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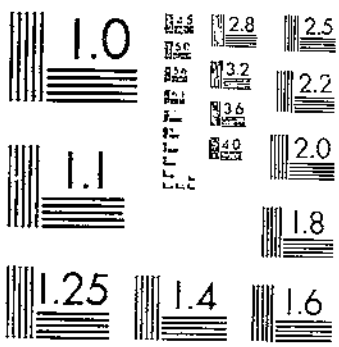

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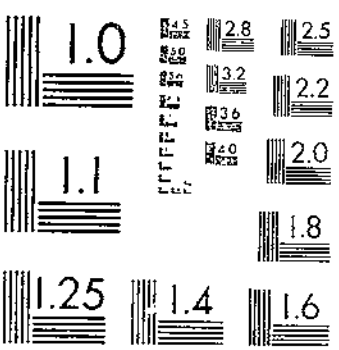
NATIONAL BUREAU OF STANDARDS 1963 A



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TECHNICAL BULLETIN NO. 357 MAY, 1933

UNITED STATES DEPARTMENT OF AGRICULTURE
WASHINGTON, D. C.

STATE LAND-SETTLEMENT PROBLEMS AND POLICIES IN THE UNITED STATES

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INTRODUCTION

Outgrown and inadequate public, semipublic, and private land-settlement policies are to a certain degree responsible for some of the recent difficulties experienced by American agriculture. Rapid decline in the Nation's population growth and in exports of farm products, substitution of gasoline for horse and mule feed, and improvements in animal husbandry resulted in an economy of at least 50,000,000 acres of crop land since the World War. Expansion of crop land onto former grazing areas and some clearing of forest and cut-over land are in progress, but the total increase is small in comparison with the western expansion of agriculture in the past. The country has been settled but many regional and local readjustments, required by changes in the economic situation as well as by soil depletion and advances in agricultural technic, remain to be made.

[1] The late B. Henderson, of the U. S. Department of Agriculture, in 1923 made a survey of State policies with respect to land settlement. Unpublished notes concerning that survey were drawn upon in planning and conducting the study on which this bulletin is based.

The agricultural-land policy of the Federal Government has consisted, and it still consists, chiefly in making land easily available to the farmer, leaving him free to make his selection, finance the undertaking, and adjust himself to local conditions. Likewise, with few exceptions, the various States follow the policy of leaving the settler to the mercy of private land-selling agencies and/or of seconding the efforts of those agencies to attract him to the States. To-day, with a limited economic need for expanding the net agricultural area, any land-settlement policy for undeveloped areas based on the unqualified expansion philosophy of the past is a handicap to the development of prosperous farming communities.

Financially embarrassed and defunct drainage, levee, irrigation, and other improvement districts, abandoned farms, and the reversion of large areas of land to public ownership because of tax delinquency are concrete evidences of maladjustments in the use of land in many parts of the country. Disorganized and declining agricultural communities, common in many parts of the country, are natural consequences. Farming in many of these communities and in certain entire areas is doomed to failure. In other areas success is possible only when large-scale farming or some special type of farming is undertaken, alone or in combination with some other major use of land, such as for forestry, recreation of some kind, grazing, or conservation of wild life and fur animals.

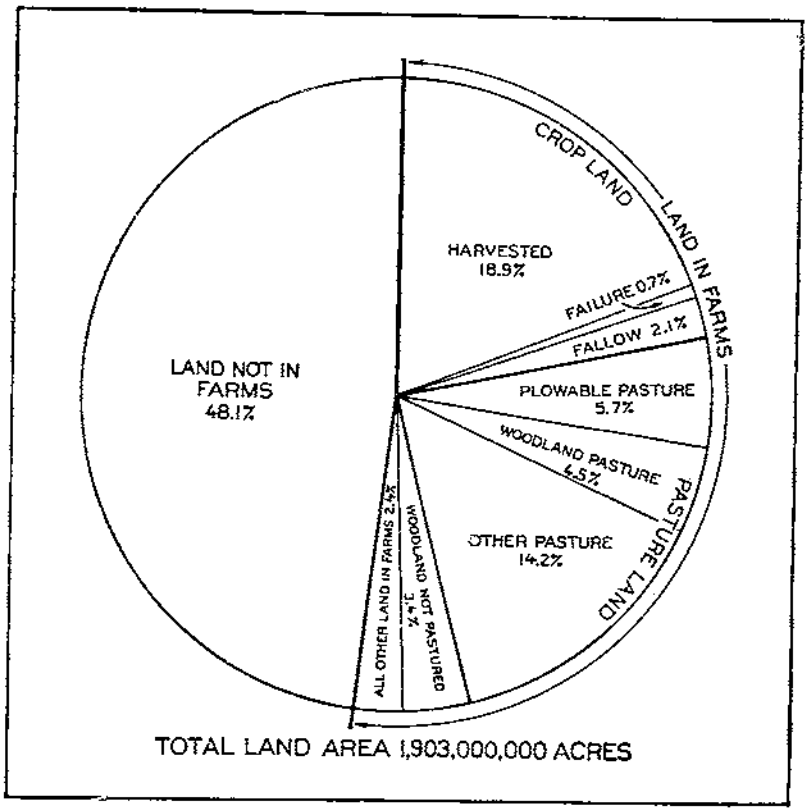
Attempts to develop farming communities on lands physically and/or economically unsuited for agriculture result in loss to the county and State as well as to the settler. Settlers will not long continue a struggle to develop a farm on unsuitable land. Those who contract debts they are unable to pay may be forced to leave their farms; others leave voluntarily. Local bankers and business men lose heavily in such adventures and the entire locality, even the State to some extent, is given a bad reputation.

Many public officials, business men, and landowners realize this danger and are interested in curtailing or preventing the great waste of economic and human resources that results from haphazard land-settlement policies. They see that millions of acres now available for farming will not be in real demand for agricultural purposes for many years, and that it would be sound business policy to utilize such lands for other than agricultural purposes.

Consequently, there is great need for the determination of the economic potentialities of land for farming purposes as compared with grazing, forestry, recreation, and other uses; and for the formulation and application of rural-planning programs based on the facts assembled. The adoption of such a program by the Federal Government, and the various States and counties, should result in material benefits, to established farmers, to prospective settlers, and to land-colonization and other land-settlement agencies. As an aid in the formulation of rural-planning programs by States and county officials, public-spirited citizens and others interested in solving the problems of land settlement, the problems encountered and the resulting programs adopted by public agencies in the past have been studied. This bulletin affords a review of such Federal and State policies with reference to land settlement.

UNDEVELOPED LAND IN THE UNITED STATES

About half (51.9 per cent) of the total land area of the United States (1,903,216,640 acres) was in farms in 1929. Of this total area, slightly less than one-fifth (18.9 per cent) or 359,242,091 acres was in harvested crops in 1929. The idle and fallow plowland totaled 41,287,216 acres, and land on which crops failed totaled 12,706,583 acres (*38, Census 1930* [2]). These three classes of crop land



DISTRIBUTION OF LAND IN FARMS BY USE IN 1929 COMPARED WITH OUR TOTAL LAND AREA

FIGURE 1.—Although slightly more than half (51.9 per cent) of the total land area of the continental United States is in farms, less than three-eighths (36.4 per cent) of the land in farms is in harvested crops. This leaves a wide margin from which to draw additional crop acreage when there is an economic need for such expansion

represent less than half (41.9 per cent) of the land area in farms (986,771,016 acres). Figure 1 shows the percentage distribution of all farm land according to use, and shows the percentage relation of land in farms and land not in farms.

There is extreme diversity in precipitation, length of growing season, soil types, and topography even within comparatively small areas. (Figs. 2–5.) It is of paramount importance that the influence of such physical characteristics upon the possible successful

[2] Italic numbers in parentheses refer to Literature, Cited, p. 84.

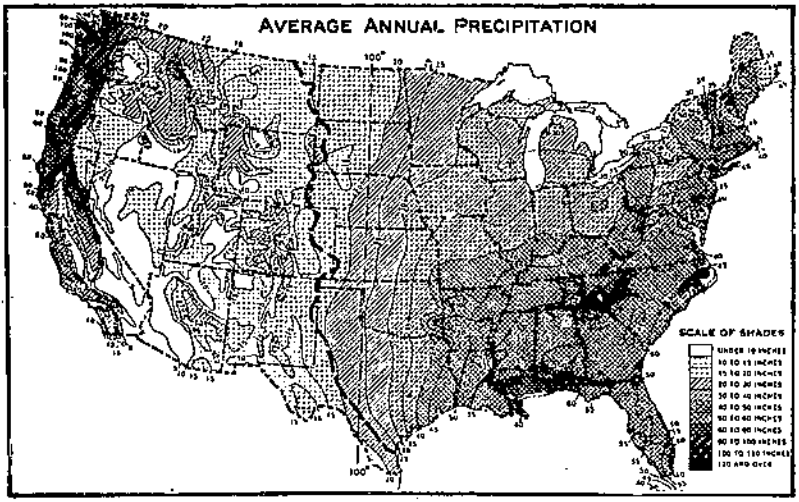


FIGURE 2.—The map emphasizes the fact that for the consideration of land colonization and settlement, the United States should be divided agriculturally into eastern and western parts. The eastern boundary of the grazing and irrigated crops region shown by a broken line is not drawn through points of equal precipitation, but advances diagonally across two of the precipitation zones from 14 inches in the northeastern corner of Montana to 24 inches in southern Texas, where the evaporation is much greater and the rainfall more torrential, and where more moisture is required for crop production. (U. S. Dept. Agr. Misc. Pub. 105 (3))

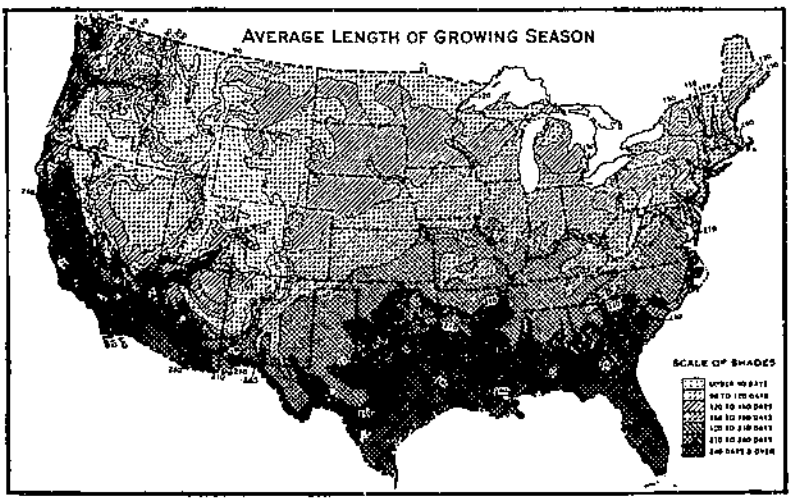


FIGURE 3.—The higher altitude of much of the grazing and irrigated crops region and the drier air, which permits rapid loss of heat at night, are two important causes of the short frost-free season. Over much of this region the frost-free season is shorter than in northern Maine or Minnesota. The powerful influence of the Pacific Ocean and the lesser influence of the Atlantic Ocean in lengthening the growing season along their shores should also be noted. (U. S. Dept. Agr. Misc. Pub. (3))

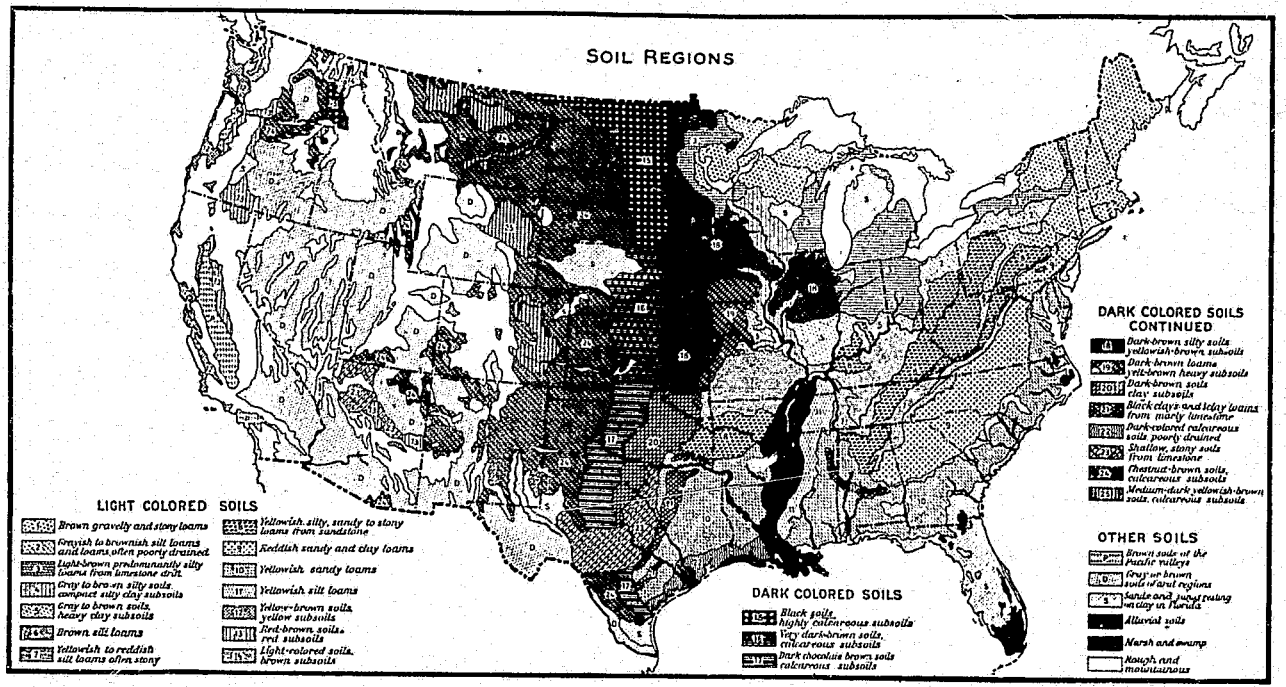


FIGURE 4.—Soils originally or at present covered with forest are normally light colored and are likely to be less fertile than soils in areas of lower rainfall. Grassland soils, in general, are dark colored, the humid prairie soils being commonly almost black and highly fertile, the subhumid prairie soils blackest of all, and the semiarid short-grass plains soils are dark brown or chocolate colored, the color gradually fading to medium brown in areas of lesser rainfall, and to light brown or even ashy gray in desert areas. The light-colored forest soils in the United States totaled about 800,000,000 acres, the dark-colored grassland soils about 600,000,000 acres, and the light-colored arid soils about 500,000,000 acres. (Map prepared by C. F. Marbut and associates, Bureau of Chemistry and Soils, and published in A Graphic Summary of American Agriculture. U. S. Dept. Agr. Misc. Pub. 105 (*3, p. 1*))

agricultural development of any particular area be carefully considered in formulating legislation to regulate or to promote land settlement. This has not been done in the past. The consequent wastage of economic and human resources has been very considerable.

CLASSES OF UNDEVELOPED LAND

In order to distinguish between the general type of improvement necessary to bring land under cultivation, undeveloped land is divided into four more or less overlapping classes: Forest and cut-over, drainable, irrigable, and dry-farming and grazing lands.

Forest and Cut-over Land

In 1923 it was estimated that there were approximately 170,000,000 acres (*15, p. 427*) of forest and cut-over land physically capable of being used for crop production after clearing and draining where necessary. Changes that have taken place in this acreage since 1923 have not been estimated, but they are not great. The approximate location of such forest and cut-over land is shown in Figure 6.

Although there are scattered areas of forest or cut-over lands in many parts of the United States, such lands are concentrated in three general regions. One lies in the northern parts of Michigan, Wisconsin, and Minnesota, and is known as the upper Great Lakes region; another extends south and west from Virginia into eastern Texas and Oklahoma, and is known as the southern region; the third, known as the Pacific Northwest, lies in the Sierra section and in northwestern California, in western Oregon, in western and northern Washington, in northern Idaho, and in western Montana.

The labor and expense of clearing cut-over land are important considerations. It is easier and much cheaper to let land grow up to trees again than to remove the brush, down logs, stumps, and stones in preparation for crop production. Actual costs of clearing an acre of land vary greatly. In the Great Lakes States that cost may be as low as $25 and as high as $300 per acre. In the Pacific Northwest the expense of clearing an acre is uniformly higher, primarily because of the predominance of stumps from large slow-rotting coniferous trees. In the southern region the range of costs is generally considered to be about the same as in the upper Great Lakes region.

Large areas of cut-over land, particularly in the coastal plain portion of the southern region, must be drained artificially as well as cleared before crops can be produced. To determine whether it is economically sound to bring such land under cultivation calls for a careful analysis of the productive capacity of the land after reclamation, the cost of reclaiming the land, the market demand for crops best adapted to the region in question, and the comparative advantages of producing such crops in different undeveloped areas.

Drainable Land

Of the approximate total area of land in the United States that is too wet for cultivation (113,500,000 acres), it has been estimated that 91,500,000 acres will be suitable for crops after reclamation. This is 22.1 per cent of the area of the present crop acreage of the United States. Most of the undrained land lies east of the hundredth

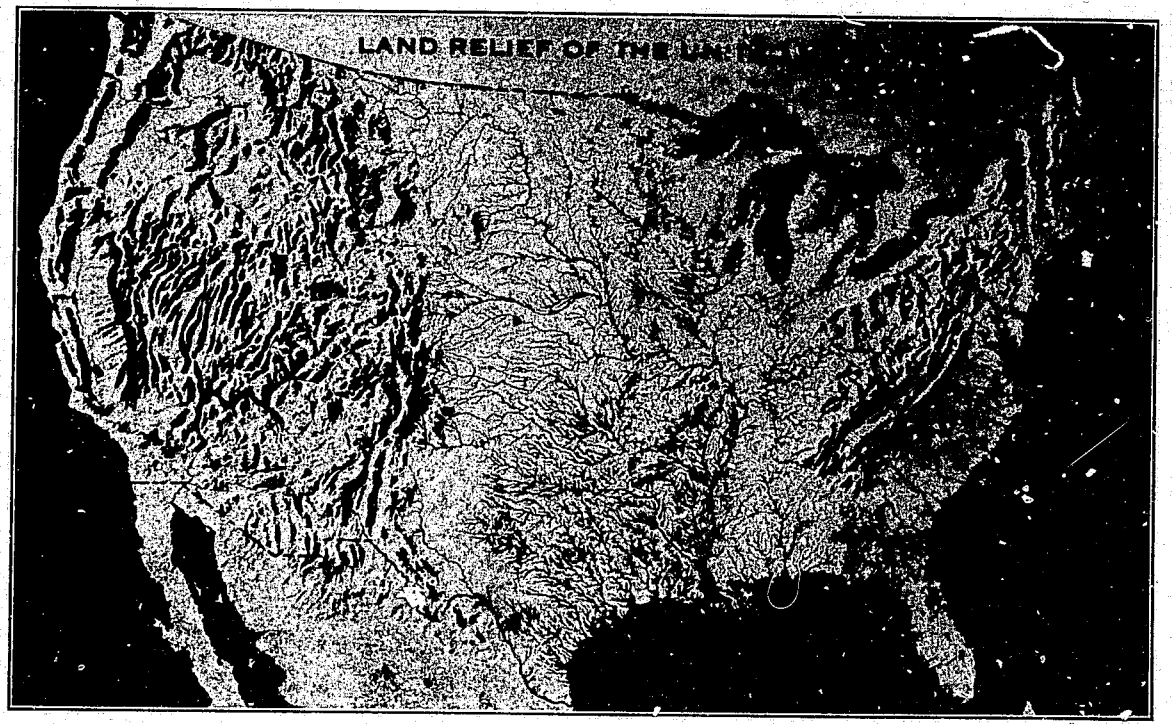


FIGURE 5.—THE TOPOGRAPHY OF THE UNITED STATES IS SHOWN IN A GENERALIZED WAY

The mountainous character of the western regions is clearly indicated; but the map fails to show the high altitude of much of the West, particularly of a large portion of the grazing and irrigated crops region. Owing to the altitude, this region has a much cooler climate than have corresponding latitudes in the East. The vast expanse of the Mississippi Valley, with its level-to-rolling surface, except for the Ozark uplift in the lower central portion, should be especially noted. This is a photograph of a relief model of the United States supplied by the United States Geological Survey, and is used in A Graphic Summary of American Agriculture (*3, p. 7*).

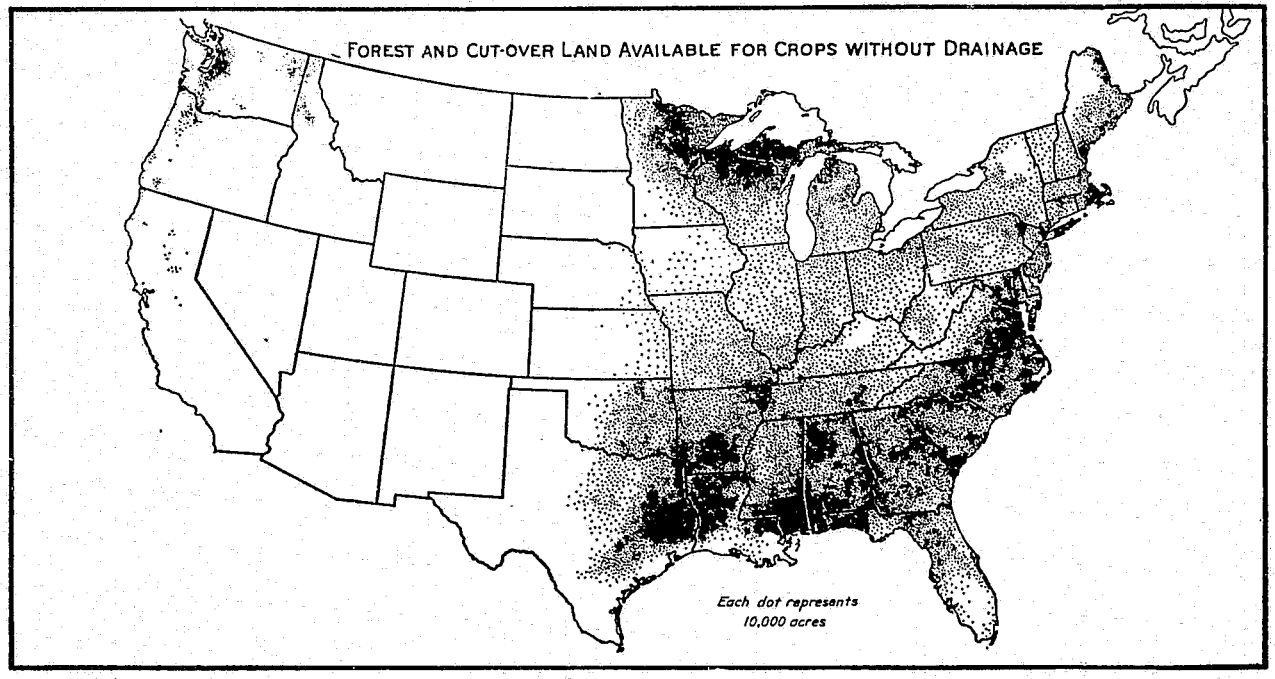


FIGURE 6.—Approximate location and extent of forest and cut-over land available for crops without drainage. In addition there are large areas of forest and cut-over lands which need drainage and clearing before crops can be produced. The map is based on information gathered by the Soil Survey and descriptive data in the General Land Office survey records, and was prepared by F. J. Marschner, Division of Land Economics. Each dot represents 10,000 acres (*15, p. 426*)

meridian. (Fig. 7.) The largest areas are found in the cut-over areas of Michigan, Wisconsin, and Minnesota, and along the Atlantic coast and the Gulf of Mexico from Virginia to south Texas and up the Mississippi River to southeastern Missouri.

The area may be roughly classified as tidal flats and seasonally wet prairies located along the Atlantic and Gulf coasts; river-flood plains located principally in the valley bottoms of the rivers flowing across the Atlantic coastal plain and along the Mississippi and its tributaries; the Everglades in Florida; and the glacial marshes, and muck and peat bogs in the Great Lakes States. With the exception of the Florida Everglades, the wet prairie lands of southern Louisiana and Texas, and many of the peat bogs of the Northern States, nearly all of the large tracts of unsettled, unreclaimed lands needing drainage are timbered lands.

Clearing land of stumps, brush, down logs, and other débris is an expensive operation; it often totals more than the cost of engineering works to drain the land. The fact that the cost of these two operations sometimes aggregate more than the value of the land after it has been reclaimed chiefly accounts for the large areas of undeveloped land within organized drainage districts. Of the total area of land in drainage enterprises in 1929 (*38, Census 1930*), 18.7 per cent (15,767,984 acres) was not in occupied farms and 35.5 per cent (29,980,516 acres) was not planted. (Table 1.)

TABLE 1.—*Total area of land in drainage enterprises and percentages of total area drained, in farms, and not planted, by States, 1929*

State	Land in drainage enterprises			State	Land in drainage enterprises		
	Total	In farms	Not planted		Total	In farms	Not planted
	Acres	*Per cent*	*Per cent*		*Acres*	*Per cent*	*Per cent*
Arizona	318,931	25.6	12.8	Nevada	162,930	95.4	31.6
Arkansas	4,631,155	63.5	47.6	New Mexico	176,292	85.9	22.0
California	2,233,714	90.6	19.6	North Carolina	679,236	48.7	60.6
Colorado	306,719	83.4	25.0	North Dakota	1,094,142	100.0	16.9
Florida	5,954,934	6.7	96.4	Ohio	8,165,494	99.6	16.7
Georgia	84,255	75.8	56.0	Oklahoma	170,158	96.3	20.1
Idaho	375,464	96.5	10.9	Oregon	211,182	69.4	44.6
Illinois	5,092,682	99.5	15.6	South Carolina	208,249	45.5	70.4
Indiana	10,214,014	99.4	17.2	South Dakota	697,758	93.1	18.7
Iowa	6,137,649	99.5	12.4	Tennessee	593,560	60.7	64.2
Kansas	257,169	98.7	14.6	Texas	2,883,358	85.7	55.7
Kentucky	585,625	86.0	45.3	Utah	156,052	70.2	42.1
Louisiana	3,655,483	70.3	50.1	Virginia	15,042	37.9	68.4
Michigan	9,160,851	96.1	29.6	Washington	367,242	95.8	15.6
Minnesota	11,474,683	76.5	48.4	Wisconsin	892,713	64.4	60.7
Mississippi	2,988,496	70.0	39.7	Wyoming	245,703	76.6	33.7
Missouri	3,160,022	77.1	34.4				
Montana	167,629	90.0	31.8	United States	84,403,093	81.3	35.5
Nebraska	879,463	96.3	15.5				

Based on Bureau of the Census reports, 1930 (*38*).

