



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Reserve
/ Ag

Credit

in Use and Conservation of Agricultural Resources

LIBRARY
EXT SER
NOV 2 1952
DEPT OF AGRICULTURE



United States Department of Agriculture—Federal Extension Service
Agriculture Information Bulletin No. 172

CONTENTS

	Page
Recent changes in farm financing-----	1
The Federal Government's programs for natural resources-----	3
Farmers' investment in conservation and development-----	5
Features of credit needs for resource use and conservation-----	7
Three fields of current credit expansion for resources-----	11
Sources of credit available for conservation and development loans-----	15
Extension activities related to credit for natural resources-----	24
List of references-----	27

5c
Issued October 1957^{1/2}

Cover Photograph: Conservation of water becomes more and more important with improved technology as well as growth of population.

CAL 6762 SCS

Credit in Use and Conservation of Agricultural Resources

by JAMES L. ROBINSON,² Extension Economist,
Federal Extension Service

Credit is one of the more important business tools that farmers use to balance, expand, or intensify the factors of production, land, labor, and capital. Usually it has been employed to finance ownership or fairly immediate use of the natural resources of soil, water, and forests. The demand for credit to finance conservation or longer-term use of these resources is comparatively recent.

Recent Changes in Farm Financing

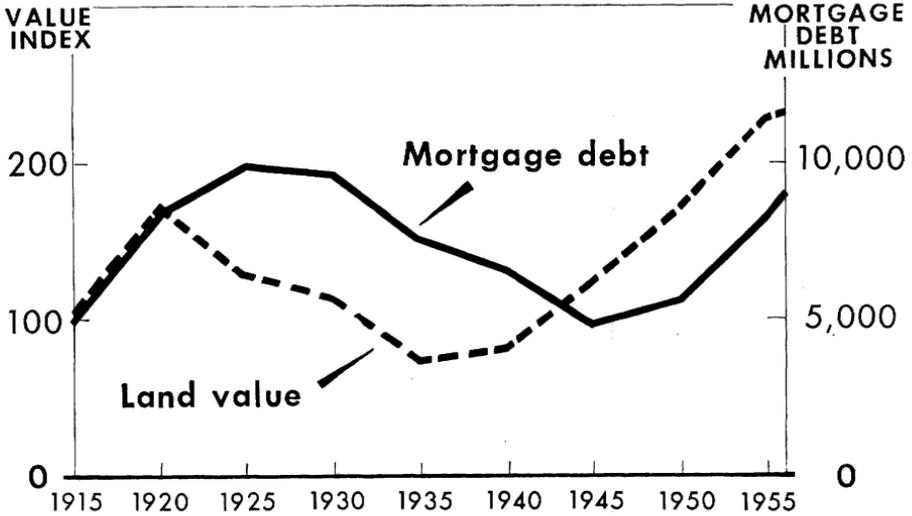
The volume of real estate mortgage credit on farms reached a peak of \$10.7 billion in 1923 and declined to \$4.8 billion in 1946. Since then it has been rising somewhat faster than the increase in land values and on January 1, 1957, was estimated at \$9.9 billion. The 7-year trend of over one-half billion increase per year indicates a probable debt of over \$11 billion by 1960. In 1923 farm mortgage debt represented about 20 percent of the value of

farm land and buildings, in 1946 about 7.5 percent, and in 1957 approximately 9 percent.

The volume of short-term farm credit has likewise fluctuated widely and has largely kept pace with changes in farm production expenses. Principal lending institutions held \$1.5 billion in non-real-estate loans to farmers January 1, 1940, and \$4.5 billion on the same date in 1957. Credit farmers get from trade sources and individuals has also more than doubled, from \$1.5 billion in 1940 to about \$3.5 billion in 1957. The total for January 1, 1957, was estimated at \$8.0 billion.

The total agricultural assets in the farm plant in the United States rose from \$53 billion in 1940 to \$176.8 billion on January 1, 1957. The major portion of this increase came from a rise of \$75.9 billion in real-estate values. However, the relative rise in value of other physical goods and in financial assets was considerably greater than for real

Relation of Farm Mortgage Credit and Index of Values, 1912-14=100*



* AGRICULTURAL FINANCE REVIEW, NOVEMBER 1955 AND MAY 1956, AND CURRENT DEVELOPMENTS IN REAL ESTATE MARKET, MARCH 1956

FIGURE 1.

BN-4218

estate. Most of this change in value of all physical goods and land has resulted from the rise in prices or inflation, but their estimated value in terms of 1940 dollars is up 25 percent. Continued investments in conservation and technological improvements will further raise this real increase in productive assets.

Great institutional advances in the farm credit field have been made during the last 40 years. These have included a reorganization and strengthening of our commercial banking system; the organization and establishment of a cooperative farm credit system; and the establishment of governmental lending institutions to serve individuals with little capital, to meet emergency needs, and to finance extension of electric service and tele-

phones to farm people. The strength of each of these systems gives much assurance that adequate loan funds will be available to meet farmers' needs at all times.

A general improvement in credit services offered farmers has been made during this same period by each of these three systems. Some of the major advances include (a) long-term amortized loans at low interest rates, (b) loans for production with terms fitted to estimated expense and income schedules and with interest frequently charged only on amounts outstanding, (c) supervised loans for families needing guidance, (d) emergency loans after drought, flood, or other disaster, and (e) credit for farmer cooperatives suited to their special needs. The cooperative and the

governmental institutions did the pioneering and established the soundness of the new plans in each of these forward steps.

Intermediate-term loans, as a further improvement in credit services, are now receiving a great deal of attention. This need includes a large part of the credit associated with conservation and development of natural agricultural resources. The Congress in the summer of 1956 authorized the Federal Intermediate Credit Banks to rediscount loans running up to 5 years instead of 3 as in the past. It also extended from 7 to 10 years the period in which the Farmers Home Administration can make additional advances to families in hardship cases. Through research and experimen-

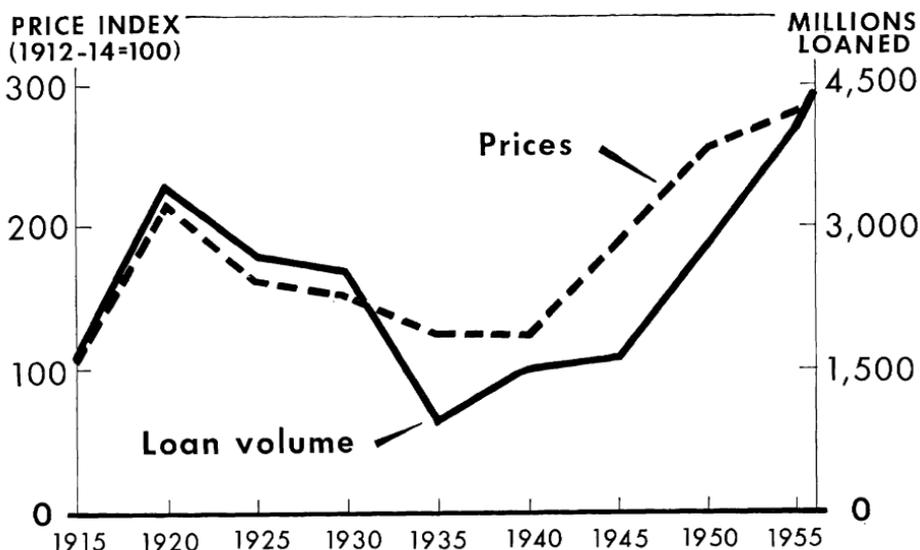
tation, through changes in policy by lenders made effective through regulations, and through legislation where required, distinct progress is being made in providing credit fitted to farmers' needs for these purposes.

The Federal Government's Programs for Natural Resources

The Federal Government conducts major activities in the field of use and conservation of natural resources through three executive departments—Agriculture, Interior, and Army. Probably Atomic Energy Commission will also be given responsibilities in this field.

