982 *Census of Agricuture*.

[21]Nationally, small farm contract and hired labor expenses average only 13% of their capital expenses (estimated by depreciating average equipment value per farm over 5 years). The comparable figure for larger farms is 68%.

[22]Compare Figures 4.1 and 2.1. The ratio of small farm landholdings to gross sales is much greater, approaching 5-to-1 in the Northeast and Pacific states, but generally lower in the Plains states. These figures are from 1982. Since then, Midwestern farmland values have declined precipitously, while those in the Northeast have increased largely because of urban development pressure.

[23]This is probably due in part to the fact that the value of small farm buildings and improvements is less "diluted" by the larger acreages of operations grossing more than $40,000 a year. On average, the value of U.S. small farm real estate in 1982 was $870 per acre, compared with $790 for that held by larger farmers. Small farm real estate values average 14% lower than those of large farms throughout the Southeast and Midwest ($950 vs. $1,100); 29% higher in Southern New England, the Mid-Atlantic and Pacific states ($1,580 vs. $1,230); and 55% higher in the Rockies and Western Plains states ($640 vs. $410).

[24]Here, the terminology can get confusing. We use the term "leased land" to mean land leased *to* others for farming purposes, and the term "rented land" to mean land leased *from* others for farming.

[25]In 7 states (Alabama, Georgia, Kentucky, Missouri, Tennessee, Virginia and Wisconsin) small farms lease out 10% or more of all rented farmland and could be said to represent a significant supply of rented land. But in these states, the small farms themselves generally rent about 30% of the farmland leased by others.

[26]Capability refers to the inherent suitability of land for various agricultural purposes, generally based on soils, terrain and climate. Cropland, for example, is generally level and well-drained, has relatively deep soil and, therefore, is easily cultivated. Woodland and pasture, however, are often more steeply sloped and have thin soil, which will rapidly erode (as will marginal cropland) unless use is limited to growing grass or trees. Rangeland is distinguished from pasture primarily by its aridity and sparse vegetation.

[27]When they expand their operations, farmers tend to buy the best available land. Thus, one would expect that the capability of land in large farms would gradually improve, while that remaining in small farms would be diluted.

[28]*The Conservation Effort of Farmers of Small Operations Compared to the Effort of Larger Operations in Six Sites, 1982* (completed 1986). "Small farms" were defined in this study as those grossing up to $50,000 per year in agricultural sales. Because the sites selected were predominantly commercial farming counties in the Midwest, the findings may not accurately represent most small farmers as we have defined them; those in the Esseks study are more likely to represent the relatively small fraction of small farmers who are full-time operators with gross sales toward the high end of the small farm scale. Using statistical multiple regression analysis, the difference in the use of conservation practices could not be attributed to other possible explanations such as acreage cultivated, age and education of farmers, or technical assistance to operators.

[29]See, e.g., *A Time to Choose: Summary Report on the Structure of Agriculture*, USDA 1981.

[30]For state departments of agriculture, charged with promoting home grown farm products and the health of their industry, small farm production assumes somewhat greater importance.

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APPENDIX: SMALL FARMS AT A GLANCE