The existence of a large area of land assessed for drainage benefits but which is not improved and yields no income for other purposes in any drainage or other improvement district, creates a condition more than likely to result in financially embarrassed and sometimes in defunct enterprises. In a study of drainage districts in the South (*25, p. 48*) it was found on the basis of the rate of development between 1920 and 1926 that an average of 40 years would be required to bring under cultivation the unproductive land in organized dis-

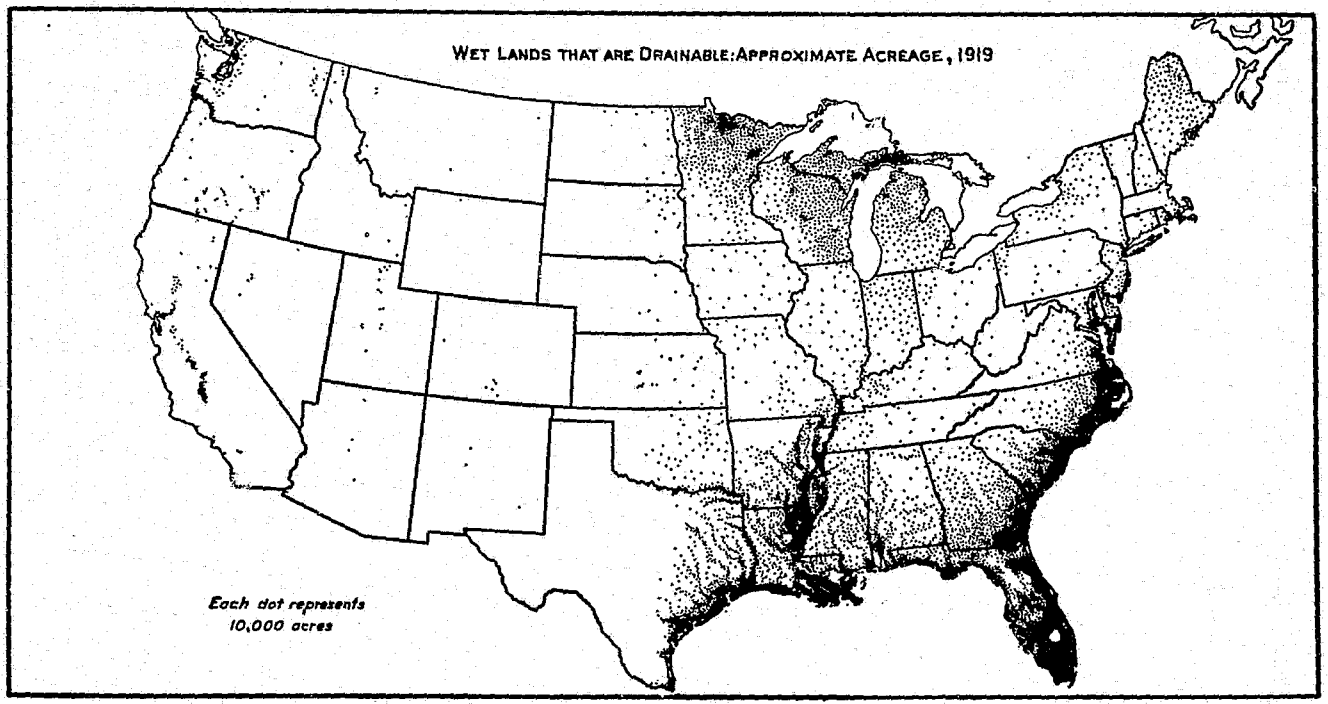


FIGURE 7.—Acreage and distribution of wet, swamp, and overflowed lands unfit for crops without drainage were approximated in 1919. Estimates as of a later date are not available. Two-thirds of the land unfit for cultivation without drainage is in the Southern States, and one-half of the remainder is in the three Lake States. Nearly all of the wet land in the South, except the Florida Everglades and prairies, tidal marsh, and Gulf coastal prairies is forested, and requires both drainage and clearing, but much of the wet land in the Lakes States consists of unforested peat bogs. (Misc. Pub. 105 (*3, p. 26*)

tricts. Many of these districts were in financial difficulties and the study indicated that more profitable agriculture is necessary to enable these districts to maintain their existing capitalization. Evidence presented by drainage experts representing various parts of the country before the House Committee on Irrigation and Reclamation points out emphatically that these conditions still prevail in many of the districts in the United States (*37*).

Since large areas in organized districts have not been in demand for agricultural use it is evident that careful planning should govern the organization of such districts. The capacity of the land to meet its economic obligations must be ascertained and existing bonded indebtedness adjusted accordingly. Until such procedure is adopted the establishment of profitable farms in drainage districts will be handicapped seriously.

Irrigable Land

A large proportion of the land lying east of the Sierra Nevada and Cascade ranges and west of the one hundred and fourth meridian (which is practically the eastern boundary of Montana, Wyoming, Colorado, and New Mexico) receives a rainfall too light for ordinary production of crops. (Fig. 2.) Although the major portion of this area is mountainous or desert waste, in so far as intensive crop production is concerned, there are many broad and fertile river valleys, basins among the mountains, lake beds or lake margins, and other places, that are or can be irrigated. Of the irrigable acres in irrigation enterprises in 1930, only 63.9 per cent were irrigated, although engineering works were capable of providing water for 85.3 per cent of the total (*38*). In other words, in addition to 4,497,580 acres for which engineering works were not ready to supply water in 1930 there were 6,554,346 nonirrigated acres which engineering works were prepared to irrigate, but which were not employed for purposes of irrigated farming. The distribution of these acreages among the different States is shown in Table 2.

Table 2.—*Irrigable and irrigated land in irrigation enterprises, by States*

State	Irrigable land in irrigation enterprises			
	Total, 1930	Irrigated in 1929	Land enterprises capable of irrigating in 1930	Not irrigated in 1929
	Acres	*Acres*	*Acres*	*Per cent*
Arizona	1,085,027	575,590	824,152	47.0
Arkansas	225,902	151,787	209,942	32.8
California	8,075,895	4,740,632	6,815,250	41.2
Colorado	4,528,251	3,393,619	4,078,712	25.1
Idaho	2,814,048	2,181,250	2,617,021	22.5
Kansas	95,719	71,200	83,583	25.5
Louisiana	850,401	450,001	795,165	47.0
Montana	2,622,423	1,594,912	2,276,000	39.2
Nebraska	763,039	532,617	703,641	30.2
Nevada	983,717	480,048	736,249	50.5
New Mexico	741,245	527,033	656,669	28.9
North Dakota	24,860	9,302	24,006	62.2
Oklahoma	7,344	1,573	7,331	78.6
Oregon	1,478,128	898,713	1,158,210	39.2
South Dakota	122,510	67,107	109,550	45.2
Texas	1,506,876	798,917	1,177,415	49.0
Utah	1,730,869	1,324,125	1,542,475	23.9
Washington	915,379	499,283	631,511	45.5
Wyoming	1,958,147	1,230,155	1,655,008	30.9
United States	30,506,470	19,547,544	26,101,890	36.1

Bureau of the Census, 1930 (*38*).

Irrigation enterprises may be divided into three classes: Private, State, or Federal projects. The Bureau of Reclamation, United States Department of the Interior, has charge of Federal projects. The United States reclamation act (act of June 17, 1902) provides for Government construction of irrigation works, with provisions for repayment of the cost of construction over a period of years up to 40 years without interest on deferred payments.

The prospective irrigation farmer is confronted with problems somewhat similar to those described for drainage districts. Many irrigation districts are financially sound, but financially embarrassed districts are not uncommon. The organization of many districts was promoted before they were justified by demand for crops. The inclusion of unproductive land in addition to more land than could be irrigated adequately with the available water, poor engineering works, excessive charges by promoters of the enterprises, and many less important factors contribute toward the failure of such enterprises.[3]

Recapitalization of the enterprise on the basis of a conservative estimate of the earning capacity of productive land is essential on many projects to insure the establishment of profitable farming enterprises. In many instances such recapitalization may mean partial cancellation of existing obligations. Officials in several States have taken steps to facilitate such refinancing programs. With respect to Federal projects, Congress has passed a series of relief acts, particularly during the last decade. Among these the omnibus reclamation act (act of May 25, 1926) is the most important. By this act the period of repayment of construction charges was increased, at the discretion of the Secretary of the Interior, to 40 years. Rapidly mounting delinquent payments due on construction charges were reduced or wiped out. Subsection K of H. R. 9559 (*43, p. 703*) provides for relief to irrigation farmers in still another way:

> * * * on each existing project where, in the opinion of the Secretary, it appears that on account of lack of fertility in the soil, an inadequate water supply, or other physical causes, settlers are unable to pay construction costs, or whenever it appears that the cost of any reclamation project by reason of error or mistake or for any cause has been apportioned or charged upon a smaller area of land than the total area of land under said project, the Secretary is authorized to undertake a comprehensive and detailed survey to ascertain all pertinent facts, and report in each case the result of such survey to the Congress with his recommendations.

In general, the policy of charging off or writing down construction charges is desirable on any project where construction costs are in excess of the carrying capacity of the land. In fact, until the overcapitalization in each project is eliminated by some method, the project will not be sound financially. Prospective irrigation farmers can not afford to buy land in any public or private irrigation enterprise that is not economically sound. This is particularly true of those projects on which farmers are jointly responsible for meeting the construction and other costs without regard to default in payment of charges against any individual farm unit or tract of irrigable land.

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[3] These and other causes of failure along with a discussion of various financial and engineering aspects of irrigation districts are discussed in greater detail by Hutchins (*20*).

Climate, crop possibilities, and cost of irrigating land are important factors that are often discounted. The soil is usually fertile. A fertile soil, the application of water to growing crops at just the right time and in the quantity needed, and the preponderance of clear days and even temperature make a combination of factors which usually results in higher yields per acre than is obtained from fields depending upon rainfall. These factors, when combined with a comparatively low cost for engineering works necessary to irrigate the land, have resulted in the establishment of prosperous farming enterprises on what was previously desert or other barren waste land.

The vision of high yields without regard to cost, however, usually leads to misfortune. Economic surveys of reclamation projects made by a committee which included "practical irrigators, economic experts from agricultural colleges, and representatives of the Bureau of Reclamation" led to the conclusion that in addition to cost of construction of reservoirs and main canals, from $5,000 to $10,000 must be spent to provide the permanent improvements and equipment necessary for an 80-acre farm (*26, p. 1208*).

Dry Farming and Grazing Land

Irrigation farming and grazing and (in certain areas west of the one hundredth meridian) dry farming are intermingled. In many parts of the Western States river valleys are or can be irrigated, a few higher benches and terraces are usable for dry-farming purposes, and the remainder of the land that is suitable for any agricultural purpose is usable for grazing purposes.

The dry-farming territory may be divided into three areas, according to seasonal rainfall: (1) The Great Plains area, with the major portion of the precipitation in June, July, and August; (2) the intermountain area or high interior plateaus, mostly the northern portion, with late winter and early spring rains; and (3) the Pacific coast area with winter rains. Assuming a productive soil and topography favorable to the use of large-scale machinery, dry farming is limited by the precipitation at particular times of the year, the amount of evaporation, and the prices obtainable for crops grown. Roughly, dry farming is not practicable in areas having less than 9 or 10 inches in central Washington and northwestern Montana to 20 inches in western Texas; nor is it necessary where there is more than 15 to 25 inches annual precipitation, depending on the rate of evaporation, the character of the rainfall, and the soil.

Dry farming is a business that requires operators with considerable capital and technical skill. The capital is needed to tide over dry seasons and to operate areas sufficiently large to return a livelihood. If moisture is not conserved in the soil, and if crops not adapted to the conditions of the growing season are tried, failure is likely. Hundreds of abandoned farms scattered throughout the dry-farming region demonstrate that fact.

The grazing value of this territory depends upon the supply of drinking water for the stock, carrying capacity of the range, length of the grazing season, and possibility of growing hay and forage. The Department of the Interior when making designations for enlarged and stock-raising homesteads found the highest carrying capacity in the Great Plains, where the land will carry from 18 to

80 head of cattle per section, to be from six months to an entire year.[4] Certain parts of Nevada, southwest Arizona, and southeast California have only a scattering of alkaline plants and will not support enough cattle per unit of land to be practicably usable for grazing. There are numerous areas in the Rocky Mountain and Pacific coast regions that have little value for grazing, but the percentage is small in proportion to the total. The very best lands among the mountains have a carrying capacity of 30 to 65 head per section.

The formulation of public policy based on a careful analysis of the potentialities of using land for grazing would eliminate much of the social loss resulting from misdirected efforts of private users to utilize these lands for unsuitable purposes.

OWNERSHIP OF UNDEVELOPED LAND

With few exceptions, all lands physically capable of producing crops, which are not now so employed, are in private ownership. On June 30, 1930, there were 178,979,446 acres (*40, p. 14*) of Federal lands subject to entry under the homestead and all other applicable land laws, but these lands have little or no value for crop production. Many are located in the deserts and other arid sections of the West. Figure 8 and Table 3 show the distribution of these lands by States. Part of this immense acreage is practically useless for any purpose. The best use for a little of it is for forests and watershed protection. Some of it is usable for certain grazing purposes, the carrying capacity of these lands having been estimated to vary from 25 to 75 acres per head of cattle.

Occasionally, there are restorations to entry of lands that might be suitable for farming and which, for some reason, have been withdrawn from entry. Although the various land laws under which public land is open to homestead entry have outlived their usefulness, they are still in force.

TABLE 3.—*Area of vacant, unappropriated, and unreserved public lands on July 1, 1930*

State	Surveyed	Unsurveyed	Total	State	Surveyed	Unsurveyed	Total
	Acres	*Acres*	*Acres*		*Acres*	*Acres*	*Acres*
Arizona	8,084,880	7,096,000	15,180,880	New Mexico	14,316,481	1,347,640	15,664,121
Arkansas	190,900		190,900	North Dakota	146,505		146,505
California	11,284,395	5,339,093	16,623,488	Oregon	12,976,725	92,411	13,069,136
Colorado	6,825,425	1,202,043	8,027,468	South Dakota	439,880		439,880
Florida	12,245	6,652	18,897	Utah	12,378,068	11,503,377	23,881,445
Idaho	8,765,491	1,852,479	10,617,970	Washington	906,382	14,202	920,584
Minnesota	189,845		189,845	Wyoming	15,185,722	743,738	15,929,460
Montana	6,510,937	90,740	6,601,677				
Nebraska	22,628		22,628	United States	128,301,260	50,678,180	178,979,446
Nevada	30,064,688	21,389,805	51,454,493				

U. S. Dept. Interior, Gen. Land Off. Circ. 1239 (*40, p. 14*).

In addition to Federal lands open for homestead entry certain Indian lands may be purchased or leased through Federal agencies.[5]

In general, the lands of any adult Indian to whom a patent has been issued are subject to sale or lease under rules and regulations

[4] See pp. 68 to 78 for further discussion of the land classification.

[5] The commissioner of Indian Affairs, Washington, D. C., and the superintendent of the Five Civilized Tribes, Muskogee, Okla., are sources of information concerning Indian lands held for sale or lease. (See Annual Report, Department of the Interior, Indian Affairs, 1930.)

prescribed by the Secretary of the Interior. A sale is authorized only when it appears to be for the best interest of the Indian who petitions for the right to sell. As a rule three sales are held each year and the lands offered range in quality from good farming land to rough or barren grazing land. No compilation of lands held for sale or lease is available but the unallotted area in Indian

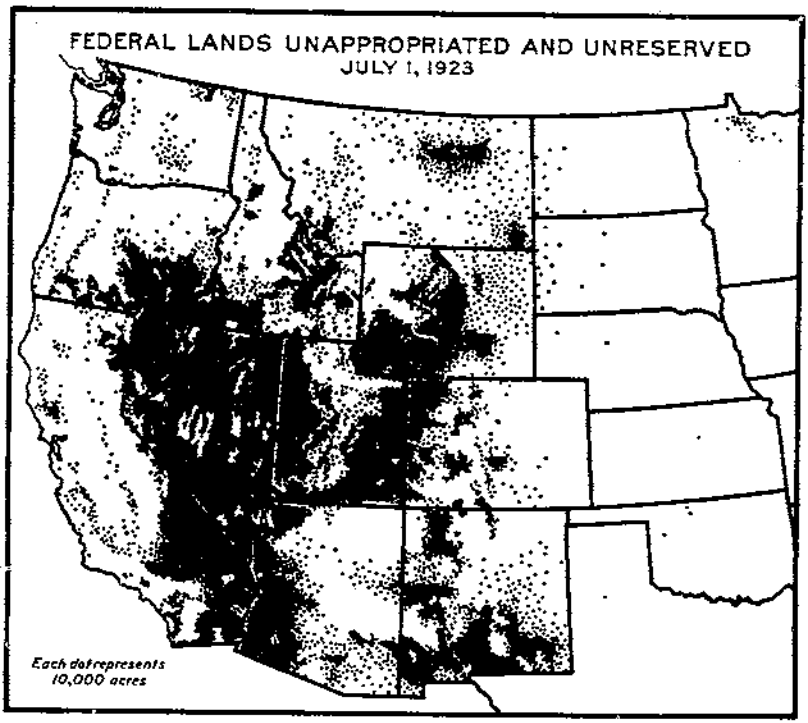

FIGURE 8.—Approximate location and extent, in 1923, of the public domain; that is, the area not already appropriated or reserved for specific purposes. The only important change since the map was made is an increase of about 8,000,000 acres previously entered but never patented nor withdrawn from entry and subsequently returned to the public domain. (U. S. Dept. Agr. Misc. Pub. 97, (*14, p. 48*))

reservations which may be subject to sale at various dates in the future totals 32,014,946 acres (*41*). The distribution of this acreage in the various States is shown in Table 4.

TABLE 4.—*Unallotted area of land in Indian reservations, by States, June 30, 1929*

State	Unallotted Indian land	State	Unallotted Indian land	State	Unallotted Indian land
	Acres		*Acres*		*Acres*
Arizona	20, 290, 151. 68	Montana	770, 135. 08	South Dakota	263, 110. 87
California	495, 330. 93	Nebraska	7, 405. 00	Utah	340, 680. 00
Colorado	396, 143. 00	Nevada	832, 182. 00	Washington	854, 061. 23
Florida	26, 741. 00	New Mexico	3, 534, 850. 00	Wisconsin	273, 584. 76
Idaho	57, 359. 00	New York	87, 677. 00	Wyoming	1, 997, 000. 00
Iowa	3, 480. 00	North Carolina	63, 211. 00		
Kansas	1, 183. 00	North Dakota	1, 107. 00	United States	32, 014, 945. 65
Michigan	155. 00	Oklahoma	38, 956. 66		
Minnesota	555, 726. 44	Oregon	1, 123, 875. 00		

U. S. Dept. Interior, Off. of Indian Affairs, General Data Concerning Indian Reservations (*41*).

Until public-land laws are revised and a constructive public policy is adopted to utilize these semiarid and arid lands for the most suitable purposes, the statement made many years ago that homesteading is betting "Uncle Sam" a filing fee that the settler can live on his claim long enough to prove up will continue to epitomize our policy.

Accurate information is not available as to the best use for the 56,792,978 acres of State-owned land subject to sale or lease in 1930. But as these lands have not attracted purchasers and as the major portion of the total acreage is west of the one hundredth meridian, it seems evident that they are not, in general, particularly valuable for cultivation. The distribution of these lands is shown in Figure 9 and Table 5. The table presents a summary of the policies followed by the several States in disposing of State land. In substance State offices are authorized and directed to sell or lease land under conditions prescribed by the State legislature.

With practically no available agricultural land in Federal ownership and a relatively small acreage of such land in State ownership, substantially all of the remaining 600,000,000 acres of land physically capable of producing crops, but not now so employed, are in private ownership. What proportion of the potential agricultural acreage in private ownership is on the market to be sold or leased is unknown. Nor is there any available record of the proportion of privately owned lands held for sale or lease which are physically and economically unsuited for crop production.

Railroads are possibly the largest private owners of land held for sale or lease. In 1928 the area of land so owned totaled 22,325,885 acres. The distribution of these lands is indicated in Figure 10 and the acreage held for sale or lease in the various States by the different railroads is shown in Table 6. The class of land and the terms of sale and lease are summarized in this table. Many of the railroads maintain agricultural and immigration departments to induce settlers to buy or lease their privately owned lands and to encourage the settlement and development of other lands within the territory they serve.

In addition to the railroads, there are innumerable private colonization, land-settlement, and miscellaneous agencies which own land and are interested in selling it. From a practical point of view these private agencies control most of the remaining land that is physically capable of crop production. Most of this land is economically submarginal because of low fertility, remote location, or the necessity of making heavy expenditure for clearing, drainage, irrigation, or soil improvement. Since only a small proportion of this land is likely to be required to meet the needs of population increase, its existence constitutes a serious problem. The competition between private agencies to dispose of such land, in spite of the fact that no more farm land is needed now, results in wasteful misuse of natural and human resources. Furthermore, until changes in public policy necessary to effect an economical utilization of land resources materialize, the vast acreage of submarginal land remains a constant menace to the prosperity and welfare of uninformed purchasers of land for farming purposes.

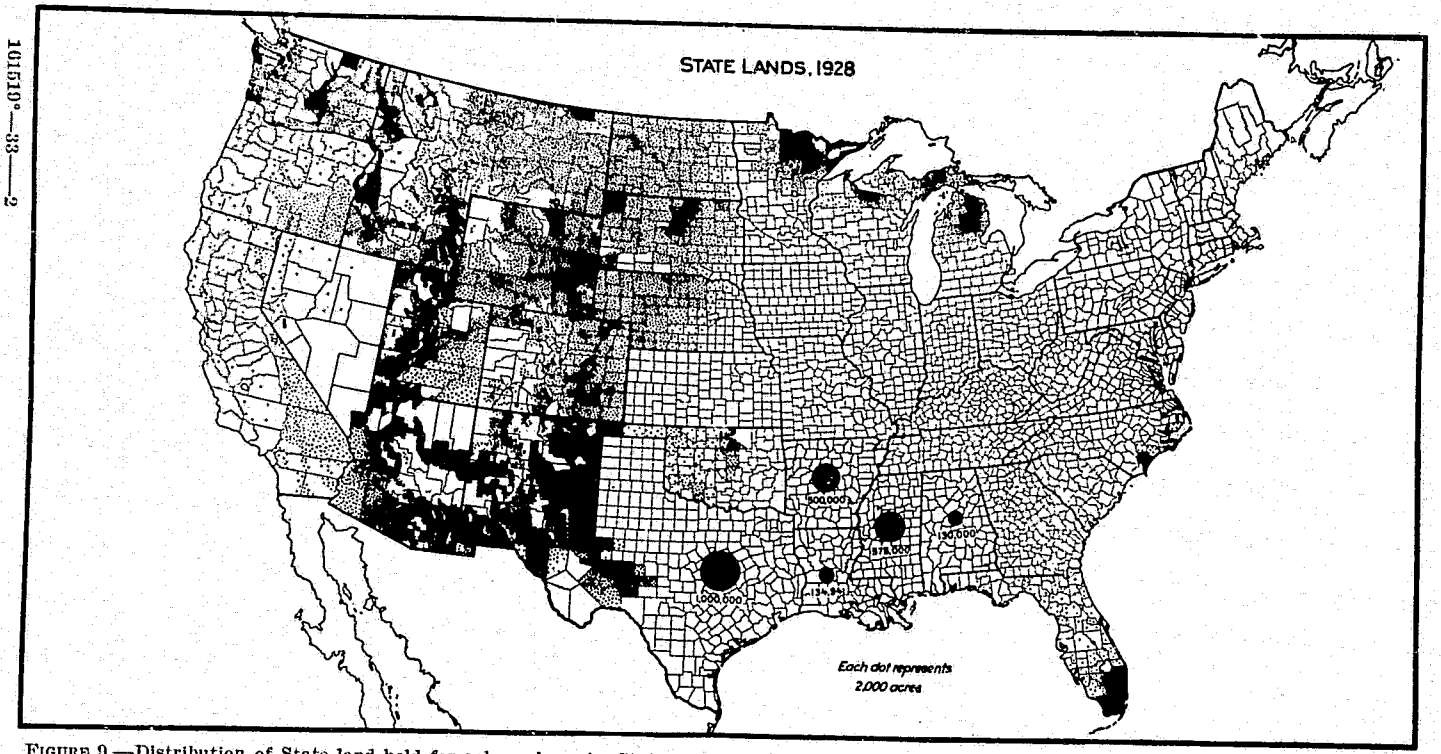

FIGURE 9.—Distribution of State land held for sale or lease by State agencies listed in the Appendix. For Texas, Arkansas, Louisiana, Mississippi, and Oklahoma, the statistics are only for the State as a whole. (Based on data obtained from State reports and correspondence with State officials, by F. J. Marschner, in 1928)

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TABLE 5.—*Acreage and terms of sale and lease of State-owned lands*

State	Total area	Terms of sale										Terms of lease			
		Maximum unit		Minimum selling price per acre [1]		Initial payment as percentage of sale price		Credit on balance				Minimum annual rental per acre		Maximum length of lease	
		Grazing land	Agricultural land	Grazing land	Agricultural land	Grazing land	Agricultural land	Grazing land		Agricultural land		Grazing land	Agricultural land	Grazing land	Agricultural land
	Acres	*Acres*	*Acres*	*Dollars*	*Dollars*	*Per cent*	*Per cent*	*Years*	*Per cent interest*	*Years*	*Per cent interest*	*Dollars*	*Dollars*	*Years*	*Years*
Alabama [2]	130,000	(3)	(3)	(4)	(4)	(5)	(5)	(5)	(5)	(5)	(5)	(4)	(4)	5	5
Arizona	8,939,757	640	160	3.00	25.00	5	[6] 5	38	5	38	5	0.03	0.62	5	5
Arkansas	1,500,000	(3)	(3)	1.00	1.00	100	100	0	0	0	0	(7)	(7)	(7)	(7)
California	738,169	640	320	(4)	(4)	10	10	9	6	9	6	(4)	(4)	10	10
Colorado	3,061,464	640	640	(4)	(4)	10	10	18	6	18	6	[8].08	[8].50	5	5
Florida	1,236,086	[9] 320	[9] 320	(4)	(4)	(10)	(10)	(10)	(10)	(10)	(10)	(4)	(4)	1	1
Idaho	3,205,058	[11] 320	[11] 320	10.00	10.00	10	10	40	6	40	6	.07	.50	5	5
Louisiana [12]	134,941														
Michigan	1,959,337	240	240	(4)	(4)	100	100	0	0	0	0	(13)	(13)	(13)	(13)
Minnesota	2,056,273	(14)	320	(14)	(14)	(14)	15	(14)	(14)	40	4	(14)	(14)	(14)	(14)
Mississippi [15]	575,000														
Montana	4,577,880	640	160	10.00	10.00	10	10	33	5	33	5	.06	(4)	5	5
Nebraska	1,591,656	640	(16)	(4)	(16)	25	(16)	10	6	(16)	(16)	(4)	(16)	25	(16)
Nevada	61,353	960	960	1.25	2.50	20	20	50	6	50	6	(7)	(7)	(7)	(7)
New Mexico	9,402,000	(3)	(3)	3.00	3.00	5	5	30	4	30	4	.03	.10	5	5
North Carolina [17]	106,000	(3)	(3)	(3)	(3)	100	100	0	0	0	0	(3)	(3)	(3)	(3)
North Dakota	1,442,476	640	160	10.00	10.00	20	20	20	6	20	6	.09	[18].50	5	3
Oklahoma [19]	691,395			7.00	20.00	5	5	40	5	40	5	.20	.70	5	5
Oregon	661,594	320	320	2.50	2.50	20	20	5	6–8	5	6–8	.10	.10	10	10
South Dakota	2,782,626			(4)	(4)	20	20	25	5	20	5	(3)	(3)	5	5
Texas [20]	3,000,240														
Utah	2,841,132			2.50	2.50	10	10	20	5	20	5	.05	.50	12	12
Washington	2,161,849	640	160	10.00	10.00	[21] 10	[21] 10	[21] 10	[21] 6	[21] 10	[21] 6	(4)	(4)	5	5
Wisconsin [22]	352,454														
Wyoming	3,584,238	(3)	(3)	10.00	10.00	10	10	30	4	30	4	(4)	(4)	5	5
United States	56,792,978														

Data obtained from State reports and correspondence with State officials between 1929 and 1931.