The Department of Agriculture first undertook natural resource

Relation of Short-Term Loans and Prices Paid by Farmers



DATA FROM AGRICULTURAL FINANCE REVIEW, NOVEMBER 1955 AND MAY 1956

FIGURE 2.

BN-4220

work with forestry about 50 years ago. Then in the 1930's soil conservation became a featured undertaking for two of its agencies. More recently flood prevention and small watershed protection projects are being developed. In 1956 the conservation reserve program under the Soil Bank Act tremendously increased the emphasis in this field. The funds made available through congressional appropriations for the fiscal year 1957 amount to nearly \$900 million. The four most important items are:

1. The Agricultural Conservation Program Service for sharing costs with farmers and ranchers on approved soil and water conservation practices, \$227,500,000.
2. The Commodity Stabilization Service for conservation reserve (soil bank) contracts, \$450,000,000, but actual payments in 1957 will amount to \$107 million.
3. The Soil Conservation Service for soil and water conservation, watershed protection, and flood prevention, \$97,232,000.
4. The Forest Service for forest resource research and management of national forests, \$143.6 million.¹ (Receipts for 1957 are estimated to amount to \$120 million.)

In addition to these major activities the rural development program and the Great Plains program, both

¹ Of this, \$30 million is for payments through States to counties in lieu of taxes and is paid from receipts, as is \$11.4 million spent for forest roads and trails.

coordinated approaches, will require conservation and development expenditures by the Extension Services and other USDA agencies.

The Farmers Home Administration loans for development of water facilities, discussed on page 21, are also an important smaller item. Then Tennessee Valley Authority conducts small programs related to fertilizer, forests, and the like.

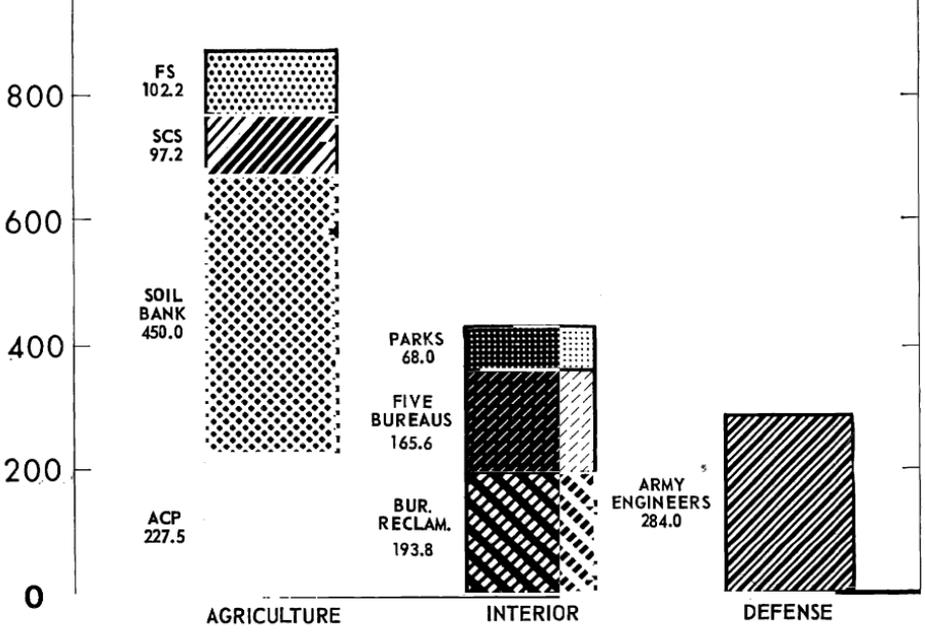
The Department of the Interior also guides several programs that are largely directed to conservation of natural resources. Its major related appropriations, amounting to \$427 million for 1957, are:

1. Bureau of Reclamation program, largely for construction of water conservation facilities, \$193.8 million.
2. Fish and Wildlife Service, \$29 million, plus about \$27 million from sales.
3. Bureau of Land Management, for improvement of range grazing and other resources, \$22.9 million.
4. Bureau of Indian Affairs, for resources management and construction, \$21.4 million, plus \$11.5 million for highways.
5. Geological Survey, \$31.6 million.
6. Bureau of Mines, \$22.2 million.
7. National Park Service, \$38.2 million, plus \$30 million for highways.

The Army Corps of Engineers for flood control on rivers, 1957, \$284 million.

Federal Appropriations for Natural Resource Use and Conservation, 1956-57*

MILLION DOLLARS



* APPROPRIATION ACT, SECOND SESSION, 84TH CONGRESS

BN-4245

FIGURE 3.

Farmers' Investment in Conservation and Development

Farmers are spending considerable sums for a wide variety of conservation and development purposes. These include clearing or other preparation of new land; soil treatments of lime, fertilizer, and other materials; the construction of terraces, grassed waterways, and outlets to prevent erosion; the establishment of pastures, which involves seeding and fencing in addition to soil treatments; the building of dams to establish farm ponds to

provide water storage and grow fish for home use or as a commercial venture; the establishment of irrigation systems, both gravity and sprinkler types, and in many places the sinking of wells to provide the water; the installation or major improvements of drainage systems; and the establishment and improvement of farm forestry tracts and windbreaks. In order to make use of the additional pasture, investments have to be made in livestock, and frequently buildings, both home and farm, have to be improved or new ones built.

The Rural Electrification Administration estimates that rural electric utilities have invested about \$500 per rural consumer and that the average consumer has invested approximately \$2,000 for the purchase of wiring, plumbing facilities, and electrical appliances and equipment. Farm use of electricity is increasing steadily as new uses are adopted.

The 1954 census reported expenditures of nearly \$70 million for over 17 million tons of lime by 521,000 farmers on 10.5 million acres, while around 650,000 farmers applied 2.7 million tons of commercial fertilizer on 17.6 million acres used for pasture (at average prices this means more than \$150 million). Nearly half a million farmers in the Eastern States reported more than 9 million acres of cover crops turned under for green manure. In the West, more than 5 million acres of cropland had been planted to minimize wind erosion of soil. Almost 10 percent of farmers reported they had planted more than 22 million acres of grain and row crops on the contour to help control erosion.

The agricultural conservation program, through local agricultural stabilization and conservation committees, provides a cost-sharing service for farmers on approved conservation practices. This is done either through a direct payment to the farmer for part of the cost on approved practices carried out or by providing materials or services through a contractor. The practices for which payments or services may be obtained vary over the country according to decisions

reached by State and county ASC committees of farmers. The amounts of the payments have depended on congressional appropriations for this purpose, and the funds available have governed the committees in fixing rates on the practices. Generally, ACP cost-sharing covers about half the cost of the conservation practice.

The conservation reserve in the soil bank now provides similar payments up to 80 percent of the cost on establishing approved practices and a fixed annual payment per acre for keeping conservation reserve land out of production. The program contracts run for 3 years where the practice is already established, 5 years where vegetative cover and water storage practices are established, and 10 years where forest trees are set. The contract payment varies somewhat by State and county, averaging about \$10 for 1957 contracts.

Many lenders provide funds for carrying out conservation practices and consider the prospective payments in estimating the farmer's ability to repay. An ACP cost-share may be assigned to a lender to cover costs of the current year's production or the conservation practices. One assignment can be made against part or all of the payments coming from the soil bank on either acreage reserve or conservation reserve contracts.

Local business organizations carry out a large part of this agricultural resource conservation work. These include irrigation and drainage districts and associations, some of them municipal and some

of them mutual. The soil conservation districts likewise fit into this category, and the small watershed organizations will also as they are established. In addition to these associations, farmers have set up a number either on a cooperative basis or on a custom-hire plan to carry out various conservation and development practices, including construction of terraces, watershed dams, and soil treatments and preparation. There are likewise a few for forestry management and timber marketing. The farmer invests in his cooperative, hires custom-work done, or pays district assessments, all calling for money out of his pocket.