STATE	Total Gross Sales 1982 ($ Millions)	Percent Small Farms FIG. 1.2	Percent "Farming" Occupation FIG. 1.1	Percent Gross Sales FIG. 2.1	Annual Sales per Farm ($ Thousands) FIG. 2.3	Percent Equipment Value FIG. 3.1	Equipment Value per Farm ($ Thousands) FIG. 3.2	Equipment to Sales Ratio* FIG. 3.3	Percent Land in Farms FIG. 4.1	Percent Value Land & Buildings FIG. 4.2	Comparative Ranking**
ALABAMA	231	**83**	30	**14**	5.7	**50**	16	**6.4**	**53**	**52**	**8**
ARKANSAS	243	74	38	9	6.5	31	15	4.8	39	34	23
ARIZONA	32	70	33	2	6.2	18	14	**10.7**	10	18	48
CALIFORNIA	432	70	35	3	7.4	22	15	**7.9**	21	24	45
COLORADO	176	68	**46**	6	9.6	30	**23**	**6.9**	26	35	37
CONNECTICUT	19	74	39	7	6.9	37	17	**8.1**	46	**54**	22
DELAWARE	19	56	45	5	10.2	26	21	6.3	25	28	41
FLORIDA	200	78	33	6	7.0	33	12	**8.1**	29	28	31
GEORGIA	257	74	34	9	7.0	37	15	5.7	41	41	21
IOWA	**812**	46	**52**	8	**15.5**	18	**24**	2.5	18	16	46
IDAHO	157	63	44	7	10.1	21	19	3.5	18	23	44
ILLINOIS	**668**	53	42	9	**12.7**	20	**24**	2.5	18	27	43
INDIANA	**557**	69	36	13	10.6	30	20	2.9	29	39	25
KANSAS	**606**	66	**50**	10	**12.5**	32	**25**	4.4	27	30	29
KENTUCKY	**818**	**87**	43	**34**	9.2	**59**	15	2.7	**60**	**54**	**3**
LOUISIANA	144	78	34	10	5.9	32	18	4.1	32	35	24
MASSACHUSETTS	31	75	42	11	7.7	42	16	5.9	**49**	**49**	13
MARYLAND	95	71	41	9	6.3	33	19	4.9	36	39	26
MAINE	31	73	37	8	6.1	38	17	**7.1**	**50**	**51**	18
MICHIGAN	405	76	**39**	**16**	9.0	39	**23**	3.5	42	40	12
MINNESOTA	**695**	57	**50**	12	**13.0**	25	**27**	2.5	28	24	33
MISSOURI	**802**	80	42	**22**	8.9	43	17	2.7	**49**	45	**5**
MISSISSIPPI	199	**82**	33	10	5.7	37	16	5.0	42	38	19
MONTANA	164	60	**56**	11	**11.6**	24	**27**	2.6	17	22	39
N. CAROLINA	455	76	44	13	8.2	39	15	4.3	43	43	16
NORTH DAKOTA	318	52	**72**	**14**	**17.0**	24	**40**	2.0	26	22	32
NEBRASKA	459	48	**63**	7	**15.6**	20	**28**	3.4	18	17	47
NEW HAMPSHIRE	12	80	37	11	5.3	**46**	16	**6.7**	**60**	**63**	**9**
NEW JERSEY	50	78	38	11	7.6	38	18	4.8	39	50	20
NEW MEXICO	73	79	42	9	6.9	**44**	18	**8.4**	21	33	27
NEVADA	16	71	44	8	8.5	31	**23**	5.1	12	23	40
NEW YORK	214	63	40	9	8.1	27	21	3.9	34	35	30
OHIO	**632**	76	38	**19**	9.6	41	21	3.0	42	39	**10**
OKLAHOMA	493	**83**	37	**20**	8.2	**49**	19	4.0	45	47	**6**
OREGON	167	**81**	35	10	6.0	36	16	5.0	19	41	28
PENNSYLVANIA	316	70	40	11	8.1	39	21	5.2	47	42	17
RHODE ISLAND	4	**81**	37	13	6.5	**44**	14	5.5	**63**	**60**	7
S. CAROLINA	131	**83**	37	**14**	6.4	43	16	4.9	47	49	11
SOUTH DAKOTA	324	54	**69**	13	**16.2**	26	**29**	2.3	22	23	36
TENNESSEE	548	**91**	36	**33**	6.7	**61**	14	3.3	**63**	**63**	**2**
TEXAS	**1,071**	**86**	35	12	6.8	**47**	17	**6.4**	35	48	15
UTAH	88	**81**	34	**16**	7.8	**46**	19	4.6	29	48	14
VIRGINIA	317	**85**	40	**20**	7.2	**51**	16	4.2	**57**	**56**	**4**
VERMONT	26	56	41	7	7.4	23	18	3.8	34	38	38
WASHINGTON	166	72	33	6	6.4	23	15	4.9	16	29	42
WISCONSIN	**554**	55	**50**	11	**12.2**	23	22	2.3	30	27	35
WEST VIRGINIA	75	**95**	35	**31**	4.2	**78**	13	**8.3**	**64**	**79**	**1**
WYOMING	65	66	**52**	11	**11.0**	33	**26**	4.1	18	28	34
US	14,370	72	41	11	9.0	32	19	3.9	29	32	NA

**Small farm investment per dollar small farm sales divided by large farm investment per dollar large farm sales. Reflects importance of small farms to agriculture infrastructure.*

***Relative importance of small farms to state, giving equal weight to number of farms, sales, equipment and landholdings.*

Figures in boldface indicate top ten states in each category.

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