[1] Minimum prices given are set by legislation. In certain States this minimum is increased through special appraisal by State officials and/or by sale to highest bidder at public auction.

[2] Most of land is classed as mineral land which may be leased for mineral purposes for 20-year periods or purchased at appraisal price. Land may be leased for grazing and agricultural purposes for 5-year periods.

[3] No stipulated limit.

[4] Appraisal.

[5] Variable.

[6] Except in case of improved property when 10 per cent of purchase price is required as initial payment; 15 per cent in 30 days; balance in 5 years payable annually with 6 per cent interest.

[7] No lands leased.

[8] Minimum leased rentals: 8 cents per acre per year for grazing land without water, 12 cents with water; agricultural land from 50 to 75 cents.

[9] More than 320 acres may be purchased by advertising the lands for 30 days in some newspaper published in the county or counties in which lands are located.

[10] Credit terms obtainable: 20 semiannual payments with initial payment of 5 per cent; 10 annual payments with initial payments of 10 per cent; 5 semiannual or 5 quarterly payments with initial payments of 20 per cent.

[11] Public school lands, maximum 320; university lands, 160 acres.

[12] Lands withdrawn from market except for oil and gas leasing purposes.

[13] Land may be homesteaded through State conservation department. Clear title is obtainable after five years of continuous occupancy. Land is not leased.

[14] A few selected 40's partially improved by the State are called Improved State lands. These are sold at auction to settlers, who must agree in writing to establish residence, cultivate, and improve them within 18 months, costs of improvements to be paid within 5 years. Camp and summer cottage sites on State-owned lake-front land may be leased for 10-year periods at an annual rental of $12. No other land is leased and no land is classed as grazing land.

[15] Regulations relative to the sale and lease of lands are not available.

[16] All lands are classified as grazing lands.

[17] Mostly swamp land unfit for farming.

[18] Minimum rental for agricultural land: 50 cents per acre in western counties and 75 cents per acre in eastern counties.

[19] State-owned lands having oil and gas possibilities have been withdrawn from market except for oil and gas leasing purposes.

[20] No school land sold between 1925 and the fall of 1930; no information available relative to the sale or lease of land in 1930.

[21] A second credit plan provides for an initial payment of 5 per cent of purchase price. No further payments are required on principal until the eleventh year. Four per cent interest is charged on deferred payments. The balance after the eleventh year is payable in 10 annual installments with interest at 6 per cent on deferred payments.

[22] No State lands sold since 1913. Lake frontage may be leased. Timber on remaining land is sold.

TABLE 6.—*Location, areas, and general terms of sale of railroad lands available for agricultural purposes in 1928, by companies and States in which lands are located*

Company	State	Area	Terms of sale			
			Price per acre	Initial payments as percentage of price sale	Credit on balance	
					Years	Rate of interest
		Acres	*Dollars*	*Per cent*	*Number*	*Per cent*
Northern Pacific Railway	Idaho	28,676	1.75–20	16⅔	5	6
	Minnesota	46,901				
	Montana	4,553,006				
	North Dakota	189,614				
	Oregon	85,782				
	Washington	340,227				
	Wisconsin	1,925				
	Wyoming	35,516				
Southern Pacific	California	4,738,488	.50–150	10	10–19	
	Nevada	4,116,573				
	Utah	615,564				
Atchison, Topeka & Santa Fe Railway system	Arizona	2,721,447	(1)	12½	7	6
	California	1,000				
	Kansas	10,556				
	New Mexico	2,006,509				
	Texas	70,198				
Union Pacific system	Colorado	20,226				
	Kansas	2,105				
	Nebraska	10,317				
	Utah	12,490				
	Wyoming	785,853				
Chicago, Rock Island & Pacific Railway	Minnesota	69,011	2.00–10		10–15	6
Duluth and Iron Range Railroad	Minnesota	416,211	2.00–10		10–15	6
Minnesota, St. Paul & Sault Sainte Marie Railway	Wisconsin	350,000	5.00–15	25	3	6
Florida East Coast Railroad	Florida	348,976	25.00–250	25	2–3	6–8
Missouri Pacific Railroad	Arkansas	318,220	7.50–15	25	3	6
Seaboard Air Line Railway	Florida	172,000	10.00–300	20	4–5	6
Great Northern Railway	Minnesota	92,070	3.00–20	10	4	6
Mobile & Ohio Railroad	Alabama	18,626		25	1–3	6
	Mississippi	56,698				
Chicago, St. Paul, Minnesota & Omaha Railway	Wisconsin	26,979	7.00–40	33⅓	4	6
Chicago and North Western Railway	Michigan	50,000	3.50–5	100	0	0
Nashville, Chattanooga & St. Louis Railway	Tennessee	3,020	3.00–20	25		

Information obtained from railroad officials.

[1] No average sale price of land in all States is available. Prices in New Mexico range from $1 to $4; in Texas from $15 to $20; and in California the average price is reported as $250 per acre.

Private owners can not be expected to remove their land from the farm-land market until the tax laws are modified, particularly with respect to the taxation of undeveloped real estate and until new public policies of land utilization are adopted. In fact, in many States undeveloped land is taxed on a basis of its estimated value for agricultural purposes, apparently almost without regard to its demand for that use. Consequently large areas of land revert to public ownership through tax delinquency.

Owners of undeveloped land subject to sale, who continue to carry the load of taxation, increasingly try to dispose of their holdings. Some active land-settlement and colonization companies are doing constructive work, but the results of a survey (fall of 1929–spring of 1930) of the "literature" used by and practices of 1,258 of these agencies operating in all parts of the United States indicated that a large number are preying on the public in general and the unin-

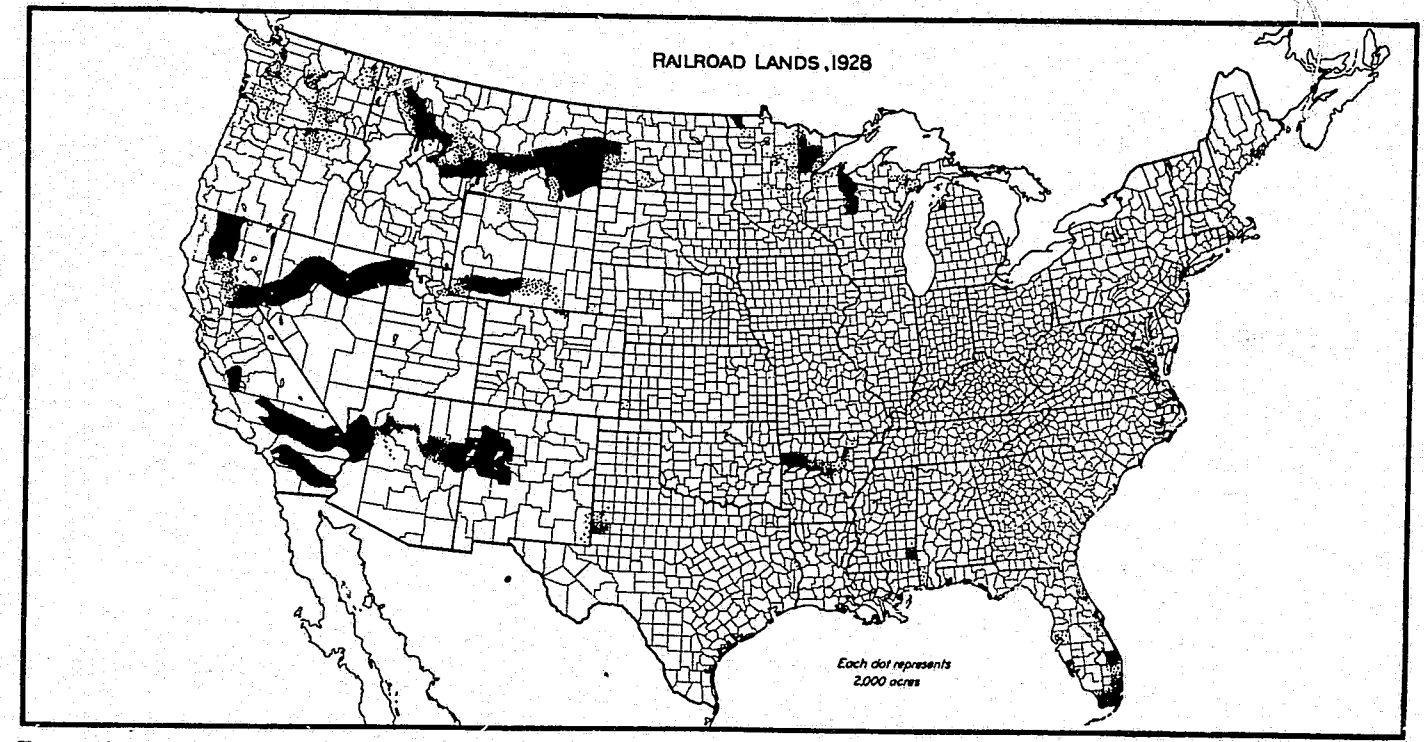

FIGURE 10.—Practically all of the railroad lands are located in the arid and semiarid western half of the United States where dry farming, irrigation farming, and grazing prevail. (Data obtained through correspondence with railroad officials by F. J. Marschner, Division of Land Economics, U. S. Dept. of Agr., 1928)

formed prospective settler in particular. Many companies in interstate business manage to avoid specific misrepresentation by using ambiguous phrases and half truths, and by making skillful omissions from their glowing accounts of profits to all purchasers. The fact that 46.7 per cent of these companies are selling land in more than one State indicates the need for coordinated State and Federal land-utilization policies.

DEMAND FOR LAND FOR AGRICULTURAL PURPOSES

POPULATION TRENDS AND ESTIMATES OF ECONOMIC NEED FOR MORE FARM LAND

Students of population statistics[6] have concluded within recent years that, barring increases in birth rates or changes in immigration laws permitting immigration increases, the population of the United States will reach a stationary stage at about 150,000,000 or less by 1960 or before.

With approximately 600,000,000 acres of land physically capable of producing crops, which are not now so employed, and with a potential increase in population of only a comparatively few million people, the problems of land utilization become increasingly important. It has been estimated (*15, p. 494*) that only about 373,000,000 acres of crop land would be needed to supply a population of 150,000,000.

On this basis less than 50,000,000 acres of crop land in addition to our present crop acreage will be needed to supply a stationary population of about 150,000,000. The possible reversion of present crop acreage to some other use because of erosion and depletion of fertility, the possible changes in tariff laws, the quantity of different kinds of foodstuffs that will be exported or imported, and the uncertainty of future changes in consumption and in production technic, make an exact prediction as to acreage of new land needed for crop production exceedingly hazardous.

It is difficult to avoid the conclusion that there is now, and probably will be for many years to come, an economic need for only a comparatively small increase in net crop acreage. This suggests the need for conservatism in the expansion of agriculture. In many parts of the country the problem might resolve itself into one of effecting more economical use of land already in farms. In other parts, abandonment of submarginal farms and a resettlement program in general may be the result. In still others, favorable climatic and other conditions may permit considerable increase in the acreage of farm land at the expense of land now in farms in areas less favorably situated.

MOVEMENTS OF POPULATION TO AND FROM FARMS

The expansion of our farm area between 1910 and 1920 (increase of 77,085,390 acres) as compared with an increase of approximately half as much acreage (40,206,551 acres) between 1900 and 1910

[6] W. I. Thompson and P. K. Whelpton of the Scripps' Institute of Population Research; Louis I. Dublin, the Metropolitan Life Insurance Co., New York City; Robert Kuczynski, Brookings Institute, Washington, D. C., and O. E. Baker, U. S. Department of Agriculture.

was followed by an increase of 30,887,301 acres in farms between 1920 and 1930 (*38*). That a large part of this expansion was not economically justified is suggested in the long continuance of low prices for agricultural crops, and the larger movement of people from farms to city than from cities to farms, between 1920 and 1930. Annual estimates of movements to and from farms since 1922 are available. (Table 7.) The peak loss to farms occurred in 1922 when 1,120,000 more people moved to cities than from cities to farms. There was almost as large a net loss in 1926, but a definite check in the movement seems to have taken place during 1930 when the net loss to farms was only 151,000 people, probably largely because of urban unemployment.

TABLE 7.—*Movement to and from farms in the United States, 1922–1931*

Year	Persons leaving farms for cities	Persons arriving at farms from cities	Net movement from farms to cities [1]	Year	Persons leaving farms for cities	Persons arriving at farms from cities	Net movement from farms to cities [1]
	Number	*Number*	*Number*		*Number*	*Number*	*Number*
1922	2,000,000	880,000	1,120,000	1927	1,978,000	1,374,000	604,000
1923	(2)	(2)	(2)	1928	1,923,000	1,347,000	576,000
1924	2,075,000	1,396,000	679,000	1929	1,876,000	1,257,000	619,000
1925	1,900,000	1,066,000	834,000	1930	1,543,000	1,392,000	151,000
1926	2,155,000	1,135,000	1,020,000	1931	1,472,000	1,679,000	−207,000

Estimates made by Division of Farm Population and Rural Life, Bureau of Agricultural Economics, The Agricultural Situation (*13*, p. 8).

[1] Births and deaths not taken into account.
[2] No estimate.

During 1931, 207,000 more people moved from cities to farms than from farms to cities. This was the first year for which figures are available that the movement to farms exceeded the movement to cities. Business depression and heavy unemployment in cities stimulated the countryward trek in spite of the fact that farmers in general experienced as much if not more difficulty in earning a satisfactory income from their farms in 1931 than during the previous decade when the farm to city movement greatly exceeded the opposite flow. The cityward movement left a trail of vacant farmsteads which attracted the unemployed city families in 1931. Many hundreds of farms in the older crop regions had been rendered economically obsolete by boll-weevil invasion, inefficient farm practices, and erosion and loss of soil fertility. The consolidation of farms and the use of large-scale farm machinery and other improved methods of production technic, particularly in wheat and cotton production, probably account for a part of the excess movement from farms to cities previous to 1931. Misinformed and misdirected expansion programs carried on by private and public interests account for a large number of abandoned farms in cut-over regions and other newly developed areas such as drainage, levee, irrigation, and other improvement districts. This is particularly true of expansion programs started during a period of high prices and completed during a period of falling prices.

In general, it might be said that, with a few notable exceptions described in other parts of this bulletin, the State and private land-settlement agencies interested in attracting settlers to their respective

States have taken little or no account of the suitability of the land for cultivation or of the work required and the capital necessary before the settler could develop his tract of land into a "going concern." Likewise, little or no attention has been paid to selecting the settler on the basis of personal and family qualifications for developing a farm and successfully practicing the type of farming best suited to the area in question. As a consequence, many communities, and in some instances large parts of entire States, were partly developed by settlers who were doomed to failure from the beginning. The continuance of such haphazard land-settlement policies under existing economic conditions means little chance to avoid disaster to the settlers, to the land-selling agencies, and to the communities.

DECREASE IN IMMIGRATION

The prospective supply of potential settlers is much smaller than it was before the immigration laws were modified and the best lands were occupied. Before the great development of industrialism in the United States, a large proportion of the pioneers on farms consisted of foreign immigrants. This condition has changed materially since the beginning of the World War, if the assumption is correct that the immigrants classed as farmers and farm laborers represented a large proportion of all immigrants who went to the farms. The number of farmer and farm-laborer immigrants admitted to this country decreased markedly during the period 1909–10 to 1914–15 and reached the low level of 7,121 in 1917–18. The high point reached since 1914–15 was 54,682 in 1920–21. (Table 8.)

TABLE 8.—*Immigration and emigration of alien farmers and farm laborers, United States, 1909–10 to 1930–31*

Year ended June 30	Aliens admitted	Aliens departed	Net movement (immigrants)	Year ended June 30	Aliens admitted	Aliens departed	Net movement (immigrants)
	Number	*Number*	*Number*		*Number*	*Number*	*Number*
1910	300, 538	6, 097	294, 441	1921	54, 682	12, 578	42, 104
1911	185, 712	18, 078	167, 634	1922	18, 285	7, 726	10, 479
1912	191, 818	11, 785	180, 033	1923	38, 408	2, 648	35, 760
1913	333, 285	10, 068	323, 217	1924	47, 812	1, 834	45, 978
1914	302, 495	11, 295	291, 200	1925	29, 807	1, 631	28, 266
1915	31, 241	5, 909	25, 332	1926	27, 110	1, 512	25, 598
1916	33, 090	4, 270	28, 820	1927	34, 022	1, 546	32, 476
1917	30, 092	4, 670	25, 422	1928	32, 934	1, 764	31, 170
1918	7, 121	4, 607	2, 514	1929	28, 158	1, 632	26, 526
1919	8, 345	3, 094	5, 251	1930	22, 111	1, 700	20, 411
1920	27, 440	14, 016	13, 433	1931	6, 165	2, 278	3, 887

Taken from the annual reports of the Commissioner General of Immigration (*42*) for the years indicated.

No statistics are available to show how many of the farmers and farm laborers actually went to the land. That it is no longer the haven for many of them is suggested by the decrease in foreign-born white farm operators from 669,556 in 1910 to 581,068 in 1920 (*38, p. 295*) and to 474,083 in 1930 (*39, p. 27*). These figures suggest further that the old foreign-born white owners are passing away, retiring, or entering other occupations, and that new foreigners are now taking their places.

More restrictive immigration barriers and changed industrial and economic conditions during the last decade tend to make the number of qualified prospective settlers more limited than ever before. No one knows how permanent these conditions are. However, on the basis of our present knowledge with respect to the need for increasing our net crop acreage to meet future demands for farm crops, competition between land-selling agencies is likely to increase. A constructive public policy which recognizes the need for making possible the utilization of land for purposes other than agricultural would tend to remove from the farm-land market much of this privately owned land.

PUBLIC LAND-SETTLEMENT POLICIES

In general, the Federal and State settlement policies of the past aimed at getting undeveloped land into farms. Little or no attention was given to the use for which land was best adapted. As long as large areas of good agricultural lands were unoccupied and a heavy demand for farm land existed, the evils of these haphazard settlement policies were not so obvious as they are under present conditions. The American agricultural experience, generation after generation, has been that land values rise and that a poor man could buy land cheaply and see his grandsons well-to-do farmers through the mere growth of the community and the rise in land values.

In fact, until about 1920, a rapid increase of land in farms in the United States was accompanied by a similar increase in the value per acre of farm land and buildings except for the period 1880–1900. (Table 9.)

TABLE 9.—*Land in farms and value per acre of farm land and buildings in the United States*

Census year	All land in farms	Value per acre of farm land and buildings	Census year	All land in farms	Value per acre of farm land and buildings	Census year	All land in farms	Value per acre of farm land and buildings
	Acres	*Dollars*		*Acres*	*Dollars*		*Acres*	*Dollars*
1850	293, 560, 614	11. 14	1890	623, 218, 619	21. 31	1925	924, 319, 352	53. 52
1860	407, 212, 538	16. 32	1900	838, 591, 774	19. 81	1930	986, 771, 016	48. 52
1870	407, 735, 041	18. 26	1910	876, 798, 325	39. 69			
1880	536, 081, 835	19. 02	1920	955, 883, 715	69. 38			

Based on Bureau of the Census reports.

Previous to 1900 agriculture was advancing, in general, on to better and better land, and prices of farm products were comparatively low. The increase in value of farm land and buildings was, consequently, comparatively low. After 1900, however, when settlement advanced to the poorer and drier soils of the West the value of land increased more rapidly than during the previous decades. The World War accounts for the very rapid increase between 1910 and 1920. Then came the precipitous decline in the value of farm real estate during the last decade, and there are many indications (March, 1932) that the bottom has not been reached.

The settler of to-day must face problems quite different from those that confronted the pioneers who settled the prairies and the Great Plains. In these areas the land was level and clear of trees. A start could be made with a relatively small amount of capital. The prospects for large increases in the value of land were bright. Land-settlement policies which were applicable under such conditions are no longer adequate. Social controls of the direction of settlement were then lacking, but they were probably not so necessary as they now are to direct the flow of immigrants to lands best suited for farming purposes and to insure adequate educational, transport, and other public services deemed necessary to maintain minimum American standards of living.

FEDERAL LAND-SETTLEMENT ACTIVITIES

THE PUBLIC DOMAIN

It is estimated that the public domain, or all lands which were owned by and were subject to sale or other methods of transfer to private ownership at any time by the Federal Government, totaled 1,442,220,320 acres. Only 12.4 per cent of this area remains to be disposed of.

Practically all of the remaining public domain is in 11 Western States. Only a small part is suitable for cropping or for growing timber; some of it is absolute desert; and the highest use for most of the remaining area, if it can be used at all, is for grazing under conditions that require a very large acreage per head of cattle or sheep. Since 1922 there has been a gradual decrease from the 10,000,000 to 14,000,000 acres patented annually during the previous decade to less than 2,000,000 (1,938,864) acres patented during the fiscal year ended June 30, 1931. Although unfavorable prices for farm products may have had some effect, the fact that little of the remaining public domain is worth homesteading under the terms of existing acts is the direct cause of the decrease.

The legislation which played an important part in the disposition of the public domain has outworn its usefulness. With the exception of calling attention to the preemption acts repealed by Congress in 1891 only the more important kinds of legislation which are still in force are reviewed in this bulletin.

PREEMPTION ACTS

The preemption act passed in September, 1841, and repealed 50 years later, is considered one of the most important of all land laws enacted in the United States up to that time. It established the right of settlers to settle on and improve unappropriated public lands and later buy them at a minimum prevailing price. The act gave the actual settler the privilege or preferential right to buy a tract of land without competition from speculative and other nonresident potential purchasers. In short, the act as finally amended eliminated competition in the case of the purchase of public land by any person 21 years of age or older if he resided on it, had partly improved it, and did not own 320 acres. The law permitted him to buy at $1.25 or $2.50 per acre, a maximum of 160 acres of such public land.

HOMESTEAD LAWS

The original homestead law has been amended several times, and each amendment has granted more liberal terms to actual settlers. In substance the present law grants, without charge except for registration fees, to every applicant who is the head of a family or above 21 years of age, 160 acres (or more, under certain circumstances and special acts) of public land open for entry on condition of actual settlement on and improvement of the land. The title to the land passes to the homesteader after three years of residence on the land and compliance with other minor stipulations. Under this law more than 1,333,000 homesteads, representing more than 200,000,000 acres, have been patented.

Possibly the greatest weakness of the original homestead act was the fact that it limited the size of a homestead to 160 acres. In actual practice twice that acreage in the western half of the United States is not enough, whereas in some parts of the eastern half of the country, 80 acres are enough, to establish a profitable family-sized farm enterprise. Commonly, the acreage of semiarid land that could be homesteaded was too small to support a family comfortably if used for grazing and too large if used for irrigated farming. To remedy this situation west of the one hundredth meridian, Congress in 1909 passed the enlarged homestead act which made it possible to obtain 320 acres of nonirrigable land as a homestead in certain States.[7] The fact that only slightly more than 2,500,000 acres out of a potential 193,000,000 acres of land classed as suitable under this act were actually homesteaded proves that the act is not solving the western homesteaders' difficulties. In 1916 Congress passed the stock-raising homestead act which provided that 640 acres of land suitable only for grazing or forage shall be the maximum homestead. A large proportion of the grazing homesteads, however, were also too small to maintain enough stock for a reasonable standard of living. Many grazing homesteads were patented and later sold to stockmen who owned or were acquiring large ranches.

As lands in the remaining public domain are for the most part nonagricultural in character, the homestead laws have outlived their economic usefulness. It is unlikely that in the future any large area will be taken up under existing homestead provisions, but a few persons probably will continue to enter land under the misapprehension that it will provide an adequate livelihood for a family. Lands will also be homesteaded with the object of selling out to ranchmen who own adjoining lands.

DESERT LAND ACT

The desert land act, approved March 3, 1877, was designed to promote the reclamation of lands (exclusive of timber lands) which will not produce some agricultural crop without irrigation. Under this act, title to 640 acres of desert land could be obtained at the rate of $1.25 per acre. Six hundred and forty acres was

[7] With amendments to the act of 1909 the entry of 320-acre homesteads was authorized in the following States: Arizona, California, Colorado, Kansas, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming. (Gen. Land Off. Circ. 541 (*35, p. 39*).)

granted on the assumption that land the entryman could not use could be sold to help him bear the cost of reclaiming 80 acres. In 1890, Congress limited the area obtainable by one entryman to 320 acres and stipulated that a minimum of $3 per acre or an average of $1 per year for three years must be used for reclaiming the land. Patent to homesteads is not issued until proof of reclamation is made.

The weaknesses of the desert land act are many. It failed to provide for a plan of irrigation and was applicable only to tracts that could be irrigated economically by an individual irrigation system. As a consequence much land passed into private ownership because of inadequate irrigation schemes. Inability of the majority of entrymen to supply their own irrigation systems and difficulty of establishing an irrigation district and getting a private engineering company to undertake the task of constructing irrigation works until the entrymen had title to the land, which in turn could not be obtained before the land had been improved, resulted in failure of the act to fulfill the promises of its advocates.

Figures on the actual acreage of desert-act lands that were improved are not available. Of the 32,756,082.37 acres entered under this act until June 30, 1931, slightly more than a fourth (8,635,284.56 acres) has been patented (*32, p. 42*).

The weaknesses of this act stimulated the movement for State ownership of desert lands. It was argued that large landed estates would be built up under the act without improving the land and that irrigation operations required close supervision which the States could extend better than could the Federal Government.

CAREY ACT

The Carey Act (act of August 18, 1894) was passed by Congress to overcome the weakness of the desert land act and to meet the growing demand for turning the desert land over to the various States in which it was located. Under this act the Government agreed to donate 1,000,000 acres to each State having arid land (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, South Dakota, Utah, Washington, and Wyoming) on condition that the State provide for its reclamation. Additional grants were made to Idaho and to Wyoming, the only States that applied for more than 1,000,000 acres.

This act authorized the States contracting for the land to exercise full regulatory powers over the reclamation and settlement of the land. Under the contract between the States and the United States Department of the Interior, the State assumes the responsibility for the reclamation and sale in small tracts not exceeding 160 acres to any one individual of the lands segregated under the act, and binds itself to cause to be irrigated, reclaimed, and occupied, not less than 20 acres of each 160-acre tract cultivated by actual settlers within 10 years after the date of the approval of the State's application for the land. In the operation of the Carey Act the work of reclamation is undertaken by private enterprise under contract with the State.

Before the State enters into contract with a private construction agency, it must pass upon the feasibility of reclaiming land under the plan proposed by the construction company, the sufficiency of

water rights, the capacity of the proposed works to irrigate all lands selected, the reasonableness of the cost of construction, and the financial ability of the company to construct the project. The contract with the construction agency contains complete plans and specifications for all proposed works and the maximum price and terms per acre at which water rights shall be sold to settlers, the maximum maintenance cost, annual tax, and the price and terms upon which the land is sold to the settlers by the State.

Citizens who wish to take up Carey Act land must contract to settle upon and improve the land. Three years after receiving adequate water on the land, each settler makes final proof of reclamation, settlement, and occupation of his tract of land; makes final payment to the State; and receives a patent or deed from the Federal Government through the State for his land.

The law provides that a lien for the reimbursement of construction charges is held by the contractor against every separate legal subdivision of land reclaimed. This lien is for the actual cost and necessary expenses of reclamation, and must be paid by the settler in addition to the price paid to the State for the land.

The Twin Falls area in Idaho is an example of the successful development of a Carey Act project. In a little less than the 20 years during which the project was developed, the assessed valuation of the area in the project had increased from the value of a sagebrush wilderness to $29,164,979. All the irrigated land had been settled, and the old private company that built the works had been completely paid off.