Loans to make improvements from which the returns are not received for several years are feared by many farmers. They have had painful experience with the uncertainties of production and the fluctuations of prices. A number of farmers in southwest Iowa gave this as their reason for not undertaking conservation measures recognized as needed. Others, however, are

making extensive use of borrowed funds for farm improvement.

Income tax regulations allow a farmer to include some investments in conservation as well as all ordinary maintenance measures as operating costs in income-tax accounting. The investments allowed are for improvements not recoverable through depreciation allowances. The amount cannot exceed 25 percent of gross income from farming for the year, but balances may be carried forward and charged in succeeding years subject always to the 25-percent limit.

Features of Credit Needs for Resource Use and Conservation

The Kind of Loan the Farmer Needs

A *loan duration period* beyond the usual limit for annual operations, but shorter than the common real-estate mortgage, is the most frequently emphasized requirement for conservation and improvement credit. The credit used has been on three plans: a 5- to 10-year loan

TABLE 1.—*Relation of farm mortgage credit outstanding and index of land values. 1912-14=100*¹

Year	Value index	Mortgage debt
		<i>Millions</i>
1915	103	\$4, 999
1920	173	8, 448
1925	128	9, 913
1930	114	9, 630
1935	74	7, 584
1940	82	6, 586
1945	124	4, 940
1950	174	5, 579
1955	228	8, 175
1956	232	8, 960
1957	247	9, 900

¹ Agricultural Finance Review, February 1957, and Current Developments in Real Estate Market, October 1957.

with real estate as security; a 12-month loan renewable from year to year with chattel security; and a 2- to 7-year contract with various plans for gradual liquidation. This 2- to 7-year term is the area where the arguments for intermediate-term loans have been made. They are desired by many farmers but are not generally available from lenders.

The life of the improvement, the equipment, or the livestock purchased fixes the longest justifiable term for the loan. The borrower as well as the lender wants the repayment completed well within this period. Settling for a "dead horse" is a tough situation from both sides of the deal.

The advances should be budgeted to fit the expected needs as they arise but should include some flexibility to allow for changes in the situation. Often some of these expenditures will involve outlays over a number of years. This special feature calling for additional advances of money before all or even in some cases any of the first loan is repaid applies to a considerable part of this financing. It requires a more complete analysis and forecast than lenders have been accustomed to making in the past.

Flexible repayments should also be budgeted over an appropriate period. The amounts to be paid can sometimes be on a regular annual amortization basis, but more frequently considerable variation may be foreseen in advance. Then yield and price fluctuations often alter repayment capacity even more. Opportunity for repayment

ahead of schedule should be offered and some extension in time be available when difficulties arise.

Dividing the loans between long-term mortgages and intermediate-term credit is often necessary and even more frequently desirable when these resource developments involve major outlays. Too heavy debt secured by chattels restricts the freedom of the operator in obtaining annual production funds. Sole dependence on long-term real-estate loans may end with the improvements exhausted and part or even all of the debt unpaid. A proper balance between the two is both easier and safer to handle.

Integrating the loans for conservation and improvement undertakings with other borrowings frequently offers advantages. The loans obtained will often be in addition to other credit used. This financing of natural resources investment, in fact, is not usually done as a distinctly separate deal in itself. It becomes a part of the long-term operating plan for the farm. It should involve such integration in the long- and the short- and the intermediate-term credit fields.

The employment of men trained in agriculture has improved the service provided by many commercial banks, cooperative credit associations, and insurance companies making agricultural loans. Making conservation loans, even more than loans customary in the past, calls for a lending personnel familiar with the local situation, the uses to be made of the funds, and technical changes affecting farm-

TABLE 2.—*Relation of short-term credit and index of prices paid by farmers. 1912-14=100*¹

Year	Index prices paid	Non-real-estate loans, Jan. 1
1910	97	
1915	105	1,605
1920	214	3,455
1925	164	2,713
1930	151	2,546
1935	124	947
1940	124	1,504
1945	190	1,621
1950	256	2,838
1955	281	4,002
1956	286 ²	4,420
1957		4,470

¹ Agricultural Finance Review, February 1957 and Supplement, October 1957.

² Agricultural Situation, February 1957.

ing. There are perhaps 2,000 men agriculturally trained now working with lending institutions, and the number is growing.

Lenders Want More Information

Creditors who make loans to farmers are hard put to keep up with the rapidly evolving technology of agriculture. Often the desired information has not been published in a form that enables them to analyze the repayment capacity generated by a loan to carry out a recommended practice.

They need more definite information about the costs and returns on conservation and development expenditures and the timing of both. They want input-output data on materials, practices, and structures. They ask that these data be specific by areas and soil types. This need applies to water and wind erosion control, to pasture and forest establishment, to drainage and irrigation. Lenders want to know the effects on income and on land

values. They like to be informed of the effects on extent and probabilities of risk.

A number of States have developed summaries of much of this type of information for their various types of farming areas for use in farm and home development work and other activities calling for budgeting. Some lenders like to have copies of such material.

Summaries of Case or Group Studies

A Soil Conservation Service survey of 984 farms with 83.1 percent of needed conservation work done showed incomes in 1945 of \$7,332 per farm and \$28.30 per acre, while 888 farms with 43 percent of needed work done had incomes of \$5,959 per farm and \$23.40 per acre.

A Wisconsin farm in the SCS program from 1938 to 1946 made small cuts in crops and increases in pasture, and carried out contouring, liming, fertilizing, and longer rotations. The corn yields during that period were raised from 48 to 71



DEL. 10324 SCS

FIGURE 4.—Portable equipment makes irrigation practical in the East.

bushels per acre, silage from 7 to 9.6 tons, oats from 42 to 56 bushels. Total feed from both pasture and crops was increased from 172,158 pounds of digestible nutrients to 235,895. Sales of butterfat were increased from 4,386 pounds in 1938 to an average of 6,050 pounds for 1944-46 and hogs raised from 3,120 pounds to 9,607 pounds.

The University of Arkansas has conducted special research on *supplementary irrigation*, beginning in 1950. Through 1954 the results

show, except for unusual conditions, that irrigation increases the yield of all crops tested. Over the 5 years the increase for cotton ranged from 17 to 86 percent and averaged 43 percent. Corn was increased from a 20-bushel yield to 75 bushels in 1953 and raised from a 0 yield to 65 bushels in 1954, a bad drought year. Sorghum for silage for the year reported was raised from 6 tons to 25 tons per acre, an increase of 19 tons. Equal or even more striking results were obtained

by irrigating snap beans. Strawberry yield for the 2 years 1953 and 1954 was raised from an average of 137 crates without irrigation to 175.9 crates per acre.

In New England a selection of 241 dairymen was carefully made to get a representative cross section. The operators were given expert assistance in replanning their operations after studying the alternatives available to them. Five- or ten-year plans were developed. On the average these dairymen expected to use \$4,300 of borrowed funds to effect the improvements in addition to what could be anticipated out of income. Three years later reports were obtained from 181 of these (moves, sales, and deaths had taken out 60 farms). The average net incomes were up more than \$1,000, and the production had been increased 32 percent.

Three Fields of Current Credit Expansion for Resources

Soil Conservation and Improvement

Financing the needed investments to conserve and improve our soils is receiving more attention from farmers, research and educational institutions, and agricultural lenders. Perhaps the unusual feature about many soil conservation programs is that the farmer may not increase, in fact may decrease, his net cash income for a few years when he starts these improvements. Over much of the country, but especially in the Great Plains

and the cotton areas, a reduction in cash crops and a shift to grass and livestock form the basis for preventing wind and water erosion.

Soil conservation plans may call for constructing terrace outlets and waterways, and for making basic applications of lime and fertilizer as well as for following other recognized-practices like stripcropping and planting and fencing on the contour, and the even more typical establishment or improvement of pastures. Another important construction job is building dams for erosion control, for storage of water for a livestock supply, for fish, and for supplementary irrigation.

The farmer may get help in making sound decisions on what ought to be done on his particular farm. He can obtain planning assistance from extension workers and Farmers Home Administration supervisors, from SCS capability maps, from farm planners working through soil conservation districts, from soil-testing services, in vocational evening classes, and from trained men in commercial firms. Recommendations from one or more of these services are excellent support for the loan application with most lenders. Sometimes creditors like a copy of one or more of these papers to put in the borrower's loan file.

Conservation loans are arranged on various plans and terms. A real-estate mortgage, running up to 20 years, is justified for both the borrower and the lender when expenditures become heavy. When debts are small as compared with the

farmer's net worth, such loans are often made on a chattel security basis. These chattel notes may be written for 12 months and renewed in part, or they may be set up for payments over 2 to 5 years in the future with PCA's and up to 7 years with FHA. Usually for these longer periods several installments are planned.

Supplementary Irrigation

Supplementary irrigation in the relatively humid areas of the eastern part of the country is being developed fairly rapidly. There were in 1955 more than one-half million acres of irrigated land in the 25 States east of the Mississippi River and north of Florida. The number of farmers in this area reporting irrigation increased more than three times from 1950 to 1954. This expansion has been made possible by the development of lightweight movable pipe and connections for sprinkler application of water. The increase in crop yields and the insurance against loss from rather frequent droughts during the crop season are the incentive. Credit is being used rather generally both

for installation and for operating expenses.

Installation costs are high and vary widely, usually running from \$50 to \$150 per acre. The cost often runs much higher for small acreages. Usually a down payment of one-third is expected on equipment. The time period may be 1 to 8 years, but 3 to 5 is more common. Sometimes shorter term loans are secured only by chattel mortgages, but often a real-estate mortgage is also required if the term is for more than 2 years. When no real-estate mortgage is given, lenders often want recourse endorsement by the dealer selling the equipment.

Operating expenses for irrigated crops are usually much higher than for nonirrigated crops. The quantities of fertilizer, various supplies, and labor used are greater, in addition to the costs, labor, and other items for water application. These additional annual costs usually run \$20 to \$40 per acre and sometimes even more. Normally, however, these costs when handled through credit are on an annual production basis, the loan being for 1 year or less. As with other production credit, the repayment is timed to fit the receipt of income.

TABLE 3.—*Investment in humid area irrigation installations*¹
(*Sample survey data in six Eastern States*)

Item	Investment cost per farm	Investment cost per acre equipped to irrigate	Investment cost per acre irrigated in 1955
Developing sources of water.....	\$1, 496	\$24	\$39
Purchase of equipment.....	5, 887	95	155
Total cost of installation.....	7, 383	119	194

¹Irrigation in Humid Areas, I and II. Elco L. Greenshields. Univ. Va. News Letter, June 1 and 15, 1956.

Special determinations have to be made by both lender and borrower before undertaking supplementary irrigation. These include:

1. Assured right to use the water.

The legal framework is not well established in most Eastern States.

2. An adequate supply of water.

A running stream with flow of 10 to 15 gallons per minute for each acre to be irrigated, or a storage pond with 1½ acre-feet per acre irrigated, or a comparable supply from deep wells is required.

3. Type of soil and contour of land adapted to application of irrigation water by proposed equipment.

4. Crops to be produced bringing high enough return to liquidate the investment in a reasonably short time.

5. Management that knows or can be depended upon to learn quickly the highly technical knowledge and skills required to do irrigation farming.

6. Competent engineering advice in making these determinations, in selecting equipment that fits the need, and in making the installation.

Most careful borrowers as well as experienced lenders depend largely on a reasonably detailed budget comparing the expected costs and returns with what is customary under previous plans of operation.

Forests and Woodlands

Forests are the natural resource whose rapid depletion first aroused

the concern of the American people. Three attacks on the problems have greatly improved the situation: (a) Development of national forests, (b) ownership and development of large forest areas by companies dealing in paper, lumber, and other wood products, (c) State and Federal aid to private owners for fire protection, forest management assistance, and establishment of nurseries, and (d) better care of farm forests. Farmers and other small holders still own about 60 percent of the wooded area of the country.

The national forests are financed by the Federal budget. The forestry industries handle much of their forest investment through capital and reserve accounts of the big companies. These growing corporations can obtain funds also on favorable terms from life insurance companies, large city banks, and other sources. Farm forest owners, however, have been inadequately served in the past, but now more of them are able to get loans on their timber.

Costs of timber production include fire protection, theft prevention, interest on investment, local property taxes, timber stand improvement, and management expenses. Cost of seeding and planting, required by Federal income tax regulations to be capitalized, must also be considered. Some of these costs mean out-of-pocket spending every year, regardless of whether any sales have been made. Over a period of years they can amount to a considerable sum on even farm woodland tracts.

The major need for credit in farm forestry is to enable the owner



FIGURE 5.—Planting pines on the Coastal Plain.

465203 FS

to hold the tract of timber until it reaches the appropriate stage of maturity for harvest. This harvest may be one or, more often, successive cuttings as the growth reaches a size for pulp, poles, and lumber. Selective cuttings often cover costs during much of the development period, but the major initial investment may not be recovered for a number of years, running from 15 to 40 or more. This, of course, means long-term loans, except for stands nearing a harvest period.

Normally we think of a forest loan as being for the acquirement, establishment, or improvement of the forest tract. It is just as valid, however, in connection with the settlement of estates including inheritance taxes or to meet unusual needs of the owner or his family. Premature sale means a financial

loss to the farm owner, and as it almost always means immediate cutting it usually also sacrifices future production and so is an economic loss to society.

Cruising the tract of timber to learn the quantity and quality present is usually necessary when the farmer wants a loan on his woodland. Either he will have it done or the lender will in appraising the property. The long-term lender also wants an estimate of the expected annual growth or production made by a competent forester.

The repayment of the loan, if the major part is to come from a few special sales of forest products, does not fit into an annual amortization scheme. In fact, straight forestry loans more often are liquidated by a lump-sum payment of

obligations built up through advances made over a term of years. On many farms, however, timber tracts are one of the farm enterprises and repayment is integrated with the financing of the entire business.

Another need for forest credit is associated with the cutting and sale of the wood products. Where the farmer wants to handle this himself he may need some working capital to pay the costs of logging and delivery to the mill. Usually, however, it is the sawmill operator who obtains this type of credit to pay his operating costs, settle for the logs, and carry his inventory during the curing period. When he is a member of a cooperative timber firm, however, the farmer has an indirect concern with the financing of the harvesting and marketing of his woodlot products.

Sources of Credit Available for Conservation and Development Loans

Commercial, cooperative, and governmental sources of credit are all giving increased attention to financing natural resources and are making more loans in this field. For each group there has been a legislative clarification of authority for such lending as well as much discussion of the problems involved. Each has made a gradual increase in the volume of loans for conservation and development.

Loans to purchasers of farms where improvements have already been made, and credit extended by dealers to purchasers of irrigation