But the majority of Carey Act land projects have not fared so well. Up to June 30, 1931, out of a total of 8,465,601 acres applied for, 4,399,881 acres, or 52 per cent, had been rejected before segregation; 2,062,110 acres, or 24.4 per cent, had been canceled after segregation; and only 1,174,903 acres, or 13.9 per cent, had been patented (*22, p. 52*). These figures do not bear out the hopes of the sponsors of the Carey Act. The promotion of many of these projects was financed by funds advanced by settlers and not by the promoters; ill-advised projects were a natural consequence.

In January, 1921, Congress passed an amendment to the Carey Act designed to curtail hurried and ill-advised projects. By this amendment the Secretary of the Interior is authorized to restore segregated land to the public domain unless actual construction work is begun within three years or if the land is not actually irrigated within 10 years. The evident weakness of this act hurried the passage of the act providing for Federal construction of irrigation works.

FEDERAL RECLAMATION ACT

A series of Federal legislative acts aimed to remove the obstacles to the establishment of small owner-operated farms on western lands that need irrigation. Beginning with attempts to remove the obstacles to reclamation by private enterprise, these culminated in the passage of the reclamation act on June 17, 1902. The act provided for Federal construction of irrigation works, with advances of Federal funds for long periods without interest—a partial subsidy.

Up to the present time national land-reclamation policy has been confined entirely to providing water for arid lands. Although there

have been many proposals within the last decade to extend the system of Federal reclamation to include the drainage of swamp lands and the scope of the policy to cover the United States, no such legislation has been enacted, aside from flood-control measures administered by the War Department which frequently involve the reclamation of land. The diking of Lake Okeechobee in Florida, and making navigation possible from this lake to the Atlantic and the Gulf, is a project of this latter class. A levee was constructed around Lake Okeechobee to provide protection against overflow from storm tides in the lake. This levee does not result in draining swamp lands around the lake.

The Federal reclamation act provides that repayments of construction costs are to constitute a revolving fund to promote further reclamation of lands. But, throughout the 25 years and more since the establishment of the policy, the fund has failed to revolve as fully as was originally planned, necessitating a series of acts, lengthening the period of repayment or embodying special relief measures.

Up to June 30, 1931, $206,041,522.20 of interest-free Federal money was represented in works constructed, and the Bureau of Reclamation was ready to supply water to a total of 3,634,112 acres.[8]

The use of interest-free Federal funds to construct irrigation works brings land into cultivation that could not be reclaimed profitably without such a subsidy. In fact, when interest is not charged on advances for construction, a farmer can assume a larger indebtedness than if interest payments must be made. When such charges have to be met the net income from farming decreases accordingly and the farm must be recapitalized on a lower level of value.

Briefly, the ultimate effect of the subsidy is to stimulate the reclamation of lands from which probable earnings would not justify the large capital outlay after interest must again be taken into account. Furthermore, interest-free funds strengthen the motives for exerting political pressure for reclamation projects and make it difficult to avoid ill-advised undertakings (*37*).[9]

STATE LAND-SETTLEMENT ACTIVITIES

The special interests of the States in policies that promote the establishment of prosperous farming communities are justified on the basis that such communities mean increased business for local private enterprises and increased tax money for public service. Unoccupied and unused land has little capital value. If the land is converted into improved farms, forestry projects, recreation centers, or other uses to which it may be adapted, the taxable value immediately becomes apparent. Too frequently, however, communities let their zeal to obtain new settlers obscure the consequence of permitting a sparse and scattering type of settlement.

The costs per unit of area for adequate schools, roads, and other public services in such areas are not much less than in a well-developed area. The tax load on farm property and on lands that yield no income, has a tendency to promote the reversion of land to public ownership through nonpayment of taxes, and to pyramid the tax load

[8] Includes Warren Act lands (*27, pp. 60, 90*).

[9] For a more detailed discussion of past and present land reclamation policies of the United States, see Department Bulletin 1257 (*36*).

on remaining tax-paying land, leading to farm abandonment and additional tax delinquency (*17*, *18*). This is evident in many sparsely settled areas to-day. Attempts to farm land that is physically unsuited for agriculture lead to similar evils.

Disillusioned settlers, decay of community enterprise, and other social and economic losses, have always followed unwise expansion of the agricultural area. This fact has not been recognized in the many State laws concerning the settlement of land. Until recent years the States, with few exceptions, left the settler to the private land-selling agencies, or seconded the efforts of these agencies in attracting settlers. The evil results of a laissez faire policy of land settlement and the changed outlook for obtaining settlers induced many States to adopt special policies for attracting settlers, during or since the World War, both supplying credit to settlers and establishing colonies of settlers.

Information concerning State policies and other activities which in one way or another influenced land settlement, was obtained for the purposes of this bulletin, by interviews with officials in the majority of States, and by correspondence with officials in the remainder. These materials have been supplemented by the use of State reports and other publications concerning the different phases of land-settlement policy in the States.

Results of this study showed that, although the consequences of haphazard settlement are fairly well recognized, the State legislatures in general have not enacted substantial legislation to cope with existing problems. Several of the States have undertaken highly desirable work along certain lines, but no State has formulated an adequate land-settlement policy.

In no State does a single office administer the variour laws that concern land settlement. As a consequence, continuity in policy is handicapped. The land-settlement policy of no State is in direct conformity with the letter of laws pertaining thereto. Many laws and features of particular laws have never been enforced; or they have not been enforced during the last several years. Funds have not been available, there have been changes in executive policy, or there have been other reasons. In Minnesota, for example, although the statute creating a State board of immigration and outlining its duties has not been repealed, the work of the board was discontinued through failure of the 1927 legislature to appropriate any funds for the board. In other States appropriations for specific types of work authorized by law have been reduced or new uses have been found for funds formerly employed for a particular purpose under authorization granted by a land-settlement law which has outlived its usefulness but has not been repealed.

Thus in describing the administrative policy of offices concerned with one or more phases of land settlement, a description of all State laws designed to promote, direct, and/or regulate one or more phases of land settlement is likely to be misleading. No attempt has been made in this bulletin, therefore, to describe all existing State laws on the subject. The purpose has been to review the experience of various offices in administering particular laws and types of legislation expressed in important prevailing policies of the different States.

The land-settlement policies appear to group themselves as follows: (1) Policies to get the settler on the land, (2) policies to finance the settler, and (3) land-settlement regulatory policies. Many of these policies failed to accomplish the ends sought. Underlying the many reasons that might be given for the failure of such policies is the lack of coordinated effort on the part of various State and Federal offices dealing with different phases of land settlement. The various classes of legislation concerning one or more phases of land settlement are administered independently of one another rather than as integral parts of one program. Overlapping and contradictory practices are a natural consequence.

Although a particular policy may have been destined to failure from the beginning because of inherent weaknesses, the fact should not be overlooked that it was after, and not before, most of the policies referred to were put in force that the factors have developed which recently so profoundly influenced agricultural supply and demand. The Federal immigration laws have been made more stringent; birth rates have showed a decided tendency to decline; horses have been replaced by tractors to a great extent and other far-reaching changes in production technic have become more or less generally practiced; foreign demand for crops produced at a price which would bring a profit to American farmers has decreased; and marked changes have also taken place in the consumption habits of people in the United States.

These and related factors which undoubtedly operated to promote the failure of certain State policies here considered had not been foreseen. A certain degree of failure was inevitable when such factors were combined with the obstacles that arise when a political entity like the State, or the Federal, Government attempts to promote agricultural expansion through subsidies or other artificial means. Private industry always has and probably always will provide for the needful expansion of the agricultural area. Our past experience suggests that the function of the Government in such an expansion program is, in general, to provide the necessary factual information and the regulatory measures needed to direct settlement to those areas capable of being developed most economically.

POLICIES TO GET THE SETTLER ON THE LAND

Among the first regularly organized efforts of the States to induce settlement was that by which each State advertised its attractions and opportunities. Private and public institutions used practically the same forms of advertising. Inducements used to interest people in going into a new country and taking up or buying land included extravagant posters and printed material scattered broadcast through the mails; exhibition trains decked with banners and loaded with fruits, vegetables, and grains impossible to duplicate under ordinary farming conditions; homeseekers' excursions; elaborate exhibitions and professional lectures; and virtual promises of quick and easy riches.

The futility of such practices from a public point of view has been demonstrated. Although much remains to be corrected, many of the States are now making effective efforts to confine their adver-

tising to a conservative statement of facts. The policy of many States, particularly the New England States, to emphasize the use of abandoned farms for summer homes and other recreational purposes rather than as potential profitable farming enterprises is a movement in the right direction.

Up to 1930 State agencies in 24 States [10] were authorized by law to collect, compile, and disseminate to would-be settlers and others, available information concerning the climate, soil, resources of the State, and any other factors which might have a tendency to attract population and capital to the State.

The publications may be maps, circulars, folders, bulletins, etc. Special articles concerning the State's resources are prepared for publication by officials in practically all States. In most of these States such special articles are released at irregular periods, but in South Dakota the secretary of agriculture prepares a weekly article that is given wide distribution. Ten States (Georgia, Kentucky, Louisiana, Maine, Massachusetts, New Hampshire, Tennessee, Vermont, Virginia, and West Virginia) publish descriptions of farms for sale or rent.

In Louisiana any citizen may register land held for sale in the office of the commissioner of agriculture and immigration. An abstract of title and a brief description of the property must accompany the request to register land. Letters requesting names and addresses of agencies having lands for sale are mailed to chambers of commerce and to local newspapers. Information obtained from agencies and others who have land for sale is condensed and published in an annual list of Louisiana lands for sale bulletin. Prospective purchasers who inquire of the department are referred to the owners of land listed in the bulletin. The West Virginia Department of Agriculture publishes semimonthly a list of farms for sale; about 50,000 copies of this list are distributed monthly. Approximately 10,000 copies of a similar list are distributed monthly in New Hampshire.

Many States still maintain the policy of advertising extensively by means of exhibits of agricultural products. Some maintain permanent exhibits in the State capitols or other public buildings; others send annual exhibits to State and county fairs.

With a few exceptions, the expenditure for advertising the resources of the State has been eliminated or appreciably curtailed during the last few years. The decrease of activity is due less to an appreciation of the lack of an economic need for more farm land than to the feeling that prospective settlers are few in number and the cost of extensive advertising is too great for the results obtainable. Officials in general stated to the writer that as soon as "agriculture picks up" extensive advertising campaigns would again be the practice.

The States in which extensive advertising campaigns have not been curtailed, or have been made more intensive, seem to have shifted their emphasis from attracting prospective farmers to attracting tourists. For example, in 1927, the Minnesota Legislature abolished the State board of immigration by failing to appropriate funds; the bureau had been spending about $3,000 a year in

[10] See Appendix for names of State agencies.

classified advertisements to get in touch with prospective farmers. To-day the legislature supports the work of the Ten Thousand Lakes—Greater Minnesota Association with an annual appropriation of $37,500. The purpose of this association is to advertise the recreational and agricultural resources of the State. Its main support comes from real-estate agencies and resort owners. The names of prospective settlers or purchasers of resort property are mailed to each real-estate dealer who pays a $10 annual due to the association.

Similarly, in 1929, the Michigan Legislature authorized an appropriation of $200,000 for the biennial period ended July 30, 1930, for advertising the resort and farming advantages of the State by matching dollar for dollar up to $25,000 annually with each of four private and semipublic promotional organizations.

HELPING THE SETTLER GET LOCATED

Virtually every State is engaged in advertising its resources for the purpose of attracting settlers and capital, but at this point, with few exceptions, the State withdraws and turns the prospective purchaser or investor over to the private land-selling agency. That this policy should be adopted by the majority of States is not surprising when it is remembered that an unbiased set of basic facts necessary to evaluate farming possibilities has not been made available in any State. The land-inventory work in Michigan, Wisconsin, and Minnesota, is supplying needed facts, but even in these States a well-rounded policy is lacking to direct the prospective purchaser of land to good farm property. (See pp. 71 to 76.)

Several States make a more or less cursory attempt to check up on the reliability of real estate agencies before names of prospective purchasers are turned over to them. In most States, however, the names and addresses of inquirers are given directly to real-estate agencies and State officials tell the prospective settler to look over any land carefully before buying. Without adequate facts on rational land utilization in this or that section of the State, the settler lacks guidance.

Michigan makes a positive attempt to get the prospective settler in touch with reliable land-selling agencies and at the same time makes available to him an unbiased analysis of the possibilities of establishing profitable farming on the types of land held for sale by the land companies. This work grew out of a land certification act passed by the Michigan Legislature in 1923. The act provides that any dealer in land, upon request to the State department of agriculture, may have his land surveyed, inventoried, charted, and certified as to the use for which it is found to be best suited. All work is to be under direction of the State department of agriculture at the expense of the applicant. The act provides that a copy of State certification is to be attached to each deed for conveyance of land. Only 15,885 acres of land have been certified under this act, and no land has been certified since December, 1925.

The ineffectiveness of this law, so far as directing land settlement is concerned, is suggested by the fact that most of this small-acreage was ordered certified by trustees of estates and not by land-selling agencies. This act represents a constructive attempt to protect

both the unwary settler and the legitimate land-selling agency from those agencies which prey on the public and the uninformed prospective settler. Before much good can result from a law of this kind, however, its use must be obligatory and not optional on the part of sellers of land. Furthermore, since it is to the interest of the State and to the Nation to prevent unwise settlement of land and the social and economic loss that follows, it would appear to be the proper function of Government, State and National, through duly constituted public agencies to obtain, at public expense, the basic facts necessary for land certification.

Policies to Develop and Sell Ready-Made Farms

Policies to establish colonies of settlers according to fixed plans have been provided for by the legislature of 13 States,[11] but establishment of such policies has been undertaken in only six States. The general purpose of the legislation in each of the remaining seven States was similar, in that purchasing, improving, and selling land for agricultural use was the essential object; preference in purchasing land was to be given to soldiers, sailors, and marines; and the materialization of the plans proposed in the legislation was dependent upon cooperation with the Federal Government in financing the project. Since Congress failed to provide for such cooperation the legislation in the seven States failed to become effective.

Although the experiments to establish colonies by the six States which had such policies (California, Washington, South Dakota, Arizona, Minnesota, and Oregon), differed in detail—the general objective in each was to develop and sell "ready-made farms." The experiments are also similar in so far as results are concerned—each failed to accomplish the ends contemplated.

The experiments of the different States in developing and selling ready-made farms were initiated during a period of comparatively high prices for farm crops, probably on the assumption that the level of prevailing prices for farm crops would increase or at least remain at existing levels indefinitely. This assumption is an underlying factor considered in each of the six States along with three other closely related factors: To help ex-service men and others get established on farms under favorable conditions; to obtain competitive advantages in bidding for a decreasing number of potential settlers; and to increase the assets of the State by stimulating the development of large areas of undeveloped land.

A period of falling prices for farm crops and general agricultural distress began shortly after these experiments had been started. Whether one or more of the experiments would have succeeded under more favorable agricultural conditions is an open question. There is no record of the success of any similar project, State or private, in the United States which was begun during or since the World War. In the following discussion, therefore, no attempt has been made to analyze the various factors and conditions that contributed to the success or failure of the projects but rather to briefly describe the results of each experiment.

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[11] California, 1917; Minnesota, 1917; Utah, 1917; Colorado, 1919; Idaho, 1919; Oregon, 1919; South Dakota, 1919; Washington, 1919; Wisconsin, 1919; Arizona, 1921; Montana, 1921; Michigan, 1923; and South Carolina, 1923.

THE DURHAM AND DELHI PROJECTS IN CALIFORNIA

The California State settlements at Durham and Delhi are probably the best known and most discussed of the State experiments to develop and sell ready-made farms. The first was established at Durham, Butte County, in 1918, and consisted of 6,239 acres of generally good land under a gravity system of irrigation from Butte Creek. A detailed soil survey was made by the University of California and on this basis the tract was divided into farm units varying in size according to the productivity of the land and the needs for the type of farming which seemed best adapted. These comprised 110 farms from 8 to 300 acres in size and 30 farm-laborer allotments from 1 to 2 acres in size. Provision for laborer tracts was among the innovations in this colony.

After all disputes and controversies over water rights in Butte Creek were settled, the land was prepared for occupancy by building a system of irrigation ditches reaching each settler's farm; providing for drainage and protection from flood; organizing a mosquito district; preparing plans for houses; arranging for obtaining wholesale prices on building materials; and planting most of the land to crops.

The large number of applicants for the available holdings made it possible to select settlers with great care. Any citizen of the United States or any one who had declared an intention to become a citizen, who did not already possess agricultural land which, added to his State allotment, would amount to $15,000 or more in value, and who was ready to begin actual residence on the land within six months, might become the purchaser of an allotment provided he could meet other requirements. Due consideration was given to the applicant's net worth, his temperament, physical and mental ability, his experience, and the character of his family. When the colony was first established each accepted candidate was required to have at least $1,500 or its equivalent in suitable equipment. Later the requirement was raised to $2,500.

Each approved applicant entered into a contract to pay in cash 5 per cent of the sale price of his allotment, and not less than 10 per cent of the cost of the improvements that the State had made thereon. The balance due on the land was to be paid in amortizing payments over a period of about 40 years, with interest at 5 per cent per annum. The improvements were to be paid for in amortizing payments covering 20 years, and all loans made on personal security were due in 5 years.

The original appropriation for developing this colony proved inadequate and in order to have available funds a number of settlers were required to borrow one-half the capital value of their farms from the Federal land bank and apply the money obtained as advance payments on their contracts. The settlers who obtained Federal land bank loans had to pay 5½ per cent rather than 5 per cent interest, but they were thereby enabled to pay off their 20-year and 5-year loans and then have smaller payments to make over a longer period.

The purchaser contracted with the State to cultivate the land and keep up repairs on the improvements under the supervision of the board, to keep up all insurance, and to live on his allotment at least

eight months of every year. No allotment might be sold or exchanged without the consent of the State until paid for in full.

Should a settler fail to live up to his contract, the State had authority to cancel the contract and regard all payments made prior to the cancellation as rental for the property. Those in charge took many precautions to guard against failure of the individual as well as of the settlement as a whole. The settlers were helped to make their regular payments to the board by opportunities to add to their farming incomes by working for each other, and by taking part-time or seasonal jobs at neighboring ranches.

Under the terms of the act and by the administrative policy of the officials in charge of the undertaking, settlers began under circumstances that tended to eliminate the usual hazards of beginning new farm enterprises. The officials were authorized to spend $1,500 on each farm for livestock and farm equipment. The purchaser came to a ready-made farm that had usable buildings. His own capital of not less than $1,500 minus the cash payment, could be used as operating capital. By these arrangements the settlers were not subjected to the pioneering stage with its hardships, its self denial, the discouraging struggle to subdue the land, and the retarded development owing to lack of equipment and working capital.

The initial period of development of the Durham project appeared to be so successful that all available allotments were readily sold. Farmers and prospective farmers in large numbers were anxious to avail themselves of the paternalistic policy of the State. All went well until prices of farm products dropped and the settlers were dependent upon their own resources to meet their obligations. When this occurred a number of settlers served notice of rescission of contract of purchase. Those filing rescission notices made three allegations as follows (*8, p. 756*):

1. That the consent of the rescinding party was given by mistake.
2. That the consent of the rescinding party was obtained through fraud, exercised by or with the connivance of the state.
3. That through the fault of the state, the consideration for the obligation of the purchaser in said contract contained, has failed in part.

Whether these accusations are valid is not an essential factor in this discussion. In the light of the present status of the project they serve as additional illustrations of the weaknesses of this type of land-settlement policy.

On November 30, 1928, 866 acres or 14 per cent of the lands were held for sale by the State; 296 acres or 5 per cent had been resold for cash; and 5,077 acres or 81 per cent were held by settlers on contract. The settlers owed the State $538,637.47 of which amount about one-fifth or $112,780.54 was delinquent. In addition to this indebtedness the settlers owed $62,068.44 to the Federal land bank.

From the point of view of financial loss to the State, the Durham settlement is much less of a failure than is the Delhi settlement. Unfortunate conditions at Delhi appear to have been due largely to the selection of land, which proved to be less favorable for economical development, and to the fact that the project was undertaken just before the close of the period of high costs and prices that prevailed during and following the World War.

The Delhi tract, consisting of 8,400 acres, required a very expensive system of irrigation. It was necessary to construct an under-

ground pipe system to carry the water to each allotment. The character of the soil made carrying water in small unlined ditches extremely impracticable. The system cost over a million dollars and required three years in building. A large expenditure of State funds and a heavy interest burden before land is ready for settlement make difficult loads at any time for settlers whose money must come from crops produced on poor soils. This is especially true during a period of low prices for farm crops.

An extensive road system was laid out and improved; a detailed soil survey was made, and the tract was subdivided and held for sale on practically the same plan followed with the Durham project. But settlers were not so eager to buy land in this project as they had been in the Durham project. In fact, at no time was all the land in the project sold, and many farm units that had been sold reverted to the State and were offered for resale.

> In July, 1923, the Delhi Settlement reached a state of desperation. Income from the farms would not supply the necessities of life and besides there were taxes, water charges, and interest on Federal bank loans. Resources of the settlers were exhausted. No installment payments had been made on 95 per cent of the purchase agreements and they had been forfeitable for more than three years. The Settlement being remote from industrial activities, no outside work was obtainable, and, with buildings, had cost the settlers $400 an acre. Necessary improvement in the way of fruit, vines, dairy, and poultry equipment has increased and will continue to increase the price beyond the probability of adequate return. Such consideration, coupled with the past three years of pioneering work devoted to the conversion of the undulating sand plain into plantations of alfalfa, fruit and vine farms, had exhausted both the physical and financial resources of the settlers (*8, p. 751*).

In 1925 a special legislative committee made an investigation and reported in part as follows:

> The final consideration of this problem has led your committee to recommend that the State of California should never enter into another land settlement scheme (*5, p. 5*).

Beginning in 1927 when a division of land settlement in the State department of agriculture was placed in charge of both State land settlements, steps were taken to retire the State as a land-colonization agent. The difficulties in accomplishing this end were not easily overcome.

On December 1, 1928, 3,890 acres or 46.3 per cent of all land in the Delhi project remained unsold and a revaluation of all property in the colony shrank the State's equity from $1,307,000 to $375,000 and the settlers' equity from $500,000 to $375,000.

> Very many of the settlers were ready to fly at the throat of California with charges of fraud and misrepresentation in the promotion of the colonies. Most of them owed much more on their land contracts, improvement contracts, and notes than the value of their property amounted to, and it was impossible for them to meet their obligations * * *. Every act on the part of the State was looked upon with suspicion by settlers who regarded it as an attempt to defraud them * * * (*9, p. 322*).

A plan was finally formulated to adjust the $375,000 settlers' obligations to the individual properties, and thereby close the account of a costly experiment to the State. Under an act of the legislature in the spring of 1931 the State, following a complete readjustment of State land-settlement affairs, withdrew completely from land-settlement activity in both the Durham and Delhi projects. On

August 14, 1931, all farmer and laborer allotments which reverted to the State and all other unsold land and other property in both projects were transferred to the control of the department of finance, division of State lands and the division of land settlement and the State land settlement board, which had been charged with the duty of administering this State experiment in establishing colonies, were abolished.

By this transfer the State of California wrote off $2,500,000 as the cost of its paternalistic venture in colonization at Delhi and Durham. Under present conditions every element of paternalism has been removed and the position of the State as the holder of notes secured by deeds of trust and as the owner of unsold land is similar to that of a bank.

THE WHITE BLUFFS-HANFORD PROJECT IN WASHINGTON

The White Bluffs-Hanford settlement in the State of Washington represents another unsuccessful State experiment to establish settlers on the land. This project differs from the California project in several ways. Chief among these differences are: (1) That the settlement, which consisted of 102 farm units of about 20 acres each, was scattered over a distance of 14 miles, and (2) that each tract required an individual pump irrigation system. The wells averaged 36 feet deep. They were supplied with a concrete curb and an irrigation pump which had an electric motor to lift the water to the surface. Power could be purchased from a local company.

The land was all examined and approved by the department of soils of Washington State College from the standpoint of its agricultural possibilities. Only those tracts found suitable for farming were recommended to be included in the settlement project.

Since the tracts included in the project were scattered or infiltrated among the ranches and apple orchards already established in the valley, the State did not find it necessary to use State funds for constructing community houses, roads, light systems, etc. This helped to keep down the price of the land to the settler. The project also differed from the California projects in that the Washington authorities did not undertake to improve farm units until settlers had contracted to purchase them, and then improvements would be made only to the extent requested by the settler. The aim was to keep funds from being tied up in improvements on unsold tracts. After a settler had agreed to buy a tract, the State, on request of the settler, would place the following improvements on the land at the prices indicated:

A 3-room plastered and painted cottage on a concrete foundation with a 9 by 9 foot concrete walled cellar, wired with electric lights, and a small modern poultry house	$1,500
An irrigation distribution system	1,625
Clearing, leveling, and seeding 5 acres	200
Fencing material for outside areas	200
Power furnished for three years	525
Total State expenditure for improvements	4,050

In the assignment of allotments soldiers were given preferential rights, and provision was made to select applicants with care. A qualified applicant was required to be a citizen, to be worth less than

$15,000, and to satisfy the board as to his financial and physical fitness, to cultivate and develop a farm.

As in the California colonies, an attempt was made to adjust the terms of the contract to the conditions of the settlement and at the same time to safeguard the State against loss of funds. Each approved applicant contracted: To occupy the land within 6 months after purchase and actually reside on it at least 8 months in each year for a period of 5 years; not to assign the land without the consent of the board; to pay for the land in annual installments, with interest at 4 per cent within a period of 20 years; to pay in cash 40 per cent of the cost of his pump and motor, 10 per cent of the cost of the land, and 10 per cent of the cost of all the improvements advanced by the State.

Prompted by the stress of the agricultural depression and the difficulties of getting the tracts in use a special ruling provided that deferred payments on the land might be made as follows: One dollar plus interest at 4 per cent on all deferred payments on January 1 of each of the first 3 years, and the remainder of the indebtedness to be amortized at 4 per cent in 20 years.

The raw land was sold to the settlers for $30 per acre, or $600 for the tract. When the unit was ready for occupancy, if the State had made all improvements, it represented an investment of $4,650. On this the settler was required to make a cash payment of $612.50; $240 on his pump and motor; $60 on the land; and $312.50 on the improvement. He retained the remainder of his cash for stock, implements, and operating costs.

Although 58 of the 102 units of 20 acres each had been prepared for settlement as early as 1923, up to May, 1925, only 69 tracts had been sold on contract; the remaining tracts were unoccupied, and steps were being taken to discontinue State activity on the project. At that time the State had invested $448,497.43 or $4,789.19 per tract. The investment in unsold tracts was $132,437.95 or $3,895.23 per tract.

Among the more basic weaknesses of the project, found by the State department of efficiency (*10, p. 1–83*), the following may be mentioned: The soil, when cleared, powdered and blew freely unless planted to cover crops; one settler planted alfalfa seed eight times on one field and failed to secure a catch; there was insufficient water to irrigate the land, and the cost for power to pump the water was prohibitive; profitable farming was found to be next to impossible, and the State was accused of misrepresenting facts to prospective settlers. These weaknesses and accusations led to the passage of a law creating a land-settlement adjustment board with powers to make such adjustments in the contracts between State and settlers or such settlements with contract holders as it deemed advisable. It was also empowered to dispose of the remainder of all property included in the project.