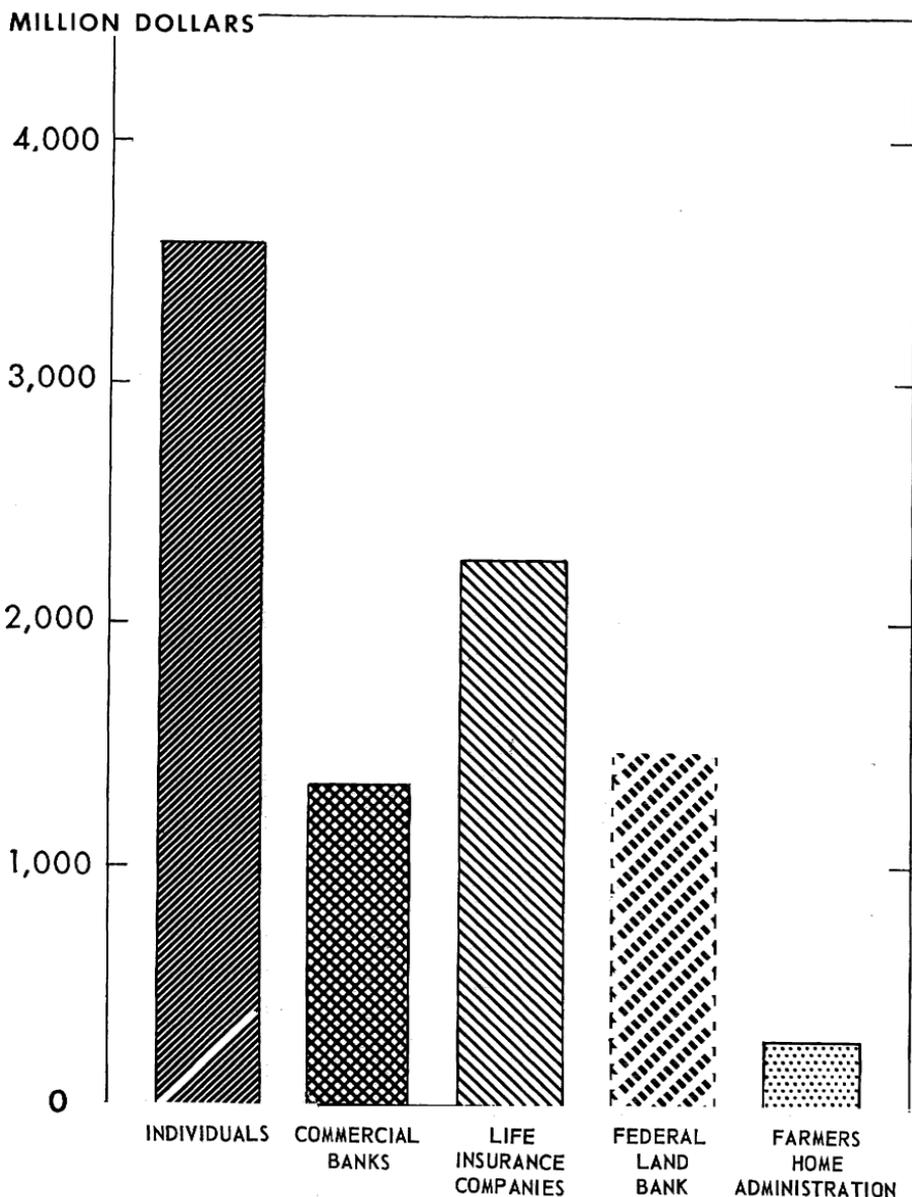
and earth moving equipment, fencing, seed, and fertilizer also help to finance improvements in conservation and development.

Commercial Lenders

The commercial banks, national and State, are providing a large portion of the loans being made for conservation as well as established use of our natural agricultural resources. More than 12,300, or 93 percent, of the insured commercial banks are making one or more types of agricultural loans. The services they are rendering vary somewhat between areas, but much more between individual banks. Their interest in these natural resources needs has been increased through the programs of the American and State bankers associations and the district Federal Reserve banks. All these have been working in close cooperation with the extension services in the agricultural colleges and the various agencies of the United States Department of Agriculture active in this field, including the soil conservation districts.

The Board of Governors of the Federal Reserve System recently distributed a letter which stated in part that "no Federal law or regulation prevents commercial banks from extending credit for agricultural purposes on an intermediate-term basis, and such loans are not to be considered as undesirable" merely because of their term. The Federal Reserve Act of 1953 authorized national banks to make loans on forest tracts up to 40 percent of the value of economically marketable timber, subject to re-

Farm Mortgage Loans Outstanding by Lender Group, January 1, 1956



BN-4219

FIGURE 6.—It may surprise you, but banks and insurance companies are not the most important sources of farm mortgage funds. Individuals are. Individuals held about \$3½ billion worth of farm mortgages in 1956. This about equals the total held by banks and insurance companies combined.

strictions similar to those applicable on real-estate loans made by them. Comments from some economists connected with the district Federal Reserve banks point up the present situation.

"Within the last decade bankers' associations in each of our district States have participated in one or more agricultural credit clinics in which they studied the financing of improvement practices such as liming, fertilizing, irrigation, farm ponds, drainage, and forestry development. Bankers now freely discuss farm loan requirements which necessitate 2- to 5-year loans either on a renewal basis or on a stated intermediate-term basis. Many bankers now realize that sound investments sometimes require an increase in, rather than a repayment of, loan volume for the second year." (L. E. Kreider, St. Louis Federal Reserve Bank.)

"Bankers do not generally extend credit specifically for soil conservation practices, but they do loan for intermediate capital purposes for terms beyond 3 years. The principal use of such funds has been for purchasing tractors, trucks, automobiles, machinery, and barn equipment. Some have loaned money for remodeling milking parlors or dairy barns, or building silos. Others have financed pasture developments and the building of fences." (Arthur Kantner, Atlanta Federal Reserve Bank.)

"A considerable amount of bank credit is extended to farmers to finance their purchases of lime and fertilizer and expenditure for irrigation and drainage. The amount

of credit for the first two has grown rapidly in recent years. One-fourth of our district member banks received requests to finance some type of water structure in 1954. These banks made seven loans each on the average for \$1,009. Three-fifths were to improve the supply and utilization of water at the farmstead, one-third for field structures to aid soil conservation and water disposal, and less than one-tenth for supplementary irrigation." (Ernest Baughman, Chicago Federal Reserve Bank.)

"There is considerable variation in the methods used for financing soil-improvement practices and irrigation systems. One bank in our district will finance irrigation systems by extending credit up to 5 years and using only the system itself as security for the loan. Other banks prefer to use real estate as security for loans with maturity of more than 2 years. Some bankers not familiar with irrigation just do not finance such systems. I believe a majority of our banks will finance either soil-improvement practices or irrigation and drainage systems." (Raymond J. Doll, Kansas City Federal Reserve Bank.)

Life-insurance companies hold a larger volume of farm real-estate mortgages than any other type of lending institution. Only individuals hold more than these companies. In the number of new loans made, however, insurance companies are surpassed by commercial banks and Federal land banks as well as individuals. The insurance companies are selective

in their lending, making loans only in the better farming areas and on the good farms. They make loans for about every need of farm owners, including various kinds of improvements.

The Equitable Life Assurance and the Travelers Life Insurance companies are making special forest loans. The first has \$6 million (1955) out and the latter \$12 to \$14 million in the South and Pacific Northwest. The volume is developing rather slowly. Loans from \$25,000 up are made on well-managed forestry tracts, usually for 25- to 30-year periods at 5 percent. Loans are made up to 50 percent of appraisal value (one-third of market). Smaller loans (\$2,500 minimum) are made to farmers with forest lands included in collateral.

Cooperative Lenders

The cooperative institutions under the supervision of the Farm Credit Administration have a special responsibility to serve farmers' credit needs in all fields. Nearly 1,060 national farm loan associations and 497 production credit associations provide long- and short-term loans to farmers

through about 1,700 separate or associated credit offices. To enable these institutions to provide loans on terms suited to farmers' conservation development and adjustment needs the FCA has made special research studies. The analyses of these have been published and are available to Extension and other educational agencies.

Many production credit associations are now writing loans on an intermediate-term basis to supplement and expand the service they have previously provided farmers by annual renewal of part of the capital portions of their loan. The 12 Federal Intermediate Credit Banks are also rediscounting 2- to 5-year loans to make the needed funds available. Over the years farmers generally have borrowed money for lime and fertilizer as part of their regular operating loans.

Surveys of selected production credit associations made as early as 1939-40 on purposes of loans showed in every association some funds going for real-estate improvements and a much larger amount being advanced for breeding livestock associated with pasture improvements. Since then several

TABLE 4.—*Farm mortgage debt, January 1.¹ Outstanding in millions.*

Lender	1950	1955	1956
Federal land bank and FFMC ²	964	1, 279	1, 480
Farmers Home Administration.....	188	271	278
Life insurance companies.....	1, 172	2, 051	2, 269
Commercial and savings banks.....	937	1, 210	1, 346
Individuals and others.....	2, 315	3, 362	3, 586
Total.....	5, 576	8, 173	8, 959

¹ Agricultural Finance Review, February 1957, and earlier. (Could be carried back to 1915 for some groups.)