Synopsis of board's report (22, p. 69)

Negotiations between the board and the settlers resulted in the State giving quitclaim deeds to all settlers but six. Sixty-one tracts at a total investment of $347,724.69, an average per tract of $5,700.40, not taking into consideration the cost of administration, were deeded to the settlers for a consideration

of $1.00 each. In addition, three settlers accepted cash in lieu of deeds, these amounts being $800.00, $1,250.00 and $650.00. Two settlers rejected the board's proposals and are still holding their tracts under the original contract.

Unoccupied Tracts

The board then made an appraisal of the thirty-nine unoccupied tracts, and placed a valuation of $34,925.00 thereon.

The unoccupied tracts were offered for sale by publication of a notice in the Hanford Herald for five weekly issues prior to the date of sale, and by posting the notice of sale for the same period in the office of the County Auditor of Benton County. The sale was held at Prosser, Washington, by the County Auditor of Benton County, at the Court House, at ten A. M., June 1, 1926, the State realizing $48,210.00 from the sale of the tracts, or $13,285.00 more than the appraised value.

The terms of sale were one-tenth down, the balance in nine equal annual payments, with interest at six per cent per annum on deferred payments, the contract due date being June 1st of each year.

The board concluded in substance that it was economically and socially unsound for the State to develop ready-made farms for sale to settlers.

Up to June, 1930, several tracts, sold in 1925, had reverted to the State, and many payments on the unoccupied tract, sold at the same time, were delinquent.

THE LAND-SETTLEMENT EXPERIMENT IN SOUTH DAKOTA

The South Dakota land settlement act created and authorized a land settlement board to purchase, improve, and sell land; to set aside areas for town sites and to plat such sites and sell lots; to set aside land necessary for public use such as schools, roads, etc.; to improve or furnish money for improvement and equipment on land sold to settlers, on land which is security for a loan obtained from the South Dakota Rural Credit Board[12] or under the Federal farm loan act, or on public land sold subject to deferred payments.

The land settlement board was authorized, prior to disposing of land or before the end of the fifth year after selling land to qualified settlers, to seed, plant, and fence land and to construct needed buildings and make other improvements. In substance the act authorized establishing group settlements along lines similar to those followed in the Durham and Delhi settlements in California, in addition to making liberal loans to settlers who wished to buy or who had bought farm units they themselves selected. Although 10 quarter sections of land in Todd County were bought for the purpose of developing a group settlement similar to the Durham project, the colony was not developed. Instead the land was held for sale on the same terms on which purchasers of other land could borrow from the board.

The primary business of the board, therefore, was loaning money for the purpose of buying land, improvements, and livestock, and paying off encumbrances already incurred. The State rural credit board took first action on applications, loaning in most cases the limit allowed by law (70 per cent of the "true value") which was construed to mean "the fairest, most unbiased valuation" the land settlement board could have placed thereon. The rural credit board took first mortgage on the land as security. The land settlement

[12] The work of the South Dakota Rural Credit Board is described on pp. 57 and 58.

board then made additional loans up to 90 per cent of the "true value" of the property and took a second mortgage as security. Loans were made on the amortization plan payable in 30 years with interest at 6 per cent on deferred payments. The loan made by the rural credit board could be paid on any interest-paying date after the fifth year, and the loan from the land settlement board could be paid on any interest date. A measure of control of the resale of property by settlers was made possible by making mortgages held by the land settlement board immediately due and payable upon transfer without consent of the board.

The experiences of South Dakota in the field of land settlement were similar to those of California and Washington. The statute creating the South Dakota Land Settlement Board and authorizing activities of the board was abolished by the 1925 State legislature and the work that had been started by the board was turned over to the State rural credit board (March 20, 1927) for salvage purposes. Before going out of existence the land settlement board foreclosed on second-mortgage delinquencies, and the rural credit board obtained many farms for the amount of the first mortgage which it held. Out of a total of 347 farms improved by the land settlement board only 36.3 per cent represented live loans in April, 1930, 54.8 per cent had been foreclosed, and 2.9 per cent were under foreclosure. Two farms had been foreclosed and resold, and 20 had completed payments.

THE ARIZONA LAND-SETTLEMENT EXPERIMENT

The purposes of the Arizona land settlement act (*2, p. 106*) are

> to provide homes for soldiers, sailors, marines and others, to assist in the purchase, reclamation, and settlement of farms and workers' allotments, and * * * for making loans to settlers.

The various features of the act are, in substance, the same as those of the California act. Besides purchasing, developing, and selling ready-made farms the act authorizes community improvements with State funds. Land purchased is to be subdivided into farms not to exceed $7,500 in value and in workers' allotments not to exceed $1,000 in value when improved.

A qualified applicant for purchase of land and improvements is required to have a minimum capital of 5 per cent of the value of land and improvements and not be an owner of property elsewhere valued in excess of $10,000. Loans to make permanent improvements and for the purchase of farm implements, livestock, or other farm equipment, not to exceed $3,000 per farm and $1,000 per worker allotment, are authorized credit terms. The terms of sale are 2 per cent cash on value of land, plus 5 per cent cash on value of improvements; balance on land to be paid at rate of 2 per cent per year for the first 4 years, after which the remaining debt is to be amortized over a period of 30 years with interest at 6 per cent on deferred payments; balance on improvements is to be paid in 15 years with 6 per cent interest on deferred payments.

In the spring of 1922, 970 acres of land were purchased. This land was leveled and fenced and a well and a house were provided on each allotment of about 20 acres. A new feature was the attempt by the State to reduce overhead costs to settlers by renting them farm machines and implements.

Although the Arizona land settlement act has not been repealed, the experiment begun in 1922 has not been completed or repeated. Up to June, 1930, 40 soldiers had been placed on State improved tracts and according to the official in charge not $1 has been collected from these 40 settlers and there is some question whether even the interest on State funds invested in the project will ever be collected. All funds appropriated for the work have been exhausted.

The Minnesota Land-settlement Project

The law authorizing the Minnesota State auditor to improve tracts of land did not direct specifically that colonies of settlers be established but rather that tracts of land be improved and sold as farm units. It was expected that these farms would indicate the possibilities of developing cut-over land and would eliminate many of the hardships usually so encountered. The legislature provided an appropriation of $100,000 to be used as a revolving fund for clearing and improving land. The State auditor was directed to conduct this experiment. He, in turn, appointed a land improvement board of three members who were made immediately responsible for the experiment.

The land improvement board selected out of the State lands 40-acre tracts that were classified as good agricultural land. The board then contracted with private companies to clear 5 acres on each tract and to break or plow from 2 to 3 acres of the cleared land. Not more than $300 could be spent for clearing and breaking any one 40-acre tract. The improved forties were to be sold at public auction to the highest bidders for the land without improvements, making the actual purchase price the sum of the amount bid per acre and $7.50 per acre for the improvements.

The purchaser was required by law to sign a written agreement to establish his residence upon the land, to cultivate and further improve it, and to maintain his residence on the land until the cost of improvements had been paid to the State in full. By the terms of purchase he had to pay in cash a sum equal to 15 per cent of the purchase price of the land plus 15 per cent of the cost of improvements. The balance of the cost of improvements was to be paid within 5 years and the cost of the land within 40 years with interest at 4 per cent on deferred payments. All payments on improvements were to be returned to the original revolving fund from which the money could be spent again for like improvements. The land improvement board began to function in 1918 and up to 1924, had improved over 600 of the 40-acre tracts selected.

Although the Minnesota Legislature had not repealed the act authorizing this experiment in settling land up to June, 1930, no land has been improved since 1923. Without counting resales by the State, less than one-third of all tracts improved have been sold and many of the sold tracts have reverted to State ownership. Many of the unsold tracts lie at some distance from town, lumber camps, or mines, or other sources of employment for prospective settlers. The best tracts have been sold and the cleared acreage on the others is reverting to brush and other vegetative cover. Some $90,000 of State moneys are tied up in these rapidly disappearing improvements

and in June, 1930, officials in the State auditor's office expressed the opinion that the loss to the State will be approximately that sum in the end.

THE OREGON LAND-SETTLEMENT PROJECT

The Oregon experiment in settling land involved only three farms and can not be considered strictly comparable to any of the five State experiments previously described. The plan seems to have had greater success than any of the other five.

The 1919 legislature of Oregon established a land settlement commission and appropriated $50,000 to be used as a revolving fund to carry out the provisions of the act. The law authorized the commission to hire a manager or a superintendent and a secretary; to acquire by gift, purchase, or eminent domain, all property and lands needed for their work; to improve, lease, sell, or otherwise dispose of the land in their possession on such terms as it deems advisable; to contract with the United States Government for the settlement of ex-service men on the land; and to provide for supervisory and other work necessary to develop ready-made farms as demonstration farms.

The land settlement commission appointed as its superintendent the head of the farm-management department of the State College of Agriculture, and the commission, with the superintendent, adopted the following plan of settlement: Three units of land, each suitable for a different type of farming, were selected in different parts of the State where it was felt that guidance to settlers was most needed. The farm-management department of the college surveyed all the land in each farm unit and ascertained the best use for the various types of land. Dwelling houses with modern conveniences and barns, bins, hog and poultry houses, fences, etc., were then built according to plans furnished by the college. Each farm was operated by the State until the improvements and equipment were found to be complete and the farm was considered to be a going concern on a paying basis. After this stage, and not before, the farm was offered for sale.

The purchaser was not required to make any specific down payment but he was required to get a Federal farm loan to apply on the purchase price. The State took a second mortgage for the remainder due on the farm. The sale contract contained a clause requiring the purchaser to keep in touch with the college of agriculture and the land settlement commission and to conduct his farm operations somewhat in the nature of a demonstration. The developed farms were to serve as concrete examples of how the average settler should develop and manage his farm to be most successful.

The authorization by the 1919 legislature to establish so-called demonstration farms carried with it the stipulation that the project had to demonstrate its feasibility within approximately five years. To accomplish this end only three demonstration units were constructed, one at Independence in 1920, one at Roseburg in 1921, and one at Pineville in 1922. Although all three units were improved, equipped, and operated under the heavy handicaps of the comparatively low purchasing power of the farmers' dollar from the time the units were established, by 1923 the three farms were paying all

operating expenses plus 5 per cent net on the investment in addition to the value of the farm living. The law that authorized this experiment has not been repealed but no additional demonstration units have been constructed to date (December, 1931).

DISABLED VETERANS' SETTLEMENTS

One other type of experiment to establish settlers on the land is represented by the so-called Veterans Bureau settlements. The responsibility for these settlements is primarily Federal, but State extension workers, agricultural experiment station personnel, and other State officials cooperated with the United States Veterans Bureau officials in charge of this work. The basic purpose of the settlements was to rehabilitate disabled ex-service men who had been awarded vocational-training pay of $100 or more per month for any period up to four years. Vocational-training pay was awarded on the basis of disability traceable to service in the Army or Navy.

In practically every State in the Union colonies were established or individual veterans were placed on farms. In no State did a plan of colonization take more positive form than in Minnesota. In this State attempts were made to establish six colonies of settlers; the Veteransville, the McGrath, the Orchard Gardens, the Moose Lake, the Bemidji, and the Silver Star settlements. All settlements were located in the cut-over area. Some of the land was raw cut-over land, some was swamp, and a small portion was improved upland.

The land was sold direct by owners to the veterans at a price ranging from $15 to $200 per acre. No initial payment or only a small one was required. In certain cases the purchase of a tract of land involved the guaranty by the seller that credit for necessary improvements would be obtained for the veteran. The usual credit terms demanded by the sellers of land required the veteran to make monthly payments to retire principal indebtedness. Many mortgages were taken over by the Minnesota Department of Rural Credit (see pp. 58 to 59) through which loans were amortized over a period not exceeding 40 years with interest at 4½ to 5½ per cent plus 1 per cent on the principal payable semiannually.

The settlers had the so-called "vocational-training pay" of $100 per month to single men, and $135 per month to married men with no children, plus an additional amount for each child. In addition these veterans were furnished, free of charge, medical care, books on farming, farm tools and machinery, and other necessary farming equipment for the class of training authorized. Supervision and instruction were provided by men on the pay roll of the United States Veterans Bureau.

The theory of this plan of settlement was to qualify disabled veterans who chose farming as their vocation to carry on successfully the business of farming after termination of their authorized training period which varied from one to four years. However sound the theory of this plan, the working out proved to be an undeniable failure in Minnesota. According to C. P. Hibbard, manager of the United States Veterans Bureau in this region, a major reason for the failure of the colonies was lack of cooperation on the part of the veterans in training.

The paternalistic policy of a public agency under which the settler was placed on the land led the average settler to expect all his problems to be solved for him by the Government without much, if any, effort on his part. Moreover several of the land-selling agencies took advantage of the settlers' lack of information and of the fact that the Government officials did not exercise close supervision of sales contracts closed with settlers. In June, 1930, Mr. Hibbard estimated that more than 75 per cent of the veterans placed in the six colonies had abandoned their holdings. Many of the settlers left their farms as soon as their period of training ended. Only a few succeeded in developing prosperous farming enterprises; otherwise the projects have been failures.

It is interesting that the results of the paternalistic policy involved in this type of settlement and in the various State settlement plans are similar to those obtained by many private colonization companies during and since the World War. In a study of the grubstake stages of land settlement in Wisconsin[13] it was found that less than half (48.2 per cent) of all settlers located in the colonization type of settlement succeeded in increasing their net worth after buying their farms as compared with more than three-quarters (83.5 per cent) of those settlers who bought farms in "shotgun settlements" during the same term of years.

The major differences between "shotgun settlements" and "colonization settlements" are as follows: In the shotgun type of settlement the settlers bought their farms from any of a number of land-selling agencies as the land in the settlement was placed on the market by different independent agencies, the compactness of the settlement was determined primarily through competition between land-selling agencies. No agency furnished any grubstakes to the settlers. If land in any one settlement was owned and held for sale by one agency, this settlement was also classed as a shotgun settlement, provided the settlers were placed on their own resources and no grubstakes or helps were offered by the land company or other interested parties. In the colonization type of settlement, one land company owns all or the major part of the land sold to settlers, and the company furnishes grubstakes on credit. These grubstakes may consist of all or any of the following: Farm buildings, tools, machinery, explosives, seeds, livestock, groceries; services of a field man to help solve problems to promote the establishment of local markets, to establish community social centers, and help in other ways. In other words, the policy at one time or another of companies classed as colonization companies, was to provide any or all the kinds of grubstakes the settlers may have asked for, as a business proposition, the settlers obligating themselves to pay all costs with interest for credit.

A somewhat similar study (*16, p. 50*) of land-settlement conditions made in the cut-over area of Michigan, Wisconsin, and Minnesota also shows that furnishing grubstakes to the settler may actually retard his progress. In the study of some 2,243 records obtained from settlers in all types of settlements the colonization settlements were put into two groups, intensive and extensive, the former repre-

[13] HARTMAN, W. A. GRUBSTAKE STAGE IN LAND SETTLEMENT. 1928. (Unpublished Doctorate Diss., Univ. Wisconsin.)

senting a high degree of supervision and liberal grubstakes, and the latter the reverse. The remaining settlement areas were also divided into two main groups—those in which the purchases were made from several land companies, and those in which purchases were made from former settlers and other private owners. This division was made because there is usually some supervision when all land is owned and sold by one company.

These four groups may be looked upon as representing four degrees of supervision and aid, ranging from intensive in the first group to little or none in the last group. The results of this analysis are presented in Table 10.

TABLE 10.—*Progress record of settlers who purchased farms from certain colonization companies compared with records of settlers who bought farms from other selling agencies*

Item	Unit	Records [1] of settlers who purchased from—			
		Colonization companies		Ordinary land companies (16 areas)	Dealers and others (15 areas)
		Intensive type (6 areas)	Extensive type (4 areas)		
Beginning net worth	Index number	66.0	73.8	101.1	127.0
Beginning farm capital	do	80.9	79.7	104.5	114.1
Cash on hand after purchase	do	95.9	81.2	102.5	120.8
Area in purchase	Acres	65.8	61.0	81.6	85.9
Land in timber	Per cent	4.8	15.4	20.5	11.3
Area cleared at purchase	Acres	.3	1.9	4.1	5.0
Price paid per acre	Index number	101.3	115.7	96.5	97.6
Foreign born	Per cent	51.1	74.0	59.4	53.3
Settlers coming from farms	do	20.4	16.0	41.0	48.9
Paid on options and contracts	do	17.0	21.9	22.2	26.3
Paid on all conveyances	do	23.3	30.2	41.2	53.0
Proportion of beginning net worth paid on land	do	35.4	30.4	42.4	46.0
Net gain per year	Index number	87.2	95.9	105.7	106.1
Land clearing per year	do	106.6	74.0	107.6	108.0

[1] Base of index numbers and percentages is average for all settlers in the 41 settlement areas studied.

It is evident from the figures on beginning net worth and farm capital, that the colonization companies attracted settlers with extremely small resources, and that, compared with settlers who bought their farms from other agencies, fewer came from farms, a smaller proportion of land they bought was in timber or was cleared, they paid a higher price per acre, and the net gain per year was lower. In general, it appears that a weaker type of prospective settler is attracted by a paternalistic land-selling policy than is attracted by the agencies that sell land with no provisions for additional credit or grubstakes. In the one case beginning settlers are led to expect help in all difficulties that may arise, whereas in the other they know that they are dependent upon their own resources. Since farming, particularly during recent years, has been generally recognized as a precarious business at best, it follows that grief is likely to come first to those who endeavor to overcome obstacles by going deeper and deeper in debt rather than by working harder and harder to develop their farms with their own resources in addition to money earned by working for others.

Any colonization agency, public or private, must expect criticism and complaint on the part of settlers who fail in carrying out any work, program, or policy advocated by the agency. This always occurs. Furthermore a few scattered complaints, whether just or unjust, inevitably lead to many more, and feeling against the agency soon runs high, however well intended its policies. Failure, monetary loss, blasted hopes, and wastage of labor follow in train (*4*). It is also probable that the more paternalistic the policy of the land-settlement agency the greater will be the loss to the settlers, to the agency, or both.

Policies to Aid and Promote Private Settlement and Colonization Projects

A number of States have interested themselves in aiding and promoting private colonization and settlement projects along several different lines. The authorized policies which are enforced, or lie dormant at least for the present, in the several States vary from offering plans, advice, and suggestions for developing a colony to promoting in a marked degree the reclamation of wet and arid lands.

Certification of Settlement and Colonization Company Plans

In Montana a law provides that all development and colonization company plans to develop specific tracts of land must be submitted to the commissioner of agriculture, State Department of Agriculture, for approval. If a plan of colonization is approved the company or dealer must give satisfactory assurance that it will not be changed to the detriment of the home seeker. Unfortunately, the effect of this law is limited by the fact that the commissioner of agriculture has no authority to prevent a project from being developed regardless of disapproval.

For example, in 1929 the commissioner disapproved three applications to develop projects in different parts of the State, but in each case the company proceeded in spite of the disapproval. In each of the three cases the project was disapproved, not because the proposed agricultural development was not found to be feasible but because the proposed selling policy was not considered fair to the prospective purchaser. The project in Park County was disapproved because of inadequate credit terms and the other two projects (one in the Flathead Indian Reservation and the other in central Montana) because the proposed selling price was believed exorbitant.

In Utah and Idaho it is the duty of the commissioners of immigration to inform themselves about farming opportunities and to use all facilities at their command to encourage and promote desirable private colonization enterprises. In Utah the commissioner, under this law, cooperated with the Mormon church in locating farm colonies. The law in Idaho grants power to investigate any advertisement pertaining to colonization or settlement and to warn home seekers against inaccurate or misleading statements contained in any material sent out by promoters or others. The commissioner of immigration was also authorized to investigate any case where fraud was practiced by land-selling agencies and, if the facts justified, to prosecute. The legislature passed this law in 1919 but no funds were ever appropriated to make it effective. Such inquiries concern-

ing land-settlement problems or opportunities as reach State offices are turned over to the Idaho State chamber of commerce for reply.

Possibly the most noteworthy legislation concerning certification of lands held for sale and the conditions under which the lands can be sold is represented by the Michigan land certification act (*29*). The act provides

> for the certification of the unimproved land and improved farms in the State of Michigan, the creation of a list of accredited dealers in lands, the examination of those qualified to certify lands, and the authorization to prescribe rules and regulations necessary to comply with the provisions of this Act and provide for a penalty for violation of the provisions of this Act.

Under the land certification act, certified land

> is land which has been or shall hereafter be examined, surveyed, and reported upon under the direction of the State Department of Agriculture and has been or shall be certified as suitable for some agricultural purpose.

The State department of agriculture is authorized to supervise the execution of the act, to make necessary regulations, and also to list accredited dealers who agree to confine their selling of unimproved lands in Michigan to certified lands, and to conform to the act and the rules of the department of agriculture of the State.

The act stipulates that examiners who certify the land must have had 4 years of college work, 4 years of farm experience, and 1 year in field-survey work in the Lakes States; the examiners must be approved by a board consisting of the State geologist, the dean of Michigan Agricultural College, and the commissioner of agriculture.

Examiners are required to report on the land after an accurate examination during which they collect the data required by the State department of agriculture. The cost of the examination is paid by the person applying for certification. The certification issued by the State department, after reports and examinations have been completed, includes: A map of the area in 40-acre units, showing location, topography in general, all soil types, and points at which borings were made; location of streams, lakes, roads, shipping points, and such other information as will enable the prospective settler to judge the agricultural possibilities of the area. The certification also involves recommendations as to the best use for the lands. The particular types of farming adapted to those areas classed as agricultural are recommended. The original report is filed in the State department of agriculture; the dealer is supplied with one copy and may purchase duplicates at cost from the department of agriculture.

The law requires that the official statement and certificate must be shown in full prior to the execution of any contract to the person buying or contracting to buy certified land; and a certified copy of the certification and map must be attached to each deed or contract involved in any sale of certified land. Furthermore, the law requires that a copy of the certification and the official statement be filed in the office of the register of deeds of the county in which the land is located together with such maps and plans as may be of benefit to the public. All of these papers shall be open to the public.

The act provides that any dealer may apply for a reclassification of his lands after five years. No accredited dealer may transfer to a nonaccredited dealer any certificate or map concerning the classi-

fication made. A nonaccredited dealer using any such certificate or map for any land other than that to which the certification and map apply is subject to punishment for fraud.

The State department of agriculture sought to induce all dealers to have their lands certified by giving publicity to those whose lands were certified. But this policy failed, and up to June, 1931, only six dealers had had lands certified. The first four tracts, totaling 14,190 acres, were certified in 1924 and the other two tracts, totaling 1,695 acres, were certified in 1925.

In other words, the land certification law has been dormant since 1925. Out of a total of 15,885 acres certified at an average cost to the dealer of 18 cents per acre, 8,772 acres were declared to be fit for agricultural purposes.

Almost undoubtedly the relatively high cost to dealers of having their land certified, particularly at a time when the demand for farm land had almost disappeared, had much to do with the failure of this law to accomplish its purpose, for the law is highly commendable in many ways. The State of Michigan is making great progress in conducting an economic survey of its land resources. When the resulting facts are made available at public expense the cost for certifying land in surveyed areas can be decreased or eliminated. Then such a compulsory land-certification law may perhaps be the bulwark of a sound land-settlement policy.

BOND CERTIFICATION

A further step has been taken by a few of the States. By means of different kinds of financial aid in the form of State certification of bonds issued by private development companies or legally organized reclamation districts these States are enabled to promote and, in certain respects, to regulate the development of land.

One of the most interesting of these experiments grew out of the passage of a State mortgage association law by the Wisconsin Legislature in 1913. The law is designed to promote and direct the settlement of land in the State. Under this law any number above 14 of adult resident freeholders may associate to establish a land-mortgage association. The aggregate amount of capital stock of the association may not be less than $20,000.

The association has the power to: (1) Make loans on first mortgages upon improved or partly improved agricultural real estate up to 65 per cent of the appraised value of the land; (2) purchase first mortgages against improved or partly improved agricultural lands in the State from persons or firms or corporations engaged in the settlement or colonization of Wisconsin lands to whom such mortgages were issued; (3) issue bonds secured by the pledge of the mortgage taken or purchased up to an amount not exceeding twenty times the capital stock of the association. Each mortgage purchased by an association must be on the amortization plan maturing in not less than 20 years, must be a first lien on the property involved, and must not exceed 15 per cent of the association's capital stock and surplus in one loan.

The association accepts first mortgages on the settler's land either for payment on the land or for advances of cash for improvement

or equipment. When the association wishes to liquidate this credit and to raise money by means of a bond issue, it deposits with the State treasurer as security for the bonds the individual mortgages up to the amount of the bonds.

The date, amount, interest rate, and other features concerning the bonds the association may wish to issue are subject to the approval of the State commissioner of banking. If the proposed bond issue is approved the proceeds of the bond sale are then available for further advances by the association. The law stipulates that the aggregate of bonds issued shall not exceed twenty times the capital stock and surplus of the association and that individual mortgages held as security by the State treasurer can be released only by substituting other approved mortgages in equal amounts, cash, approved bonds, or certificates of deposits. Before any mortgage is accepted as security the law requires that the State commissioner of immigration, acting under the commissioner of agriculture, must approve, after careful investigation, the value of the farm property secured by the mortgage, the condition and terms of the mortgage, and the plan of colonization or settlement in cases in which mortgages have been purchased from land-colonization companies. A favorable report by the loan committee of the association presenting the mortgage as collateral to the State banking commission must also accompany each mortgage. In addition to these precautions to prevent poor loans, the law requires double liability of stockholders in associations and close supervision of the business of the association by the State banking commission.

Like many of the laws enacted by different States to promote and direct land settlement, the Wisconsin State mortgage association law is commendable in theory but difficult to administer in practice. Two State mortgage associations, known as the First Wisconsin Mortgage Association and the Second Wisconsin Mortgage Association, were organized and operated under this law. The one association loaned $760,280 on 336 farms representing a total area of 22,090 acres. Two colonization companies issued and held all but a few of the mortgages used as collateral for bond issues. The second association loaned $444,000 on farms sold primarily through one other company. No business has been transacted by either association since 1925; the first one went into the hands of receivers in 1928 and the second one is trying to liquidate voluntarily. Both failed to accomplish the ends sought.

The failure of both is ascribed by the State banking commissioner to the fact that the farms secured by the mortgages used as collateral had been too highly appraised by the land companies issuing the mortgages. Over-optimism on the part of the associations underwriting the mortgages is explained, in part at least, by the fact that the associations were dominated by a few companies whose major interest was selling land. Although the law had not been repealed by the legislature up to June, 1930, the commissioner of banking did not expect any new associations to be authorized under it.

In summary it is to be remembered that a law of this kind is praiseworthy in many respects. In fact, the major weakness was not so much in the law itself as in its attempted administration while basic facts were lacking about the capacity of different types

of land, in various localities, to carry specific debt loads. The risk in placing comparatively liberal farm mortgages is necessarily great when a constructive, broad-visioned land-use program has not been formulated. This is especially true anywhere if farms are undeveloped, or are only partly developed, as in the cut-over area of Wisconsin where the two farm-mortgage associations attempted to become established.

In the development of those sections of the West in which irrigation is necessary, the difficulties and expense of irrigation enterprises gradually become too large for most individuals. The returns from reclaimed lands became too slow and too uncertain to attract outside private capital. To continue the reclamation of arid lands, it became necessary to establish an organization that could claim the guarantee of State law behind it. The irrigation district was one of the outgrowths of this situation.