² The Federal Farm Mortgage Corporation sold the last of its loans to the Federal land banks on June 30, 1955.

different plans for financing the shift to bulk handling of milk have been developed by individual PCA's.

The 12 Federal land banks are now providing a considerable amount of credit for farm and home improvement. A sample of the last 1,200 loans closed by June 15, 1955, showed 11.7 percent of the loans included amounts for land improvement, and 25.6 percent had money for improvements of buildings. These sums amounted to 14 percent and 22 percent respectively of the new money (for uses other than paying off balances on old FLB loans) obtained by the borrowers. In comparison with earlier years, beginning in 1948 these percentages showed increases for improvement of land and decreases for improvements of buildings. The Federal Land Bank of Louisville offers a "farm improvement loan" which includes a budget plan for advancing funds.

In 1954 a questionnaire survey of 139 production credit associations and 160 national farm loan associations was made in 10 Southern States. The conclusions were that about 45 percent of the farmers in the South are making substantial shifts and adjustments in their operations. An estimated 76 percent of the farmers who were making these adjustments used credit to help finance such changes. An average of 31 percent of the number of loans made by production credit associations and 47 percent of the number of loans made through the national farm loan associations by the Federal land

banks included funds to finance farming shifts and adjustments.

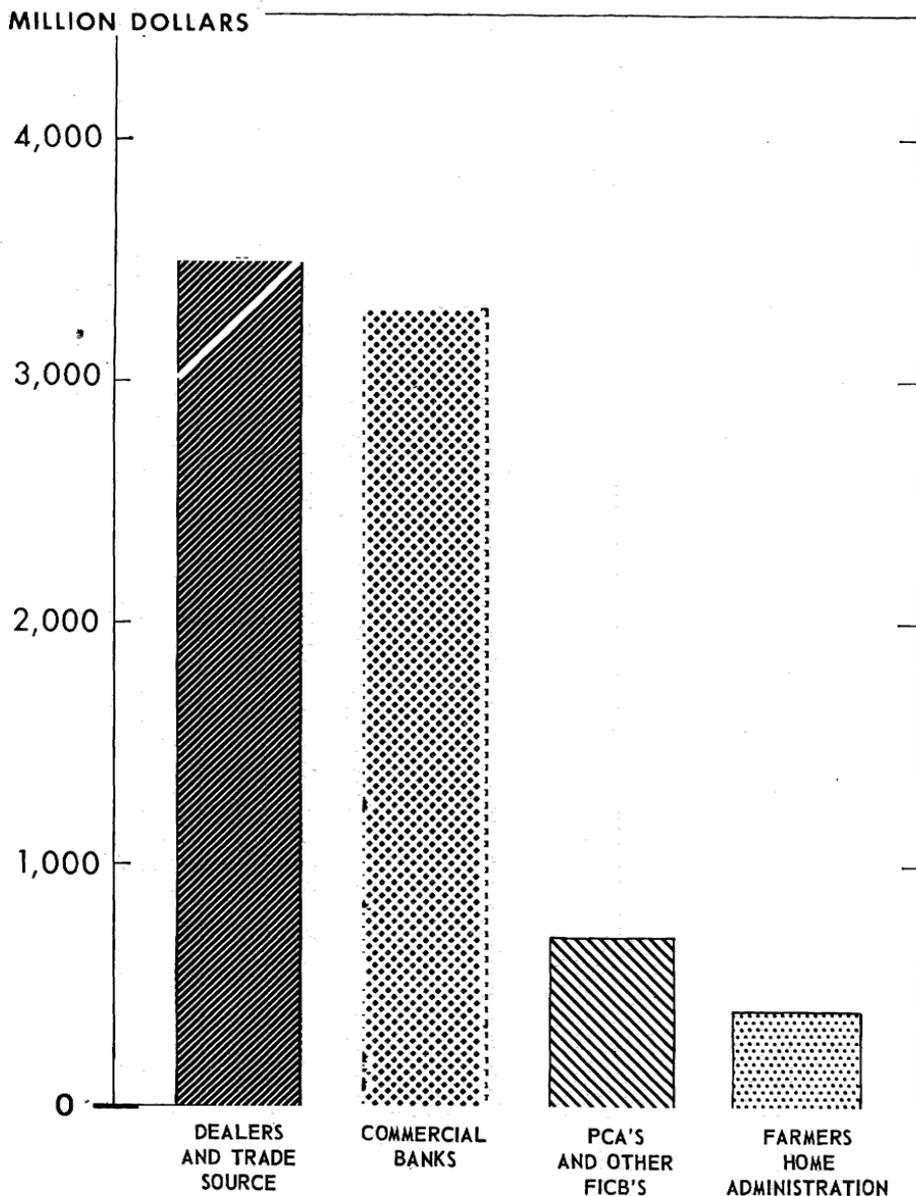
The Federal Land Banks of Columbia and New Orleans for several years have been making loans on forestry tracts. The original amounts of outstanding Federal land bank loans on timber tracts on March 31, 1955, were \$5,179,000 by Columbia and \$1,026,000 by New Orleans. Raising loan limits in the 1955 Farm Credit Act to \$200,000 will enable the land banks to expand considerably their services to forestry owners. All land banks are including forestry income as one basis for regular loans.

The 13 Banks for Cooperatives are making loans to business organizations that provide services related to natural resources where these firms can qualify as farmer cooperatives. Mutual irrigation companies, cooperative oil refineries, and farmer-owned fertilizer plants are the most important of these. Milk-marketing cooperatives have borrowed to help their members make the shift to bulk handling of milk.

Government Loans

The Department of Agriculture includes three agencies providing credit for farmers: Commodity Credit Corporation, Farmers Home Administration, and Rural Electrification Administration. The CCC loans on harvested crops do not relate directly to use or conservation of natural resources, but indirectly they are likely to encourage improvements. The Farmers Home Administration both makes and insures loans for use and

Non-Real-Estate Loans to Farmers Outstanding by Lender Groups, January 1, 1956



BN - 4221

FIGURE 7.—Private, commercial groups outweigh Government sources by about 20 to 1 in providing funds for short-term operating loans for buildings, livestock feeding, and similar purposes.

conservation of soil, water, and woodlands.

REA loans are currently helping the agency's electric borrowers to obtain more power and to make extensive system improvements. The availability of more power and the improvements permit the rural systems to serve larger rural loads, including irrigation loads. REA is also making loans to the electric cooperatives for relending to consumers for the purchase of electrical equipment. These loans especially benefit farmers who are making a conversion from grain to livestock farming by supplying credit to buy and install stock water systems and livestock feed and forage processing equipment. The loans are also used to help farmers purchase electric irrigation pumping equipment.

The FHA lending program, including both farm ownership and operating loans, provides funds for many conservation purposes as well as farm and home improvements. In fact, farm improvements have been a notable feature of the ownership loan program. Likewise, the 2- to 7-year period available on operating loans has been a really pioneering effort in the intermediate-term credit field. These loans, however, have been used primarily for buying machinery, livestock, and other operating capital.

The FHA makes or insures loans only to farmers unable to obtain adequate credit from private or cooperative sources. It provides these loans normally on a supervised basis through 1,500 county offices. The FHA serves what are

now or can be developed into primarily family-type farms giving full-time employment to the operator, but also makes operating and development loans to established part-time farmers with dependable outside income. Initial operating loans ordinarily are not made for more than \$10,000 or for more than 7 years. During this time, however, the amount of total indebtedness may be increased to not more than \$20,000.