Utah enacted the first irrigation-district law in the United States in 1865. This law did not contain the provision for issuing bonds to provide funds for construction but provided for taxing the land to pay construction charges. In 1887 California passed the first irrigation-district law that contained a provision for issuing bonds as a lien on the lands within the district. Idaho, in 1897, enacted a law requiring the State engineer to examine and make an advisory report on the plans of each district prior to a bond election in that district.

California, in 1913, enacted the first legislation for State certification of district bonds. The main lines of State supervision and backing in irrigation districts consist of: (1) Authority to organize, (2) authority to issue bonds, (3) requirement that a State official must report on the feasibility of proposed projects, and (4) State certification of bonds. The problems involved in irrigation-district finance and the statutes of the States concerned with irrigation-district organization and finance can be noted in only a general way.[14]

The policy of State certification of bonds has tended to make them more attractive to outside capital and to make it more difficult for bonds of undesirable districts to find a market. Incidentally, the policy has given the States a measure of supervision over construction and expenditures.

Of the 12 States providing for bond certification the provision in 5, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas, merely means that the issuance of the bonds in question was in conformity with the laws of the State. But in the 7 remaining States, Arizona, California, Colorado, Nevada, New Mexico, Oregon, and Washington, bond certification signifies further that the feasibility of the engineering works has been favorably reported by State officials charged with this work by the laws that authorize bond certification. Utah, Montana, and Idaho, are 3 States in which bond certification laws, based on feasibility determination, were repealed. The Utah Legislature acted in 1923 and the Montana and Idaho Legislatures repealed the law in 1929. Lack of adequate investigations to determine the feasibility of proposed projects before certification, and the misleading nature of State certification on

[14] For further information see U. S. Dept. Agr. Misc. Pub. 103 (21) and Dept. Circ. 72 (18).

bonds, without the State assuming financial responsibility, were the underlying causes of repeal by these States.

In the seven States providing for bond certification after determination of engineering feasibility the salient points of the law are similar. Upon application of the directors of a district for bond certification, State officials investigate: (1) Adequacy of water supply and water rights, (2) fertility of the soil and its adaptation to irrigation, (3) feasibility of the existing or proposed irrigation system to distribute water and the general condition of the construction of the project, (4) market value of the water, (5) market value of the land within the district, (6) relative aggregate amount of the bond issue and its proportion to the market value of the land, and (7) legality of the bonds. The aggregate amount of bonds certified may not exceed 60 per cent of the estimated market value of the irrigable land and irrigation works in Arizona, California, and New Mexico, nor 50 per cent in Nevada, nor 30 per cent in Oregon. In Colorado and Washington no percentage is specified in the law. The Washington law, however, stipulates that the proposed bond issue must be both necessary and adequate.

If the report of the investigation is favorable, the State must certify the bonds. After certification, State officials are required to supervise expenditures of the funds derived from the sale of the bonds and to inspect construction work.

The basic purpose of State bond certification was to improve public confidence in irrigation bonds as sound investments for savings and trust funds. Such certification undoubtedly facilitated the sale of more bonds on better terms. But the failure, during the past 10 years, of various projects for which bonds were certified has almost unquestionably decreased public confidence in State-certified irrigation-district bonds.

There is some justification for this decreased confidence in view of the fact that no State that certifies bonds either makes, or provides for the making, of such investigation as would determine, within the limits of predictability, the economic feasibility of the districts involved, and the engineering feasibility of the projects. Many ill-advised undertakings could be prevented and public confidence in the bonds might be restored, if compulsory bond-certification laws required that an unbiased analysis of the districts declare them economically feasible before State bond certification occurred. Such a law would also operate so as to approve only those districts on which the average settler could develop a profitable farming enterpise.

Although certain States are much inclined to consider subsidizing old projects and developing new projects regardless of the demand for or comparative advantages of producing and marketing similar crops in other parts of the country at a smaller cost, several States view existing conditions and settlement potentialities more broadly. The work of the State engineer in Oregon illustrates a newer philosophy. A survey of State-aided projects made by his office resulted in classifying 13 projects as feasible from the standpoint of soil fertility, water supply, transportation, and markets for products, provided the existing indebtedness of the 13 projects, representing $7,000,000, is refunded for $3,895,000. The work since 1923 of the

division of reclamation of the department of conservation and development in the State of Washington has been not to promote the development of new projects but to resurvey existing projects that are in financial distress in order to formulate rehabilitation programs on the basis of a capitalized value determined in the light of a conservative estimate of productive returns.

DRAINAGE PRACTICES IN RELATION TO SETTLEMENT

It is estimated that about 15 per cent (91,500,000 acres) of the possible crop land of the country not now in use must be drained of surplus water before it can be used for cultivated crops. The reclamation of large tracts of wet land owned by different individuals or concerns involves a multitude of problems which can be handled most advantageously by the State or Federal Governments or by cooperation between the various owners.

To meet these problems and thereby encourage the reclamation of wet land the States with large acreages of undrained land have enacted laws providing for the organization of drainage districts. In substance, drainage-district laws aim to provide means (1) to distribute costs equitably among landowners and to collect such costs under special tax laws, (2) to finance the necessary construction costs by authorizing bond issues, and (3) to obtain through condemnation proceedings (eminent domain) any property needed to establish the drainage works and make the district a "going concern."

The general legal policy to organize a district does not differ materially in the separate States. A majority of owners, or owners of a majority of acreage, petition the county officials for authority to organize a drainage district. After organization, a board of supervisors is elected from the body of owners. The board of supervisors has legal authority to transact all business of the district. The expenses of organization and bond issues are paid by means of a drainage tax levied on the land benefited by the project. Usually the tax is graduated according to the benefits received from the improvements.[15]

The area in organized drainage enterprises in 1930 was 84,408,093 acres or 28.9 per cent (18,913,055 acres) greater than it was in 1920 (*38*). The investment in the 67,927 enterprises from which data were obtained in the 1930 census totaled $680,732,880. The lack of adequate public supervision, or of the authority and resources of any specific State office to determine the economic feasibility of proposed projects and to permit the organization only of those proposed districts found to be economically feasible, is suggested by the fact that more than one-third (35.5 per cent) or 29,980,516 acres of land in organized districts is unimproved and that many districts are financially embarrassed or defunct. House Report No. 2169, 71st Congress, 3rd session, on S. 4123 (*37, p. 4–8*), which proposed Federal loans for the relief of drainage districts illustrates the situation:

> The demand for relief for drainage districts comes from a farm population of approximately 5,000,000, which, according to the census of 1920, lives within these drainage districts.

[15] For detailed discussion of statutory provisions in the various States see Farmers' Bul. 815 (*45*), rev. 1927, and Dept. Bul. 1207 (*6*).

These 5,000,000 are, for the most part, small farmers. The average size of their holdings is about 65 acres. They have their all invested in their farms. In some districts, it has been shown to your committee, thousands of farmers have lost everything because of their inability to meet their drainage taxes. In some areas 60 per cent of the farm population has been dispossessed, their land having been taken for taxes.

Such legislation falls in the class of promotional legislation unless it carries adequate regulatory measures and resources necessary for their enforcement. Existing conditions in drainage districts show the lack of broad public policy when the districts were organized. It would be sound public policy to conduct investigations of existing distressed districts (1) to determine the adequacy of the existing engineering works designed to reclaim the lands within the districts, (2) to determine the type of farming or other use of land which probably will prove most profitable, (3) to establish standards for determining the present and prospective productive capacity of the land resources and the capitalization they are capable of carrying, (4) to formulate an equitable program of financial reorganization or other adjustments necessary to place the district on a sound economic basis, and (5) to underwrite only such indebtedness as can be carried safely by the projects in question when in competition with lands in other parts of the country on which the same or substitute crops are grown.

If the rehabilitation of districts in financial straits is to be effected, there must be a willingness on the part of farmers and bondholders to abide by the results of an unbiased analysis by a public agency of the factors involved. In the future the undertaking of projects doomed to failure may be prevented by legal provision for such official investigation before authority is granted to organize a district.

POLICIES TO FINANCE THE SETTLER

Credit is usually vital in promoting land settlement, and the credit requirements of new settlers are different from those of farmers in established farm areas. The new settler, like other new farmers, may need credit assistance for part of the purchase price of the land, for operating machinery and tools, for work animals and other livestock, and for family living expenses. In addition, he needs credit to provide permanent improvements including house, barn, sheds, fences, a well, roads, etc., and for clearing, draining, or preparing for irrigation, in the course of getting the land ready for cultivation.

The amount of the loan and the rate of the interest are dependent upon the security the settler is able to offer. The purchaser of land in a developed area comes to a farm that has usable permanent improvements; all land, except that which for the time may be regarded as waste land, is in condition to be used for crops or pasture; the farm is ready to carry dairy cattle, beef cattle, hogs, poultry, or other livestock to its full capacity to furnish feed. The operator can use his full time in crop and livestock production. Such a farm offers as security for loans improved land of known producing capacity, permanent improvements, crops for crop liens, livestock for chattel mortgages, and machinery and tools for either liens or mortgages.

But a purchaser of undeveloped land comes to a farm that has no permanent improvements; has only a very small acreage or none

ready for crops and pasture; and has a carrying capacity for livestock limited by lack of crop land for winter feed and in some cases by shortage of summer pasture. Much of the operator's time must be spent in erecting buildings, making other permanent improvements, and reclaiming the land. A comparatively small part of his time can be devoted to the production of crops and livestock. The returns he receives are small and slow. The security offered by such a farm consists of unimproved land of uncertain producing capacity and with no permanent improvements, a small assortment of machinery and tools, and a few head of livestock for chattel mortgages. The acreage of crops for crop liens is practically negligible. The settler is likely to be a stranger to his neighbors, and the money lenders are unacquainted with his financial soundness, his trustworthiness, or his ability as a farmer.

Creditors are reluctant to risk having the farms thrown on their hands, because the sales value is likely to be low, and the opportunities to sell are not numerous because unsold tracts remain in the hands of the selling or development companies who compete for all buying prospects. Sources of credit in an underdeveloped community are usually limited to local banks, local money-lending companies, and land-settlement companies. Personal sources, such as the relative who loans on easy terms, the farmer owner who finances the purchaser in order to make a sale, the banker who builds up a clientele by picking out promising young men and providing capital for larger business, are not usually found in a pioneer settlement. Business is insufficient to warrant the establishment of an organization to grant long, easy terms of credit. It is difficult to form cooperative borrowing organizations because the settlers are scattered and nearly all of them are poor. Unwillingness to assume joint liability for a loan to a stranger whose business ability, skill as a farmer, and honesty are unknown is a further drawback to establishing cooperative credit institutions.

Some land-selling agencies and money lenders, who have facilities for reselling, often grant the new settlers more credit than the property can reasonably bear and then recover by charging high rates of interest and an overvaluation price for the land. Because the man who buys a farm in an undeveloped area is frequently a poor risk, he is likely to receive credit only at high rates of interest and for short terms. If he fails to meet payments, the debt is likely to be foreclosed.

Recognizing the need for giving financial assistance to farmers already on the land, as well as to prospective farmers who required liberal credit, several States, during or after the World War, made experiments of somewhat different type from those hitherto considered. Several of the sparsely settled Western States and a few of the Eastern States loaned part of their permanent State funds on agricultural real estate, while other States provided special funds for agricultural loans. State loans on farm property are, in general, less conservative than are private loans and loans drawn from the joint-stock and Federal land banks. Settlers are usually better able to meet the requirements of State loans or, if unable to do so, the States are likely to exercise considerable leniency about foreclosing.

A relatively large amount of State funds has been loaned to individual farmers. The loans have been granted under different terms

and have varied in conservatism according to State regulations and to the nature of the funds loaned. But the loans are all granted for the same purpose and may not legally be used otherwise. The purposes of the loans are for part payment on the land, for purchase of equipment including necessary livestock, for buildings and other permanent improvements, and for liquidating indebtedness.

The States that have enacted laws authorizing such loans are located, in nearly all cases, long distances from sources of easy credit and moderate interest rates. They have comparatively small populations and large areas of unsettled land. The systems were designed to provide for farm loans on easy terms, at the lowest possible rates of interest, without the necessity of renewal fees and commissions at stated intervals.

The State loans resemble the Federal farm loans, but do not duplicate them. The Federal farm loans are granted up to 50 per cent of the appraised value of the land and 20 per cent of the appraised value of the insured, permanent improvements. The State loans, however, usually represent a higher percentage of appraised values. No State loan, except under the Wisconsin mortgage association law, requires a local association of borrowers; neither are the borrowers required under the State laws to buy any stock in the loan fund. Many of the borrowers regard these as advantages over the Federal farm loans.

The sparsely settled Western States were chiefly the ones that engaged in experiments to grant State credit to farmers during or immediately following the World War. The agricultural depression beginning in 1921 came on the heels of several dry seasons in the West, and the borrowers in a large number of cases had great trouble in meeting their payments. Since the several States were anxious to hold their settlers and to avoid having large areas of land become idle by being thrown back on the hands of creditors, the State agencies administering the loans found it necessary to formulate such policies to deal with delinquencies as would prevent such a situation.

But the practice of making a liberal credit policy more liberal did not solve the problems. An apparent lack of conservation, a lack of determined attempt to mobilize such facts as were available for indicating the probable course of events, as well as an inability to predict the future approximately, destined many loans to foreclosure in practically every State that provided special rural credit. A summary statement of the results of the major experiments in the field of rural credit by various States follows:

Of the 12 States that were, or are, engaged in the farm-mortgage business, South Dakota has probably had the most costly experience. Aside from loans made on foreclosed farms which had been resold, only three loans had been made between 1925 and April, 1930; the policy at that date was to liquidate or salvage the business of the rural credit board. Up to April, 1930, bonds representing $3,412,000 had been paid off out of a total issue of $47,500,000, and a special State tax of $1,000,000 annually had been levied to check a growing deficit. The State is pledged and legally authorized to pay both principal and interest on outstanding bonds. Out of a total of 12,121 loans made, 2,470 had been foreclosed and 498 were in process of foreclosure. That the board was having difficulty selling farms

obtained through foreclosure was evident in the fact that only 122 foreclosed farms had been sold since 1923—the date of the first foreclosure.

Some success is being had, however, in leasing these foreclosed farms. The board has divided the State into 18 districts, each with a field man in charge of farm-improvement work, supervision of farm operation, and sale and lease of farms owned by the State.

Just how much the State is likely to lose through its experiment in the field of rural credit is unknown. That the loss has been great and will be larger is not questioned. The attractive picture of a large influx of settlers because of liberal credit terms, and great progress and prosperity, painted by the proponents of the State rural credit system has not materialized (7). Instead the State is saddled with a relatively heavy debt as the result of its experiment.

Although a few States are still making certain select new and renewal loans, Minnesota and Oklahoma are the only two still actively engaged in the farm-loan business. Up to March 1, 1930, 10,158 loans representing $46,876,400 had been made under the rural credit act in Minnesota. At that date payments on 1,644 loans totaling $384,508 were delinquent one or more times, and 1,302 farms representing $8,271,477 in loans had been taken over through foreclosure. In addition to those represented by these foreclosed farms it has been estimated that there will be 1,000 to 1,500 more foreclosures by the end of 1932. A joint legislative committee appointed to investigate the department of rural credits found that the loans made since the department was reorganized in July, 1925, have been very conservative and that the majority of foreclosures have been and will be on loans made before 1925.

With respect to the future lending policy of the department of rural credit, the committee said:

> It is the opinion of a majority of the committee it should continue to make loans, but only on a very conservative basis. It would be impossible to liquidate the Bureau in a quarter of a century, hence it is believed the organization required to conduct the business may be used to continue the effort to perform the function for which it was intended. We are in and can not get out.
>
> If lending is to be continued the greatest care should be exercised in making appraisals, loans should be made only on improved farms and to thoroughly efficient farmers.[26]

The department of rural credit is no longer just a money-lending agency of the State as was originally intended. It is now a land-owning, farm-operating, and real-estate marketing institution which is losing money. With the prospect of owning some 3,000 farms by the end of 1932, the business of farm sale and management will become as important as, if not more important than, the lending of money.

It is the policy of the department to get all foreclosed farms ready for sale or rent. Some of the foreclosed farms have been improved and resold. It might be said that the department is in the farm-improvement business; tractors and other farm machinery are bought,

[26] Report to the president of the senate and speaker of the House by the joint committee of the Minnesota Senate and House of Representatives authorized and directed by Concurrent Resolution, dated Mar. 9, 1931, to make an investigation of the department of rural credit, p. 3, 6, 7. (Unpublished.)

buildings are repaired or constructed, and the soil is being improved through a supervised cropping system. Through this system of farm improvement and efficient supervision of farm operations the officials of the department are attempting to salvage as much as possible from the unsatisfactory loans.

Oklahoma enacted laws providing for loans from permanent school funds, and from a home-loan fund. The home-loan fund represented a special appropriation of $320,414 by the legislature. Loans from this fund were made as second mortgages on farms against which the State held first mortgages. It was estimated by the officials in charge of the State loan division that in May, 1930, about 65 per cent of the 400 second-mortgage loans made had been foreclosed and that few of the remaining loans were in good condition.

On the other hand, the lending of school funds on first-mortgage security has been highly successful. Very few loans have proved to be ill-advised and the business of lending State school funds is increasing. Up to December 31, 1929, $31,174,506 had been loaned. During the last six months of 1929, new loans and renewed loans totaled $3,355,860.

The rural credit law in Arizona was repealed by the 1929 legislature. The major portion of the sum loaned under this law was placed in first mortgages on land in the Lyman irrigation district which is now financially defunct. The project had been overcapitalized and, according to State officials, the supply of water has never been large enough to irrigate more than 1,500 of the 6,000 acres included in the project.

The administrative policy under the law in Colorado is to grant no new loans, but to renew a few exceptionally good loans made under the old law. Up to March, 1930, a total of $960,000 had been loaned; officials said it was not likely that this sum would be increased materially. Many State officials and others have taken the stand that the State should not compete with private loan agencies.

An accounting of Idaho's experience in lending money on farm property, as of May, 1930, showed 1,047 loans classed as good loans representing a total of $2,418,370; 76 foreclosed loans totaling $203,936; and six loans, totaling $24,366, which were in process of foreclosure.

No farm loans have been made under the Montana credit laws since June 30, 1922, but in 1927, the legislature passed a law providing that whenever a State farm loan, made prior to the act of 1927, becomes due or delinquent, the mortgagor may make application to have the loan converted into a 33-year amortization loan and mortgage at 6 per cent.

At the date of the last accounting of such farm loans, June 30, 1930, out of a total of 2,007 loans representing an investment of State school funds totaling $4,301,562 only 127 loans amounting to $217,686 were in good standing in their original form. The State had acquired title through foreclosure or quitclaim deed to lands under 1,880 mortgages totaling $4,083,876.

Both the State Bank of North Dakota and the State land commission are authorized to make loans on farm property in North Dakota. The former is still engaged in that business but the latter was not making loans at the time of this part of the study (April, 1930) because the fund for that purpose had been depleted.

The State Bank transacted almost three times as much business and acquired less than one-third more farms than did the State land commission. Up to January 1, 1930, the commission had made 5,226 loans representing $11,127,934, and owned 450 farms totaling an additional investment of $1,045,800 as compared with 12,203 outstanding loans representing $31,357,200 plus 717 foreclosed farms owned by the State bank as of March 1, 1930.

In Oregon a rural credit fund was created through the sale of 4½ per cent bonds totaling $450,000. The last bonds were sold in 1917, and in January, 1927, all funds were represented in 236 loans, only 11 of which had payments of principal and interest in arrears. Since that date no new loans have been made. Figures as to delinquencies and loans in process of foreclosure are not at hand.

Up to May, 1930, the credit board in Utah had approximately 300 foreclosed properties representing close to $1,000,000. About half of these foreclosed farms are within three drainage districts located in Millard County where so much land has reverted to the county for nonpayment of taxes that it has been found necessary to close certain schools and to curtail expenditures in other ways.

Loans were being made by the board in 1930 but only on so-called first-class security. The policy of the department is one of cooperation and helpfulness toward the farmer. Borrowers anxious to make good are carried along for as long as two years in many cases without payment of interest on indebtedness. Foreclosure is enforced only when farmers are hopelessly involved in debt or when the farm has been abandoned.

Although the State of Wyoming has not discontinued making loans on farm-mortgage security the requirements that the borrower must meet have been increased. The loss to the State because of bad loans is negligible. Only $111,462 or 1.42 per cent of the total loaned ($7,843,100) was represented by foreclosed loans in September, 1930.

In addition to the experiment to finance land settlement under the State mortgage association law (pp. 50 to 52) the Wisconsin State Annuity and Investment Board is authorized to use the teachers' retirement fund to make first-mortgage loans on farm property. Up to January 31, 1930, $8,214,685 were invested in first mortgages on farm property. At that date the director of the board summarized the affairs of the board as follows:

> There have been 61 foreclosures since the law was enacted in 1921. Most of these were cleaned up before the farms went to sale, but on several we must soon begin action. It is hard to give a correct statement as to delinquent loans. Out of about 1,400 loans, about 75 are behind on interest; but not more than 25 will have to go to sale. The board has acquired 10 farms and these are being rented or operated by the State board of control. The board has not changed its policy of making loans, but has raised the standards, making it a little harder for applicants to obtain money.

LAND SETTLEMENT REGULATORY POLICIES

Real Estate License Laws

Settlers who move into parts of the country with which they are unfamiliar are at a disadvantage in judging the quality and productive value of the land they may wish to buy. This is especially true of raw lands with few or no cultivated spots to show how the land can be used. It is a well-known fact that many land-selling

agencies are ready to play upon this lack of information to exploit the uninformed purchaser. In order to check this type of dealer many States have placed the business of selling real estate under State supervision or regulation by licensing dealers in real estate.

The movement toward State regulation of the real-estate business is comparatively new. The first real estate licensing law was passed by the California Legislature in 1917 and up to June, 1931, 27 States had such laws. A list of the States that have passed license laws and the dates these laws became effective are listed in Table 11. A law was formulated and was worked through a large number of State legislatures largely by the efforts of the National Association of Real Estate Boards.

TABLE 11.—*States that have passed real estate license laws, dates such laws became effective, number of complaints received, and total money refunded since enactment of laws*

State	Date laws became effective	Total number of complaints	Total money refunded
		Number	*Dollars*
Alabama	Jan. 1, 1928	[1] 29	[1] 1,022.00
Arizona	June 9, 1921	[1] 300	[1] 15,000.00
Arkansas	July 1, 1929	27	
California	July 27, 1919	[2] 3,761	[2] 1,146,498.43
Colorado	Jan. 1, 1926	17	
Delaware	July 1, 1927	13	300.00
Florida	Sept. 20, 1923	1,729	459,788.41
Georgia [3]	Jan. 1, 1926	[1] 80	[1] 6,500.00
Idaho [4]	May 5, 1921		
Illinois	Jan. 1, 1922	3,025	[5] 90,268.84
Iowa	Jan. 1, 1930	122	30,724.29
Kentucky [6]	July 1, 1924		
Louisiana	Jan. 1, 1921	[1] 440	[1] 100,000.00
Michigan	Jan. 1, 1920	6,460	[1] 4,000,000.00
Montana	July 1, 1921	[1] 71	
Nevada [7]	July 1, 1923		
New Jersey	July 1, 1921	7,951	362,940.14
New York	Oct. 1, 1922	2,902	
North Carolina [8]	May 1, 1927	[1] 171	
Ohio	July 16, 1925	[1] 1,580	[1] 321,118.39
Oklahoma [9]	Jan. 1, 1924		
Oregon	May 29, 1919	1,930	93,306.13
Pennsylvania	Jan. 1, 1930	145	
Tennessee [6]	Apr. 16, 1919		
Utah	July 1, 1921	[1] 35	
Vermont	June 15, 1931		
Virginia	Jan. 1, 1925	135	91,323.40
Washington	Apr. 7, 1926	98	
Wisconsin	Jan. 1, 1920	[1] 492	[1] 200,000.00
Wyoming	Feb. 8, 1921	[1] 175	
United States		32,333	6,893,700.03

National Association of Real Estate Boards, 1930 Supplement to Real Estate License Laws—Their Development and Results, Tables 1 and 3; and data obtained from Public Acts, passed by the General Assembly, State of Vermont, 1931, pp. 192–194.

[1] Approximate figure.
[2] 1928, 1929, and 1930 figures. No previous record.
[3] Applies to only 5 counties.
[4] County prosecuting attorneys handle complaints.
[5] July 1, 1929 to June 30, 1930.
[6] Law not now in operation.
[7] Applies to cities of 2,500 or more.
[8] Applies to 8 counties.

A model State real estate license law (*29*) was drafted by the general counsel of the national association and, as a result of this guidance, the essential features of the law as adopted in the various States are fairly similar. Every man who deals in real estate as a

vocation is required to obtain a license from duly appointed public authorities.

To secure a license the real estate dealer must be vouched for by a stated number of freeholders in the township or county in which he wishes to do business. He must maintain a definite place of business and display his license there, and he must produce other evidence of bearing a good reputation for honesty, truthfulness, and fair dealing. Certain States require applicants for licenses to pass an educational test to demonstrate their fitness. Only a few of the States requiring tests insist on a written instead of an oral examination. To operate as a real-estate dealer without securing a license is made a criminal offense in all States that have such laws. Each real-estate broker and agent must pay a license fee and give a bond, ranging approximately from $1,000 to $2,500.

The following 11 violations of the law, recommended as causes for suspension or revocation of licenses in the model real estate license law, are written in whole or in part in the specific laws adopted by the various States:

1. Making any substantial misrepresentation, or
2. Making any false promises of a character likely to influence, persuade, or induce, or
3. Pursuing a continued and flagrant course of misrepresentation, or making of false promises through agents or salesmen or advertising or otherwise, or
4. Acting for more than one party in a transaction without the knowledge of all parties for whom he acts, or
5. Accepting a commission or valuable consideration as a real estate salesman for the performance of any of the acts specified in this act, from any person, except his employer, who must be a licensed real estate broker, or
6. Representing or attempting to represent a real-estate broker other than the employer, without the express knowledge and consent of the employer, or
7. Failing, within a reasonable time, to account for or to remit any money coming into his possession which belongs to others, or
8. Being unworthy or incompetent to act as a real-estate broker or salesman in such manner as to safeguard the interests of the public, or
9. Paying a commission or valuable consideration to any person for acts or services performed in violation of this act, or
10. Using the term "realtor" by one not a member of the National Association of Real Estate Boards, or
11. Any other conduct, whether of the same or a different character from that hereinbefore specified, which constitutes improper, fraudulent, or dishonest dealing.

Another important feature of the law in a few States is that a nonresident applicant must maintain an office in the State and sign an irrevocable consent permitting action to be brought against him in the township or county in which the cause for action arises.

In a few States the law is so administered as to provide a mutual protection among real-estate brokers and salesmen against curbstone vendors, dishonest dealers, and sharp practices within their own profession. In other States the law is used not only to protect the business but to protect the public from exploitation and to regulate the sale and methods of selling of undesirable real estate. The laws in these States provide for a board of appeals to which complaints may be brought. The fact that administrators of the law in the various States had handled 32,333 complaints and had caused nearly $7,000,000 to be refunded to purchasers of real estate between the enactment of the laws and the close of the fiscal year ended in 1930 demonstrates that the regulatory and protective functioning of the law is effective.

In many States the administrators take great pains to advertise that the law is being enforced for the benefit of the public. The names of all dealers in good standing and of dealers whose licenses have been suspended or revoked are published. The public is informed that all complaints registered will be investigated, and if the cases warrant, steps will be taken to make adjustments and to prosecute for fraud.

The California law authorizes the commissioner to employ technically trained men to investigate any lands offered for sale for colonization or rural-settlement purposes and to publish reports of such investigations for the benefit of prospective purchasers. A false or fraudulent statement in an advertisement or publication used by the company carries a penalty of two years' imprisonment and/or a fine of $2,000 plus the option of revoking the real-estate dealer's license. That this section of the California law can be administered effectively is suggested by the fact that in April, 1930, the State real estate department issued a report of the activities of the Romola (Inc.), a development company, in which many of the statements as to possibilities of success were refuted. Action against this company was also taken by the United States Post Office authorities, and on September 3, 1930, a Federal grand jury in Los Angeles indicted 30 officers and employees of the company for using the United States mails to defraud. The findings of the State real estate department in its inspection of another development project, the Runnymede Finance Co., are summarized as follows:

> The general plan of The Runnymeade Finance Company in all of its operations has been to sell a lot and together with said lot to sell a certain number of chicks or laying hens, the plan being that the purchaser should make a certain cash payment down and monthly payments on the balance due on the land contract. The company would then house and care for the poultry purchased with the lot for a period of ten to fifteen years and pay to the purchaser 75% of the net proceeds from the operation of said poultry. It has been represented in literature and lectures that the purchasers might reasonably expect sufficient dividends from the operations of said poultry not only to complete the payments on the land contract, but also to leave a handsome dividend or profit to the purchasers of the units. Their operations to date have not shown a profit sufficient to justify this expectation. What the future may bring in this regard remains to be seen.[17]

A decision by the Wisconsin Supreme Court in June, 1930, is interesting as indicating the attitude of the court toward the limitation of the Wisconsin real estate license law. Action by the court grew out of refusal by the real estate license board to grant a license to a corporation (organized under the laws of Texas) to sell certain Texas real estate within the State of Wisconsin. On the basis of a hearing held in December, 1929, the board found that the applicant

> had failed to furnish this board with satisfactory proof of its trustworthiness and competency to transact the business of a real-estate broker in the State of Wisconsin in such manner as to safeguard the interest of the public.

The circuit court affirmed the findings of the board, but the supreme court reversed the decision of the lower court. Part of the opinion of the supreme court is as follows:[18]

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[17] BARNSON, S. INSPECTION REPORT ON RUNNYMEDE [PROJECT] FILE 6853. 4 p. 1930. [Mimeographed.]

[18] State ex rel. Progreso Development Co. v. Wisconsin Real Estate Brokers Board. 202 Wis. Rpts. 155.

Courts should hesitate in compelling the issuance of a broker's license, which is in effect much more than a mere permission to sell real estate. It carries with it the commendation of the licensee as a trustworthy and competent broker upon whom the public has a right to rely. If the board grants licenses to untrustworthy applicants the public will be in greater danger of fraudulent practices than it was before the board was created.

It is evident from a perusal of the record that the board in this case construed the statute as authorizing it to investigate as to the soundness or unsoundness of the investments which the broker was proposing to offer to the public, and if in the opinion of the board such offerings were highly speculative it was evidence of untrustworthiness and that the board should for that reason deny the application.

We have searched the act in vain for any language which confers upon the board the power to make a determination as to the soundness or unsoundness of the investments which may be offered by the broker and to grant or deny a license applied for accordingly as the board finds the investments are sound or unsound. * * * From what is said it should not be inferred that we in any way criticize the motives of the board. It was quite evidently actuated by the highest ideals of public service and the result of its investigations may well be pondered by any person desiring to invest in lands of the character under consideration.

The adverse decision of the supreme court was based upon a lack of statutory provision in the real estate law, not upon the unconstitutionality of regulating developments found to be highly speculative or unsound. Although the court did not determine the constitutionality of a statutory provision giving a board such power, the possibility that such action would be declared constitutional suggests a further extension of real estate license laws for the regulation of land sales.

The limitations of regulation by competency and educational tests are yet to be declared by the supreme court. Although stringent educational requirements would tend to eliminate many abuses in the real-estate business, particularly with respect to the sale of farm land, the courts might decide that such requirements interfere with a man's right to follow and carry on his business and that they are unnecessary for protecting the public against fraud. Courts have already taken the strong position that it is a valid and proper exercise of the police power to protect the public from the dishonest broker, and it may be that in the case of land sales the courts will decide that lands may be required to measure up to certain standards before a broker may sell them.

Blue Sky Laws

There is no concerted movement to get various States to adopt a "uniform blue sky law" regulating the sale of speculative securities, but such a movement is beginning. In 1929 a uniform sale of securities act was drafted by the National Conference of Commissioners on Uniform State Laws. This act was approved by the American Bar Association. Copies of this act have been made available to the various State officials concerned with the administration of security laws, and it is the plan of the commissioners to mold existing blue sky laws into accordance with the provisions of the uniform act (*1*). With few exceptions, the old blue sky laws did not provide for regulating the sale of land regardless of the speculative nature of certain transactions. Securities to be regulated under the uniform act, however, include contracts, bonds,

or stocks used as a means for selling land under what may be called investment contracts for cash or on the deferred payment or installment plan. Blue sky laws will regulate the sale of speculative securities made or issued to promote any enterprise or scheme to sell lands located outside of the State on such plans when the value of the securities depends on the future stipulation by the promoters of the enterprise to furnish irrigation, drainage, or transportation facilities, or other value enhancing utility or improvement.

A law that embodies such features will go far toward prohibiting or regulating "farm-it-by-proxy" projects, and other unsound or visionary but not necessarily fraudulent projects. The purpose of the statute is to regulate the sale of any security or investment contract, the value of which inheres in a right to participate in the proceeds of an uncertain venture, thereby protecting the public against imposition by concerns that capitalize the hope of future profits without any tangible assets of proven value.

The privilege of offering securities to the public in Missouri is not granted in any case when it appears to the administrator of the law, after investigation

that the sale of such securities would work a fraud, deception, or imposition on purchasers, or where the articles of incorporation or association, declaration of trust, charter, constitution and by-laws, plan of business, or proposed contract contain any provision that is unfair, unjust, inequitable, or oppressive. Or where the investigation of the commissioner discloses that the issuer is insolvent (*31, p. 207*).

The Missouri Securities Commission, in December, 1928, rendered an opinion concerning the sales contract including an absentee ownership provision used by the Romola Co. (Inc.), a California and Arizona land-development project, which caused that company to refrain from selling its stock in the State of Missouri. The license of this company to sell its stock in Indiana was revoked by the Indiana Securities Commission on August 22, 1930, because the affairs of the company were found to be in an unsatisfactory financial condition and because the statement, "This is a speculative investment" was not written in a conspicuous place across the face of each stock certificate sold in the State as was ordered by the securities commission at the time license was applied for.

There is little question but that real-estate licenses and blue-sky laws have essential parts to play in any constructive land-settlement program. The effectiveness of such laws in directing land settlement is limited, however; (1) because of the difficulty of regulating the activities of land-selling agencies engaged in interstate business; and (2) because of the lack of basic facts as to the economic use of land resources for agricultural or other purposes.

Possibilities of Federal Control

Partial results of a survey of interstate transactions of 1,258 active land-settlement and colonization companies in the United States revealed the fact that almost half (46.7 per cent) of the companies were selling lands in more than one State, and that slightly more than half (53.9 per cent) of those engaged in interstate business were conducting so-called home-seekers' tours. Even assuming that basic facts as to the economic potentialities of land were available,

no State law could prohibit predatory land-selling agencies from transacting business en route between States.

To make a sale of land to a person living outside the jurisdiction in which the land is located, it is necessary to communicate with the probable purchaser via post office facilities and/or the facilities of interstate commerce (telegraph, telephone, transportation, etc.). Since these media are under the regulatory control of the Federal Government, the Federal Government has control of the machinery and channels through which the transactions must be consummated. Section 215 of the Criminal Code of the United States forbids the use of the mails for fraudulent purposes. This law has been applied so often in obtaining convictions in fraudulent cases that no new legislation of this character seems to be necessary. Lack of available basic facts relative to the economic use and potentialities of land, however, definitely handicaps enforcement of the spirit of the law in so far as land sales are concerned. For the most part, predatory land-selling agencies make a practice of avoiding specific misrepresentation and mere puffing and exaggerations carried through the mail are not within the prohibitions of the statute, but when a proposed seller goes beyond magnifying his opinion of the advantages which the land may have by inventing advantages and falsely asserting their existence, he transcends the limits of puffing and engages in false representations and pretenses which the statute denounces.[19]

The United States Supreme Court[20] interpreted the powers of Congress to regulate interstate commerce as direct and without limitations, stating that Congress may adopt means necessary and convenient and that these means may have the quality of police regulation. Thus far Congress has not passed legislation to regulate the sale of land under this authority. Although Congress could enact legislation to compel all concerns engaged in interstate business to operate subject to a Federal license to be issued only after the methods of operation have been subjected to careful scrutiny by Federal and State officials, it is highly improbable that such rather distasteful legislation is advisable.

Uniform real estate license and blue sky laws in the several States, together with the existing postal laws, may be adequate regulatory measures provided they are administered in the light of facts necessary to establish rural-planning programs. Without such facts it is doubtful whether all of the most fraudulent practices will be prevented.

LAND-USE PLANNING PROGRAMS

Conditions already described emphasize the need for land-utilization planning programs to promote those uses of land and methods of use that are both efficient and in harmony with the general welfare of the communities involved. Briefly, such a program, worked out through the cooperation of Federal, State, and county agencies, would result in a more economical utilization of land resources; would facilitate the elimination of unjustifiable school, highway,

[19] United States v. New South Farm Home Co., 241 U. S. 64.
[20] Hoke v. United States, 227 U. S. 320.

and other local government costs and the social and economic loss resulting from scattered settlement on submarginal and marginal lands; would help legitimate land-settlement and colonization companies to plan their activities in accordance with sound economic facts; would make possible the establishment of valuable forest and game districts on lands which to-day are not used productively for any purpose; and certainly not least important, would provide a factual basis that would be very helpful in the administration of real estate, blue sky, and postal laws.

If the need existed in the past for a public policy adequate to accomplish that end, the policy did not materialize. Glowing accounts of how to expand the agricultural area, with little or no regard to the use for which the land was most economically adapted have been popular subjects for active discussion. In this period of general agricultural distress farmers are tasting some of the sour fruits of misguided past efforts to expand the agricultural area.

These many complex agricultural problems suggest the inapplicability of superficial remedies and the need for a comprehensive survey of the present and future prospects for agriculture. Although future prospects can not be predicted accurately, such a survey would probably provide the basis for formulating a long-time agricultural program which can be adjusted from time to time, in line with unforseen changes in economic events, with less economic and social loss than has occurred under the haphazard methods of the past. Land resources and soil, climatic, topographic, and other physical characteristics, are important factors to be considered.

Linked with this knowledge of the land itself must go an estimate of market opportunities. Land uses can not be indicated by production possibilities alone. These possibilities must be appraised in relation to specific market conditions. The best use for land is profoundly influenced, not merely by soil properties and climatic conditions, but also by technical progress in agriculture, by the development of competing areas, and by tendencies in the consuming markets. Ten years ago certain lands might have been adjudged well adapted to wheat growing which would now have to be assigned to other uses. Economic, rather than natural, conditions have changed.

A land-use planning program is especially needed in all parts of the United States in which there appear to be serious maladjustments in the use of land resources. Complete development of such a program calls for a thorough survey of physical, social, fiscal, and other economic factors and conditions. It also calls for an analysis of these factors and conditions in the light of regional, national, and even international tendencies and policies which directly or indirectly influence the use of land. It would seem, therefore, that the complete development of a sound land-use planning program in any area or region could be developed most effectively by coordinated efforts of local, State, and Federal agencies.

Considerable bodies of data, of varying degrees of usefulness in the development of this program, are already available for different parts of the country, but no uniform plan covering the work of the States and the Federal Government has been adopted. No attempt is made in this bulletin to discuss in detail the scope of the

work of the Federal Government or of the various States to obtain such data, but in the following pages an attempt is made to point out the most important phases of such work of both governments.

Classification of Lands in Public Domain

The question of classifying lands has been before the public and before Congress more or less intermittently for more than 150 years, yet no adequate provision has ever been made for the type of land-classification study needed to cope with the agricultural problems resulting from the lack of a coordinated Federal and State land-use policy. With the exception of soil and topographic surveys, described later, the work of the Federal Government has been confined, in general, to the public domain.

The land ordinance of May 20, 1785, provided that mineral lands be separated from agricultural lands. Many comparable laws were passed in the next 80 years, but it was not until 1849 that Congress authorized the classification of agricultural or potentially agricultural lands into subclasses for the purpose of granting to the States all swamp and overflowed lands on condition that the States drain the lands and use the proceeds from sales for internal improvements. During the early period it was generally recognized that a classification of the land was a prerequisite for legislation concerning the disposition of the public domain, but adequate appropriations to carry on the type of surveys authorized were not made available.

The United States Geological Survey was created by Congress in March, 1879. The law provided, in part, that the director of the survey "shall have the direction of the Geological Survey and the classification of the public resources, and products of the national domain." One of the major purposes of the law was to authorize a classification of land and thus make it possible for the General Land Office to meet the requirements of existing laws in the disposition of the agricultural, mineral, pastural, timber, desert, and swamp lands.

This section of the law, as in the case of provisions in similar laws previously passed by Congress, was practically nullified because of lack of appropriations. Exposure of practices to alienate coal and oil lands under agricultural entry and recognition of the inapplicability of the homestead law of 1862 in the arid and semiarid lands in the West led to a classification of land administered under the stock-raising and enlarged homestead acts. But this classification is incomplete. The purpose is mainly to prevent the homesteader from obtaining timber or irrigable land or other land of which less than 640 acres are needed to support a family. In other words, although a wealth of information of great value to prospective homesteaders has been collected, it has been collected from the viewpoint of the official who must conform to the law in disposing of the land rather than from the standpoint of determining whether the land can be farmed profitably.

In addition to its work in passing on applications for entry under the grazing homestead act, the United States Geological Survey is making a more or less general classification of both public and privately owned lands in the public-land States. The classes are: Irrigated and irrigable land, farming land, farming grazing land, graz-

ing forage land, grazing land, Missouri River bottom land, stony land, and national forests.[21] To date such classification has been completed in the central Great Plains and the northern Great Plains. This work is far superior to any previous land-classification work carried on by that organization, even though no measure has been made of the various factors determining the economic use for which lands are best adapted.

Topographic Surveys

The organic act creating the Geological Survey also provided for the making of topographic surveys and the preparation of topographic maps. Up to June 30, 1931, the area surveyed and mapped covered almost half (44.6 per cent or 1,356,988 square miles) of the continental United States (*28, p. 8*). During the year 1930–31, 21 States, 2 counties, and Hawaii, cooperated with the Geological Survey in mapping 18,283 square miles. The thousands of maps issued as a result are graphic engineering reports essential to the study of drainage areas, irrigability of lands, possible power development, and rights of way. These topographic data, along with the soils data and the climatic data obtained by the Bureau of Chemistry and Soils and by the Weather Bureau, United States Department of Agriculture, in cooperation with the various States, furnish fundamental facts needed in making an economic classification of land.

Soil Surveys

The purpose of the soil surveys is not to provide an economic classification of land but rather to obtain and present an essential basis for such a classification. The soil-survey maps and reports are of value to prospective buyers of land in a surveyed area. They show which soils are most productive and give the location and extent of the different soils in each surveyed county. Information gathered by the soil surveys constitutes an inventory of soil resources which, in accuracy, scope, and practical value, surpasses anything in existence elsewhere.

Soil-survey work has been conducted by the Federal Government in cooperation with the various States for more than 30 years. Up to June 30, 1932, detailed surveys covered 859,462 square miles and reconnaissance surveys covered 628,354 square miles (*23, p. 25*). This brings the entire area of soils that have been mapped and described by the Bureau of Chemistry and Soils of the United States Department of Agriculture to a total of 1,487,816 square miles or 952,202,240 acres.

Weather Reports

The Weather Bureau, of the United States Department of Agriculture has long been engaged in the systematic collection and presentation in daily, monthly, and annual reports in all parts of the country, of data concerning amounts of precipitation with averages for the period of observation, together with tables of snowfall, averages and extremes of temperature, averages of relative humidity, sun-

[21] Aldous, A. E., Deeds, J. F., and others. Land classification of the northern great plains: Montana, North Dakota, South Dakota, and Wyoming. 136 p., illus. 1929. (Autographed from typewritten copy.)

shine, winds, days with precipitation, details of excessive rainfall, the dates of first and last killing frosts, length of growing season, and other weather phenomena. These data, along with the soil and topographic materials made available by the Federal and State Governments, are indispensable basic factors in the determination of the use for which land is best suited.

Land Classification for Taxation Purposes

North Dakota and Montana have special legal provisions for classifying land for purposes of making tax assessments. The Montana law provides for a classification of land as follows: (1) Agricultural land, (1–a) agricultural land susceptible of irrigation, (1–b) agricultural land not susceptible of irrigation; (2) irrigated and nonirrigated lands; (3) grazing lands; (4) timberlands and stump lands; (5) lands bearing stone, coal, or valuable deposits; (6) lands bearing natural gas, petroleum, or other mineral deposits; and (7) lands valuable for more than one purpose.

In North Dakota the law stipulates that lands shall be grouped into four classes: Class A, class B, class C, and class D, and that each class shall be divided into 10 subclasses, as A–1, A–2, A–3, etc. It also provides that the valuations for tax assessments on these four classes and their subclasses shall range from $1 to $2.50 per acre for the poorest land in the lowest group to $190 to $200 per acre for the best land in the highest group.

In making the classification, in both States, all recognized elements of value are to be taken into consideration, including proximity to market, topography, percentage of tillable area, and composition, nature, and fertility of the soil. Provision is made for reassessment should the value of land go beyond the set limit.

In both States the law provides that the work is to be done by counties under the direction of the county commissioners, but the classification is optional with the counties. Funds to meet the expenses of the classification are to be provided by the counties under authority to the counties to levy an annual tax, on all taxable property in the county, of 1 mill in Montana and one-fourth mill in North Dakota. The tax levy ceases automatically when a survey has been completed. In Montana the county commissioners initiate the survey, but in North Dakota the commissioners are required to have the land classified upon receipt of a petition signed by not less than half the resident freeholders of acre property in the county.

In Montana all lands in the county except vacant lands in forest reserves and Indian reservations, and unsurveyed lands, are classified; in North Dakota all acre property, except that used for rights of way by common carriers, whether taxed or not, must be scheduled and classified. In Montana the county commissioners of each county being surveyed determine upon a manner of classification. There is no central authority in the State to hold the boards of county commissioners to a uniform method of survey. In North Dakota the rules and regulations adopted by the county commissioners must be approved by the State tax commission and must be uniform throughout the State.

The classification authorized has not made much progress in either State. In North Dakota only three counties (Oliver, Mercer, and

Dunn) had classified their lands by April, 1930, and the State deputy tax commissioner then stated that most counties were not, and probably would not, be inclined to pay for such a classification. A record of how many Montana counties classified their lands under the authorizing law was not available for this study. The State law does not require a classification that will be serviceable in directing land settlement, but several of the counties have made a qualitative classification of their agricultural land. This was done with special thoroughness in Fergus County, Mont. Since the county was the unit for this classification, the value of the completed work varies greatly in the different counties, and in many surveyed counties the cost of the work is said to exceed the value of the classification.

Michigan Inventory of Land Resources

One of the most thorough plans to obtain the basic facts needed to make an economic classification of land is represented by the inventory of land resources in Michigan. This work was begun in 1922 as a possible means to meet a number of land-utilization problems in the State. The purpose is to make

> an inventory of the present character and conditions of Michigan's land, forest and water resources, and to record the manner in which they have been affected by past use and abuse, in order to provide a basis for their more effective and intelligent conservation and development (*34, p. 77*).

The Michigan inventory of land resources is the first of its kind in this country. The work is administered by a separate division in the State department of conservation. The Bureau of Chemistry and Soils of the United States Department of Agriculture and various State offices cooperate in the completion of different projects included in the survey. Aside from work of the cooperators, the survey is financed directly through legislative appropriations.

Since this type of survey represented a pioneer undertaking, changes in technic and kind and quantity of data gathered have been necessary. At present, the survey covers the following projects:

1. Base map: A detailed base map which shows the townships, sections, railroads, roads, trails, lakes, streams, cities, farm houses, mines, quarries, lumber camps, resort hotels, summer cottages, hunting and fishing camps, etc.
2. Soil map: A detailed soil and lay of the land map which shows what part of each farm or section of wild land is sand, loam, clay, muck or peat and whether the land is level, rolling or steep and hilly. This work is carried on in cooperation with the Soils Department of Michigan State College and the U. S. Bureau of Soils.
3. Farm-forest map: A detailed farm and forest map which shows the kind of forest growth, its size and the density of the stand, together with the area of slash, burn, marshes and bogs, as well as the cleared land that is used for cropland, pastureland or orchards and the areas of apparently idle or abandoned farmland.
4. Timber inventory: A forest stand and growth tally to furnish data on (a) the volume of merchantable timber in the various types of second growth and virgin forest and (b) the rate of forest growth on the different soil types. This work is carried on in cooperation with the Lake States Forest Experiment Station.
5. Water power inventory: An inventory of the water power possibilities of the main rivers and streams that locate the existing water power plants and their capacity, the undeveloped power sites and the approximate amount of power that can be developed at each with an estimate of the cost of development.
6. Geological inventory: A map and report on the glacial and bedrock formations for the purpose of providing information that will assist in the location

and commercial utilization of such geological resources as sand, gravel, clay, shale, limestone, building stone, marl, peat, and underground waters. This work is carried on in cooperation with the Geological Survey of the Department of Conservation.

7. Lake maps: A detailed map of the principal lakes to show the weed beds; nature of the shoal lake bottom, beach, and banks; location of cottages, summer hotels and resort subdivisions; together with the roads leading to the lake, the adjacent cleared land, and forest bordering the lake.

8. Stream records: Records on the character of the main streams and their feeders for width, depth, temperature, color of the water, rate of flow, degree of flooding and nature of the stream bottom.

9. Wild life tally: A record of the kind and number of game and predatory birds and animals sighted (or their signs) and the nature of the covert or habitat in which seen.

10. Economic study: An economic study covering trade areas and distribution of habitation, intent in land ownership, tax delinquency, state lands, distribution of wealth, and the nature of the country's business and production.

11. Land ownership: A land ownership map platted from the county records to show who owns the lands outside of the platted city limits and resort subdivisions (*34, p. 77–79*).

On January 1, 1930, field work and the publication of maps and reports had been completed or were in process of completion for the following sparsely settled counties in the northern part of the Lower Peninsula and in selected counties in the Upper Peninsula: Lower Peninsula—Alpena, Antrim, Charlevoix, Crawford, Kalkaska, Montmorency, Ogemaw, and Roscommon; Upper Peninsula—Alger, Chippewa, Iron, Luce, and Menominee.

All maps and reports concerning the survey are made available for free inspection at the office of the Land Economic Survey, State Office Building, Lansing, Mich. Copies of available maps and reports are obtainable for the cost of printing and mailing. Results are not analyzed for the purposes of formulating a State land policy. The survey is strictly a fact-finding organization and whatever policies may be developed on the basis of results obtained thereby must be developed by other State offices or other agencies. The materials are made available to the forest, game, park, and land divisions of the State department of conservation and to other public offices which have need for the survey data in planning their programs of work. The mass of data made available by the survey is useful in connection with blocking out State forests, parks, and other recreational centers. Prospective buyers of land in the surveyed counties can obtain valuable data concerning possibilities of developing profitable farming enterprises on various types of soil in different parts of the State in which they may be interested. The results of the survey would also furnish to county officials a valuable aid in assessing land for taxation purposes and in formulating other phases of a constructive land-use planning program. Up to March, 1930, however, no county board officially had tried to use these materials.

Although the survey furnished fundamental data needed in order to formulate a rational program of land utilization, no central State agency has authority or is attempting to correlate these data with other essential social, fiscal, and general economic facts in such manner as to direct settlement to lands best suited for agricultural purposes. Michigan will be in a position to set the pace for all other States in developing a sound State land policy as soon as such an agency is established.

Inventory and Study of Land Resources in Wisconsin

In 1928, the State of Wisconsin began a land economic inventory in northern Wisconsin patterned closely after the Michigan inventory. The inventories differ somewhat in detail but the object of each is to compile facts concerning natural resources and to make these facts available to public officials and others who need them in formulating programs of work.[22] The Wisconsin statute (*44, p. 1116*), which grants authority to conduct the survey, is a general statute having as its objective the collection and publication of facts to attract immigrants and capital to the State. The subsection of the statutes referred to reads as follows:

> To cause to be collected and printed, in the form best calculated to attract to the state desirable immigrants and capital, information relating to the advantages and opportunities offered by this state to the farmer, the merchant, the manufacturer, the home seeker, and summer visitor. The publication shall be subject to the provisions of section 35.29 and shall be in the form of circulars, folders and pamphlets, and may be translated and printed in foreign language; to cause to be inserted in newspapers, magazines and farm papers, appropriate notices, and to maintain permanent exhibits in populous centers, if he shall determine that the best interests of the state will be advanced thereby.

The work of collection, compilation, and dissemination of the survey data is administered through the division of publicity, fairs and State development, State department of agriculture and markets, Madison, Wis. The various projects in the survey are conducted in cooperation with a number of agencies including the State department of conservation, the State department of public lands, the State natural history and geological survey, the State historical department, the State quartermaster's department, and the departments of agricultural economics, botany, zoology, and geography of the University of Wisconsin. The soil survey is made by the State department of soils in cooperation with the Bureau of Chemistry and Soils, United States Department of Agriculture. The fact that all of these organizations (particularly the State department of conservation in administrating its forest crop law, in establishing State forests and parks, and in promoting fish and game propagation) can use the survey data suggests that the survey has considerable practical value.

With respect to using such materials as a basis for formulating and establishing a coordinated Federal and State land policy, however, much remains to be done. After making a land-economics inventory in two counties (Bayfield and Vilas) the intensive type of land inventory was discontinued and the department of agriculture and markets cooperated with the college of agriculture, various other State offices, and county officials who were already engaged in conducting what may be called county emergency surveys.

These county emergency surveys grew out of a study of tax-delinquency problems in 17 northern Wisconsin counties, and an intensive study of land utilization in relation to tax delinquency in one northern Wisconsin county made by the Wisconsin College of Agriculture in cooperation with the United States Department of Agriculture (*17, 18*). These two studies pictured the various aspects

[22] For details concerning the Wisconsin land economic inventory, see Wis. Dept. Agr. Bul. 97 (*11*) and Bul. 100 (*12*).

of land-utilization and tax-delinquency problems in northern Wisconsin and served as the basis for outlining immediate legislative and county programs of action to remedy the most evident and serious maladjustments in the use of land. They furnished the basis for recommending [23] the following lines of action:

I. The county to bid in all tax certificates (Get the good as well as the poor land in county ownership).

II. The county to sell no tax certificates to speculators in tax certificates.

III. The county to take tax deed title on all certificates when "ripe."

IV. The county to trade county owned land located outside of forest units for land in forest units unless owners of such land intend to practice forestry and not sell to unwary settlers or other "speculators."

V. The county to encourage scattered settlers to accept county owned land located in zoned farming areas for the land owned by such settlers in zoned forest areas, and if these settlers will not trade the county to buy them out with money which would otherwise be used for schools, highways, and other purposes within these forest areas. (Get all residents out of forest areas and decrease what otherwise would be necessary expense for roads, schools, etc.)

VI. The county land committee to take the necessary steps through the county board or state legislature to disorganize uneconomic civil town units. The basis for determining what combination of towns will prove most economical will have been established by the study made.