The Water Facilities Act of 1937 was amended in 1954 to extend the water facilities program to the entire Nation. Previously the act limited this Farmers Home Administration program to the 17 Western States and authorized only loans for water facilities. The new soil and water conservation loans encourage and facilitate the improvement, protection, and proper use of farmland by providing adequate financing for soil conservation; water development, conservation, and use; forestation; drainage of farmland; the establishment and improvement of permanent pasture; and other related measures.

Applications for soil and water conservation loans may be filed at county offices of the Farmers Home Administration. Applications are accepted from individual farmers and from nonprofit incorporated farmers' associations, such as mutual water companies, irrigation or drainage districts, and soil conservation districts. Eligibility regulations require that all applicants be unable to obtain the credit they need from private or cooperative credit sources on terms they can

meet. In addition, the individual applicant must be a citizen and a farm owner or operator, with necessary training and experience to carry on a successful farming operation.

After loans became available on September 17, 1954, through October 31, 1956, *5,950 individual loans were made, totaling \$28,365,000* and 72 association or group loans were made, totaling \$3,080,000. Most of the demand has been for loans to install water facilities, and most of the money has been advanced by private lenders and insured by the FHA. Improvements were made on 400,000 acres of land. On loans closed on or after January 1, 1956, the lender can sell the insured loan to the Government after holding it for only 5 years instead of 10 as under previous regulations. The mortgage is written to the Government, and the lender needs only to hold the note.

The Department of the Interior provides credit for agricultural resources through its Bureau of Reclamation and its Bureau of Indian Affairs.

The Bureau of Reclamation has constructed facilities which are now supplying irrigation water to more than 7 million acres of land in the 17 Western States. Funds for this construction are appropriated by the Congress and are, for the most part, reimbursable.

Those costs allocated to irrigation are repaid without interest. Irrigation districts contract with the Government for the repayment of these funds over an extended period of time, usually 50 years. In

instances where the projects show a favorable ratio of benefits to costs but are too expensive for the farmers to carry all the irrigation costs, a portion of this cost is repaid from power revenues from the hydroelectric plants that are usually a part of multipurpose projects.

A Small Projects Reclamation Act, passed by the Congress, permits the Bureau of Reclamation to lend up to \$5 million on one project, directly to organizations for the construction of their own irrigation facilities. This act also provides for grants to organizations for portions of project costs that would be nonreimbursable if built as a part of a Federal project. Loans or grants may be made to "a State or a department, agency or political subdivision thereof or a conservancy district, irrigation district, water users association, an agency created by interstate compact or a similar organization which has capacity to contract with the United States under the Federal Reclamation Law."

Pending the appropriation of funds, loans cannot be approved, but applications are being processed by the Bureau of Reclamation. Information about the program and instructions for preparing applications are available at any of the seven regional offices of the Bureau of Reclamation in the Western States.

The credit program of the *Bureau of Indian Affairs* is designed to help Indians develop and utilize their resources. Primary emphasis is placed upon financing through customary channels. It is estimated

that such financing exceeded \$55 million in 1956.

Secondary emphasis is placed upon financing by the United States and through tribes and other Indian organizations. Two main funds are involved: (1) a revolving loan fund of nearly \$14 million appropriated by the Congress, and (2) tribal moneys.

Tribes with funds of their own available are required to use their own funds before receiving a loan from the United States. Some tribes are financed entirely with tribal funds, others entirely with revolving loan funds, others with both tribal and revolving funds, and others, in part, with loans received through customary credit channels. Total financing through the bureau exceeded \$29,900,000 at the close of 1956.

Tribes may use revolving funds borrowed from the United States and tribal funds to finance tribal business enterprises, to make loans to cooperative associations of members, and to make loans to individual members. At the close of 1956 there was nearly \$16 million

lent and invested in tribal business enterprises, nearly \$640,000 outstanding in loans to cooperative associations, and nearly \$7,200,000 outstanding in loans to individuals.

Individuals and Trade Sources

Individuals and trade sources constitute the most numerous group of creditors serving farm people. With relatively rare exceptions they make loans incidental to the sale in which they are interested. Most of the exceptions are loans made by individuals to sons, other relatives, or young couples in whom they are particularly interested.

Individuals hold a very large proportion of the mortgages on farms. Most of these mortgages were taken by the former owner as part payment. Often it is a second mortgage behind a first held by a lending institution. Rarely do these loans represent investments in resource conservation or development made by the borrower, though they may cover such expenditures previously made by the seller. Some mortgage holders are

TABLE 5.—*Non-real-estate loans to farmers, January 1.¹ Outstanding in millions.*

Lender	1950	1955	1956
All operating banks.....	2, 048	2, 933	3, 308
PCA's and FICB's.....	438	635	706
Farmers Home Administration.....	351	433	406
Total.....	2, 837	4, 001	4, 420
Trade sources.....	2, 400	3, 300	3, 500
Grand total.....	5, 237	7, 301	7, 920

¹ Agricultural Finance Review, February 1957 and Supplement October 1957. (Earlier issues carry this back to 1940 for trade sources, to 1938 for FHA, to 1934 for PCA's, and to 1915 for commercial banks.)

willing to postpone principal payments when equivalent or larger sums are being put into improvements.

Dealers provide a big part of the financing involved in the purchase of farm supplies, machinery, and equipment. For supplies going into poultry and vegetable production the dealer may assume part of the risks of production, thus making it an integrated enterprise, usually on an annual or even a single production cycle basis. Many of these dealers provide high class assistance both in technical and decision-making phases of production and marketing. In the financing of tractors and other heavy machinery and for irrigation equipment the repayment may be spread out for longer periods, but usually not more than 3 years.

Extension Activities Related to Credit for Agricultural Resources

Extension services recognize that credit financing of conservation practices, structures, and enterprises is an important element in getting them adopted by farmers. They are also aware that past lending practices of most credit agencies often have not been suited to this type of business. In a number of instances extension workers have been active participants in the discussion of intermediate-term loans, as a proposal for improving services, in this field. Commercial, cooperative, and governmental sources of credit are all improving their loan services to better fill this need.

Types of Extension Work

Extension education related to credit for natural resources, like that for other farm financing, has been directed three ways: (a) Toward farm families on sound use of credit and available sources, (b) toward lenders on what are the essential needs of agriculture for loans of various kinds, and (c) toward business firms, cooperative or other, on soundly financing their services.

Farm families are provided general information on credit situations, especially the availability of loans, in annual outlook material. More specific data are provided in answer to farmers' requests about sources and terms of loans. Financing is receiving growing recognition as an essential element in farm and home unit approach and other activities involving planning.

The rural development program, the Great Plains program, and the conservation reserve section of the soil bank program will all call for the use of credit by a large number of farmers for the conservation and development of natural resources. They will all offer extension services additional opportunities for effective education in farm financing. This has been true for the agricultural conservation program since 1936.

With lenders Extension is putting emphasis chiefly on the changing technology of agriculture. The feeling is that bankers and other lenders can go far in providing

credit on terms tailored to fit farmers' needs if they understand present-day farming. Mechanization, irrigation, pasture development, livestock practices, soil and water conservation, and farm woodland management all receive attention. Budgeting data may be provided as an aid to loan analysis. Considerable effort is also put on familiarizing the lenders with the developments in the various agricultural and conservation programs of the Department of Agriculture, including the extension activities related to planning for the farm and the home.

Mutual irrigation and drainage districts, soil conservation districts, small watersheds, and other corporation facilities for providing various conservation and development services frequently need to borrow money. The education related to sound financing of farmer cooperatives is most often associated with extension assistance to farm groups in establishing a new association, in the reorganization of an old cooperative, or in the consolidation or federation of two or more mutual businesses. Frequently, though, special assistance is given going business organizations on more soundly financing their services and operations.

Cooperating Agencies

As with many other extension programs, much of the work on credit is done in cooperation with interested organizations and agencies. County agents almost always inform their local bankers about practices, enterprises, and opera-

tions in which farmers are likely to need credit in developing their farm business. Secretaries of the National Farm Loan Association and the Production Credit Association and the county supervisor for the Farmers Home Administration also are kept up to date on technical changes and extension programs. All make important contributions in providing satisfactory financing for the individual farm and home.