VII. The county land committee to cooperate with the state department of conservation to employ an experienced forester whose title might be "County Forester." This man to be the official forester of the county. His duties can be:

1. To inventory the forest cover on all tax delinquent land.
2. To establish and manage county forests.
3. To make arrests for trespassing on land against which the county owns one or more tax certificates. It might be suggested that much of this non-tax paying land has merchantable stock on it. By preventing trespassing on this land and saving this merchantable stock for the county, all or a larger part of the forester's salary and expense may be returned to the county when the forest crop is harvested.
4. To make arrests for violation of game laws.
5. To post all land in zoned areas; to direct settlers to agricultural areas; to help prevent sales in zoned forest areas to unwary settlers by private owner of land within these areas; to direct tourists to camping sites, resort centers, etc.; and otherwise promote the interests of the county.

VIII. The county land committee to be authorized to cooperate with similar committees appointed by county boards in all Wisconsin counties where tax delinquency and the resulting land use problems are in evidence. Such cooperation is essential to bring about a far reaching state land policy into which the work initiated by the various counties will materialize.

It was also recommended that immediate consideration be given to the feasibility of (1) establishing county forests; (2) enforcing (*a*) section 10, article 8, of the State constitution, which authorizes the State to buy land for forests, and (*b*) the statute which authorizes the State to buy tax-delinquent land from the county; (3) amending the school equalization law to prevent subsidizing poor school districts, the existence of which can not be economically or socially justified.

The county emergency surveys are distinctive in that: (1) They are made on request of the county board of supervisors; (2) the survey brings together, in a more or less general way at comparatively small cost, data concerning land-utilization problems in the county; and (3) the results are presented in special circulars de-

[23] HARTMAN, W. A. A SUGGESTED WORKING PLAN TO ZONE LANDS IN NORTHERN WISCONSIN. 1928. (Unpublished.)

signed to help any county board to study its own condition and map out lines of action.

Up to June, 1931, the results of these emergency surveys had been published for four counties (Marinette, Ashland, Taylor, and Oneida) and surveys had been completed or were in process of completion in two additional counties (Forest and Washburn). One of the important results of these surveys is the tendency they may have to crystallize in the minds of public officials and others the serious nature of land-use problems and the need for adequate studies to develop sound land-use planning programs.

In addition to enacting legislation to give county boards power to establish county forests, and to grant certain other powers in connection with zoning rural areas for uses to which the land is best adapted, the Wisconsin Legislature recognized, in the following joint resolution, that the development of a sound land policy calls for coordinate action on the part of Federal, State, and local agencies interested in the welfare of the agricultural industry:

STATE OF WISCONSIN

Joint resolution relating to a national plan for land utilization and agricultural development

Whereas it is generally recognized that the present depressed state of agriculture is partially due to the uncontrolled rapid expansion of agriculture which has characterized the development of this country during the past century; and

Whereas the use of marginal and submarginal lands is one of the factors in the overproduction of practically all agricultural products, which can be remedied only through the abandonment of attempts to farm these lands and their devotion to such uses as forestry, grazing, and recreation, to which they are naturally better adapted; and

Whereas it is evident that agricultural recovery depends to a very great extent upon more intelligent planning with regard to the uses of lands, and there is urgent need that immediate steps be taken to this end; Now therefore be it

Resolved by the assembly (the senate concurring), That the Legislature of Wisconsin respectfully petitions the Congress of the United States to take immediate steps for the development of a long-time policy of land utilization and balanced agricultural production. To this end the United States Department of Agriculture, in cooperation with the several States, should be enabled to make comprehensive economic surveys of marginal and submarginal lands now devoted to agriculture to determine the uses to which they could be put to best advantage, and appropriations should be made for the development of forestry and recreational opportunities on such of these lands as are more suited to these purposes than to agriculture; be it further

Resolved, That the Congress at once take steps to withdraw all public lands from homestead entry unless detailed soil and economic surveys give conclusive evidence that such homestead entry promotes the welfare of the agriculture of the Nation, not just the State in which the homestead land is located; be it further

Resolved, That the Congress appropriate no more funds for irrigation or land reclamation projects unless it can be clearly shown that the results to be obtained from such appropriations are in accord with a sound long-time policy of land utilization and a balanced agriculture for the Nation as a whole not just the area in which such appropriations are asked to be spent; be it further

Resolved, That properly attested copies of this resolution be sent to the President of the United States, to each of the two Houses of Congress of the United States, the Secretary of Agriculture, and also to the agricultural department of each of the several States.

Henry A. Huber, *President of the Senate;* R. A. Cobban, *Chief Clerk of the Senate;* Chas. B. Perry, *Speaker of the Assembly;* C. E. Shaffer, *Chief Clerk of the Assembly.*[24]

[24] Cong. Rec. 75 (2): 1284.

Minnesota Land Economic Survey

A large and increasing area of tax-delinquent and abandoned land, primarily in the cut-over area of Minnesota, resulted in the 1929 Minnesota Legislature authorizing and directing the State department of conservation to make a land-economic survey of all lands in Minnesota (*30*). The act stipulated, in section 1 thereof, that "said survey shall first be made of lands in the so-called forest area of northern and northeastern Minnesota." The failure of the 1931 legislature to appropriate funds for this survey has limited the extent of the survey made to the one county, Hubbard, surveyed out of funds appropriated for this work under the act providing for the survey.

Three types of data—forest, soil, and economic—were inventoried for Hubbard County. The United States Forest Service cooperated with the State in mapping forest-cover types and obtaining timber volume and growth data. The Bureau of Chemistry and Soils, United States Department of Agriculture, cooperated in obtaining data concerning the soils of the county; and the department of agriculture, University of Minnesota, helped in obtaining the economic data. An attempt was made to present a picture of the financial results of man's effort in the use of land in the county. Some of the more important classes of the economic facts inventoried, and related to soil and cover types, concerned tax delinquency, mortgage indebtedness, assessment for taxation purposes, present use of land, type of land ownership, and expenditure of tax funds for schools, highways, etc.

A report of the results of the survey in this one county was not available in August, 1931. At that time it was the plan of the director of the survey to present the results on maps in so far as money necessary for that type of presentation was available.

New York State Land-Use Program

The State of New York has a comprehensive program to establish forests on lands not suited for agricultural use. This program was initiated by Chapter 195 of the Laws of 1929, popularly known as the senate reforestation act, which authorizes and directs the State conservation department to acquire, maintain, and reforest abandoned and idle farm lands throughout the State generally, except within the 16 so-called forest preserve counties in the Adirondack and Catskill Mountains. Chapter 194 of the Laws of 1929 known as the county reforestation act authorized the same activities on the part of counties and encouraged the counties to purchase land for reforestation purposes with the provision that the State would contribute on a dollar-for-dollar basis up to $5,000 to any one county in any one year for the purpose of purchasing and reforesting land unsuited for farming. Any plan submitted by the county authorities to take advantage of this State aid must receive the approval of the State commissioner of conservation.

The State reforestation act provided an appropriation of $120,000. $20,000 of which was to be used for forest-tree nursery purposes and the balance for purchase of land in units of 500 acres or more outside the forest-preserve counties.

Recognizing the need for a more extensive program of reforestation than is provided in these two acts, a plan was developed which contemplates the acquisition and the reforesting by the State of 1,000,000 acres within a period of 15 years at a total cost of $20,000,000 as shown in Table 12 (*33, p. 88*).

TABLE 12.—*Program of acquisition and reforestation of land proposed by New York Reforestation Commission*

Year	Area to be acquired	Area to be reforested	Appropriation necessary	Year	Area to be acquired	Area to be reforested	Appropriation necessary
	Acres	*Acres*	*Dollars*		*Acres*	*Acres*	*Dollars*
1930	40,000	10,000	400,000	1939	100,000	90,000	2,000,000
1931	50,000	15,000	600,000	1940	100,000	100,000	2,000,000
1932	50,000	22,000	1,000,000	1941	100,000	100,000	2,000,000
1933	60,000	30,000	1,200,000	1942		100,000	2,000,000
1934	100,000	40,000	1,400,000	1943		100,000	
1935	100,000	50,000	1,600,000	1944		133,000	
1936	100,000	60,000	1,800,000				
1937	100,000	70,000	2,000,000	Total	1,000,000	1,000,000	20,000,000
1938	100,000	80,000	2,000,000				

To carry out the above program, a constitutional amendment was passed by the legislature and approved by the people at the fall election in 1931. The first part of this amendment provides that the legislature shall appropriate the money needed to complete the above program. The second part provides for the establishment of "production forests" in the forest-preserve counties outside the Adirondack and Catskill Parks. It provides

> that in the establishment and operation of these production forests, lands best suited for reforesting, which means bare, idle lands, in most cases abandoned farm lands, could be acquired by the State and planted to trees, and that forests so grown be utilized according to the best principles of forestry, not only for the production of timber and other forest products, but also for the protection of watersheds and other uses, such as recreation, which would be possible (*33, p. 87*).

This amendment was deemed necessary because the constitution prohibited, in section 7 of article 7 thereof, the cutting or utilization of any timber from an estimated 1,000,000 acres of idle, bare land now privately owned but located within the forest-preserve counties which the State might otherwise acquire. The amendment permits the purchase of this idle unwooded land with funds provided for therein and for cutting the timber, when it is mature, under the supervision of the State conservation department.

To insure completion of the program of land acquisition without additional cost, the conservation department has established $4 as the maximum per-acre price that may be paid. Although this price limitation may automatically limit the lands that the State could acquire to those unsuited for agricultural use, a program to classify lands in the State into five major classes is being carried out by the College of Agriculture of Cornell University, in cooperation with the State conservation department. The lands are divided into these five classes on the basis of their relative suitability for agriculture and forestry:

Class I is adapted to forestry and not to farming. There is a large proportion of woodland in class I, and most of the land that was cleared for farms has been abandoned. Class I is ready for immediate purchase and reforestation by the State.

The land of Class II is better adapted to forests than to farming, but considerable farming is still done. Whenever it is possible for the State to purchase land in number II areas at a reforestation price, such land ought to be purchased and reforested.

Classes I and II make up our abandoned farm areas. There are occasionally idle farms in the other areas, but not large numbers of them.

Land class III is a mixed class. Some of the land is adapted to forests and some to farms. Some small public forests might be located in these areas, but no large ones.

Land class IV is primarily suited to agriculture. Most of the woodland in number IV areas will be found in farm woodlots.

Class V is adapted to a somewhat more intensive type of agriculture than number IV. Less woodland is found. More of the intensive crops are grown.[25]

This classification is made on the basis of an analysis of five main groups of factors—soils, topography and elevation, prosperity of people living on the land, farm-business records, and land cover.

A soil survey is made by the college of agriculture in cooperation with the United States Department of Agriculture. In addition to soil data, topography and elevation are considered to be important natural factors in determining in what class land belongs.

A third basis upon which to distinguish the five classes of land is the prosperity of the people who live in different areas. If many houses are vacant and falling, and if many of the occupied [houses] are tumbling down, we may conclude that the area is not good for farming. If the barns are usually small we know that the farmers never had many crops to store. If the woods seem to be creeping out into the edges of the fields and pastures, we know that the soil is not very valuable for farming. On the other hand, areas in which the fields are large and well kept, where the barns are large and in good repair, and where few farms are abandoned, are well adapted to agriculture. These factors can be measured quite reliably.

Records of farm-business operations obtained by the college of agriculture in connection with farm-management surveys over a long period of years furnish another valuable source of data for classifying land.

A fifth and very important aid in classifying the land is the cover map. In making a cover map, a base map is divided into uniform squares so that each square is equal to ten acres. The use of land for each ten acre square is recorded, whether woods, pasture, oats, potatoes, abandoned land, or some other kind of cover.

The areas of the different classes of land are located by means of presenting these types of data on base maps and correlating them in other ways. Briefly, the goal in this land-classification program is to designate the use of land which will best serve the individuals and the State. Among other desirable results the classification will furnish the basis for establishing equitable land tax and sound fiscal policies with respect to highway and school development. Besides furnishing the basis for public acquisition of a limited acreage of land unsuited for farming, it will provide fundamental data for establishing a sound directed land-settlement or agricultural-expansion program in all parts of the State.

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[25] LEWIS, A. B. LAND UTILIZATION. p. 3, 6. Cornell Univ. Col. Agr. 1929. [Mimeographed.]

SUMMARY AND CONCLUSIONS

The existence of a very large area of land physically but not now economically suited for farming purposes; the enactment of laws which severely restrict immigration; a decided tendency that would indicate for our population a stationary stage at 140,000,000 to 150,000,000 at about 1960, provided immigration does not increase nor birth rates rise; the large-scale replacement of horses with tractors; the occurrence of remarkable changes in production technic and in consumption habits; and a precipitous drop in foreign demand for farm crops at a price that is profitable to producers, are a few of the important interrelated factors that have decidedly limited the economic need for increasing our net crop acreage.[26] Needless to say, these factors had a decidedly adverse influence on the working out of the type of State policies to promote the settlement of land that are discussed in this bulletin.

Efforts to establish profitable farms on land that is unsuitable for farming purposes or to develop and to settle lands in irrigation, drainage, and levee districts before demand justifies such development, result in an enormous waste of economic and human resources. Financially embarrassed and defunct drainage, levee, and irrigation enterprises in many parts of the country emphasize the need for public guidance of land settlement. Likewise, the financial embarrassment of counties, because large areas of land are reverting to public ownership through nonpayment of taxes, is resulting in a changed philosophy of settlement. Instead of the easy-going expansion philosophy of the past as a "cure all," the idea is developing in favor of directing future settlers to the best available lands adjoining developed communities, where schools, highways, and markets are already established and of discouraging attempts to develop reclamation projects that are not economically feasible.

FEDERAL POLICIES WITH RESPECT TO LAND SETTLEMENT

In general, Federal land-settlement policies in the past aimed at getting undeveloped land into farms. Little or no attention was given to the use for which land was best adapted. As long as large areas of good agricultural lands were available for sale or homestead entry, and a heavy demand for these lands existed, the evils of a haphazard program to dispose of these lands were not as evident as they are under present conditions.

The legislation that played so important a part in the disposition of the public domain has outlasted its usefulness. It is unlikely that in the future any large area will be taken up under existing homestead provisions; yet, if these laws are not repealed, uninformed persons doubtless will continue to enter land under the misapprehension that it will provide an adequate livelihood for a family.

STATE POLICIES WITH RESPECT TO LAND SETTLEMENT

The several States have adopted one or more land-settlement policies summarized briefly as follows:

[26] BAKER, O. E. THE OUTLOOK FOR LAND UTILIZATION IN THE UNITED STATES. U. S. Dept. Agr. Ext. Ser. Circ. 168, 33 p., illus. 1931. [Mimeographed.]

Policies to attract prospective settlers by use of advertisements and other publicity.

Policies to promote, finance, and administer the development of agricultural colonies and to develop and sell "ready-made farms" as demonstrations of the success the settler might expect.

Policies to aid and promote private settlement and colonization projects by certification of land-settlement and colonization company plans.

Policies to help finance the settler, usually with no special distinction between the requirements of settlers and those of more or less established farmers.

Policies to protect settlers against unscrupulous real-estate agencies through real estate licensing and blue sky laws, and by undertaking to make an inventory of land resources for the purpose of determining the use for which land is best adapted.

Until State agencies are prepared to direct prospective settlers to land physically and economically suited for farming purposes, the extravagant use of advertisements and other publicity media to attract them results in large economic and social loss. This means wasted capital, improper and uneconomic use of land resources, and especially incredible hardship, wasted time and labor, and consequent disappointment and discouragement of settlers.

Of the other methods of promoting land settlement, the method of State-operated colonies has had the greatest appeal for many people. It is the most picturesque of the several policies and makes interesting reading in magazine articles and in newspapers, but it has not proved to be a clearly desirable policy for a State to adopt. Successful experiments of this sort have been made in various parts of the world, but the record of failure, particularly in this country, has been extensive.

An important complex of reasons why government promoted colonies fail is political. Political considerations and influences have a tendency to prevent the impartial and impersonal exercise of business judgment in such matters as selection and purchase of land and materials, selection of settlers, credit policy, and general administration, and particularly in the collection of payments due from settlers. The experiences of the State administrative agencies charged with the duty of developing colonies since the World War furnish concrete examples of this overpowering influence. Even without this influence there are numerous opportunities for misjudgment in selecting land and in determining the best method for developing it, in setting up a sound financial plan, and in selecting settlers. Furthermore, the conditions of competition in agriculture are such that in the best of established farming areas a large proportion of the farmers fail to earn a moderate rate of interest on invested capital. Farm incomes fluctuate widely from year to year. Yet the State and other agencies that attempt to establish colonies usually overlook or discount the importance of considering such data as are available concerning the national and international demand for crops. Similarly, the comparative advantages of producing crops in different sections of the country usually are not given adequate consideration. But capital costs for improving farms, selecting settlers, etc., become due regardless of how good or bad the market is for crops grown on the project.

Farm and community improvements in advance of settlement remove many of the obstacles the settlers might otherwise have to overcome. The paternalistic policy on which such improvements are based, however, is costly from the beginning. The type of settler who is most likely to be attracted by such a policy may not be willing to undergo hardships during periods of stress. He will usually appeal for more help from the colonizing agencies as difficulties arise. The resultant complex of these conditions has proved to be a major cause for failure of State promoted and operated colonization projects in this country.

The goal of the policy to certify land-settlement projects is to give the State's seal of approval only to those enterprises which represent the highest standard of efficiency and desirability from the standpoint of the settler. But if certification is optional and involves payment by the concern for expenses of investigation, there is a tendency for only those firms which are consciously superior in methods and opportunities to apply for this official approval. The less desirable companies continue to operate outside of the system. That is what has happened under the law in Michigan. A compulsory land certification law similar to the Michigan law in other respects possibly could be made the basis for preventing settlement on land unsuitable for farming purposes.

State certification of the bonds of any land settlement or development company enables the State to promote, and in certain respects to regulate, the development of land. If a minimum requirement for certification provides that proposed projects be both economically feasible and socially desirable, such a policy is highly commendable. On the other hand, if bonds are certified before adequate study had been made to determine whether the proposed project is economically sound and socially desirable, State certification of bonds may result in the development of projects that are doomed to failure from the start.

A source of the right kind and amount of credit at a nominal cost is basic for success of the average settler in developing prosperous farming enterprises from raw land. The establishment of State rural-credit agencies by the various States is an attempt to meet this need as well as the farm-mortgage credit needs of established farmers. This dual-purpose policy has not proved to be entirely successful. Credit needs in an undeveloped area are not the same as those in a developed area. The usual credit terms in most newly developing areas are frequently unsuited to local conditions. If they are liberal, the settler is compelled to pay for them in high land prices.

The settler needs loans on a long-time amortization basis, but he requires somewhat more credit than he can obtain under the provisions of the Federal farm loan system. Moreover, the agencies of this system are properly cautious about extending their lending activities into the undeveloped districts. The settler should be able to obtain, not a single large loan on which he begins at once to pay interest, but something similar to a line of credit which will become available gradually as made necessary by the requirements of farm development. In some cases it is desirable that interest payments

or at least amortization payments be postponed from one to three years.

Unduly "easy" terms of credit are not always desirable. They are likely to attract would-be settlers who have never succeeded in accumulating much property and who are lacking in farming experience or business ability. In fact, the tendency to enable men to acquire farms with little or no capital is a result of the forcing process of land settlement which is the outgrowth of public (especially local) impatience at normal rates of expansion. Many private holders of land are forced to place their holdings on the market because of taxes and other carrying charges.

If the artificial stimuli to expansion of our farm area could be removed and agriculture be allowed to expand under the normal stimulus afforded by a reasonable expectation of profitable operation in new areas, it is probable that a class of substantial farm investors would develop. In this case settlers would not need the coddling of excessive credit and administrative supervision of State agencies. They would need protection against fraud and misrepresentation on the part of land-selling agencies and such technical assistance as would enable them to avoid costly mistakes in the selection of projects and in making adjustments to new conditions. It would seem that it should be a public function to provide such services.

Uniform real estate license and blue sky laws in each State, together with the existing postal laws, could possibly be made to serve as substantial regulatory measures, provided they are administered in the light of facts necessary to formulate sound land-settlement policies as part of coordinated Federal and State land-use planning programs. Under existing conditions, these regulatory laws are made effective only in regard to the conspicuously fraudulent practices of the land-selling agencies when brought to the attention of the administrators of the laws. The development of a more positive and constructive policy of aiding settlers in finding the best opportunities and in avoiding costly mistakes would probably necessitate the setting up of a rural planning commission or a land utilization commission in each State, authorized and directed to cooperate with a corresponding Federal agency: (1) In coordinating the activities of regulatory and other public offices which in one way or another affect the use of land, and (2) in developing sound land-settlement policies as part of the land-use planning programs.

The development of sound land-use planning programs calls for a thorough survey of physical, economic, social, fiscal, and other conditions. Of equal importance is an analysis of all these factors and conditions in the light of regional, national, and even international tendencies and policies which directly or indirectly influence the use of land. The complete development of a planning program in any area or region could be developed most effectively by coordinated efforts of local, State, and Federal agencies. The soil, geological, weather, and such other data made available by the Federal Government, as influence the use of land, are indispensable basic factors in the determination of the use for which land is best adapted. Likewise, the land-inventory and classification work of the various

States, particularly Michigan, Wisconsin, Minnesota, and New York provides much essential physical and economic data.

Neither the one agency nor the other, alone, can effectively develop an adequate policy. The States have much more adequate constitutional powers for dealing directly with various problems connected with private property in land than has the Federal Government. They are closer to local conditions and frequently more capable of dealing effectively with the varied circumstances existing in different localities.

But although local and State governments can go far in initiating certain lines of investigation they are seriously handicapped in the solution of the major problems involved. The necessary finances and investigational technic and facilities are beyond the resources of many States and particularly of those States in which the land-use problems are in greatest need of solution. Moreover, the regional aspects, which are usually interstate in character, and the national outlook with respect to comparative advantages for the production of specific farm and forest crops, are important phases of what may appear to be local problems. The States or local units of government can not afford to develop either these regional aspects or the national outlook information, nor can they afford not to take them into consideration.

The Federal Government is equipped to do much of this work. Through its many interests in the development of sound land policy as one of the fundamental necessities of long-time farm relief, the various research and extension resources of the United States Department of Agriculture, and possibly other Federal agencies might take an important part in the necessary investigational program and in formulating lines of essential action by public and private agencies.

Furthermore, the Federal Government still controls a public domain of vast extent, including the national forests and national parks. It legislates with reference to immigration, and is in a stronger position than the individual States for dealing with the various problems arising from interstate migration and interstate sale of land. Through the tariff policy and through control of railway rates, it may exert an important influence on the margins of agricultural development, both national and local. Through its road-building program, its improvement of navigable waters, and its already developed reclamation policies it can determine to some extent the direction of development. Furthermore, the Federal Government is in a position to view the land problem from the broader outlook of the Nation as a whole, whereas the States tend to reflect the influence of local interests, which may seek an undue development with little thought of consequences to other localities.

Through the research and extension facilities of the United States Department of Agriculture and other Federal agencies, the Federal Government, jointly with the States, may exert an important educational influence. Facts made available in the development of land-use planning programs would furnish the basis for disseminating sound advice to prospective settlers, land-selling agencies, various business interests, and legislators and other public agencies concerned with the farmers' welfare. Through coordinated efforts on

the part of State and Federal interests a publicity and service agency might be organized to prevent the loss of economic and human resources resulting from attempts to establish farms in areas not suitable for farming. A publicity and service bureau of this kind could help land-selling companies develop sound programs to expand the agricultural area when economically feasible and socially desirable. Cooperation with industries and industrial centers in ascertaining the feasibility of promoting the development of part-time farming opportunities could be another of its functions. It might also serve to coordinate the activities of various State agencies interested in land settlement and help to direct agricultural expansion to those areas in which the chances for success appear to be greatest.

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APPENDIX

LIST OF AGENCIES HAVING STATE LANDS FOR SALE OR LEASE

Alabama, State Commission of Forestry, 500 Dexter Avenue, Montgomery.
Arizona, State Land Commissioner, Phoenix.
Arkansas, Commissioner of State Lands, Little Rock.
California, Department of Finance, Division of State Lands, Sacramento.
Colorado, State Board of Land Commissioners, Denver.
Florida, Commissioner of Agriculture, Tallahassee.
Idaho, State Board of Land Commissioners, Boise.
Louisiana, Commissioner of State Lands, Baton Rouge.
Michigan, Lands Division, Department of Conservation, Lansing.
Minnesota, State Auditor, State Capitol, St. Paul.
Mississippi, Commissioner of State Lands, Jackson.
Montana, State Board of Land Commissioners, Helena.
Nebraska, Commissioner of Public Lands and Buildings, Lincoln.
Nevada, Surveyor-General, Department of State Lands, Carson City.
New Mexico, Commissioner of State Lands, Santa Fe.
North Carolina, Superintendent of Public Instruction, Raleigh.

North Dakota, Commissioner of State Lands, Bismarck.
Oklahoma, Commissioner of State Lands, Oklahoma City.
Oregon, State Land Board, Salem.
South Dakota, Commissioner of School and Public Lands, Pierre.
Texas, Land Department, University of Texas, Magnolia Building, Dallas.
Utah, State Land Office, Salt Lake City.
Washington, Commissioner of Public Lands, Olympia.
Wisconsin, Commissioner of Public Lands, Madison.
Wyoming, Commissioner of Public Lands, Cheyenne.

STATE AGENCIES AUTHORIZED BY LAW TO COLLECT, COMPILE, AND DISSEMINATE INFORMATION TO ATTRACT CAPITAL AND SETTLERS

Alabama, Commissioner of Agriculture and Industries, Montgomery.
Arkansas, Department of Agriculture, Bureau of Crop Estimates and Immigration, Little Rock.
Colorado, State Board of Immigration, Denver.
Florida, Commissioner of Agriculture, Tallahassee.
Georgia, Commissioner of Agriculture, State Capitol, Atlanta.
Illinois, Director of Agriculture, Springfield.
Louisiana, Commissioner, State Board of Agriculture and Immigration, New Orleans.
Massachusetts, Commissioner, Department of Agriculture, State House, Boston.
Michigan, State Conservation Commission, Lansing.
Mississippi, Commissioner, Department of Agriculture, Jackson.
Missouri, Commissioner, Department of Agriculture, Jefferson City.
New Hampshire, Commissioner, Department of Agriculture, Concord.
New York, Commissioner, Department of Agriculture and Markets, Albany.
North Carolina, Director, Department of Conservation and Development, Raleigh.
North Dakota, Commissioner of Immigration, Bismarck.
South Carolina, Commissioner, Department of Agriculture, Commerce, and Industries, Columbia.
South Dakota, Department of Agriculture, Pierre.
Tennessee, Department of Agriculture, Division of Markets, Nashville.
Utah, Commissioner, Bureau of Immigration, Salt Lake City.
Virginia, Commissioner of Agriculture and Immigration, Richmond.
Washington, Secretary of State, Olympia.
West Virginia, Commissioner, Department of Agriculture, Charleston.
Wisconsin, Commissioner, Department of Agriculture and Markets, Madison.
Wyoming, Department of Commerce and Industry, Capitol Building, Cheyenne.

NOTE.—State agencies in Kentucky, Maine, Minnesota, Nebraska, New Hampshire, Pennsylvania, and Vermont publish various types of pamphlets describing resources, but no special law has been enacted directing any particular State agency to collect, compile, and disseminate information to attract capital and settlers.

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