In activities with lenders Extension works with State bankers associations, the district Federal Reserve banks, the 12 farm credit districts and the three banks each, the State FHA offices, the State associations of rural electric cooperatives, and other groups. For work with farmer cooperative business associations major dependence is put on the farm credit system's district banks for cooperatives, though some local banks are active participants.

In on-the-job training for county agents and other agricultural workers on farmers' financing problems, considerable assistance is obtained from the lenders. Land bank appraisers' participation in appraisal schools or clinics is an illustration.

In the field of conservation and development of natural resources Extension also cooperates with the Soil Conservation Service, soil conservation districts, the Agricultural Conservation Program Service, the Commodity Stabilization Service, the Forest Service, the Bureau of Reclamation, the Tennessee Valley Authority, the Agricultural Sta-

bilization and Conservation State and county committees, and others. Here, as with the lenders, joint undertakings lead to more effective action and to better informed personnel.

The Needs and the Future

The extension program in the credit field is being improved through a number of developments:

1. Greater recognition by Extension of the key place credit holds in farming.
2. More definite assignment of personnel responsibility and time to work in this field.

3. Making financing problems a definite part of the educational program in virtually all fields of extension work.
4. Giving special emphasis to financing in the farm unit approach; rural development; farm adjustments, particularly in the South and the Great Plains; farm forestry; and in other efforts for development and conservation of natural resources.
5. Development and improvement of teaching aids and materials.
6. In-service training of extension workers in farm and home financial problems.

LIST OF REFERENCES

United States Department of Agriculture Washington 25, D. C.

- Agriculture Finance Review. November 1956. (And earlier issues of this publication.)
- Current Developments in the Real Estate Market. September 1957.
- The Balance Sheet of Agriculture. 1957.
- Agricultural Statistics, 1956.
- Agricultural Outlook Charts for 1957.
- Agricultural Finance Outlook, 1957.
- Sprinkler Irrigation in the Pacific Northwest. Agr. Inf. Bull. 166.
- Facts About the Watershed Protection and Flood Prevention Act. PA 298.
- How To Get Help Under Local-State-Federal Watershed Projects. SCS-CI-4. PA 276.
- Loans for Soil and Water Conservation. PA 253.
- Agricultural Conservation Program Accomplishments, 1955.
- Farm Ownership Loans. PA 62.
- Answers to Questions About ACP Program of Special Interest to Business and Professional People. PA 293.
- Operating Loans. PA 182.
- The Soil Bank Program for 1957.
- Insured Farm Loans. PA 254.
- Your Acres for the Soil Bank's Conservation Reserve. PA 308.

Farm Credit Administration Washington 25, D. C.

- Farmers' Needs for Intermediate Term Credit. Bull. CR-6. L. E. Kreider.
- Financing Farm Adjustments in the Southern Piedmont. Bull. CR-7. Julian H. Atkinson.
- Using Credit for Farm Adjustments in the South. Survey of PCA's and NFLA's in 10 Southern States.
- Put Loafing Acres To Work with Production Credit. (Write to FICB, Louisville, Ky.)
- Federal Land Bank Loans. Circ. 1.
- Loans From Production Credit Associations. Cir. 3.
- Loans to Farmer Cooperatives. Cir. 6.
- A Suggested Plan of Organization for a Forest Credit System for the United States. 66 pp., processed. 1945.

Tennessee Valley Authority Washington 25, D. C. or Knoxville, Tenn.

- Annual Report, Division of Forestry Relations. Carries list of articles and publications.

State Agricultural Colleges

- Land Credit Arrangements in the Midwest. O. G. Lloyd and others. Purdue Agr. Expt. Sta. Bull. 551. Lafayette, Ind.
- Investment Credit To Improve Farming Systems. Donald Ibach and G. W. Forster. N. C. Agr. Expt. Sta. Tech. Bull. 89. Raleigh, N. C.
- Financing Farm Equipment by Minnesota Country Banks. Reynold P. Dodd and O. B. Jesness. Agr. Econ. Dept., Univ. Minn. Rpt. 503. Minneapolis, Minn.
- Obstacles to Conservation on Midwestern Farms. North Central Regional Pub. Mo. Agr. Expt. Sta. Bull. 574. Columbia, Mo.
- Some Obstacles to Soil Erosion Control in Western Iowa. John C. Frey. Iowa Agr. Expt. Sta. Res. Bull. 391. Ames, Iowa.
- Cost and Returns for Soil Conservation Systems of Farming. Iowa Expt. Sta. Res. Bull. 429. Ames, Iowa.
- Irrigation in Humid Areas. University of Arkansas Staff Report. Iowa State Coll. Press. Ames, Iowa. Farm Policy Forum, fall 1955.
- Water Rights in the Eastern States. Harold H. Ellis. Ibid.
- Legal Aspects of Water Use in Delaware. Harold H. Ellis and R. O. Bausman. Del. Expt. Sta. Tech. Bull. 314. Newark, Del.
- Fact Sheet on Irrigation. Univ. Md. Ext. Serv. No. 71. Rev. June 1955. College Park, Md.
- Irrigation in Humid Areas. I and II. Elco L. Greenshields. Univ. Va. News Letter, June 1 and 15, 1956. Charlottesville, Va.
- Capital Requirements and the Use of Credit in Agriculture. Sidney D. Staniforth. Public Policy Material. Univ. Wis. Ext. Serv., Madison, Wis. January 1956.
- Intermediate Credit for Agriculture. Allen R. Clark. Proceedings of Conference, Fort Collins, Colo., July 19-21, 1954. Great Plains Council Pub. 12. S. Dak. State Coll., Brookings, S. Dak.
- Problems of Capital Accumulation in Getting Started in Farming. Lester L. Arnold. Purdue Agr. Expt. Sta. Bull. 638.

United States Department of Commerce, Bureau of the Census, Washington 25, D. C.

Farm Mortgage Debt. (A cooperative report.) 1957.

Federal Reserve Board, Washington, D. C.

- Changing Credit Picture in Agriculture (speech 1956). C. N. Shephardson.
- Farm Loans at Commercial Banks. 1957.

Federal Reserve Bank of Atlanta

Bankers Farm Bulletin. Selected articles in this periodical related to:
Soil Conservation, June 1955, May 1955, April 1955.
Irrigation, June 1955, October 1952.
Forestry, December 1956, January 1956, August 1954, May 1954,
September 1953.
Machinery, July 1955, February 1954.
Farm Loan Men, June 1953.

Federal Reserve Bank of Boston

Monthly Review. Selected articles in this periodical related to:
Forestry, January 1955, June 1954, April 1954, January 1954.
New England Business Review. Selected articles in this periodical related to:
Forestry, December 1956, October 1956, May 1956.

Federal Reserve Bank of Kansas City

Financing Agriculture Through Commercial Banks. R. J. Doll and E. N. Castle.
Financing Irrigation Projects (speech 1955). R. J. Doll.

Federal Reserve Bank of St. Louis

Bank Credit for Soil Conservation. Daryl R. Francis.
Evaluation of Farm and Home Development Programs. Daryl R. Francis and Donald L. Henry.
Fitting a Lending Program to Requirements of the Progressive Farm Borrower. L. E. Kreider.
The Covington Farm (forestry). Monthly Review. December 1954.

Agricultural Commission, American Bankers Association

12 East 36th Street, New York 16, N. Y.

Agricultural Credit and Land Values (annual publication).
Agricultural Credit and Related Data (annual publication).
Proceedings of the National Agricultural Credit Conference, Memphis, 1954.
Livestock Financing.
Farm Equipment Financing by Banks.
Trees and Bank Accounts and Supplement.
Financing Irrigation Equipment.
Post Drought Credit Problems.

Cooperative Extension Work: United States Department of Agriculture and State Land-Grant Colleges and Universities Cooperating.

U. S. GOVERNMENT PRINTING OFFICE: 1957